FLIGHT PROJECTS DIRECTORATE

Network Control Center Data System, Service Planning Segment Replacement (SPSR) Release 99.1

Test Procedures

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Section 1. Patch Checkout

- Submit SAR from MOC and Operator for automatic period.
  - ◊ SAR processed correctly
  - ◊ SRM sent to MOC
- Submit SARs from MOC and Operator for batch period
  - ◊ SARs batchstored
  - ◊ SRM sent to MOC
- Create, Generate, and Activate a batch
  - ◊ Batch generates and activates correctly
  - ◊ SRMs are sent to MOC
- Transmit events to GT, MOC, and Nascom, using manual and STRSs
  - ◊ SHOs, USMs, and NESs are sent
  - ◊ For TB3: Ensure events reach CCS
- Send Replace Requests from the MOC and the Operator
  - ◊ Replace Requests are processed correctly
  - ◊ SRMs sent
- Send Delete Requests from the MOC and the Operator
  - ◊ Delete Requests are processed correctly
  - ◊ SRMs sent (after transmission of USMs)
- Send Alternate SARs from the MOC and the Operator
  - ◊ Alternate SARs are processed correctly
  - ◊ SRMs sent
- Send Wait List Request from the MOC and the Operator
  - ◊ SARs are waitlisted
- Send TSW message from MOC
  - ◊ TSW is stored correctly
- Send IIRV and Maneuver Sequence
  - ◊ Vectors are stored correctly
- Transmit IIRV and Maneuver Sequence
  - ◊ Manually and by use of VTRS
- Generate and Review TUT
  - ◊ TDRS Unscheduled Time is displayed
- Review Operator Alerts

    - ◊ Alerts are updating
- Perform NCD Delog
    - ◊ log files are accessible

Section 2. Keyword Service-Level Flexibility Parameters

2.1 Detailed Test Procedure for 99.1- 02.1 SERVICE LEVEL FLEXIBILITY -- ORDERING, AUTOMATIC 5.4.1.e, 5.4.6, 5.4.6.a.1, 5.4.6.a.2, 5.4.6.a.3, 5.4.6.b

OBJECTIVES: This test item will verify the following:

- For automatic scheduling, flexibility parameter scheduling rules are applied to the scheduling of services. [5.4.1.e]
- The specified flexibility of each request will be employed, as needed, to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6]
- In an attempt to avoid conflicts within the automatic scheduling update process, the following flexibility parameters will be applied in the following preference order: [5.4.6.a]
  - Select alternate TDRSS resources [5.4.6.a.1]
  - Move event start time and/or relative service start times [5.4.6.a.2]
  - Shorten service durations [5.4.6.a.3]
- Start times will be moved by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.2]
- Service durations will be shortened by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.3]
- When flexibility parameters are applied to relative service start times and service durations, each event will be structured such that there is no time during the event during which no service is scheduled (i.e., no gaps within the event). [5.4.6.b]
- Any service may be lengthened in order to avoid the creation of gaps, regardless of the specified nominal service duration and maximum service duration parameters. [5.4.6.b]
- The SAR's specification of service durations, service start times offsets, and service level flexibilities must allow the event to be scheduled with a total duration of less than 24 hours. [MOC ICD B.3.2.3.c]
- If a SAR specifies zero event start time plus tolerance and zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time. However, service start time flexibility may be

specified for any of the services in the SAR. When no event start time flexibility is specified, the NCCDS will apply the specified service-level flexibilities as needed and the earliest scheduled service start time will be used as the scheduled event start time. [7.2.1.1.c draft MOC ICD]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database (or "all") capabilities.	Operator with necessary privileges is logged on.
1.2	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments are as follows: Name ID SGLT 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5	TDRS Assignments are correct.
1.3	Workstation	Choose full-support SICs, such that A has the higher scheduling priority than B. SIC A: _____ SIC B: _____	SICs are identified.
1.4	*<service type> Schedulable Parameters* (for various services)	Create or identify data for this test (such as, make SSCs with the appropriate maximum data rates, see test steps below for detail).	Test data is ready.
1.5	*Schedule Control Maintenance Parameters*	Determine the boundary of the automatic scheduling period.	The automatic period is long enough to allow scheduling the events in the following steps.

Step	Location	Action	Result
1.6	*Active Schedule*	Choose a day "T" in the automatic scheduling period. Check that no events are scheduled on day "T" (delete any existing activated events).	No events are scheduled on day "T".
1.7	*Space Network Summary* *TDRS Sets*	Select **TDRS Sets...** from the **Edit** menu. Enter the name "**set**" in the **New Set Name** field. Click the **Add** button under the field. From the **TDRS Operational Names**, select **041, 171,** and **174**. Click the **Add** button between the TDRS Operational Names list and the Set Members list.	TDRS Set "set" = 041, 171, 174
1.8	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below. Unless specifically stated in the test steps, do not use Event Tolerances, Coupling, or TSWs.	NTS blocks are ready. Block file: _____ _____
TDRS FLEXIBILITY IS USED BEFORE SERVICE PLUS/MINUS TOLERANCE			
2.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A1	041	T + 00:15:00	MAF	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	00:15:00
A2	171	T + 00:18:00	SSAR1	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	00:18:00
B1	set	T + 00:00:00	MAF MAR SSAR1	00:15:30 00:00:00 00:17:30	00:01:00 00:30:00 00:01:00	00:15:00 00:15:00 00:15:00	00:15:00 00:15:00 00:15:00	TDRS before service +/- tolerance	00:15:30 00:00:00 00:17:30 (on 174)

Step	Location	Action	Result
2.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B1 scheduled on TDRS 174. The start time of the MAF and SSAR1 services are at the requested times, showing that TDRS flexibility is used before service plus/minus tolerances.
TDRS FLEXIBILITY IS USED BEFORE MIND			
3.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service +/- Tolerance	MIND	Verify	Actual service start
A3	041	T + 01:10:00	MAF	00:00:00	00:01:00	blank/blank	blank	blocking event	01:10:00
B2	set	T + 01:00:00	MAF	00:02:00	00:15:00	blank/blank	00:01:00	TDRS before MIND	01:02:00 (on 171)

3.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B2 scheduled on TDRS 171 or 174. The duration of the MAF in event B2 was not reduced, showing that TDRS flexibility is used before minimum duration tolerance.

Step	Location	Action	Result
SA-ANTENNA AND UIFC FLEXIBILITY IS USED BEFORE SERVICE +/- TOLERANCE			
4.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A4	041	T + 02:00:00	SSAF**1** with UIFC "**A**"	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	02:00:00
B3	041	T + 02:00:00	SSAF**2** with UIFCs "**A**" and "**B**"	00:00:00	00:01:00	00:15:00	00:15:00	UIFC before service +/- tolerance	02:00:00

4.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B3 scheduled using UIFC B. The start time of the SSAF service in event B3 is at the requested time, showing that UIFC flexibilities are used before service plus/minus tolerances.
4.3	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A5	041	T + 02:30:00	SSAF--	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	02:30:00
B4	041	T + 02:30:00	SSAF--	00:00:00	00:01:00	00:15:00	00:15:00	antenna before service +/- tolerance	02:30:00

Step	Location	Action	Result
4.4	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B4 scheduled using UIFC B. The start time of the SSAF service in event B4 is at the requested time, showing that SA antenna flexibilities are used before service plus/minus tolerances.
SA-ANTENNA AND UIFC FLEXIBILITY IS USED BEFORE MIND			
5.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service +/- Tolerance	MIND	Verify	Actual service start
A6	192	T + 03:10:00	KaSAR**1** with UIFC "**A**"	00:00:00	00:15:00	blank/blank	blank	blocking event	03:10:00
B5	192	T + 03:00:00	KaSAR**2** with UIFCs "**A**" & "**B**"	00:00:00	00:15:00	blank/blank	00:05:00	UIFC before MIND	03:00:00

5.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B5 scheduled using UIFC B. The duration of the KaSAR service in event B5 is as requested, showing that UIFC flexibilities are used before MIND tolerance.

Step	Location	Action	Result
5.3	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service +/- Tolerance	MIND	Verify	Actual service start
A7	192	T + 03:40:00	KaSAR--	00:00:00	00:15:00	blank/blank	blank	blocking event	03:40:00
B6	192	T + 03:30:00	KaSAR--	00:00:00	00:15:00	blank/blank	00:05:00	SA before MIND	03:30:00

5.4	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B6 scheduled using UIFC B. The duration of the KaSAR service in event B6 is as requested, showing that SA antenna flexibilities are used before MIND tolerance.

MAR/SMAR LINK FLEXIBILITY IS USED BEFORE SERVICE PLUS/MINUS TOL

6.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A8	041	T + 04:00:00	MAR	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	04:00:00
B7	041	T + 04:00:00	MAR	00:00:00	00:01:00	00:15:00	00:15:00	uses link 2	04:00:00
A9	192	T + 04:00:00	SMAR	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	04:00:00
B8	192	T + 04:00:00	SMAR	00:00:00	00:01:00	00:15:00	00:15:00	uses link 2	04:00:00

Step	Location	Action	Result
6.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The start time of the second MAR event and the second SMAR event are at the requested times, showing that link flexibility is used before service plus/minus tolerances.
MAR/SMAR LINK FLEXIBILITY IS USED BEFORE MIND			
7.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Plus/Minus Tolerance	MIND	Verify	Actual service start
A10	041	T + 05:10:00	MAR	00:00:00	00:30:00	blank/blank	blank	blocking event	05:10:00
B9	041	T + 05:00:00	MAR	00:00:00	00:30:00	blank/blank	00:01:00	uses link 2	05:00:00
A11	192	T + 05:10:00	SMAR	00:00:00	00:30:00	blank/blank	blank	blocking event	05:10:00
B10	192	T + 05:00:00	SMAR	00:00:00	00:30:00	blank/blank	00:01:00	uses link 2	05:00:00

7.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The durations of the second MAR event and the second SMAR event are the requested durations, showing that link flexibility is used before MIND tolerance.

Step	Location	Action	Result
CLOSEST START PREFERRED WHEN PLUS/MINUS TOLERANCE IS USED			
8.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Duration	Verify	Actual service start
A12	041	T + 06:06:30	MAF	00:00:00	00:18:00	blank	blank	blank	blocking event	06:06:30
B11	041	T + 06:15:00	MAF	00:00:00	00:01:00	00:15:00	00:15:00	blank	Using Plus or Minus tolerance are equally distant from request start time.	06:05:00 or 06:25:00
A13	041	T + 06:36:30	MAF	00:00:00	00:17:59	blank	blank	blank	blocking event	06:36:30
B12	041	T + 06:45:00	MAF	00:00:00	00:01:00	00:15:00	00:15:00	00:01:00	Plus is closer	06:54:59
A14	041	T + 07:06:30	MAF	00:00:00	00:18:01	blank	blank	blank	blocking event	07:06:30
B13	041	T + 07:15:00	MAF	00:00:00	00:01:00	00:15:00	00:15:00	00:01:00	Minus is closer	07:05:00

Step	Location	Action	Result
8.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B11 used either plus or minus tolerance to schedule successfully. Request B12 used plus tolerance to schedule successfully. Request B13 used minus tolerance to schedule successfully. Each MAF service scheduled at the available time that was closest to the requested service start time.

SERVICE +/- TOLERANCES ARE USED INSTEAD OF SHORTENING DURATION

9.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Dur	Verify	Actual service start
A15	046	T + 01:10:00	MAF	00:00:00	00:10:00	00:00:00	00:00:00	blank	blocking event	01:10:00
A16	046	T + 01:24:59	MAF	00:00:00	00:10:01	00:00:00	00:00:00	blank	blocking event	01:24:59
A17	046	T + 01:40:00	MAF	00:00:00	00:10:00	00:00:00	00:00:00	blank	blocking event	01:40:00
B14	046	T + 01:10:00	MAF MAR	00:10:30 00:00:00	00:04:00 00:30:00	00:00:00 00:00:00	00:15:00 00:00:00	00:01:00 00:01:00	Plus used	01:35:30 01:10:00
B15	046	T + 01:00:00	MAF MAR	00:20:30 00:00:00	00:04:00 00:30:00	00:15:00 00:00:00	00:00:00 00:00:00	00:01:00 00:01:00	Minus used	01:05:30 01:00:00

Step	Location	Action	Result
9.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: MAF of B14 was moved to the last possible second of service start time using the plus tolerance instead of shortening the duration by 1 second. MAF of B15 was moved to an earlier service start time using the minus tolerance instead of shortening the duration by 1 second.

MULTIPLE FLEXIBILITIES CAN BE USED: TDRS, START, & DURATION

10.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Duration	Verify	Actual service start
A18	041	T + 08:00:00	MAF	00:00:00	00:07:30	00:00:00	00:00:00	blank	blocking event	08:00:00
A19	171	T + 08:03:00	MAF	00:00:00	00:04:00	00:00:00	00:00:00	blank	blocking event	08:03:00
A20	174	T + 08:00:00	MAF MAF MAR	00:01:00 00:08:00 00:00:00	00:03:00 00:02:00 01:00:00	00:00:00 00:00:00 00:00:00	00:00:00 00:00:00 00:00:00	blank	blocking event	08:01:00 08:08:00 08:00:00
B16	set	T + 08:00:00	MAF MAR	00:02:00 00:00:00	00:04:00 01:00:00	00:02:00 00:00:00	00:05:29 00:00:00	00:01:00 blank	change TDRS, move start, & shorten duration	08:04:30 08:00:00 (on 174) MAF dur = 3 minutes

Step	Location	Action	Result
10.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF service of request B16 scheduled successfully by using TDRS flexibility, service start tolerance, and shortening the service duration by the least amount.

MOVE START & SHORTEN DURATION

11.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Dur	Service Minus Tol	Service Plus Tol	Min Service Duration	Verify	Actual service start
A21	041	T + 09:00:00	SSAF1 MAR SSAR1	00:00:00 00:00:00 00:15:00	00:10:00 00:30:00 00:10:00	blank blank blank	blank blank blank	blank blank blank	blocking event	09:00:00
B17	041	T + 09:00:00	SSAF1	00:20:00	00:10:00	00:10:00	blank	00:01:00	move start & shorten duration	09:11:30 SSAF1 duration = 02:00

11.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The SSAF1 service of request B17 scheduled successfully by using service start tolerance (minus), and shortening the service duration to 2 minutes. The duration was shortened by the least amount necessary to allow the event to schedule.

Step	Location	Action	Result
SHORTEN DURATION TO THE MINIMUM SIZE			
12.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Duration	Verify	Actual service start
A22	041	T + 10:00:00	MAF	00:00:00	00:08:00	00:00:00	00:00:00	blank	blocking event	10:00:00
A23	041	T + 10:10:00	MAF	00:00:00	00:10:00	00:00:00	00:00:00	blank	blocking event	10:10:00
B18	041	T + 10:00:00	MAF MAR	00:08:30 00:00:00	00:10:00 00:30:00	00:10:00 00:00:00	00:10:00 00:00:00	00:01:00 blank	shorten duration to smallest valid value	10:08:30 10:00:00 MAF duration = 01:00

12.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF service of request B18 scheduled successfully by shortening the service duration to 1 minute. (The start time of the MAF service should not shift, because even though it could be scheduled for 1 minute at 09:58:30, since the duration would be the same either way, it should stay at the requested time.)

Step	Location	Action	Result
ATTEMPT TO SHORTEN DURATION LESS THAN ALLOWED MINIMUM			
13.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Duration	Verify	Actual service start
A24	041	T + 11:00:00	MAF	00:00:00	00:09:30	00:00:00	00:00:00	blank	blocking event	11:00:00
A25	041	T + 11:11:29	MAF	00:00:00	00:10:00	00:00:00	00:00:00	blank	blocking event	11:11:29
B19	041	T + 11:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:30:00	blank blank	00:15:00 00:00:00	00:01:00 blank	shorten duration more than allowed	Declined

The objective of this step is to verify that when the flexibility to shorten service duration is used, it does not violate the rule that a service has to be at least 1 minute long. Therefore in the Minimum Duration field first attempt to enter less than a minute (such as 30 seconds or zero seconds), but if that is rejected as an invalid data entry (which it really should be), then enter 1 minute.

13.2	*Schedule Requests*	Review the events on the *Schedule Requests* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF service of request B19 is declined (MA conflict) because services may not be shortened to a duration less than 1 minute.
NO GAPS IN EVENT			
14.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Actual service start
A26	285	T + 03:00:00	MAF	00:00:00	00:24:00	00:00:00	00:00:00	blank	03:00:00
B20	285	T + 03:10:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:05:00	00:00:00 00:00:00	00:15:00 00:00:00	00:01:00 blank	03:24:30 03:10:00

Step	Location	Action	Result
14.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF of B20 uses plus tolerance to schedule, and the MAR service lengthens to eliminate the resulting gap. The MAR service of B20 starts at T+03:10:00 (as requested), but has a new duration of 00:14:30, ending at T+03:24:30.
14.3	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Actual service start
A27	285	T + 04:00:00	MAF	00:00:00	00:24:00	00:00:00	00:00:00	blank	04:00:00
B21	285	T + 04:05:00	MAF SSAR SSAR	00:05:00 00:00:00 00:10:00	00:05:00 00:05:00 00:05:00	00:00:00 00:00:00 00:00:00	00:15:00 00:00:00 00:00:00	00:01:00 blank blank	Declined

14.4	*Active Schedule*	Review the events on the *Active Schedule* window.	Verify: The event B21 was not scheduled because: The MAF of B21 could use plus tolerance to schedule, but the two SSAR services cannot lengthen enough to eliminate the resulting gap, because of the required 15 second setup time between the stop and start of two services of the same type within an event.

Step	Location	Action	Result
14.5	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Actual service start
A28	285	T + 05:00:00	MAF	00:00:00	00:24:00	00:00:00	00:00:00	blank	05:00:00
B22	285	T + 05:05:00	MAF MAR MAR	00:05:00 00:00:00 00:10:00	00:05:00 00:05:00 00:05:00	00:00:00 00:00:00 00:00:00	00:15:00 00:00:00 00:15:00	00:01:00 blank blank	05:24:30 05:05:00 05:25:00

14.6	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF of B22 uses plus tolerance to schedule, the second MAR service uses plus tolerance to move enough to allow the first MAR to lengthen to eliminate the gap (avoiding a setup conflict). The scheduled duration of the first MAR is 00:19:30, start time T+05:05:00 to stop time T+05:24:30.

Step	Location	Action	Result
14.7	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Plus Tolerances	Service Minus Tolerances	Min Service Duration	Actual service start
A29	285	T + 06:00:00	MAF	00:00:01	00:10:00	00:00:00	00:00:00	blank	06:00:01
A30	171	T + 06:00:00	MAF	00:00:00	00:10:00	00:00:00	00:00:01	blank	06:00:00
B23	174	T + 06:00:00	MAF	00:00:00	00:10:00	00:00:01	00:00:00	blank	06:00:00
B24	171	T + 06:00:00	MAF	00:00:00	00:03:00	11:05:00	00:00:00	00:03:00	06:10:30
B25	041	T + 06:00:00	SSAF	01:00:00	19:00:00	00:00:00	00:00:00	19:00:00	07:00:00
			KuSAF	00:30:00	00:30:00	00:00:00	00:00:00	00:30:00	06:30:00
			KuSAR	00:20:00	00:01:00	00:00:00	00:00:00	00:01:00	06:20:00
			SSAR	12:00:00	00:01:00	00:00:00	00:00:00	00:01:00	18:00:00

14.8	*Schedule Requests*	Review the status of requests and make a **hardcopy**.	Hardcopy is printed. Verify: A29 Event Start is at the service start time 06:00:01 (shows that event is not required to have a service that starts at requested event start and event start moves to be the first service start). A30 and B23 are accepted and scheduled (shows that can use plus/minus tolerance for any service). B24 Event Start schedules at service start time after it uses plus tolerance. B25 Event Start moves to the beginning of the SSAR service at 06:20:00.
14.9	*Active Schedule*	**Delete** events from TDRS 041 for day T and at least 31 seconds into day T+1.	Resources are available for scheduling the following events.

Step	Location	Action	Result
14.10	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Actual service start
A31	041	T + 21:00:00	MAF	00:00:00	01:00:00	00:00:00	00:00:00	blank	21:00:00
B26	041	T + 00:00:00	MAF MAR	21:00:00 00:00:00	01:59:30 21:00:00	00:00:00 00:00:00	02:00:00 00:00:00	blank blank	Declined

14.11	*Schedule Requests*	Review the status of declined Request B26 and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF of B26 could use plus tolerance to move forward 1 hour and 30 seconds and schedule (from 22:00:30 to T+1 day), but the request is rejected because if the MAF moved that much the MAR would increase its duration to fill in the gap (00:00:00 - 22:00:30) and the resulting event would be 24 hours long (T + 00:00:00 to T + 1 + 00:00:00).
14.12	Workstation/ NTS	Repeat steps 14.9 through 14.11 but use a service duration for B's MAF service that is one second shorter (01:59:29).	The request is accepted and scheduled because the event is less than 24 hours long (23:59:59).

Step	Location	Action	Result
14.13	NTS	Transmit SARs as described below.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Actual Service Start
A32	TDE	T + 07:30:00	SMAR	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:30:00
A33	TDE	T + 07:30:00	SMAR	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:30:00
A34	TDE	T + 07:30:00	SMAR	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:30:00
A35	TDE	T + 07:30:00	SMAR	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:30:00
A36	TDE	T + 07:33:00	SMAF	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:33:00
A37	TDE	T + 07:25:00	SMAF SMAR	00:00:00 00:05:00	00:05:00 00:05:00	00:00:00 00:00:00	00:00:00 00:00:00	00:05:00 00:05:00	07:25:00 07:30:00
B27	TDE	T + 07:25:00	SMAR SMAF	00:00:00 00:05:00	00:05:00 00:05:00	00:00:00 00:00:00	00:00:00 00:10:00	00:05:00 00:05:00	Request Denied

14.14	*Active Schedule*	Review the events on the Active Schedule window and make a hardcopy	Hardcopy is printed Verify: A32-A37 Schedule B27 doesn't schedule because the SMAF attempts to use plus tolerance to avoid conflict with A36 which would result in the SMAR in B27 to lengthen to fill the gap which would cause a conflict with A32 - A35 and the SMAR in A37. That resulting conflict will force a gap which is not allowed

Step	Location	Action	Result
		CLEANUP	
15.1	*Active Schedule*	**Delete** all events scheduled in the above steps.	The resources for day T are available.

2.2 Detailed Test Procedure for 99.1- 02.2
SERVICE LEVEL FLEXIBILITY -- ORDERING, BATCH
5.4.1.e, 5.4.6, 5.4.6.a.1, 5.4.6.a.2, 5.4.6.a.3, 5.4.6.b

OBJECTIVES: This test item will verify the following:

- For batch scheduling, flexibility parameter scheduling rules are applied to the scheduling of services. [5.4.1.e]
- The specified flexibility of each request will be employed, as needed, to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6]
- In an attempt to avoid conflicts within the batch scheduling process, the following flexibility parameters will be applied in the following preference order: [5.4.6.a]
  - Select alternate TDRSS resources [5.4.6.a.1]
  - Move event start time and/or relative service start times [5.4.6.a.2]
  - Shorten service durations [5.4.6.a.3]
- Start times will be moved by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.2]
- Service durations will be shortened by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.3]
- When flexibility parameters are applied to relative service start times and service durations, each event will be structured such that there is no time during the event during which no service is scheduled (i.e., no gaps within the event). [5.4.6.b]
- Any service may be lengthened in order to avoid the creation of gaps, regardless of the specified nominal service duration and maximum service duration parameters. [5.4.6.b]
- The SAR's specification of service durations, service start times offsets, and service level flexibilities must allow the event to be scheduled with a total duration of less than 24 hours. [MOC ICD B.3.2.3.c]
- If a SAR specifies zero event start time plus tolerance and zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time. However, service start time flexibility may be specified for any of the services in the SAR. When no event start time flexibility is specified, the NCCDS will apply the specified service-level flexibilities as needed and the earliest scheduled service start time will be used as the scheduled event start time. [7.2.1.1.c draft MOC ICD (11/98)]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database (or "all") capabilities.	Operator with necessary privileges is logged on.
1.2	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments are as follows: Name ID SGLT 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5	TDRS Assignments are correct.
1.3	Workstation	Choose full-support SICs, such that A has the higher scheduling priority than B. SIC A: _____ SIC B: _____	SICs are identified.
1.4	*<service type> Schedulable Parameters* (for various services)	Create or identify data for this test (such as, make SSCs with the appropriate maximum data rates, see test steps below for detail).	Test data is ready.
1.5	*Schedule Control Maintenance Parameters*	Determine the boundary of the batch scheduling period.	(see next step)
1.6	*Active Schedule*	Choose a day "T" in the batch scheduling period. Check that no activated events are scheduled on day "T" (delete any existing activated events).	No events are scheduled on day "T".

Step	Location	Action	Result
1.7	*Space Network Summary* *TDRS Sets*	Select **TDRS Sets...** from the **Edit** menu. Enter the name "**set**" in the **New Set Name** field. Click the **Add** button under the field. From the **TDRS Operational Names**, select **041, 171,** and **174**. Click the **Add** button between the TDRS Operational Names list and the Set Members list.	TDRS Set "set" = 041, 171, 174
1.8	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below. Unless specifically stated in the test steps, do not use Event Tolerances, Coupling, or TSWs.	NTS blocks are ready. Block file: _____ _____
TDRS FLEXIBILITY IS USED BEFORE SERVICE PLUS/MINUS TOLERANCE			
2.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A1	041	T + 00:15:00	MAF	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	00:15:00
A2	171	T + 00:18:00	SSAR1	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	00:18:00
B1	set	T + 00:00:00	MAF MAR SSAR1	00:15:30 00:00:00 00:17:30	00:01:00 00:30:00 00:01:00	00:15:00 00:15:00 00:15:00	00:15:00 00:15:00 00:15:00	TDRS before service +/- tolerance	00:15:30 00:00:00 00:17:30 (on 174)

2.2	*Batch Schedule*	Generate and activate 'batch1' with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
2.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B1 scheduled on TDRS 174. The start time of the MAF and SSAR1 services are at the requested times, showing that TDRS flexibility is used before service plus/minus tolerances.
TDRS FLEXIBILITY IS USED BEFORE MIND			
3.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service +/- Tolerance	MIND	Verify	Actual service start
A3	041	T + 01:10:00	MAF	00:00:00	00:01:00	blank/blank	blank	blocking event	01:10:00
B2	set	T + 01:00:00	MAF	00:02:00	00:15:00	blank/blank	00:01:00	TDRS before MIND	01:02:00 (on 171)

3.2	*Batch Schedule*	Generate and activate ‘batch2’ with the above requests.	Batch is generated and activated.
3.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B2 scheduled on TDRS 171 or 174. The duration of the MAF in event B2 was not reduced, showing that TDRS flexibility is used before minimum duration tolerance.

Step	Location	Action	Result
SA-ANTENNA AND UIFC FLEXIBILITY IS USED BEFORE SERVICE +/- TOLERANCE			
4.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A4	041	T + 02:00:00	SSAF**1** with UIFC "**A**"	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	02:00:00
B3	041	T + 02:00:00	SSAF**2** with UIFCs "**A**" and "**B**"	00:00:00	00:01:00	00:15:00	00:15:00	UIFC before service +/- tolerance	02:00:00

4.2	*Batch Schedule*	Generate and activate 'batch3' with the above requests.	Batch is generated and activated.
4.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B3 scheduled using UIFC B. The start time of the SSAF service in event B3 is at the requested time, showing that UIFC flexibilities are used before service plus/minus tolerances.
4.4	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A5	041	T + 02:30:00	SSAF--	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	02:30:00
B4	041	T + 02:30:00	SSAF--	00:00:00	00:01:00	00:15:00	00:15:00	antenna before service +/- tolerance	02:30:00

Step	Location	Action	Result
4.5	*Batch Schedule*	Generate and activate ‘batch4’ with the above requests.	Batch is generated and activated.
4.6	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B4 scheduled using UIFC B. The start time of the SSAF service in event B4 is at the requested time, showing that SA antenna flexibilities are used before service plus/minus tolerances.
SA-ANTENNA AND UIFC FLEXIBILITY IS USED BEFORE MIND			
5.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service +/- Tolerance	MIND	Verify	Actual service start
A6	192	T + 03:10:00	KaSAR**1** with UIFC "**A**"	00:00:00	00:15:00	blank/blank	blank	blocking event	03:10:00
B5	192	T + 03:00:00	KaSAR**2** with UIFCs "**A**" & "**B**"	00:00:00	00:15:00	blank/blank	00:05:00	UIFC before MIND	03:00:00

5.2	*Batch Schedule*	Generate and activate ‘batch5’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
5.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B5 scheduled using UIFC B. The duration of the KaSAR service in event B5 is as requested, showing that UIFC flexibilities are used before MIND tolerance.
5.4	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service +/- Tolerance	MIND	Verify	Actual service start
A7	192	T + 03:40:00	KaSAR--	00:00:00	00:15:00	blank/blank	blank	blocking event	03:40:00
B6	192	T + 03:30:00	KaSAR--	00:00:00	00:15:00	blank/blank	00:05:00	SA before MIND	03:30:00

5.5	*Batch Schedule*	Generate and activate ‘batch6’ with the above requests.	Batch is generated and activated.
5.6	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B6 scheduled using UIFC B. The duration of the KaSAR service in event B6 is as requested, showing that SA antenna flexibilities are used before MIND tolerance.

Step	Location	Action	Result
MAR/SMAR LINK FLEXIBILITY IS USED BEFORE SERVICE PLUS/MINUS TOL			
6.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A8	041	T + 04:00:00	MAR	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	04:00:00
B7	041	T + 04:00:00	MAR	00:00:00	00:01:00	00:15:00	00:15:00	uses link 2	04:00:00
A9	192	T + 04:00:00	SMAR	00:00:00	00:01:00	00:00:00	00:00:00	blocking event	04:00:00
B8	192	T + 04:00:00	SMAR	00:00:00	00:01:00	00:15:00	00:15:00	uses link 2	04:00:00

6.2	*Batch Schedule*	Generate and activate ‘batch7’ with the above requests.	Batch is generated and activated.
6.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The start time of the second MAR event and the second SMAR event are at the requested times, showing that link flexibility is used before service plus/minus tolerances.

Step	Location	Action	Result
MAR/SMAR LINK FLEXIBILITY IS USED BEFORE MIND			
7.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Plus/Minus Tolerance	MIND	Verify	Actual service start
A10	041	T + 05:10:00	MAR	00:00:00	00:30:00	blank/blank	blank	blocking event	05:10:00
B9	041	T + 05:00:00	MAR	00:00:00	00:30:00	blank/blank	00:01:00	uses link 2	05:00:00
A11	192	T + 05:10:00	SMAR	00:00:00	00:30:00	blank/blank	blank	blocking event	05:10:00
B10	192	T + 05:00:00	SMAR	00:00:00	00:30:00	blank/blank	00:01:00	uses link 2	05:00:00

7.2	*Batch Schedule*	Generate and activate ‘batch8’ with the above requests.	Batch is generated and activated.
7.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The durations of the second MAR event and the second SMAR event are the requested durations, showing that link flexibility is used before MIND tolerance.

Step	Location	Action	Result
CLOSEST START PREFERRED WHEN PLUS/MINUS TOLERANCE IS USED			
8.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Duration	Verify	Actual service start
A12	041	T + 06:06:30	MAF	00:00:00	00:18:00	blank	blank	blank	blocking event	06:06:30
B11	041	T + 06:15:00	MAF	00:00:00	00:01:00	00:15:00	00:15:00	blank	Using Plus or Minus tolerance are equally distant from request start time.	06:05:00 or 06:25:00
A13	041	T + 06:36:30	MAF	00:00:00	00:17:59	blank	blank	blank	blocking event	06:36:30
B12	041	T + 06:45:00	MAF	00:00:00	00:01:00	00:15:00	00:15:00	00:01:00	Plus is closer	06:54:59
A14	041	T + 07:06:30	MAF	00:00:00	00:18:01	blank	blank	blank	blocking event	07:06:30
B13	041	T + 07:15:00	MAF	00:00:00	00:01:00	00:15:00	00:15:00	00:01:00	Minus is closer	07:05:00

8.2	*Batch Schedule*	Generate and activate ‘batch9’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
8.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B11 used either plus or minus tolerance to schedule successfully. Request B12 used plus tolerance to schedule successfully. Request B13 used minus tolerance to schedule successfully. Each MAF service scheduled at the available time that was closest to the requested service start time.

SERVICE +/- TOLERANCES ARE USED INSTEAD OF SHORTENING DURATION

9.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Duration	Verify	Actual service start
A15	046	T + 01:10:00	MAF	00:00:00	00:10:00	00:00:00	00:00:00	blank	blocking event	01:10:00
A16	046	T + 01:24:59	MAF	00:00:00	00:10:01	00:00:00	00:00:00	blank	blocking event	01:24:59
A17	046	T + 01:40:00	MAF	00:00:00	00:10:00	00:00:00	00:00:00	blank	blocking event	01:40:00
B14	046	T + 01:10:00	MAF MAR	00:10:30 00:00:00	00:04:00 00:30:00	00:00:00 00:00:00	00:15:00 00:00:00	00:01:00 00:01:00	Plus used	01:35:30 01:10:00
B15	046	T + 01:00:00	MAF MAR	00:20:30 00:00:00	00:04:00 00:30:00	00:15:00 00:00:00	00:00:00 00:00:00	00:01:00 00:01:00	Minus used	01:05:30 01:00:00

9.2	*Batch Schedule*	Generate and activate ‘batch10’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
9.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: MAF of B14 was moved to the last possible second of service start time using the plus tolerance instead of shortening the duration by 1 second. MAF of B15 was moved to an earlier service start time using the minus tolerance instead of shortening the duration by 1 second.

MULTIPLE FLEXIBILITIES CAN BE USED: TDRS, START, & DURATION

10.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Duration	Verify	Actual service start
A18	041	T + 08:00:00	MAF	00:00:00	00:07:30	00:00:00	00:00:00	blank	blocking event	08:00:00
A19	171	T + 08:03:00	MAF	00:00:00	00:04:00	00:00:00	00:00:00	blank	blocking event	08:03:00
A20	174	T + 08:00:00	MAF MAF MAR	00:01:00 00:08:00 00:00:00	00:03:00 00:02:00 01:00:00	00:00:00 00:00:00 00:00:00	00:00:00 00:00:00 00:00:00	blank	blocking event	08:01:00 08:08:00 08:00:00
B16	set	T + 08:00:00	MAF MAR	00:02:00 00:00:00	00:04:00 01:00:00	00:02:00 00:00:00	00:05:29 00:00:00	00:01:00 blank	change TDRS, move start, & shorten duration	08:04:30 08:00:00 (on 174) MAF dur = 3 minutes

10.2	*Batch Schedule*	Generate and activate ‘batch11’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
10.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF service of request B16 scheduled successfully by using TDRS flexibility, service start tolerance, and shortening the service duration by the least amount.
MOVE START & SHORTEN DURATION			
11.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Dur	Service Minus Tol	Service Plus Tol	Min Service Duration	Verify	Actual service start
A21	041	T + 09:00:00	SSAF1 MAR SSAR1	00:00:00 00:00:00 00:15:00	00:10:00 00:30:00 00:10:00	blank blank blank	blank blank blank	blank blank blank	blocking event	09:00:00
B17	041	T + 09:00:00	SSAF1	00:20:00	00:10:00	00:10:00	blank	00:01:00	move start & shorten duration	09:11:30 SSAF1 duration = 02:00

11.2	*Batch Schedule*	Generate and activate ‘batch12’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
11.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The SSAF1 service of request B17 scheduled successfully by using service start tolerance (minus), and shortening the service duration to 2 minutes. The duration was shortened by the least amount necessary to allow the event to schedule.
SHORTEN DURATION TO THE MINIMUM SIZE			
12.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Duration	Verify	Actual service start
A22	041	T + 10:00:00	MAF	00:00:00	00:08:00	00:00:00	00:00:00	blank	blocking event	10:00:00
A23	041	T + 10:10:00	MAF	00:00:00	00:10:00	00:00:00	00:00:00	blank	blocking event	10:10:00
B18	041	T + 10:00:00	MAF MAR	00:08:30 00:00:00	00:10:00 00:30:00	00:10:00 00:00:00	00:10:00 00:00:00	00:01:00 blank	shorten duration to smallest valid value	10:08:30 10:00:00 MAF duration = 01:00

12.2	*Batch Schedule*	Generate and activate ‘batch13’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
12.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF service of request B18 scheduled successfully by shortening the service duration to 1 minute. (The start time of the MAF service should not shift, because even though it could be scheduled for 1 minute at 09:58:30, since the duration would be the same either way, it should stay at the requested time.)

ATTEMPT TO SHORTEN DURATION LESS THAN ALLOWED MINIMUM

13.1	NTS	Transmit SARs as described below:	Requests are received.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Min Service Duration	Verify	Actual service start
A24	041	T + 11:00:00	MAF	00:00:00	00:09:30	00:00:00	00:00:00	blank	blocking event	11:00:00
A25	041	T + 11:11:29	MAF	00:00:00	00:10:00	00:00:00	00:00:00	blank	blocking event	11:11:29
B19	041	T + 11:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:30:00	blank blank	00:15:00 00:00:00	00:01:00 blank	shorten duration more than allowed	Declined

The objective of this step is to verify that when the flexibility to shorten service duration is used, it does not violate the rule that a service has to be at least 1 minute long. Therefore in the Minimum Duration field first attempt to enter less than a minute (such as 30 seconds or zero seconds), but if that is rejected as an invalid data entry (which it really should be), then enter 1 minute.

13.2	*Batch Schedule*	Generate ‘batch14’ with the above requests.	Batch is generated.

Step	Location	Action	Result
13.3	*Schedule Inputs and Results*	Review the events on the *Schedule Inputs and Results* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF service of request B19 is declined (MA conflict) because services may not be shortened to a duration less than 1 minute.
NO GAPS IN EVENT			
14.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Actual service start
A26	285	T + 03:00:00	MAF	00:00:00	00:24:00	00:00:00	00:00:00	blank	03:00:00
B20	285	T + 03:10:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:05:00	00:00:00 00:00:00	00:15:00 00:00:00	00:01:00 blank	03:24:30 03:10:00

14.2	*Batch Schedule*	Generate and activate ‘batch15’ with the above requests.	Batch is generated and activated.
14.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF of B20 uses plus tolerance to schedule, and the MAR service lengthens to eliminate the resulting gap. The MAR service of B20 starts at T+03:10:00 (as requested), but has a new duration of 00:14:30, ending at T+03:24:30.

Step	Location	Action	Result
14.4	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Actual service start
A27	285	T + 04:00:00	MAF	00:00:00	00:24:00	00:00:00	00:00:00	blank	04:00:00
B21	285	T + 04:05:00	MAF SSAR SSAR	00:05:00 00:00:00 00:10:00	00:05:00 00:05:00 00:05:00	00:00:00 00:00:00 00:00:00	00:15:00 00:00:00 00:00:00	00:01:00 blank blank	Declined

14.5	*Batch Schedule*	Generate ‘batch16’ with the above requests.	Batch is generated.
14.6	*Schedule Inputs and Results*	Review the events on the *Schedule Inputs and Results* window and make a **hardcopy**.	Verify: The event B21 was not scheduled because: The MAF of B21 could use plus tolerance to schedule, but the two SSAR services cannot lengthen enough to eliminate the resulting gap, because of the required 15 second setup time between the stop and start of two services of the same type within an event.
14.7	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Actual service start
A28	285	T + 05:00:00	MAF	00:00:00	00:24:00	00:00:00	00:00:00	blank	05:00:00
B22	285	T + 05:05:00	MAF MAR MAR	00:05:00 00:00:00 00:10:00	00:05:00 00:05:00 00:05:00	00:00:00 00:00:00 00:00:00	00:15:00 00:00:00 00:15:00	00:01:00 blank blank	05:24:30 05:05:00 05:25:00

14.8	*Batch Schedule*	Generate and activate ‘batch17’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
14.9	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF of B22 uses plus tolerance to schedule, the second MAR service uses plus tolerance to move enough to allow the first MAR to lengthen to eliminate the gap (avoiding a setup conflict). The scheduled duration of the first MAR is 00:19:30, start time T+05:05:00 to stop time T+05:24:30.
14.10	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Plus Tolerances	Service Minus Tolerances	Min Service Duration	Actual service start
A29	285	T + 06:00:00	MAF	00:00:01	00:10:00	00:00:00	00:00:00	blank	06:00:01
A30	171	T + 06:00:00	MAF	00:00:00	00:10:00	00:00:00	00:00:01	blank	06:00:00
B23	174	T + 06:00:00	MAF	00:00:00	00:10:00	00:00:01	00:00:00	blank	06:00:00
B24	171	T + 06:00:00	MAF	00:00:00	00:03:00	11:05:00	00:00:00	00:03:00	06:10:30
B25	041	T + 06:00:00	SSAF KuSAF KuSAR SSAR	01:00:00 00:30:00 00:20:00 12:00:00	19:00:00 00:30:00 00:01:00 00:01:00	00:00:00 00:00:00 00:00:00 00:00:00	00:00:00 00:00:00 00:00:00 00:00:00	19:00:00 00:30:00 00:01:00 00:01:00	07:00:00 06:30:00 06:20:00 18:00:00

14.11	*Batch Schedule*	Generate and activate ‘batch18’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
14.12	*Active Schedule*	Review the status of requests and make a **hardcopy**.	Hardcopy is printed. Verify: A29 Event Start is at the service start time 06:00:01 (shows that event is not required to have a service that starts at requested event start and event start moves to be the first service start). A30 and B23 are accepted and scheduled (shows that can use plus/minus tolerance for any service). B24 Event Start schedules at service start time after it uses plus tolerance. B25 Event Start moves to the beginning of the SSAR service at 06:20:00.
14.13	*Active Schedule*	**Delete** events from TDRS 041 for day T and at least 31 seconds into day T+1.	Resources are available for scheduling the following events.
14.14	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Actual service start
A31	041	T + 21:00:00	MAF	00:00:00	01:00:00	00:00:00	00:00:00	blank	21:00:00
B26	041	T + 00:00:00	MAF MAR	21:00:00 00:00:00	01:59:30 21:00:00	00:00:00 00:00:00	02:00:00 00:00:00	blank blank	Declined

14.15	*Batch Schedule*	Generate ‘batch19’ with the above requests.	Batch is generated.

Step	Location	Action	Result
14.16	*Schedule Inputs and Results*	Review the events on the *Schedule Inputs and Results* window and make a **hardcopy**.	Hardcopy is printed. Verify: The MAF of B26 could use plus tolerance to move forward 1 hour and 30 seconds and schedule (from 22:00:30 to T+1 day), but the request is rejected because if the MAF moved that much the MAR would increase its duration to fill in the gap (00:00:00 - 22:00:30) and the resulting event would be 24 hours long (T + 00:00:00 to T + 1 + 00:00:00).
14.17	Workstation/ NTS	Repeat steps 14.14 through 14.16 but use a service duration for B's MAF service that is one second shorter (01:59:29).	The request is accepted and scheduled because the event is less than 24 hours long (23:59:59).
14.18	NTS	Transmit SARs as described below.	Requests are received.

Step	Location			Action			Result		
Req	**TDRS**	**Event Start**	**Svcs**	**Service Start**	**Nom Service Duration**	**Service Minus Tolerance**	**Service Plus Tol**	**Min Service Dur**	**Actual Service Start**
A32	TDE	T + 07:30:00	SMAR	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:30:00
A33	TDE	T + 07:30:00	SMAR	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:30:00
A34	TDE	T + 07:30:00	SMAR	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:30:00
A35	TDE	T + 07:30:00	SMAR	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:30:00
A36	TDE	T + 07:33:00	SMAF	00:00:00	00:05:00	00:00:00	00:00:00	00:05:00	07:33:00
A37	TDE	T + 07:25:00	SMAF SMAR	00:00:00 00:05:00	00:05:00 00:05:00	00:00:00 00:00:00	00:00:00 00:00:00	00:05:00 00:05:00	07:25:00 07:30:00
B27	TDE	T + 07:25:00	SMAR SMAF	00:00:00 00:05:00	00:05:00 00:05:00	00:00:00 00:00:00	00:00:00 00:10:00	00:05:00 00:05:00	Request Denied
14.19	*Batch Schedule*		Generate ‘batch20’ with the above requests.				Batch is generated.		
14.20	*Schedule Inputs and Results*		Review the events on the *Schedule Inputs and Results* window and make a **hardcopy**.				Hardcopy is printed Verify: A32-A37 Schedule B27 doesn’t schedule because the SMAF attempts to use plus tolerance to avoid conflict with A36 which would result in the SMAR in B27 to lengthen to fill the gap which would cause a conflict with A32 - A35 and the SMAR in A37. That resulting conflict will force a gap which is not allowed		

Step	Location	Action	Result
		CLEANUP	
15.1	*Active Schedule*	**Delete** all events activated in the above steps.	The resources for day T are available.

2.3 Detailed Test Procedure for 99.1- 02.3 SERVICE LEVEL FLEXIBILITY - CSN & SBSN, AUTOMATIC 5.4.1.e, 5.4.6, 5.4.6.a.2, 5.4.6.a.3, 5.4.6.b

OBJECTIVES: This test item will verify the following:

- For automatic scheduling, flexibility parameter scheduling rules are applied to the scheduling of services. [5.4.1.e]
- The specified flexibility of each request will be employed, as needed, to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6]
- Start times will be moved by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.2]
- Service durations will be shortened by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.3]
- When flexibility parameters are applied to relative service start times and service durations, each event will be structured such that there is no time during the event in which no service is scheduled (i.e., no gaps within the event). [5.4.6.b]
- If a SAR specifies zero event start time plus tolerance and zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time. However, service start time flexibility may be specified for any of the services in the SAR. When no event start time flexibility is specified, the NCCDS will apply the specified service-level flexibilities as needed and the earliest scheduled service start time will be used as the scheduled event start time. [MOC ICD B.3.2.4.c , 7.2.1.1.c]
- If the Service Bounded By Service Number (SBSN) parameter is used, the duration of the referenced service must equal or exceed that of the referencing service. [MOC ICD B.3.2.4.e.1]
- The Coupled Service Number (CSN), Service Start Time Plus Tolerance (STPT), and Service Start Time Minus Tolerance (STMT) parameters may be used together in any combination. [MOC ICD B.3.2.4.e.2]
- If SBSN is used, it must not be used in combination with CSN, STPT, or STMT. [MOC ICD B.3.2.4.e.2]
- CSN and SBSN may be used to create chains of references. Example: Service A (via use of CSN) starts 10 minutes after service B, and service B (via use of SBSN) is bounded by service C. However, such a chain cannot close to create a circular reference (i.e., every service must have its start time either directly or indirectly defined relative to Event Start Time). [MOC ICD B.3.2.4.e.3]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Operator with necessary privileges is logged on.
1.2	Database Subpanel	Click the Space Network icon.	*Space Network Database* window appears.
1.3	*Space Network Database*	Select **TDRS Operational Names & Mappings** from the **Edit** menu.	*TDRS Operational Names & Mappings* window appears.
1.4	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the automatic scheduling subphase are as follows: Name ID SGLT 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5 Click **Close**.	TDRS Assignments are correct.
1.5	Workstation	Choose Normal full-support SICs, such that A has the highest scheduling priority and E has the lowest priority. SIC A: _____ SIC B: _____ SIC C: _____ SIC D: _____ SIC E: _____	SICs are identified.
1.6	*<service type> Schedulable Parameters*	Create or identify SSCs needed for this test.	Test data is ready.

Step	Location	Action	Result
1.7	*Schedule Control Database*	Note the Current Batch Boundary.	Boundary is noted.
1.8	*Active Schedule*	Choose a day "T" in the automatic scheduling period. Check that no events are scheduled on day "T" (delete any existing events).	No events are scheduled on day "T".
1.9	*Space Network Summary* *TDRS Sets*	Select **TDRS Sets...** from the **Edit** menu. Enter the name "**set**" in the **New Set Name** field. Click the **Add** button under the field. From the **TDRS Operational Names**, select **041, 171,** and **174**. Click the **Add** button between the TDRS Operational Names list and the Set Members list.	TDRS Set "set" = 041, 171, 174
1.10	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below. Except where specifically stated in the test steps, do not use Event Tolerances, Coupling, Bounding or TSWs.	NTS blocks are ready. Block file: _____ _____
		COUPLED SERVICES	
2.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Coupled Service Number	Actual service start
A1	285	T + 00:15:00	MAF	00:00:00	00:15:00	blank	blank	blank	blank	00:15:00
B1	285	T + 00:05:00	MAF MAR MAR	00:10:00 00:00:00 00:05:00	00:05:00 00:10:00 00:05:00	00:10:00 blank blank	00:05:00 blank blank	blank 00:01:00 blank	blank blank 01	00:09:30 00:05:00 00:14:30

Step	Location	Action	Result
2.2	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The MAF of B1 uses minus tolerance to schedule. The second MAR service is coupled to the start time of the MAF and moves the same amount (and in the same direction) as the MAF. The first MAR service decreases its duration (from 00:10:00 to 00:09:45) to allow the required setup time between the first and second MAR services.
2.3	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Coupled Service Number	Actual service start
A2	285	T + 01:00:00	MAF	00:00:00	00:14:00	blank	blank	blank	blank	01:00:00
A3	285	T + 01:15:00	MAF	00:00:00	00:15:00	blank	blank	blank	blank	01:15:00
B2	285	T + 01:05:00	MAF MAR MAR	00:10:00 00:00:00 00:05:00	00:05:00 00:10:00 00:05:00	00:20:29 blank blank	00:20:00 blank blank	blank blank blank	blank blank 01	01:30:30 01:05:00 01:35:30

Step	Location	Action	Result
2.4	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The MAF of B2 uses plus tolerance to schedule. The second MAR service is coupled to the start time of the MAF and moves the same amount (and in the same direction) as the MAF. The first MAR service increases its duration (from 00:10:00 to 00:25:30 minutes) to prevent a gap.

Step	Location	Action	Result
2.5	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Coupled Service Number	Actual service start
C1	TDE	T + 00:00:00	SMAF	03:00:00	03:00:00	blank	blank	blank	blank	03:00:00
C2	TDE	T + 00:00:00	SMAF SMAR SMAR	00:00:00 00:00:00 05:00:00	05:00:00 04:00:00 12:59:31	blank blank blank	10:00:00 blank blank	blank blank blank	blank blank 01	Request declined

2.6	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: The SMAF of C2 could use its plus tolerance to schedule (starting at 06:00:30), the second SMAR service would move the same amount relative to the SMAF (starting at 11:00:30), and the first SMAR would increase its duration (to 06:00:30) to fill the gap, but the request gets declined because the overall event duration would be 24 hours and 1 second.
2.7	Workstation	Repeat steps 2.5 and 2.6 but with 1 second less for the duration of the 2nd SMAR service of event C2.	Event will get scheduled if a duration of 24 hours is valid.
		BOUNDED SERVICES	
3.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.

Step	Location	Action	Result
3.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D1	041	T + 00:00:00	MAF MAR	00:15:00 00:00:00	00:05:00 00:30:00	blank blank	02 blank	blank blank	blank blank	00:00:00***** 00:00:00
E1	041	T + 00:00:00	MAF MAR	00:10:00 00:00:00	00:24:30 00:30:00	blank blank	02 blank	blank blank	blank blank	00:05:30***** 00:00:00

***** Probably the services will be packed in at the earliest possible start times, but that isn't required, so it would be okay if D1's MAF started at 00:25:00 and E1's MAF started at 00:00:00.

3.3	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The MARs schedule at the requested times. The relative service start times of the MAFs are ignored. The MAFs schedule at times that are totally within the boundaries of their respective MARs. The MAFs scheduled so that they do not overlap and have at least 30 seconds setup time between them.
3.4	*Active Schedule*	**Delete** Event D1.	Its resources are made available for new requests.
3.5	NTS	Re-submit request D1.	Verify: Scheduled successfully, indicating that bounded service algorithm looks anew for available times.

Step	Location	Action	Result
3.6	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D2	041	T + 00:40:00	SSAF SSAR	00:00:00 00:00:00	00:05:00 00:05:00	blank blank	02 blank	blank blank	blank blank	00:40:00 00:40:00
E2	041	T + 00:50:00	SSAF SSAR	00:00:00 00:00:00	00:05:00 00:05:00	blank blank	blank 01	blank blank	blank blank	00:50:00 00:50:00
D3	041	T + 01:00:00	SSAF SSAR	00:00:00 00:00:00	00:05:00 00:05:01	blank blank	blank 01	blank blank	blank blank	Request declined

3.7	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request D3 declined because the duration of the referenced service must equal or exceed that of the referencing service.
3.8	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D4	041	T + 01:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	01:00:00
E3	041	T + 01:10:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:20:00	blank blank	02 blank	blank blank	blank blank	01:20:30 01:10:00

3.9	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: Relative start time of the bounded service is ignored. The bounded service is moved to a time within the referenced service where there are no resource conflicts.

Step	Location	Action	Result
3.10	NTS	Transmit SARs as described below.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D5	041	T + 02:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	02:00:00
E4	041	T + 02:10:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:20:00	blank blank	02 blank	blank +00:10:00	blank blank	02:20:30 02:10:30

3.11	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The referenced service shifted (using plus tolerance) to allow the bounded service to schedule. The event start time shifts to be equal to the earliest service start time in the event.
3.12	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D6	041	T + 02:40:00	MAF	00:00:00	00:05:00	blank	blank	blank	blank	02:40:00
E5	041	T + 02:35:00	MAF MAR	00:00:00 00:07:00	00:03:00 00:05:00	blank blank	02 blank	blank -00:10:00	blank blank	02:36:30 02:36:30

Step	Location	Action	Result
3.13	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The referenced service shifts (using minus tolerance) to allow the bounded service to schedule. The event start time shifts to be equal to the earliest service start time in the event.
3.14	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D7	041	T + 03:00:00	KSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
E6	041	T + 03:10:00	KSAF 01 KSAR 01	00:00:00 00:00:00	00:10:00 00:20:00	blank blank	02 blank	blank blank	00:01:00 blank	03:20:30 03:10:00

3.15	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: Service Bounded may be used in combination with minimum duration. The duration of the bounded service is decreased (03:20:30 - 03:30:00 = 9 1/2 min) to allow it to fit within the referenced KSAR service end time.

Step	Location	Action	Result
3.16	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D8	041	T + 04:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	04:00:00
D9	041	T + 04:30:00	MAF	00:00:00	00:05:00	blank	blank	blank	blank	04:30:00
E7	041	T + 04:15:00	MAF MAR	00:05:00 00:00:00	00:10:00 00:35:00	blank blank	02 blank	blank blank	00:01:00 blank	04:35:30 04:15:00

3.17	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The duration of the bounded service is not decreased to force it to fit within the first available time; the larger available time is found even though it is not the first possible time.
3.18	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
E8	041	T + 05:00:00	MAF MAR	00:10:00 00:00:00	00:10:00 00:30:00	02 blank	02 blank	blank blank	blank blank	Request Rejected
E9	041	T + 05:00:00	MAF MAR	00:10:00 00:00:00	00:10:00 00:30:00	blank blank	02 blank	+00:10:00 blank	blank blank	Request Rejected
E10	041	T + 05:00:00	MAF MAR	00:10:00 00:00:00	00:10:00 00:30:00	blank blank	02 blank	-00:10:00 blank	blank blank	Request Rejected

Step	Location	Action	Result
3.19	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Requests were rejected. Service Bounded may not be used in combination with Service Coupled, Service Start Plus Tolerance, or Service Start Minus Tolerance.
3.20	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D10	041	T + 05:00:00	MAF	00:00:00	00:30:00	blank	blank	blank	blank	05:00:00
D11	041	T + 05:00:00	SSAF01	00:00:00	00:30:00	blank	blank	blank	blank	05:00:00
E11	041	T + 05:10:00	MAF SSAF01 MAR	00:00:00 00:10:00 00:00:00	00:10:00 00:10:00 00:10:30	blank blank blank	03 blank blank	blank +00:20:00 blank	00:01:00 blank blank	05:30:30 05:40:00 05:10:00

3.21	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The SSAF01 service in Request E11 needs to use plus tolerance to schedule, thus creating a gap that the MAR service could expand to fill. The expansion of the MAR service (by 19 minutes and 30 seconds) should allow the MAF service (that is bound to the MAR) to be able to schedule without resource conflict (the MAF decreased its duration to nine and a half minutes).

Step	Location	Action	Result
3.22	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D12	041	T + 07:00:00	MAF	00:00:00	00:30:00	blank	blank	blank	blank	07:00:00
D13	041	T + 06:00:00	SSAF01	00:00:00	01:30:00	blank	blank	blank	blank	07:00:00
E12	041	T + 07:10:00	MAF SSAF01 MAR	00:00:00 00:10:00 00:00:00	00:10:00 00:10:00 00:10:30	blank blank blank	03 blank blank	blank - 02:00:00 blank	00:01:00 blank blank	05:58:30 05:48:30 05:58:30

3.23	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The SSAF01 service in Request E12 needs to use minus tolerance to schedule, thus creating a gap that the MAR service could expand to fill. The expansion of the MAR service (to 22 minutes) should allow the MAF service (that is bound to the MAR) to be able to schedule without resource conflict.

Step	Location	Action	Result
3.24	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
C9	174	T + 08:00:00	SSAF 02 SSAR 02	02:00:00 01:00:00	02:00:00 02:00:00	blank blank	blank blank	blank blank	blank blank	10:00:00 09:00:00
C10	174	T + 08:00:00	SSAF 02 SSAR 02	00:00:00 00:00:00	05:00:00 02:30:00	blank blank	blank 01	blank blank	00:30:00 blank	08:00:00 08:00:00

3.25	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The SSAF of event C10 decreases its duration to end at 08:58:30 and the SSAR decreases its duration to fit within the SSAF, allowing the event to schedule.

CHAINS OF REFERENCES

4.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
4.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
E13	041	T + 00:00:00	MAF KSAF MAR KSAR	00:00:00 00:00:00 00:10:00 00:05:00	00:05:00 00:30:00 00:20:00 00:20:00	blank blank 01 02	04 blank blank blank	blank blank blank blank	blank blank blank blank	00:05:00* 00:00:00 00:15:00 00:05:00

***The MAF may start anytime from 06:05:00 to 06:20:00 since it is bound to the KSAR, however the MAR would move with it because it is coupled to the MAF.

Step	Location	Action	Result
4.3	*Active Schedule*	Review the **Service Display...** for the above events and make a **hardcopy**.	Hardcopy is printed. Verify: Coupled and Bounded may be used to create chains of references.
4.4	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
E14	041	T + 01:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:10:00	02 01	blank blank	blank blank	blank blank	Request Rejected
E15	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	02 03 01	blank blank blank	blank blank blank	blank blank blank	Request Rejected
E16	041	T + 01:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:10:00	blank blank	02 01	blank blank	blank blank	Request Rejected
E17	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	blank blank blank	02 03 01	blank blank blank	blank blank blank	Request Rejected
E18	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	blank 01 02	03 blank blank	blank blank blank	blank blank blank	Request Rejected
E19	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	blank 03 blank	02 blank 01	blank blank blank	blank blank blank	Request Rejected
E20	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	02 blank 01	blank 03 blank	blank blank blank	blank blank blank	Request Rejected
E21	041	T + 01:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:10:00	01 blank	blank blank	blank blank	blank blank	Request Rejected
E22	041	T + 01:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:10:00	blank blank	blank 02	blank blank	blank blank	Request Rejected

Step	Location	Action	Result
4.5	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Requests were rejected. Chains of Coupled and Bounded services may not close to create circular references.
		CLEANUP	
5.1	*Active Schedule*	**Delete** all events scheduled in the above steps.	The resources for day T are available.
		DOCUMENTATION	
6.1	User's Guide	Review the documentation related to service flexibility fields on the windows.	Verify: Windows and procedures are correctly documented.

2.4 Detailed Test Procedure for 99.1- 02.4 SERVICE LEVEL FLEXIBILITY - CSN & SBSN, BATCH 5.4.1.e, 5.4.6, 5.4.6.a.2, 5.4.6.a.3, 5.4.6.b

OBJECTIVES: This test item will verify the following:

- For batch scheduling, flexibility parameter scheduling rules are applied to the scheduling of services. [5.4.1.e]
- The specified flexibility of each request will be employed, as needed, to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6]
- Start times will be moved by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.2]
- Service durations will be shortened by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.3]
- When flexibility parameters are applied to relative service start times and service durations, each event will be structured such that there is no time during the event in which no service is scheduled (i.e., no gaps within the event). [5.4.6.b]
- If a SAR specifies zero event start time plus tolerance and zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time. However, service start time flexibility may be specified for any of the services in the SAR. When no event start time flexibility is specified, the NCCDS will apply the specified service-level flexibilities as needed and the earliest scheduled service start time will be used as the scheduled event start time. [MOC ICD B.3.2.4.c , 7.2.1.1.c]
- If the Service Bounded By Service Number (SBSN) parameter is used, the duration of the referenced service must equal or exceed that of the referencing service. [MOC ICD B.3.2.4.e.1]
- The Coupled Service Number (CSN), Service Start Time Plus Tolerance (STPT), and Service Start Time Minus Tolerance (STMT) parameters may be used together in any combination. [MOC ICD B.3.2.4.e.2]
- If SBSN is used, it must not be used in combination with CSN, STPT, or STMT. [MOC ICD B.3.2.4.e.2]
- CSN and SBSN may be used to create chains of references. Example: Service A (via use of CSN) starts 10 minutes after service B, and service B (via use of SBSN) is bounded by service C. However, such a chain cannot close to create a circular reference (i.e., every service must have its start time either directly or indirectly defined relative to Event Start Time). [MOC ICD B.3.2.4.e.3]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Operator with necessary privileges is logged on.
1.2	Database Subpanel	Click the Space Network icon.	*Space Network Database* window appears.
1.3	*Space Network Database*	Select **TDRS Operational Names & Mappings** from the **Edit** menu.	*TDRS Operational Names & Mappings* window appears.
1.4	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the batch scheduling subphase are as follows: Name ID SGLT 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5 Click **Close**.	TDRS Assignments are correct.
1.5	Workstation	Choose Normal full-support SICs, such that A has the highest scheduling priority and E has the lowest priority. SIC A: _____ SIC B: _____ SIC C: _____ SIC D: _____ SIC E: _____	SICs are identified.
1.6	*<service type> Schedulable Parameters*	Create or identify SSCs needed for this test.	Test data is ready.

Step	Location	Action	Result
1.7	*Schedule Control Database*	Note the Current Batch Boundary.	Boundary is noted.
1.8	*Active Schedule*	Choose a day "T" in the batch scheduling period. Check that no events are scheduled on day "T" (delete any existing events).	No events are scheduled on day "T".
1.9	*Space Network Summary* *TDRS Sets*	Select **TDRS Sets...** from the **Edit** menu. Enter the name "**set**" in the **New Set Name** field. Click the **Add** button under the field. From the **TDRS Operational Names**, select **041, 171,** and **174**. Click the **Add** button between the TDRS Operational Names list and the Set Members list.	TDRS Set "set" = 041, 171, 174
1.10	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below. Except where specifically stated in the test steps, do not use Event Tolerances, Coupling, Bounding or TSWs.	NTS blocks are ready. Block file: _____ _____
		COUPLED SERVICES	
2.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Coupled Service Number	Actual service start
A1	285	T + 00:15:00	MAF	00:00:00	00:15:00	blank	blank	blank	blank	00:15:00
B1	285	T + 00:05:00	MAF MAR MAR	00:10:00 00:00:00 00:05:00	00:05:00 00:10:00 00:05:00	00:10:00 blank blank	00:05:00 blank blank	blank 00:01:00 blank	blank blank 01	00:09:30 00:05:00 00:14:30

2.2	*Batch Schedule*	Generate and activate 'batch1' with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
2.3	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The MAF of B1 uses minus tolerance to schedule. The second MAR service is coupled to the start time of the MAF and moves the same amount (and in the same direction) as the MAF. The first MAR service decreases its duration (from 00:10:00 to 00:09:45) to allow the required setup time between the first and second MAR services.
2.4	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Coupled Service Number	Actual service start
A2	285	T + 01:00:00	MAF	00:00:00	00:14:00	blank	blank	blank	blank	01:00:00
A3	285	T + 01:15:00	MAF	00:00:00	00:15:00	blank	blank	blank	blank	01:15:00
B2	285	T + 01:05:00	MAF MAR MAR	00:10:00 00:00:00 00:05:00	00:05:00 00:10:00 00:05:00	00:20:29 blank blank	00:20:00 blank blank	blank blank blank	blank blank 01	01:30:30 01:05:00 01:35:30

2.5	*Batch Schedule*	Generate and activate ‘batch2’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
2.6	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The MAF of B2 uses plus tolerance to schedule. The second MAR service is coupled to the start time of the MAF and moves the same amount (and in the same direction) as the MAF. The first MAR service increases its duration (from 00:10:00 to 00:25:30 minutes) to prevent a gap.
2.7	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Service Minus Tolerance	Service Plus Tol	Min Service Duration	Coupled Service Number	Actual service start
C1	TDE	T + 00:00:00	SMAF	03:00:00	03:00:00	blank	blank	blank	blank	03:00:00
C2	TDE	T + 00:00:00	SMAF SMAR SMAR	00:00:00 00:00:00 05:00:00	05:00:00 04:00:00 12:59:31	blank blank blank	10:00:00 blank blank	blank blank blank	blank blank 01	Request declined

2.8	*Batch Schedule*	Generate and activate ‘batch3’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
2.9	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: The SMAF of C2 could use its plus tolerance to schedule (starting at 06:00:30), the second SMAR service would move the same amount relative to the SMAF (starting at 11:00:30), and the first SMAR would increase its duration (to 06:00:30) to fill the gap, but the request gets declined because the overall event duration would be 24 hours and 1 second.
2.10	Workstation	Repeat steps 2.5 and 2.6 but with 1 second less for the duration of the 2nd SMAR service of event C2.	Event will get scheduled if a duration of 24 hours is valid.
		BOUNDED SERVICES	
3.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
3.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D1	041	T + 00:00:00	MAF MAR	00:15:00 00:00:00	00:05:00 00:30:00	blank blank	02 blank	blank blank	blank blank	00:00:00***** 00:00:00
E1	041	T + 00:00:00	MAF MAR	00:10:00 00:00:00	00:24:30 00:30:00	blank blank	02 blank	blank blank	blank blank	00:05:30***** 00:00:00

***** Probably the services will be packed in at the earliest possible start times, but that isn't required, so it would be okay if D1's MAF started at 00:25:00 and E1's MAF started at 00:00:00.

3.3	*Batch Schedule*	Generate and activate ‘batch4’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
3.4	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The MARs schedule at the requested times. The relative service start times of the MAFs are ignored. The MAFs schedule at times that are totally within the boundaries of their respective MARs. The MAFs scheduled so that they do not overlap and have at least 30 seconds setup time between them.
3.5	*Active Schedule*	**Delete** Event D1.	Its resources are made available for new requests.
3.6	NTS	Re-submit request D1.	Verify: Scheduled successfully, indicating that bounded service algorithm looks anew for available times.
3.7	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D2	041	T + 00:40:00	SSAF SSAR	00:00:00 00:00:00	00:05:00 00:05:00	blank blank	02 blank	blank blank	blank blank	00:40:00 00:40:00
E2	041	T + 00:50:00	SSAF SSAR	00:00:00 00:00:00	00:05:00 00:05:00	blank blank	blank 01	blank blank	blank blank	00:50:00 00:50:00
D3	041	T + 01:00:00	SSAF SSAR	00:00:00 00:00:00	00:05:00 00:05:01	blank blank	blank 01	blank blank	blank blank	Request declined

3.8	*Batch Schedule*	Generate and activate ‘batch5’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
3.9	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request D3 declined because the duration of the referenced service must equal or exceed that of the referencing service.
3.10	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D4	041	T + 01:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	01:00:00
E3	041	T + 01:10:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:20:00	blank blank	02 blank	blank blank	blank blank	01:20:30 01:10:00

3.11	*Batch Schedule*	Generate and activate ‘batch6’ with the above requests.	Batch is generated and activated.
3.12	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: Relative start time of the bounded service is ignored. The bounded service is moved to a time within the referenced service where there are no resource conflicts.
3.13	NTS	Transmit SARs as described below.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D5	041	T + 02:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	02:00:00
E4	041	T + 02:10:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:20:00	blank blank	02 blank	blank +00:10:00	blank blank	02:20:30 02:10:30

Step	Location	Action	Result
3.14	*Batch Schedule*	Generate and activate ‘batch7’ with the above requests.	Batch is generated and activated.
3.15	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The referenced service shifted (using plus tolerance) to allow the bounded service to schedule. The event start time shifts to be equal to the earliest service start time in the event.
3.16	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D6	041	T + 02:40:00	MAF	00:00:00	00:05:00	blank	blank	blank	blank	02:40:00
E5	041	T + 02:35:00	MAF MAR	00:00:00 00:07:00	00:03:00 00:05:00	blank blank	02 blank	blank -00:10:00	blank blank	02:36:30 02:36:30

3.17	*Batch Schedule*	Generate and activate ‘batch8’ with the above requests.	Batch is generated and activated.
3.18	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The referenced service shifts (using minus tolerance) to allow the bounded service to schedule. The event start time shifts to be equal to the earliest service start time in the event.

Step	Location	Action	Result
3.19	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D7	041	T + 03:00:00	KSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
E6	041	T + 03:10:00	KSAF 01 KSAR 01	00:00:00 00:00:00	00:10:00 00:20:00	blank blank	02 blank	blank blank	00:01:00 blank	03:20:30 03:10:00

3.20	*Batch Schedule*	Generate and activate ‘batch9’ with the above requests.	Batch is generated and activated.
3.21	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: Service Bounded may be used in combination with minimum duration. The duration of the bounded service is decreased (03:20:30 - 03:30:00 = 9 1/2 min) to allow it to fit within the referenced KSAR service end time.
3.22	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D8	041	T + 04:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	04:00:00
D9	041	T + 04:30:00	MAF	00:00:00	00:05:00	blank	blank	blank	blank	04:30:00
E7	041	T + 04:15:00	MAF MAR	00:05:00 00:00:00	00:10:00 00:35:00	blank blank	02 blank	blank blank	00:01:00 blank	04:35:30 04:15:00

3.23	*Batch Schedule*	Generate and activate ‘batch10’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
3.24	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The duration of the bounded service is not decreased to force it to fit within the first available time; the larger available time is found even though it is not the first possible time.
3.25	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
E8	041	T + 05:00:00	MAF MAR	00:10:00 00:00:00	00:10:00 00:30:00	02 blank	02 blank	blank blank	blank blank	Request Rejected
E9	041	T + 05:00:00	MAF MAR	00:10:00 00:00:00	00:10:00 00:30:00	blank blank	02 blank	+00:10:00 blank	blank blank	Request Rejected
E10	041	T + 05:00:00	MAF MAR	00:10:00 00:00:00	00:10:00 00:30:00	blank blank	02 blank	-00:10:00 blank	blank blank	Request Rejected

3.26	*Batch Schedule*	Generate and activate ‘batch11’ with the above requests.	Batch is generated and activated.
3.27	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Requests were rejected. Service Bounded may not be used in combination with Service Coupled, Service Start Plus Tolerance, or Service Start Minus Tolerance.

Step	Location	Action	Result
3.28	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D10	041	T + 05:00:00	MAF	00:00:00	00:30:00	blank	blank	blank	blank	05:00:00
D11	041	T + 05:00:00	SSAF01	00:00:00	00:30:00	blank	blank	blank	blank	05:00:00
E11	041	T + 05:10:00	MAF SSAF01 MAR	00:00:00 00:10:00 00:00:00	00:10:00 00:10:00 00:10:30	blank blank blank	03 blank blank	blank +00:20:00 blank	00:01:00 blank blank	05:30:30 05:40:00 05:10:00

3.29	*Batch Schedule*	Generate and activate ‘batch12’ with the above requests.	Batch is generated and activated.
3.30	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The SSAF01 service in Request E11 needs to use plus tolerance to schedule, thus creating a gap that the MAR service could expand to fill. The expansion of the MAR service (by 19 minutes and 30 seconds) should allow the MAF service (that is bound to the MAR) to be able to schedule without resource conflict (the MAF decreased its duration to nine and a half minutes).

Step	Location	Action	Result
3.31	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
D12	041	T + 07:00:00	MAF	00:00:00	00:30:00	blank	blank	blank	blank	07:00:00
D13	041	T + 06:00:00	SSAF01	00:00:00	01:30:00	blank	blank	blank	blank	07:00:00
E12	041	T + 07:10:00	MAF SSAF01 MAR	00:00:00 00:10:00 00:00:00	00:10:00 00:10:00 00:10:30	blank blank blank	03 blank blank	blank - 02:00:00 blank	00:01:00 blank blank	05:58:30 05:48:30 05:58:30

3.32	*Batch Schedule*	Generate and activate ‘batch13’ with the above requests.	Batch is generated and activated.
3.33	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The SSAF01 service in Request E12 needs to use minus tolerance to schedule, thus creating a gap that the MAR service could expand to fill. The expansion of the MAR service (to 22 minutes) should allow the MAF service (that is bound to the MAR) to be able to schedule without resource conflict.

Step	Location	Action	Result
3.34	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
C9	174	T + 08:00:00	SSAF 02 SSAR 02	02:00:00 01:00:00	02:00:00 02:00:00	blank blank	blank blank	blank blank	blank blank	10:00:00 09:00:00
C10	174	T + 08:00:00	SSAF 02 SSAR 02	00:00:00 00:00:00	05:00:00 02:30:00	blank blank	blank 01	blank blank	00:30:00 blank	08:00:00 08:00:00

3.35	*Batch Schedule*	Generate and activate 'batch14' with the above requests.	Batch is generated and activated.
3.36	*Active Schedule*	Review the **Service Display...** for each of the above events and make **hardcopies**.	Hardcopy is printed. Verify: The SSAF of event C10 decreases its duration to end at 08:58:30 and the SSAR decreases its duration to fit within the SSAF, allowing the event to schedule.

CHAINS OF REFERENCES

4.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
4.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
E13	041	T + 00:00:00	MAF KSAF MAR KSAR	00:00:00 00:00:00 00:10:00 00:05:00	00:05:00 00:30:00 00:20:00 00:20:00	blank blank 01 02	04 blank blank blank	blank blank blank blank	blank blank blank blank	00:05:00* 00:00:00 00:15:00 00:05:00

***The MAF may start anytime from 06:05:00 to 06:20:00 since it is bound to the KSAR, however the MAR would move with it because it is coupled to the MAF.

Step	Location	Action	Result
4.3	*Batch Schedule*	Generate and activate 'batch15' with the above requests.	Batch is generated and activated.
4.4	*Active Schedule*	Review the **Service Display...** for the above events and make a **hardcopy**.	Hardcopy is printed. Verify: Coupled and Bounded may be used to create chains of references.
4.5	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
E14	041	T + 01:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:10:00	02 01	blank blank	blank blank	blank blank	Request Rejected
E15	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	02 03 01	blank blank blank	blank blank blank	blank blank blank	Request Rejected
E16	041	T + 01:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:10:00	blank blank	02 01	blank blank	blank blank	Request Rejected
E17	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	blank blank blank	02 03 01	blank blank blank	blank blank blank	Request Rejected
E18	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	blank 01 02	03 blank blank	blank blank blank	blank blank blank	Request Rejected
E19	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	blank 03 blank	02 blank 01	blank blank blank	blank blank blank	Request Rejected
E20	041	T + 01:00:00	MAF MAR KSAR	00:00:00 00:00:00 00:00:00	00:10:00 00:10:00 00:10:00	02 blank 01	blank 03 blank	blank blank blank	blank blank blank	Request Rejected
E21	041	T + 01:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:10:00	01 blank	blank blank	blank blank	blank blank	Request Rejected
E22	041	T + 01:00:00	MAF MAR	00:00:00 00:00:00	00:10:00 00:10:00	blank blank	blank 02	blank blank	blank blank	Request Rejected

Step	Location	Action	Result
4.6	*Batch Schedule*	Generate and activate ‘batch16’ with the above requests.	Batch is generated and activated.
4.7	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Requests were rejected. Chains of Coupled and Bounded services may not close to create circular references.
		CLEANUP	
5.1	*Active Schedule*	**Delete** all events scheduled in the above steps.	The resources for day T are available.
		DOCUMENTATION	
6.1	User's Guide	Review the documentation related to service flexibility fields on the windows.	Verify: Windows and procedures are correctly documented.

2.5 Detailed Test Procedure for 99.1- 02.5 SERVICE LEVEL FLEXIBILITY - TYPES OF CONFLICTS, AUTOMATIC 5.4.1.e, 5.4.6, 5.4.6.a.2, 5.4.6.a.3

OBJECTIVES: This test item will verify the following:

- For automatic scheduling, flexibility parameter scheduling rules are applied to the scheduling of services. [5.4.1.e]
- The specified flexibility of each request will be employed, as needed, to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6]
- Start times will be moved by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.2]
- Service durations will be shortened by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.3]
- If a SAR specifies zero event start time plus tolerance and zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time. However, service start time flexibility may be specified for any of the services in the SAR. When no event start time flexibility is specified, the NCCDS will apply the specified service-level flexibilities as needed and the earliest scheduled service start time will be used as the scheduled event start time. [7.2.1.1.c.2 draft MOC ICD]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Operator with necessary privileges is logged on.

Step	Location	Action	Result
1.2	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the automatic scheduling subphase are as follows: Name ID SGLT 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5	TDRS Assignments are correct.
1.3	Workstation	Choose full-support SICs A and B, such that A has the higher scheduling priority. SIC A: _____ SIC B: _____ Select a baseline SIC C: SIC C: _____ Choose Shuttle SICs, such that S has the highest scheduling priority and U has the lowest priority. SIC S: _____ SIC T: _____ SIC U: _____	SICs are identified.
1.4	*<service type> Schedulable Parameters* (for various services)	– Create or identify data for this test (such as, make SSCs with the appropriate maximum data rates, see test steps below for detail).	Test data is ready.
1.5	*Schedule Control Maintenance Parameters*	Determine the boundary of the automatic scheduling period.	The automatic period is long enough to allow scheduling the events in the following steps.

Step	Location	Action	Result
1.6	*Active Schedule*	Choose a day "T" in the automatic scheduling period. Check that no events are scheduled on day "T" for TDRSs used (delete any existing events).	No events are scheduled on day "T".
1.7	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below.	NTS blocks are ready. Block file: _____ _____
FLEXIBILITY USED TO AVOID HDRM DUTY FACTOR CONFLICTS			
2.1	*Schedulable Parameters*	Prepare SSCs for Requests A1, B1, and C1 that specify HDRM UIFCs and maximum data rates of 48 Mbps.	Events referencing the SSCs will use the maximum HDRM bandwidth.

Step	Location	Action	Result
2.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	Data type	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tol	Minimum Service Duration	Actual service start
A1	041	T + 01:30:00	KSAF01 KSAR01	MDM HDRM/48	00:00:00 00:09:00	00:25:00 00:11:00	blank blank	blank blank	blank blank	01:30:00 01:39:00
B1	041	T + 01:30:00	KSAF02 KSAR02 KSAR02	MDM HDRM/48 HDRM/48	00:00:00 00:00:00 00:15:00	00:25:00 00:10:00 00:05:00	blank blank blank	blank blank 00:15:00	blank 00:09:00 blank	01:30:00 01:30:00 01:50:00
C1	041	T + 02:30:00	KSAF02 KSAR02 KSAR02	MDM HDRM/48 HDRM/48	00:00:00 00:00:00 00:15:00	00:25:00 00:10:00 00:05:00	blank blank blank	blank blank 00:15:00	blank 00:09:00 blank	Request rejected

2.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The first KSAR of B1 used flexibility to decrease duration to avoid an HDRM duty factor conflict (scheduled duration = 9 minutes). The second KSAR of B1 used flexibility to shift its service start time the minimum amount necessary (5 minutes) to avoid an HDRM duty factor conflict. C1 is rejected because a baseline customer cannot use service flexibilities.
2.4	*Active Schedule*	Delete the events which scheduled in step 2.3.	
2.5	*Schedule Request*	Repeat steps 2.1 thru 2.3, using operator-generated SARs.	Verify: The scheduling results are identical to those observed in step 2.3.

Step	Location	Action	Result
FLEXIBILITY USED TO AVOID MDM DUTY FACTOR CONFLICTS			
3.1	*Multiplexer/ Demultiplexer Capacities* (for GSFC and JSC bandwidths)	For start and stop times that cover the event times used below: Set the **Maximum Uplink Bandwidth** to **2,500,000**. Set the **Overhead** to **2,100,000**. Click **Save**.	Bandwidth = 400,000, which leaves 378,787 schedulable after accounting for 5.6% overhead.
3.2	*Schedulable Parameters*	Make SSCs with the appropriate data rates and UIFCs, (see test steps below for detail). (Note: To ensure that the data will use MDM resources, do not provide any maximum HDRM data rates or any HDRM interface channels in the SSCs.)	Test data is ready.
3.3	NTS	Submit the following automatic SARs for **non-shuttle** customers (supported by the **GSFC** uplink).	Verify: Results are as indicated in the table.

Req	TDRS	Event Start	Services	MDM (GSFC) Data Rate	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A2	041	T+02:10:00	MAF	10,000	00:00:00	00:10:00	blank	blank	blank	02:10:00
A3	046	T+02:10:00	SSAF01	300,000	00:00:00	00:10:00	blank	blank	blank	02:10:00
B2	171	T+02:00:00	SSAF02	117,000	00:00:00	00:15:00	00:01:00	blank	00:01:00	01:59:00

3.4	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: B2 used both flexibilities to avoid a GSFC MDM duty factor conflict -- the service start time was shifted backwards by one minute and the duration was reduced to 11 minutes. The event start time for B2 was also shifted backwards by one minute.

Step	Location	Action	Result
3.5	NTS	Submit the following automatic SARs for **Shuttle** customers using UIFCs that are supported by the **JSC** uplink.	Verify: Results are as indicated in the table.

Req	TDRS	Event Start	Svcs	MDM (JSC) Data Rate	Service Start	Nominal Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
S1	041	T+03:00:00	SSAF01	32,000 (Mode 1)	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
S2	171	T+03:00:00	KSAF01	72,000	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
S3	046	T+03:00:00	KSAF02	216,000	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
T1	174	T+03:05:00	SSAF02 KSAR	72,000 (Mode 2) non-MDM	00:00:00 00:00:00	00:01:00 00:25:00	blank blank	02 blank	blank blank	blank blank	03:21:30 03:05:00
U1	TDW	T+03:00:00	SSAF02 SSAR KSAR	72,000 (Mode 2) non-MDM non-MDM	00:00:30 00:15:00 00:00:00	00:01:00 00:01:00 00:30:00	02 blank blank	blank blank blank	blank +00:10:00 blank	blank blank blank	03:24:00 03:23:30 03:00:00

3.6	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: T1 scheduled its bounded service at a time that has no JSC MDM duty factor conflict. U1 used plus tolerance to move the non-MDM using service to a time when its MDM-using coupled service could schedule without a JSC MDM duty factor conflict.

Step	Location	Action	Result
SERVICE FLEXIBILITY IN REQUESTS USING TSWs AND CUSTOMER GAPS			
4.1	*Customer (SIC) Entry*	For Customer "B", set the customer gap parameter to 1 sec. between SA services.	Customer gap is established.
4.2	NTS	Transmit a TSW message for SIC B and TDRS TDE with 4 TSWs as follows: Timespan: Start = T + 10:00:00 End = T + 14:00:00 TSWs: opening = T + 10:00:00 closing = T + 11:00:00 opening = T + 11:05:00 closing = T + 12:00:00 opening = T + 12:00:01 closing = T + 13:00:00 opening = T + 13:45:00 closing = T + 14:00:00	TSW Set is received.
4.3	*TSW Window*	Review the TSW Set on the *TSW Window* and make a **hardcopy**.	The TSWs are stored.
4.4	NTS	Transmit SARs as described below and set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Step	Location			Action					Result	
Req	**TDRS**	**Event Start**	**Services**	**Service Start**	**Nominal Service Duration**	**Service Minus Tolerance**	**Service Plus Tolerance**	**Minimum Service Duration**	**Actual service start**	**Actual service stop**
B1	TDE	T + 10:30:00	KaSAF--	00:00:00	04:00:00	04:00:00	04:00:00	00:01:00	10:00:00	11:00:00
B2	TDE	T + 10:30:00	KaSAR--	00:00:00	04:00:00	04:00:00	04:00:00	00:01:00	11:05:00	12:00:00
B3	TDE	T + 10:30:00	SSAF--	00:00:00	04:00:00	04:00:00	04:00:00	00:01:00	12:00:01	13:00:00
B4	TDE	T + 10:30:00	SSAR--	00:00:00	04:00:00	04:00:00	04:00:00	00:01:00	13:45:00	14:00:00

4.5	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The four requests used their service flexibilities to fit within the available TSW windows and they maximized their coverage.
4.6	NTS	Transmit a TSW message for SIC B and TDRS 041 with TSWs as follows: Timespan: Start = T + 16:00:00 End = T + 22:40:00 TSWs: opening = T + 16:00:00 closing = T + 16:40:00 opening = T + 17:00:00 closing = T + 17:40:00 opening = T + 18:00:00 closing = T + 18:40:00 opening = T + 19:00:00 closing = T + 19:40:00 opening = T + 20:00:00 closing = T + 20:40:00 opening = T + 21:00:00 closing = T + 21:40:00 opening = T + 22:00:00 closing = T + 22:40:00	TSW is received and stored.
4.7	*TSW Window*	Review the TSW Set on the *TSW Window* and make a **hardcopy**.	The TSWs are stored.

Step	Location	Action	Result
4.8	*Customer (SIC) Entry*	For Customer "B", set the customer gap parameters to 3 minutes for the SA to MA gap and 3 minutes for the MA to SA gap. Restore the SA to SA gap to 00:00:00.	Customer gaps are established.
4.9	NTS	Transmit SARs as described below and set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
B1	041	1	T + 16:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	16:15:00
B2	041	2	T + 16:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	16:00:00
B3	041	3	T + 16:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	16:28:00

4.10	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 used MIND to stop at 16:12:00. B3 used MIND to stop at the end of the TSW window (at 16:40:00)
4.11	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 17:00:00	SSAR1	00:16:30	00:30:00	blank	blank	blank	17:16:30
B1	041	1	T + 17:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	17:00:00
B2	041	2	T + 17:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	17:13:00
B3	041	3	T + 17:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	declined

4.12	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 used its full duration to end at 17:40:00. B3 declined due to resource conflicts.
4.13	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Step	Location	Action	Result
4.14	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs.
4.15	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 18:00:00	SSAR1	00:00:00	00:28:30	blank	blank	blank	18:00:00
B1	041	1	T + 18:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	18:30:00
B2	041	2	T + 18:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	18:00:00
B3	041	3	T + 18:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	declined

Step	Location	Action	Result

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 19:19:30	SSAR1	00:00:00	00:30:00	blank	blank	blank	19:19:30
B1	041	1	T + 19:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	19:08:00
B2	041	2	T + 19:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	19:21:00
B3	041	3	T + 19:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	19:00:00

4.16	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 ends at 19:40:00, shrinking its duration to 19 minutes. B3 ends at 19:05:00, allowing for a 3-minute gap.
4.17	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 20:19:29	SSAR1	00:00:00	00:30:00	blank	blank	blank	20:19:29
B1	041	1	T + 20:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	20:07:59
B2	041	2	T + 20:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	20:20:59
B3	041	3	T + 20:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	Declined

4.18	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 ends at 20:40:00, shrinking its duration to 19 minutes 1 second. B3 is declined because there isn't enough available time within the TSW for the customer gap and the minimum duration to be preserved.
4.19	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 21:00:00	SSAR1	00:00:00	00:20:30	blank	blank	blank	21:00:00
B1	041	1	T + 21:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	21:22:00
B2	041	2	T + 21:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	21:00:00
B3	041	3	T + 21:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	21:35:00

4.20	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 ends at 21:19:00, shrinking its duration to 19 minutes. B3 ends at 21:40:00, shrinking its duration to 5 minutes.
4.21	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 22:00:00	SSAR1	00:00:00	00:20:31	blank	blank	blank	22:00:00
B1	041	1	T + 22:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	22:22:01
B2	041	2	T + 22:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	22:00:00
B3	041	3	T + 22:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	Declined

4.22	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 ends at 22:19:01, shrinking its duration to 19 minutes 1 second. B3 is declined because there isn't enough available time within the TSW for the customer gap and the minimum duration to be preserved.
		CLEANUP	
5.1	*Active Schedule*	**Delete** all events scheduled in the above steps.	The resources for day T are available.

2.6 Detailed Test Procedure for 99.1- 02.6 SERVICE LEVEL FLEXIBILITY - TYPES OF CONFLICTS, BATCH 5.4.1.e, 5.4.6, 5.4.6.a.2, 5.4.6.a.3

OBJECTIVES: This test item will verify the following:

- For batch scheduling, flexibility parameter scheduling rules are applied to the scheduling of services. [5.4.1.e]
- The specified flexibility of each request will be employed, as needed, to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6]
- Start times will be moved by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.2]
- Service durations will be shortened by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.3]
- If a SAR specifies zero event start time plus tolerance and zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time. However, service start time flexibility may be specified for any of the services in the SAR. When no event start time flexibility is specified, the NCCDS will apply the specified service-level flexibilities as needed and the earliest scheduled service start time will be used as the scheduled event start time. [7.2.1.1.c.2 draft MOC ICD]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Operator with necessary privileges is logged on.

Step	Location	Action	Result
1.2	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the automatic scheduling subphase are as follows: Name ID SGLT 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5	TDRS Assignments are correct.
1.3	Workstation	Choose full-support SICs A and B, such that A has the higher scheduling priority. SIC A: _____ SIC B: _____ Select a baseline SIC C: SIC C: _____ Choose Shuttle SICs, such that S has the highest scheduling priority and U has the lowest priority. SIC S: _____ SIC T: _____ SIC U: _____	SICs are identified.
1.4	*<service type> Schedulable Parameters* (for various services)	– Create or identify data for this test (such as, make SSCs with the appropriate maximum data rates, see test steps below for detail).	Test data is ready.
1.5	*Schedule Control Maintenance Parameters*	Determine the boundary of the batch scheduling period.	(see next step)

Step	Location	Action	Result
1.6	*Active Schedule*	Choose a day "T" in the batch scheduling period. Check that no events are scheduled on day "T" for TDRSs used (delete any existing events).	No events are scheduled on day "T".
1.7	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below.	NTS blocks are ready. Block file: _____ _____
FLEXIBILITY USED TO AVOID HDRM DUTY FACTOR CONFLICTS			
2.1	*Schedulable Parameters*	Prepare SSCs for Requests A1, B1, and C1 that specify HDRM UIFCs and maximum data rates of 48 Mbps.	Events referencing the SSCs will use the maximum HDRM bandwidth.
2.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	Data type	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tol	Minimum Service Duration	Actual service start
A1	041	T + 01:30:00	KSAF01 KSAR01	MDM HDRM/48	00:00:00 00:09:00	00:25:00 00:11:00	blank blank	blank blank	blank blank	01:30:00 01:39:00
B1	041	T + 01:30:00	KSAF02 KSAR02 KSAR02	MDM HDRM/48 HDRM/48	00:00:00 00:00:00 00:15:00	00:25:00 00:10:00 00:05:00	blank blank blank	blank blank 00:15:00	blank 00:09:00 blank	01:30:00 01:30:00 01:50:00
C1	041	T + 02:30:00	KSAF02 KSAR02 KSAR02	MDM HDRM/48 HDRM/48	00:00:00 00:00:00 00:15:00	00:25:00 00:10:00 00:05:00	blank blank blank	blank blank 00:15:00	blank 00:09:00 blank	Request rejected

2.3	*Batch Schedule*	Generate and activate 'batch1' with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
2.4	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The first KSAR of B1 used flexibility to decrease duration to avoid an HDRM duty factor conflict (scheduled duration = 9 minutes). The second KSAR of B1 used flexibility to shift its service start time the minimum amount necessary (5 minutes) to avoid an HDRM duty factor conflict. C1 is rejected because a baseline customer cannot use service flexibilities.
2.5	*Active Schedule*	Delete the events which scheduled in step 2.3.	
2.6	*Schedule Request*	Repeat steps 2.1 thru 2.4, using operator-generated SARs.	Verify: The scheduling results are identical to those observed in step 2.4.
FLEXIBILITY USED TO AVOID MDM DUTY FACTOR CONFLICTS			
3.1	*Multiplexer/ Demultiplexer Capacities* (for GSFC and JSC bandwidths)	For start and stop times that cover the event times used below: Set the **Maximum Uplink Bandwidth** to **2,500,000**. Set the **Overhead** to **2,100,000**. Click **Save**.	Bandwidth = 400,000, which leaves 378,787 schedulable after accounting for 5.6% overhead.

Step	Location	Action	Result
3.2	*Schedulable Parameters*	Make SSCs with the appropriate data rates and UIFCs, (see test steps below for detail). (Note: To ensure that the data will use MDM resources, do not provide any maximum HDRM data rates or any HDRM interface channels in the SSCs.)	Test data is ready.
3.3	NTS	Submit the following batch SARs for **non-shuttle** customers (supported by the **GSFC** uplink).	Verify: Results are as indicated in the table.

Req	TDRS	Event Start	Services	MDM (GSFC) Data Rate	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A2	041	T+02:10:00	MAF	10,000	00:00:00	00:10:00	blank	blank	blank	02:10:00
A3	046	T+02:10:00	SSAF01	300,000	00:00:00	00:10:00	blank	blank	blank	02:10:00
B2	171	T+02:00:00	SSAF02	117,000	00:00:00	00:15:00	00:01:00	blank	00:01:00	01:59:00

3.4	*Batch Schedule*	Generate and activate 'batch2' with the above requests.	Batch is generated and activated.
3.5	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: B2 used both flexibilities to avoid a GSFC MDM duty factor conflict -- the service start time was shifted backwards by one minute and the duration was reduced to 11 minutes. The event start time for B2 was also shifted backwards by one minute.
3.6	NTS	Submit the following batch SARs for **Shuttle** customers using UIFCs that are supported by the **JSC** uplink.	Verify: Results are as indicated in the table.

Step	Location			Action					Result		
Req	**TDRS**	**Event Start**	**Svcs**	**MDM (JSC) Data Rate**	**Service Start**	**Nominal Service Duration**	**Coupled Service Number**	**Bounded Service**	**Service + / - Tolerances**	**Min Service Duration**	**Actual service start**
S1	041	T+03:00:00	SSAF01	32,000 (Mode 1)	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
S2	171	T+03:00:00	KSAF01	72,000	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
S3	046	T+03:00:00	KSAF02	216,000	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
T1	174	T+03:05:00	SSAF02 KSAR	72,000 (Mode 2) non-MDM	00:00:00 00:00:00	00:01:00 00:25:00	blank blank	02 blank	blank blank	blank blank	03:21:30 03:05:00
U1	TDW	T+03:00:00	SSAF02 SSAR KSAR	72,000 (Mode 2) non-MDM non-MDM	00:00:30 00:15:00 00:00:00	00:01:00 00:01:00 00:30:00	02 blank blank	blank blank blank	blank +00:10:00 blank	blank blank blank	03:24:00 03:23:30 03:00:00
3.7	*Batch Schedule*			Generate and activate 'batch3' with the above requests.					Batch is generated and activated.		
3.8	*Active Schedule*			Review the events on the *Active Schedule* window and make a **hardcopy**.					Hardcopy is printed. Verify: T1 scheduled its bounded service at a time that has no JSC MDM duty factor conflict. U1 used plus tolerance to move the non-MDM using service to a time when its MDM-using coupled service could schedule without a JSC MDM duty factor conflict.		
SERVICE FLEXIBILITY IN REQUESTS USING TSWs AND CUSTOMER GAPS											
4.1	*Customer (SIC) Entry*			For Customer "B", set the customer gap parameter to 1 sec. between SA services.					Customer gap is established.		

Step	Location	Action	Result
4.2	NTS	Transmit a TSW message for SIC B and TDRS TDE with 4 TSWs as follows: Timespan: Start = T + 10:00:00 End = T + 14:00:00 TSWs: opening = T + 10:00:00 closing = T + 11:00:00 opening = T + 11:05:00 closing = T + 12:00:00 opening = T + 12:00:01 closing = T + 13:00:00 opening = T + 13:45:00 closing = T + 14:00:00	TSW Set is received.
4.3	*TSW Window*	Review the TSW Set on the *TSW Window* and make a **hardcopy**.	The TSWs are stored.
4.4	NTS	Transmit SARs as described below and set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start	Actual service stop
B1	TDE	T + 10:30:00	KaSAF--	00:00:00	04:00:00	04:00:00	04:00:00	00:01:00	10:00:00	11:00:00
B2	TDE	T + 10:30:00	KaSAR--	00:00:00	04:00:00	04:00:00	04:00:00	00:01:00	11:05:00	12:00:00
B3	TDE	T + 10:30:00	SSAF--	00:00:00	04:00:00	04:00:00	04:00:00	00:01:00	12:00:01	13:00:00
B4	TDE	T + 10:30:00	SSAR--	00:00:00	04:00:00	04:00:00	04:00:00	00:01:00	13:45:00	14:00:00

4.5	*Batch Schedule*	Generate and activate 'batch4' with the above requests.	Batch is generated and activated.
4.6	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The four requests used their service flexibilities to fit within the available TSW windows and they maximized their coverage.

Step	Location	Action	Result
4.7	NTS	Transmit a TSW message for SIC B and TDRS 041 with TSWs as follows: Timespan: Start = T + 16:00:00 End = T + 22:40:00 TSWs: opening = T + 16:00:00 closing = T + 16:40:00 opening = T + 17:00:00 closing = T + 17:40:00 opening = T + 18:00:00 closing = T + 18:40:00 opening = T + 19:00:00 closing = T + 19:40:00 opening = T + 20:00:00 closing = T + 20:40:00 opening = T + 21:00:00 closing = T + 21:40:00 opening = T + 22:00:00 closing = T + 22:40:00	TSW is received and stored.
4.8	*TSW Window*	Review the TSW Set on the *TSW Window* and make a **hardcopy**.	The TSWs are stored.
4.9	*Customer (SIC) Entry*	For Customer "B", set the customer gap parameters to 3 minutes for the SA to MA gap and 3 minutes for the MA to SA gap. Restore the SA to SA gap to 00:00:00.	Customer gaps are established.
4.10	NTS	Transmit SARs as described below and set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
B1	041	1	T + 16:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	16:15:00
B2	041	2	T + 16:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	16:00:00
B3	041	3	T + 16:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	16:28:00

4.11	*Batch Schedule*	Generate and activate 'batch5' with the above requests.	Batch is generated and activated.
4.12	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 used MIND to stop at 16:12:00. B3 used MIND to stop at the end of the TSW window (at 16:40:00)
4.13	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 17:00:00	SSAR1	00:16:30	00:30:00	blank	blank	blank	17:16:30
B1	041	1	T + 17:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	17:00:00
B2	041	2	T + 17:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	17:13:00
B3	041	3	T + 17:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	declined

4.14	*Batch Schedule*	Generate and activate 'batch6' with the above requests.	Batch is generated and activated.
4.15	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 used its full duration to end at 17:40:00. B3 declined due to resource conflicts.
4.16	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Step	Location	Action	Result
4.17	*Batch Schedule*	Generate and activate 'batch7' with the above requests.	Batch is generated and activated.
4.18	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs.
4.19	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 18:00:00	SSAR1	00:00:00	00:28:30	blank	blank	blank	18:00:00
B1	041	1	T + 18:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	18:30:00
B2	041	2	T + 18:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	18:00:00
B3	041	3	T + 18:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	declined

4.20	*Batch Schedule*	Generate and activate 'batch8' with the above requests.	Batch is generated and activated.

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 19:19:30	SSAR1	00:00:00	00:30:00	blank	blank	blank	19:19:30
B1	041	1	T + 19:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	19:08:00
B2	041	2	T + 19:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	19:21:00
B3	041	3	T + 19:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	19:00:00

Step	Location	Action	Result
4.21	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 ends at 19:40:00, shrinking its duration to 19 minutes. B3 ends at 19:05:00, allowing for a 3-minute gap.
4.22	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 20:19:29	SSAR1	00:00:00	00:30:00	blank	blank	blank	20:19:29
B1	041	1	T + 20:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	20:07:59
B2	041	2	T + 20:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	20:20:59
B3	041	3	T + 20:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	Declined

4.23	*Batch Schedule*	Generate and activate 'batch9' with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
4.24	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 ends at 20:40:00, shrinking its duration to 19 minutes 1 second. B3 is declined because there isn't enough available time within the TSW for the customer gap and the minimum duration to be preserved.
4.25	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 21:00:00	SSAR1	00:00:00	00:20:30	blank	blank	blank	21:00:00
B1	041	1	T + 21:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	21:22:00
B2	041	2	T + 21:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	21:00:00
B3	041	3	T + 21:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	21:35:00

4.26	*Batch Schedule*	Generate and activate 'batch10' with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
4.27	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 ends at 21:19:00, shrinking its duration to 19 minutes. B3 ends at 21:40:00, shrinking its duration to 5 minutes.
4.28	NTS	Transmit SARs as described below and, for customer B, set the **Use TSW** flag in the SARs to the value that is equivalent to yes:	Requests are received.

Req	TDRS	Req Priority	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
A1	041	1	T + 22:00:00	SSAR1	00:00:00	00:20:31	blank	blank	blank	22:00:00
B1	041	1	T + 22:00:00	SSAR1	00:15:00	00:10:00	00:15:00	00:15:00	blank	22:22:01
B2	041	2	T + 22:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	22:00:00
B3	041	3	T + 22:00:00	MAF	00:00:00	00:27:00	blank	00:35:00	00:05:00	Declined

4.29	*Batch Schedule*	Generate and activate 'batch11' with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
4.30	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: The requests for customer B used flexibility to schedule and maximized the amount of service for the customer while preserving the gaps and staying within the TSWs. B2 ends at 22:19:01, shrinking its duration to 19 minutes 1 second. B3 is declined because there isn't enough available time within the TSW for the customer gap and the minimum duration to be preserved.
		CLEANUP	
5.1	*Active Schedule*	**Delete** all events scheduled in the above steps.	The resources for day T are available.

2.7 Detailed Test Procedure for 99.1- 02.7
SERVICE LEVEL FLEXIBILITY - EET, TRACKING, AND COHERENT PAIRS, AUTOMATIC
5.4.1.e, 5.4.6, 5.4.6.a.2, 5.4.6.a.3, 5.4.6.b

OBJECTIVES: This test item will verify the following:

- For automatic scheduling, flexibility parameter scheduling rules are applied to the scheduling of services. [5.4.1.e]
- The specified flexibility of each request will be employed, as needed, to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6]
- Start times will be moved by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.2]
- Service durations will be shortened by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.3]
- When flexibility parameters are applied to relative service start times and service durations, each event will be structured such that there is no time during the event in which no service is scheduled (i.e., no gaps within the event). [5.4.6.b]
- If a SAR specifies zero event start time plus tolerance and zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time. However, service start time flexibility may be specified for any of the services in the SAR. When no event start time flexibility is specified, the NCCDS will apply the specified service-level flexibilities as needed and the earliest scheduled service start time will be used as the scheduled event start time. [MOC ICD B.3.2.4.c , 7.2.1.1.c]
- If the Service Bounded By Service Number (SBSN) parameter is used, the duration of the referenced service must equal or exceed that of the referencing service. [MOC ICD B.3.2.4.e.1]
- The Coupled Service Number (CSN), Service Start Time Plus Tolerance (STPT), and Service Start Time Minus Tolerance (STMT) parameters may be used together in any combination. [MOC ICD B.3.2.4.e.2]
- If SBSN is used, it must not be used in combination with CSN, STPT, or STMT. [MOC ICD B.3.2.4.e.2]
- CSN and SBSN may be used to create chains of references. Example: Service A (via use of CSN) starts 10 minutes after service B, and service B (via use of SBSN) is bounded by service C. However, such a chain cannot close to create a circular reference (i.e.,

every service must have its start time either directly or indirectly defined relative to Event Start Time). [MOC ICD B.3.2.4.e.3]

- Service-level flexibility is used to avoid conflicts when scheduling one-way tracking, two-way tracking, coherent pairs, and end-to-end test services, without violating ground rules. [Derived from Guidelines for Use of Service-Level Flexibility Parameters]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Operator with necessary privileges is logged on.
1.2	Database Subpanel	Click the Space Network icon.	*Space Network Database* window appears.
1.3	*Space Network Database*	Select **TDRS Operational Names & Mappings** from the **Edit** menu.	*TDRS Operational Names & Mappings* window appears.
1.4	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the automatic scheduling subphase are as follows: Name / ID / SGLT 041 / D / SGT1 171 / G / SGT2 TDW / K / SGT3 TDE / I / SGT4 192 / H / SGT5 046 / F / WSC1 174 / E / WSC2 TDZ / Z / WSC3 TDS / J / WSC4 285 / A / WSC5 Click **Close**.	TDRS Assignments are correct.

Step	Location	Action	Result
1.5	Workstation	Choose Normal full-support SICs, such that A has the highest scheduling priority and E has the lowest priority. SIC A: _____ SIC B: _____ SIC C: _____ SIC D: _____ SIC E: _____	SICs are identified.
1.6	*<service type> Schedulable Parameters*	Create or identify SSCs needed for this test. Note: See steps 2, 3, and 4 for specifics when creating tracking and coherent SSCs.	Test data is ready.
1.7	*Schedule Control Database*	Note the Current Batch Boundary.	Boundary is noted.
1.8	*Active Schedule*	Choose a day "T" in the automatic scheduling period. Check that no events are scheduled on day "T" (delete any existing events).	No events are scheduled on day "T".
1.9	*Space Network Summary* *TDRS Sets*	Select **TDRS Sets...** from the **Edit** menu. Enter the name "**set**" in the **New Set Name** field. Click the **Add** button under the field. From the **TDRS Operational Names**, select **041, 171,** and **174**. Click the **Add** button between the TDRS Operational Names list and the Set Members list.	TDRS Set "set" = 041, 171, 174
1.10	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below. Except where specifically stated in the test steps, do not use Event Tolerances, Coupling, Bounding or TSWs.	NTS blocks are ready. Block file: _____ _____

Step	Location	Action	Result
FLEXIBILITY TO AVOID 1-WAY TRK CONFLICTS W/O VIOLATING GROUND RULES			
Note: When creating a one-way tracking SSC, consider the following: Normal tracking configuration; One-way Doppler required; Range tracking not required; Time transfer not required.			
2.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
2.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A4	046	T + 01:00:00	KuSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	01:00:00
B3	046	T + 00:00:00	KuSAR 01 TRK	00:30:00 00:30:00	00:40:00 00:20:00	blank blank	blank blank	blank blank	00:01:00 blank	00:30:00 00:30:00
A5	046	T + 02:00:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	02:00:00
B4	046	T + 01:00:00	KuSAR 01 TRK	00:30:00 00:41:30	00:40:00 00:28:30	blank blank	blank blank	blank - 00:30:00	00:01:00 blank	01:30:00 01:30:00
A6	046	T + 03:00:00	KuSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
B5	046	T + 03:10:00	KuSAR 02 TRK	00:00:00 00:05:00	00:30:00 00:20:00	blank blank	blank blank	+ 00:15:00 + 00:30:00	00:01:00 blank	03:21:30 03:21:30
A7	046	T + 04:00:00	SSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	04:00:00
B6	046	T + 03:50:00	SSAR 02 TRK	00:00:00 00:00:00	00:20:00 00:18:00	blank blank	blank blank	blank blank	00:01:00 00:01:00	03:50:00 03:50:00

Step	Location	Action	Result
2.3	*Active Schedule*	Review the **Service Display...** for the above events and make a **hardcopy**.	Hardcopy is printed. Verify: Request B3 scheduled because the KuSAR decreased its duration to 00:28:30 to avoid conflict. Request B4 scheduled because the KuSAR decreased its duration to 00:28:30 to avoid conflict and the tracking used its minus tolerance so it wouldn't violate any ground rules. Request B5 scheduled because the KuSAR used its plus tolerance to avoid conflict and the tracking used its plus tolerance so it wouldn't violate any ground rules. Request B6 scheduled because the KuSAR decreased its duration to 00:08:30 to avoid conflict and the tracking decreased its duration to 00:08:30 so it wouldn't violate any ground rules.
2.4	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A8	046	T + 05:00:00	KuSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	05:00:00
B7	046	T + 04:00:00	KuSAR 01 TRK	00:30:00 00:30:00	00:40:00 00:35:00	blank blank	blank blank	blank blank	00:01:00 blank	Request declined
A9	046	T + 06:00:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	06:00:00

Step	Location		Action					Result		
B8	046	T + 05:00:00	KuSAR 01 TRK	00:30:00 00:35:00	00:40:00 00:30:00	blank blank	blank blank	- 01:00:00 blank	blank blank	Request declined
A10	046	T + 07:00:00	KuSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	07:00:00
B9	046	T + 07:10:00	KuSAR 02 TRK	00:00:00 00:05:00	00:30:00 00:20:00	blank blank	blank blank	+ 01:00:00 blank	blank blank	Request declined
A11	046	T + 08:00:00	SSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	08:00:00
B10	046	T + 07:50:00	SSAR 02 TRK	00:00:00 00:00:00	00:20:00 00:18:00	blank blank	blank blank	blank blank	00:01:00 00:11:00	Request declined

2.5	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Requests B7 and B8 declined because their return service ends before their tracking service. Request B9 declined because its tracking service starts before its return service. Request B10 declined because its return service ends before its tracking service because the tracking service didn't have short enough MIND.
2.6	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
B11	046	T + 04:00:00	KuSAR 01 TRK	00:30:00 00:30:00	00:40:00 00:35:00	blank blank	blank 01	blank blank	00:01:00 blank	04:30:00 04:30:00
B12	046	T + 05:00:00	SSAR 01 TRK	00:30:00 00:35:00	00:40:00 00:30:00	blank blank	blank 01	- 01:00:00 blank	blank blank	05:18:30 05:18:30
B13	046	T + 07:10:00	KuSAR 02 TRK	00:00:00 00:05:00	00:30:00 00:20:00	blank blank	blank 01	+ 01:00:00 blank	blank blank	07:21:30 07:21:30

Step	Location	Action	Result
B14	046	T + 07:50:00	SSAR 02 TRK	00:00:00 00:00:00	00:20:00 00:18:00	blank blank	blank 01	blank blank	00:01:00 00:11:00	07:50:00 07:50:00
2.7	*Active Schedule*	Review the **Service Display...** for the above events and make a **hardcopy**.	Hardcopy is printed. Verify: The tracking services of the above events use the flexibilities of the service they're bounded to in order to fit within them.
2.8	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A12	046	T + 09:00:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	09:00:00
A13	046	T + 09:30:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	09:30:00
B15	046	T + 09:00:00	SSAR 01 TRK	00:10:00 00:05:00	00:20:00 00:02:01	blank 01	blank blank	+ 00:20:00 blank	00:01:00 blank	Request declined
B16	046	T + 09:00:00	SSAR 01 TRK	00:10:00 00:05:00	00:20:00 00:02:01	blank 01	blank blank	+ 01:00:00 blank	00:01:00 blank	09:51:30 09:56:30
A14	046	T + 11:00:00	KuSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	11:00:00
A15	046	T + 11:30:00	KuSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	11:30:00
B17	046	T + 11:00:00	KuSAR 02 TRK	00:10:00 00:05:00	00:20:00 00:02:01	blank 01	blank blank	+ 00:20:00 blank	00:01:00 00:01:00	11:21:30 11:26:30

Step	Location	Action	Result
2.9	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B15 declined because its tracking service is coupled to the return service, and once the return decreases its duration to schedule, the tracking will end after the return, thus violating a ground rule. Request B16 schedules because its SSAR has enough plus tolerance to avoid conflict. Request B17 schedules because its SSAR uses its plus tolerance and decreases its duration to 00:07:00 to avoid conflict, and the tracking decreases its duration to 00:02:00 so it wouldn't violate any ground rules.
FLEXIBILITY TO AVOID COHERENT CONFLICTS W/O VIOLATING CROUND RULES			
Note: SSCs for the return services in the following section should specify coherency.			
3.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
3.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A17	171	T + 01:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	01:00:00
B17	171	T + 00:50:00	MAF SSAR	00:00:00 00:08:31	00:20:00 00:20:00	blank blank	blank blank	blank blank	00:01:00 blank	Request declined
C11	171	T + 00:50:00	MAF SSAR	00:00:00 00:08:30	00:20:00 00:20:00	blank blank	blank blank	blank blank	00:01:00 blank	00:50:00 00:58:30

Step	Location		Action					Result		
A18	171	T + 02:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	02:00:00
B18	171	T + 02:10:00	MAF SSAR	00:00:00 00:05:00	00:20:00 00:20:00	blank blank	blank blank	+ 00:30:00 blank	blank blank	Request declined
C12	171	T + 02:10:00	MAF SSAR	00:00:00 00:08:00	00:20:00 00:17:00	blank blank	blank blank	+ 00:30:00 + 00:10:00	blank blank	02:20:30 02:20:30
A19	171	T + 03:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
B19	171	T + 02:59:00	MAF SSAR MAR	00:11:00 00:26:00 00:00:00	00:20:00 00:10:00 00:30:00	blank blank blank	blank blank blank	- 01:00:00 blank blank	blank blank blank	Request declined
C13	171	T + 02:50:00	MAF SSAR	00:00:00 00:00:00	00:20:00 00:15:00	blank blank	blank blank	- 00:30:00 blank	blank blank	02:39:30 02:50:00

Step	Location	Action	Result
3.3	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B18 declined because when the MAF decreases its duration to schedule, there is less than 1 minute overlap between services. Request C11 schedules because there is at least 1 minute overlap between services. Request B19 declined because when the MAF uses its plus tolerance to schedule, the return service is then starting before the forward, thus violating a ground rule. Request C12 schedules because its MAF uses its plus tolerance to avoid conflict and the SSAR uses its plus tolerance so it wouldn't violate any ground rules. Request B20 declined because when the MAF uses its minus tolerance to schedule, the return service is then starting after the end of the forward, thus violating a ground rule. Request C13 schedules because its MAF uses its minus tolerance to avoid conflict.
3.4	NTS	Transmit SARs as described below:	Requests are received.

Step	Location			Action				Result		
Req	**TDRS**	**Event Start**	**Svcs**	**Service Start**	**Nom Service Duration**	**Coupled Service Number**	**Bounded Service**	**Service + / - Tolerances**	**Min Service Duration**	**Actual service start**
A19	171	T + 04:00:00	KuSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	04:00:00
B21	171	T + 04:10:00	MAF SSAR 01	00:00:00 00:05:00	00:12:29 00:15:00	blank blank	blank blank	blank + 00:30:00	blank blank	Request declined
C14	171	T + 04:10:00	MAF SSAR 01	00:00:00 00:05:00	00:12:30 00:15:00	blank blank	blank blank	blank + 00:30:00	blank blank	04:10:00 04:21:30
A20	192	T + 05:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	05:00:00
B22	192	T + 04:50:00	SMAF SSAR 01	00:00:00 00:05:00	00:20:00 00:10:00	blank blank	blank blank	blank - 01:00:00	blank blank	Request declined
C15	192	T + 04:50:00	SMAF SSAR 01	00:00:00 00:05:00	00:20:00 00:10:00	blank blank	blank blank	blank - 01:00:00	blank 00:01:00	04:50:00 04:50:00

Step	Location	Action	Result
3.5	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B21 declined because the SSAR needs to decrease its duration in order to schedule, but then the event would have only a 59 second overlap between services. Request C14 schedules because when the SSAR uses its plus tolerance to avoid conflict, the event has exactly 1 minute overlap. Request B22 declined because when the SSAR uses its minus tolerance to schedule, its then starting before the forward, thus violating a ground rule. Request C15 schedules because the SSAR uses its minus tolerance and decreases its duration to avoid conflict.
3.6	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A21	171	T + 06:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	06:00:00
B23	171	T + 05:50:00	MAF SSAR	00:00:00 00:08:31	00:20:00 00:20:00	blank blank	blank 01	blank blank	00:01:00 blank	05:50:00 05:50:00
A22	171	T + 07:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	07:00:00
B24	171	T + 07:10:00	MAF SSAR	00:00:00 00:05:00	00:20:00 00:20:00	blank blank	blank 01	+ 00:30:00 blank	blank blank	07:20:30 07:20:30

Step	Location		Action					Result		
A23	171	T + 09:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	09:00:00
B25	171	T + 09:10:00	MAF SSAR	00:00:00 00:15:00	00:20:00 00:10:00	blank blank	blank 01	- 01:00:00 blank	blank blank	08:39:30 08:39:30
A24	171	T + 10:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	10:00:00
B26	171	T + 09:50:00	MAF SSAR	00:00:00 00:08:31	00:20:00 00:20:00	blank 01	blank blank	blank blank	00:01:00 blank	Request declined
A25	171	T + 11:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	11:00:00
A26	171	T + 11:30:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	11:30:00
B27	171	T + 11:10:00	MAF SSAR 01	00:00:00 00:05:00	00:20:00 00:20:00	blank blank	blank 01	+ 01:00:00 blank	blank blank	Request declined
A27	171	T + 12:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	12:00:00
A28	171	T + 12:30:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	12:30:00
B28	171	T + 12:10:00	MAF SSAR 01	00:00:00 00:05:00	00:20:00 00:20:00	blank blank	blank 01	+ 01:00:00 blank	blank 00:01:00	12:20:30 12:20:30

Step	Location	Action	Result
3.7	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B23 uses the minimum duration of the referenced service to decrease its duration to schedule. Request B24 uses the plus tolerance of the referenced service to schedule. Request B25 uses the minus tolerance of the referenced service to schedule. Request B26 declined because the MAF needs to decrease its duration in order to schedule, but then the event would have only a 59 second overlap between services. Request B27 declined because when the MAF uses its plus tolerance to avoid conflict, the SSAR can't fit within the referenced service because of a conflict with event A26. Request B28 schedules because the SSAR decreases its duration to fit within the referenced service and avoid a conflict with event A28.
FLEXIBILITY TO AVOID 2-WAY TRK CONFLICTS W/O VIOLATING GROUND RULES			
Note: When creating a two-way tracking SSC, consider the following: Two-way Doppler required; Range tracking required; Time transfer required. Also, the return services in the following section must be coherent to the forward.			

Step	Location	Action	Result
4.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
4.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A29	046	T + 00:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	00:00:00
B29	046	T + 00:00:00	MAF SSAR 01 TRK-C	00:10:00 00:15:00 00:15:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank blank	blank + 01:00:00 blank	blank blank blank	Request declined
C16	046	T + 00:00:00	MAF SSAR 01 TRK-C	00:10:00 00:15:00 00:25:00	00:20:00 00:20:00 00:05:00	blank blank blank	blank blank blank	blank + 01:00:00 blank	blank blank blank	00:10:00 00:21:30 00:25:00
A30	046	T + 01:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	01:00:00
B30	046	T + 00:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:08:30 00:05:00	blank blank blank	blank blank blank	blank - 01:00:00 blank	blank blank blank	Request declined
C17	046	T + 00:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:08:30 00:03:30	blank blank blank	blank blank blank	blank - 01:00:00 blank	blank blank blank	00:50:00 00:50:00 00:55:00
A31	046	T + 02:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	02:00:00
B31	046	T + 01:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:03:31	blank blank blank	blank blank blank	blank blank blank	blank 00:01:00 blank	Request declined
C18	046	T + 01:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:03:30	blank blank blank	blank blank blank	blank blank blank	blank 00:01:00 blank	01:50:00 01:55:00 01:55:00

Step	Location	Action	Result
4.3	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B29 declined because once the SSAR uses its plus tolerance to schedule, the tracking service is no longer bounded by the intersection of the forward and return. Request B30 declined because once the SSAR uses its minus tolerance to schedule, the tracking service is no longer bounded by the intersection of the forward and return. Request B31 declined because once the SSAR decreases its duration to schedule, the tracking service is no longer bounded by the intersection of the forward and return. Requests C16, C17 and C18 schedule because no ground rules are violated.
4.4	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A32	285	T + 03:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
B32	285	T + 03:00:00	MAF SSAR 01 TRK-C	00:10:00 00:15:00 00:15:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank 02	blank + 01:00:00 blank	blank blank blank	Request declined
A33	285	T + 03:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00

Step	Location	Action	Result

B33	285	T + 03:00:00	MAF SSAR 01 TRK-C	00:10:00 00:15:00 00:15:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank 02	+ 00:10:00 + 01:00:00 blank	blank blank blank	03:16:30 03:21:30 03:21:30
A34	285	T + 04:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	04:00:00
B34	285	T + 03:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:08:30 00:05:00	blank blank blank	blank blank 02	blank - 01:00:00 blank	blank blank blank	03:50:00 03:50:00 03:50:00
A35	285	T + 05:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	27:00:00
B35	285	T + 04:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:03:31	blank blank blank	blank blank 02	blank blank blank	blank 00:01:00 blank	04:50:00 04:55:00 04:55:00

4.5	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B32 declined because when the SSAR uses its plus tolerance to avoid conflict, the tracking service moves wit it and is no longer bounded by the intersection of the forward and return. Requests B33, B34 and B35 above schedule because they use the flexibility of the service they are bounded by to schedule.
4.6	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A36	046	T + 06:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	06:00:00
B36	046	T + 05:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank blank	blank blank blank	00:01:00 blank blank	Request declined

Step	Location	Action	Result

C19	046	T + 05:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank 01 02	blank blank blank	00:01:00 blank blank	05:50:00 05:50:00 05:50:00
A37	046	T + 06:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	06:00:00
C20	046	T + 05:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank 01	blank blank blank	00:01:00 blank blank	05:50:00 05:50:00 05:50:00

4.7	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B36 is declined because once the MAF decreases its duration to schedule, the tracking service is no longer bounded by the intersection of the forward and return. Request C19 schedules because the return is bounded to the forward and uses its flexibility and the tracking is bounded to the return. Request C20 schedules because the tracking is bounded to the forward and uses its flexibility.
4.8	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A38	TDE	T + 07:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	07:00:00
B37	TDE	T + 06:40:00	SMAF SSAR 01 TRK-C	00:00:00 00:15:00 00:00:00	00:30:00 00:20:00 00:15:00	blank 01 02	blank blank blank	blank - 01:00:00 blank	00:01:00 blank blank	06:40:00 06:44:30 06:44:30
A39	TDE	T + 08:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	08:00:00

Step	Location		Action					Result		
B38	TDE	T + 08:00:00	SMAF	00:10:00	00:20:00	blank	blank	+ 01:00:00	blank	08:20:30
			SSAR 01	00:15:00	00:10:00	blank	blank	+ 01:00:00	blank	08:20:30
			TRK-C	00:03:00	00:05:00	02	blank	blank	blank	08:23:30
A40	TDE	T + 09:00:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	09:00:00
B39	TDE	T + 08:50:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	00:01:00	08:50:00
			SSAR 01	00:05:00	00:15:00	blank	blank	blank	00:01:00	08:55:00
			TRK-N	00:12:00	00:03:00	02	blank	- 01:00:00	blank	08:55:30
A41	TDE	T + 10:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	10:00:00
B40	TDE	T + 10:00:00	SMAF	00:10:00	00:20:00	blank	blank	+ 01:00:00	blank	10:20:30
			SSAR 01	00:18:00	00:15:00	blank	blank	+ 01:00:00	blank	10:20:30
			TRK-C	00:00:00	00:05:00	02	blank	+ 01:00:00	blank	10:20:30
A42	TDE	T + 11:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	11:00:00
B41	TDE	T + 10:50:00	SMAF	00:00:00	00:20:00	blank	blank	blank	00:01:00	10:50:00
			SSAR 01	00:05:00	00:20:00	blank	blank	blank	blank	10:55:00
			TRK-C	00:00:00	00:10:00	02	blank	blank	00:01:00	10:55:00
A43	TDE	T + 12:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	12:00:00
B42	TDE	T + 12:40:00	SMAF	00:00:00	00:30:00	blank	blank	- 01:00:00	blank	11:29:30
			SSAR 01	00:15:00	00:20:00	01	blank	blank	blank	11:44:30
			TRK-C	00:00:00	00:15:00	02	blank	blank	blank	11:44:30

Step	Location	Action	Result
4.9	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B37 schedules because the SSAR uses its minus tolerance to move so that the tracking that's coupled to it can move to fit within the intersection of the forward and return. Request B38 schedules because the SSAR uses its plus tolerance to move so that the tracking that's coupled to it can move to fit within the intersection of the forward and return. Requests B39, B40 and B41 schedule because the tracking service uses its flexibility to move within the intersection of the forward and return. Request B42 schedules because when the SMAF uses its minus tolerance to schedule, the SSAR and tracking move with it.
FLEXIBILITY TO AVOID EET CONFLICTS WITHOUT VIOLATING GROUND RULES			
5.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
5.2	NTS	Transmit SARs as described below:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D15	041	T + 04:00:00	KSAF01	00:00:00	00:10:00	blank	blank	blank	04:00:00
			K-FEET	00:00:00	00:10:00	blank	blank	blank	04:00:00
E23	041	T + 04:00:00	SSAF02	00:00:00	00:10:00	blank	blank	blank	04:00:00
			S-FEET	00:00:00	00:10:00	blank	blank	blank	04:00:00
			KSAF02	00:00:00	00:10:00	blank	00:15:00	blank	04:10:00
			K-FEET	00:00:00	00:10:00	blank	00:20:00	blank	04:10:00

5.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Although the normal KSAF service in event E23 could have scheduled at the requested time, the K-band EET could not, therefore service plus tolerance was used to move the EET and the associated normal service moved the same amount.
5.4	NTS	Transmit SARs as described below:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D16	041	T + 05:10:00	SSAR01	00:00:00	00:10:00	blank	blank	blank	05:10:00
			S-REET	00:00:00	00:10:00	blank	blank	blank	05:10:00
E24	041	T + 05:00:00	SSAR01	00:10:00	00:10:00	00:10:00	blank	00:01:00	05:00:00
			S-REET	00:10:00	00:10:00	00:05:00	blank	00:05:00	05:00:00
			KSAR01	00:00:00	00:10:00	blank	blank	00:01:00	05:00:00
			K-REET	00:00:00	00:10:00	blank	blank	blank	05:00:00

5.5	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Both the SSAR and the S-band EET in event E24 used minus service start time flexibility to avoid conflicts. The normal services had to decrease duration to allow a 3 minute setup time for the same antenna in an EET event (i.e., the end time of the second event should be 05:07:00). The EET services decreased duration to preserve identical start and stop times with the associated normal services. MIND and Plus/Minus tolerances are ignored for EET services (the EET services use the tolerances of the associated normal service)
5.6	NTS	Transmit SARs as described below:	Requests are received.

Step	Location	Action	Result
5.7	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E25's normal SSAR service used plus tolerance to avoid a UIFC conflict with event D17, and the associated EET service changed its start time to stay with the SSAR.
5.8	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	UIFCs specified in the SSC	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D17	041	T + 06:10:00	SSAR01	A	00:00:00	00:05:00	blank	blank	blank	06:10:00
E25	041	T + 06:00:00	SSAR02	A	00:10:00	00:05:00	blank	00:10:00	blank	06:15:15
			S-REET	n/a	00:10:00	00:05:00	blank	00:10:00	blank	06:15:15
			KSAR02	B	00:00:00	00:30:00	blank	blank	blank	06:00:00
			K-REET	n/a	00:00:00	00:30:00	blank	blank	blank	06:00:00

Step	Location	Action	Result
5.9	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E26's normal SSAR service used minus tolerance to avoid a UIFC conflict with event D18, and the associated EET service changed its start time to stay with the SSAR.

Req	TDRS	Event Start	Services	UIFCs specified in the SSC	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D18	041	T + 07:10:00	SSAR01	A	00:00:00	00:05:00	blank	blank	blank	07:10:00
E26	041	T + 07:00:00	SSAR02	A	00:10:00	00:05:00	00:10:00	blank	blank	07:04:45
			S-REET	n/a	00:10:00	00:05:00	00:10:00	blank	blank	07:04:45
			KSAR02	B	00:00:00	00:30:00	blank	blank	blank	07:00:00
			K-REET	n/a	00:00:00	00:30:00	blank	blank	blank	07:00:00

Step	Location	Action	Result
5.10	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D19	041	T + 08:10:00	KSAF01 K-FEET	00:00:00 00:00:00	00:10:00 00:10:00	blank blank	blank blank	blank blank	08:10:00 08:10:00
E27	041	T + 08:00:00	KSAR02 K-REET	00:00:00 00:00:00	00:12:00 00:12:00	blank blank	blank blank	00:01:00 00:01:00	08:00:00 08:00:00

5.11	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E27's EET service had to decrease duration by 2 minutes (ending at 08:10:00) to avoid a conflict with D19, and E27's normal service reduced its duration by the same amount to preserve identical start and stop times.
5.12	NTS	Transmit SARs as described below:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D20	041	T + 09:10:00	SSAF01	00:00:00	00:10:00	blank	blank	blank	09:10:00
E28	041	T + 09:00:00	SSAR01 S-REET	00:00:00 00:00:00	00:12:00 00:12:00	blank blank	blank blank	00:01:00 blank	09:00:00 09:00:00

5.13	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E28's SA01 service had to decrease duration by 2 minutes plus 90 seconds (ending at 09:08:30) to avoid a conflict with D20 and to allow for SA01 setup time. E28's EET service reduced its duration by the same amount to preserve identical start and stop times.
5.14	NTS	Transmit SARs as described below:	Requests are received.

Step	Location			Action					Result	
Req	**TDRS**	**Event Start**	**Services**	**UIFCs specified in the SSC**	**Service Start**	**Nominal Service Duration**	**Service Minus Tolerance**	**Service Plus Tolerance**	**Minimum Service Duration**	**Actual service start**
D21	041	T + 10:10:00	SSAR02	A	00:00:00	00:01:00	blank	blank	blank	10:10:00
E29	041	T + 10:00:00	SSAR01	A	00:10:00	00:10:00	blank	00:05:00	blank	10:11:15
			S-REET	n/a	00:10:00	00:10:00	blank	blank	blank	10:11:15
			KSAR01	B	00:00:00	00:10:00	blank	blank	blank	10:00:00
			K-REET	n/a	00:00:00	00:10:00	blank	blank	blank	10:00:00

5.15	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E29's normal KSAR and K-band EET services increase their durations by 1 minute and 15 seconds to fill the gap made by E29's SSAR and S-band EET using plus tolerance to avoid a UIFC conflict with event D21.
5.16	NTS	Transmit SARs as described below:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D22	041	T + 11:00:00	MAF S-FEET	00:00:00 00:00:00	00:20:00 00:20:00	blank blank	blank blank	blank blank	11:00:00 11:00:00
D23	041	T + 11:20:00	SSAF01	00:00:00	00:10:00	blank	blank	blank	11:20:00
E30	041	T + 11:10:00	SSAR01 S-REET	00:00:00 00:00:00	00:10:00 00:10:00	00:12:00 00:12:00	00:15:00 00:15:00	blank blank	Request Rejected

5.17	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request E30 was rejected. In the plus direction there would be an SA01 conflict, and in the minus direction there would be an S-band EET conflict, so the pair of services could not move together as required.
5.18	NTS	Transmit SARs as described below:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Coupled Service Keyword	Bounded Service Keyword	Service Plus/Minus Tolerance	Minimum Service Duration	Actual service start
E31	041	T + 12:00:00	MAF S-FEET	00:01:00 00:00:00	00:09:00 00:10:00	02 blank	blank blank	blank blank	blank blank	Request Rejected
E32	041	T + 13:00:00	MAF S-FEET	00:00:00 00:00:00	00:13:00 00:10:00	blank blank	02 blank	blank blank	blank blank	Request Rejected

5.19	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Requests were rejected. Chains of Coupled or Bounded services may not close to create circular references. In E32, by setting a non-zero offset for MAF from the start time of the EET, the services could not start together.
		CLEANUP	
6.1	*Active Schedule*	**Delete** all events scheduled in the above steps.	The resources for day T are available.
		DOCUMENTATION	
7.1	User's Guide	Review the documentation related to service flexibility fields on the windows.	Verify: Windows and procedures are correctly documented.

2.8 Detailed Test Procedure for 99.1- 02.8
SERVICE LEVEL FLEXIBILITY - EET, TRACKING, AND COHERENT PAIRS, BATCH
5.4.1.e, 5.4.6, 5.4.6.a.2, 5.4.6.a.3, 5.4.6.b

OBJECTIVES: This test item will verify the following:

- For batch scheduling, flexibility parameter scheduling rules are applied to the scheduling of services. [5.4.1.e]
- The specified flexibility of each request will be employed, as needed, to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6]
- Start times will be moved by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.2]
- Service durations will be shortened by the smallest amount necessary to allow the requested event to be scheduled consistent with the current scheduling priorities. [5.4.6.a.3]
- When flexibility parameters are applied to relative service start times and service durations, each event will be structured such that there is no time during the event in which no service is scheduled (i.e., no gaps within the event). [5.4.6.b]
- If a SAR specifies zero event start time plus tolerance and zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time. However, service start time flexibility may be specified for any of the services in the SAR. When no event start time flexibility is specified, the NCCDS will apply the specified service-level flexibilities as needed and the earliest scheduled service start time will be used as the scheduled event start time. [MOC ICD B.3.2.4.c , 7.2.1.1.c]
- If the Service Bounded By Service Number (SBSN) parameter is used, the duration of the referenced service must equal or exceed that of the referencing service. [MOC ICD B.3.2.4.e.1]
- The Coupled Service Number (CSN), Service Start Time Plus Tolerance (STPT), and Service Start Time Minus Tolerance (STMT) parameters may be used together in any combination. [MOC ICD B.3.2.4.e.2]
- If SBSN is used, it must not be used in combination with CSN, STPT, or STMT. [MOC ICD B.3.2.4.e.2]
- CSN and SBSN may be used to create chains of references. Example: Service A (via use of CSN) starts 10 minutes after service B, and service B (via use of SBSN) is bounded by service C. However, such a chain cannot close to create a circular reference (i.e.,

every service must have its start time either directly or indirectly defined relative to Event Start Time). [MOC ICD B.3.2.4.e.3]

- Service-level flexibility is used to avoid conflicts when scheduling one-way tracking, two-way tracking, coherent pairs, and end-to-end test services, without violating ground rules. [Derived from Guidelines for Use of Service-Level Flexibility Parameters]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Operator with necessary privileges is logged on.
1.2	Database Subpanel	Click the Space Network icon.	*Space Network Database* window appears.
1.3	*Space Network Database*	Select **TDRS Operational Names & Mappings** from the **Edit** menu.	*TDRS Operational Names & Mappings* window appears.
1.4	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the batch scheduling subphase are as follows: Name / ID / SGLT 041 / D / SGT1 171 / G / SGT2 TDW / K / SGT3 TDE / I / SGT4 192 / H / SGT5 046 / F / WSC1 174 / E / WSC2 TDZ / Z / WSC3 TDS / J / WSC4 285 / A / WSC5 Click **Close**.	TDRS Assignments are correct.

Step	Location	Action	Result
1.5	Workstation	Choose Normal full-support SICs, such that A has the highest scheduling priority and E has the lowest priority. SIC A: _____ SIC B: _____ SIC C: _____ SIC D: _____ SIC E: _____	SICs are identified.
1.6	*<service type> Schedulable Parameters*	Create or identify SSCs needed for this test. Note: See steps 2, 3, and 4 for specifics when creating tracking and coherent SSCs.	Test data is ready.
1.7	*Schedule Control Database*	Note the Current Batch Boundary.	Boundary is noted.
1.8	*Active Schedule*	Choose a day "T" in the batch scheduling period. Check that no events are scheduled on day "T" (delete any existing events).	No events are scheduled on day "T".
1.9	*Space Network Summary* *TDRS Sets*	Select **TDRS Sets...** from the **Edit** menu. Enter the name "**set**" in the **New Set Name** field. Click the **Add** button under the field. From the **TDRS Operational Names**, select **041, 171,** and **174**. Click the **Add** button between the TDRS Operational Names list and the Set Members list.	TDRS Set "set" = 041, 171, 174
1.10	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below. Except where specifically stated in the test steps, do not use Event Tolerances, Coupling, Bounding or TSWs.	NTS blocks are ready. Block file: _____ _____

Step	Location	Action	Result
FLEXIBILITY TO AVOID 1-WAY TRK CONFLICTS W/O VIOLATING GROUND RULES			
Note: When creating a one-way tracking SSC, consider the following: Normal tracking configuration; One-way Doppler required; Range tracking not required; Time transfer not required.			
2.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
2.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A4	046	T + 01:00:00	KuSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	01:00:00
B3	046	T + 00:00:00	KuSAR 01 TRK	00:30:00 00:30:00	00:40:00 00:20:00	blank blank	blank blank	blank blank	00:01:00 blank	00:30:00 00:30:00
A5	046	T + 02:00:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	02:00:00
B4	046	T + 01:00:00	KuSAR 01 TRK	00:30:00 00:41:30	00:40:00 00:28:30	blank blank	blank blank	blank - 00:30:00	00:01:00 blank	01:30:00 01:30:00
A6	046	T + 03:00:00	KuSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
B5	046	T + 03:10:00	KuSAR 02 TRK	00:00:00 00:05:00	00:30:00 00:20:00	blank blank	blank blank	+ 00:15:00 + 00:30:00	00:01:00 blank	03:21:30 03:21:30
A7	046	T + 04:00:00	SSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	04:00:00
B6	046	T + 03:50:00	SSAR 02 TRK	00:00:00 00:00:00	00:20:00 00:18:00	blank blank	blank blank	blank blank	00:01:00 00:01:00	03:50:00 03:50:00

2.3	*Batch Schedule*	Generate and activate ‘batch17’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
2.4	*Active Schedule*	Review the **Service Display...** for the above events and make a **hardcopy**.	Hardcopy is printed. Verify: Request B3 scheduled because the KuSAR decreased its duration to 00:28:30 to avoid conflict. Request B4 scheduled because the KuSAR decreased its duration to 00:28:30 to avoid conflict and the tracking used its minus tolerance so it wouldn't violate any ground rules. Request B5 scheduled because the KuSAR used its plus tolerance to avoid conflict and the tracking used its plus tolerance so it wouldn't violate any ground rules. Request B6 scheduled because the KuSAR decreased its duration to 00:08:30 to avoid conflict and the tracking decreased its duration to 00:08:30 so it wouldn't violate any ground rules.
2.5	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A8	046	T + 05:00:00	KuSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	05:00:00
B7	046	T + 04:00:00	KuSAR 01 TRK	00:30:00 00:30:00	00:40:00 00:35:00	blank blank	blank blank	blank blank	00:01:00 blank	Request declined
A9	046	T + 06:00:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	06:00:00

Step	Location	Action	Result

B8	046	T + 05:00:00	KuSAR 01 TRK	00:30:00 00:35:00	00:40:00 00:30:00	blank blank	blank blank	- 01:00:00 blank	blank blank	Request declined
A10	046	T + 07:00:00	KuSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	07:00:00
B9	046	T + 07:10:00	KuSAR 02 TRK	00:00:00 00:05:00	00:30:00 00:20:00	blank blank	blank blank	+ 01:00:00 blank	blank blank	Request declined
A11	046	T + 08:00:00	SSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	08:00:00
B10	046	T + 07:50:00	SSAR 02 TRK	00:00:00 00:00:00	00:20:00 00:18:00	blank blank	blank blank	blank blank	00:01:00 00:11:00	Request declined

2.6	*Batch Schedule*	Generate and activate ‘batch18’ with the above requests.	Batch is generated and activated.
2.7	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Requests B7 and B8 declined because their return service ends before their tracking service. Request B9 declined because its tracking service starts before its return service. Request B10 declined because its return service ends before its tracking service because the tracking service didn't have short enough MIND.
2.8	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
B11	046	T + 04:00:00	KuSAR 01 TRK	00:30:00 00:30:00	00:40:00 00:35:00	blank blank	blank 01	blank blank	00:01:00 blank	04:30:00 04:30:00
B12	046	T + 05:00:00	SSAR 01 TRK	00:30:00 00:35:00	00:40:00 00:30:00	blank blank	blank 01	- 01:00:00 blank	blank blank	05:18:30 05:18:30

Step	Location	Action	Result

B13	046	T + 07:10:00	KuSAR 02 TRK	00:00:00 00:05:00	00:30:00 00:20:00	blank blank	blank 01	+ 01:00:00 blank	blank blank	07:21:30 07:21:30
B14	046	T + 07:50:00	SSAR 02 TRK	00:00:00 00:00:00	00:20:00 00:18:00	blank blank	blank 01	blank blank	00:01:00 00:11:00	07:50:00 07:50:00

2.9	*Batch Schedule*	Generate and activate ‘batch19’ with the above requests.	Batch is generated and activated.
2.10	*Active Schedule*	Review the **Service Display...** for the above events and make a **hardcopy**.	Hardcopy is printed. Verify: The tracking services of the above events use the flexibilities of the service they're bounded to in order to fit within them.
2.11	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A12	046	T + 09:00:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	09:00:00
A13	046	T + 09:30:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	09:30:00
B15	046	T + 09:00:00	SSAR 01 TRK	00:10:00 00:05:00	00:20:00 00:02:01	blank 01	blank blank	+ 00:20:00 blank	00:01:00 blank	Request declined
B16	046	T + 09:00:00	SSAR 01 TRK	00:10:00 00:05:00	00:20:00 00:02:01	blank 01	blank blank	+ 01:00:00 blank	00:01:00 blank	09:51:30 09:56:30
A14	046	T + 11:00:00	KuSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	11:00:00
A15	046	T + 11:30:00	KuSAR 02	00:00:00	00:20:00	blank	blank	blank	blank	11:30:00
B17	046	T + 11:00:00	KuSAR 02 TRK	00:10:00 00:05:00	00:20:00 00:02:01	blank 01	blank blank	+ 00:20:00 blank	00:01:00 00:01:00	11:21:30 11:26:30

2.12	*Batch Schedule*	Generate and activate ‘batch20’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
2.13	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B15 declined because its tracking service is coupled to the return service, and once the return decreases its duration to schedule, the tracking will end after the return, thus violating a ground rule. Request B16 schedules because its SSAR has enough plus tolerance to avoid conflict. Request B17 schedules because its SSAR uses its plus tolerance and decreases its duration to 00:07:00 to avoid conflict, and the tracking decreases its duration to 00:02:00 so it wouldn't violate any ground rules.
FLEXIBILITY TO AVOID COHERENT CONFLICTS W/O VIOLATING CROUND RULES			
Note: SSCs for the return services in the following section should specify coherency.			
3.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
3.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A17	171	T + 01:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	01:00:00
B17	171	T + 00:50:00	MAF SSAR	00:00:00 00:08:31	00:20:00 00:20:00	blank blank	blank blank	blank blank	00:01:00 blank	Request declined
C11	171	T + 00:50:00	MAF SSAR	00:00:00 00:08:30	00:20:00 00:20:00	blank blank	blank blank	blank blank	00:01:00 blank	00:50:00 00:58:30

Step	Location		Action					Result		
A18	171	T + 02:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	02:00:00
B18	171	T + 02:10:00	MAF SSAR	00:00:00 00:05:00	00:20:00 00:20:00	blank blank	blank blank	+ 00:30:00 blank	blank blank	Request declined
C12	171	T + 02:10:00	MAF SSAR	00:00:00 00:08:00	00:20:00 00:17:00	blank blank	blank blank	+ 00:30:00 + 00:10:00	blank blank	02:20:30 02:20:30
A19	171	T + 03:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
B19	171	T + 02:59:00	MAF SSAR MAR	00:11:00 00:26:00 00:00:00	00:20:00 00:10:00 00:30:00	blank blank blank	blank blank blank	- 01:00:00 blank blank	blank blank blank	Request declined
C13	171	T + 02:50:00	MAF SSAR	00:00:00 00:00:00	00:20:00 00:15:00	blank blank	blank blank	- 00:30:00 blank	blank blank	02:39:30 02:50:00
3.3	*Batch Schedule*		Generate and activate ‘batch21’ with the above requests.					Batch is generated and activated.		

Step	Location	Action	Result
3.4	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B18 declined because when the MAF decreases its duration to schedule, there is less than 1 minute overlap between services. Request C11 schedules because there is at least 1 minute overlap between services. Request B19 declined because when the MAF uses its plus tolerance to schedule, the return service is then starting before the forward, thus violating a ground rule. Request C12 schedules because its MAF uses its plus tolerance to avoid conflict and the SSAR uses its plus tolerance so it wouldn't violate any ground rules. Request B20 declined because when the MAF uses its minus tolerance to schedule, the return service is then starting after the end of the forward, thus violating a ground rule. Request C13 schedules because its MAF uses its minus tolerance to avoid conflict.
3.5	NTS	Transmit SARs as described below:	Requests are received.

Step	Location			Action				Result		
Req	**TDRS**	**Event Start**	**Svcs**	**Service Start**	**Nom Service Duration**	**Coupled Service Number**	**Bounded Service**	**Service + / - Tolerances**	**Min Service Duration**	**Actual service start**
A19	171	T + 04:00:00	KuSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	04:00:00
B21	171	T + 04:10:00	MAF SSAR 01	00:00:00 00:05:00	00:12:29 00:15:00	blank blank	blank blank	blank + 00:30:00	blank blank	Request declined
C14	171	T + 04:10:00	MAF SSAR 01	00:00:00 00:05:00	00:12:30 00:15:00	blank blank	blank blank	blank + 00:30:00	blank blank	04:10:00 04:21:30
A20	192	T + 05:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	05:00:00
B22	192	T + 04:50:00	SMAF SSAR 01	00:00:00 00:05:00	00:20:00 00:10:00	blank blank	blank blank	blank - 01:00:00	blank blank	Request declined
C15	192	T + 04:50:00	SMAF SSAR 01	00:00:00 00:05:00	00:20:00 00:10:00	blank blank	blank blank	blank - 01:00:00	blank 00:01:00	04:50:00 04:50:00
3.6	*Batch Schedule*			Generate and activate ‘batch22’ with the above requests.				Batch is generated and activated.		

Step	Location	Action	Result
3.7	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B21 declined because the SSAR needs to decrease its duration in order to schedule, but then the event would have only a 59 second overlap between services. Request C14 schedules because when the SSAR uses its plus tolerance to avoid conflict, the event has exactly 1 minute overlap. Request B22 declined because when the SSAR uses its minus tolerance to schedule, its then starting before the forward, thus violating a ground rule. Request C15 schedules because the SSAR uses its minus tolerance and decreases its duration to avoid conflict.
3.8	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A21	171	T + 06:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	06:00:00
B23	171	T + 05:50:00	MAF SSAR	00:00:00 00:08:31	00:20:00 00:20:00	blank blank	blank 01	blank blank	00:01:00 blank	05:50:00 05:50:00
A22	171	T + 07:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	07:00:00
B24	171	T + 07:10:00	MAF SSAR	00:00:00 00:05:00	00:20:00 00:20:00	blank blank	blank 01	+ 00:30:00 blank	blank blank	07:20:30 07:20:30

Step	Location		Action					Result		
A23	171	T + 09:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	09:00:00
B25	171	T + 09:10:00	MAF SSAR	00:00:00 00:15:00	00:20:00 00:10:00	blank blank	blank 01	- 01:00:00 blank	blank blank	08:39:30 08:39:30
A24	171	T + 10:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	10:00:00
B26	171	T + 09:50:00	MAF SSAR	00:00:00 00:08:31	00:20:00 00:20:00	blank 01	blank blank	blank blank	00:01:00 blank	Request declined
A25	171	T + 11:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	11:00:00
A26	171	T + 11:30:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	11:30:00
B27	171	T + 11:10:00	MAF SSAR 01	00:00:00 00:05:00	00:20:00 00:20:00	blank blank	blank 01	+ 01:00:00 blank	blank blank	Request declined
A27	171	T + 12:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	12:00:00
A28	171	T + 12:30:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	12:30:00
B28	171	T + 12:10:00	MAF SSAR 01	00:00:00 00:05:00	00:20:00 00:20:00	blank blank	blank 01	+ 01:00:00 blank	blank 00:01:00	12:20:30 12:20:30
3.9	*Batch Schedule*		Generate and activate ‘batch23’ with the above requests.					Batch is generated and activated.		

Step	Location	Action	Result
3.10	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B23 uses the minimum duration of the referenced service to decrease its duration to schedule. Request B24 uses the plus tolerance of the referenced service to schedule. Request B25 uses the minus tolerance of the referenced service to schedule. Request B26 declined because the MAF needs to decrease its duration in order to schedule, but then the event would have only a 59 second overlap between services. Request B27 declined because when the MAF uses its plus tolerance to avoid conflict, the SSAR can't fit within the referenced service because of a conflict with event A26. Request B28 schedules because the SSAR decreases its duration to fit within the referenced service and avoid a conflict with event A28.
FLEXIBILITY TO AVOID 2-WAY TRK CONFLICTS W/O VIOLATING GROUND RULES			
Note: When creating a two-way tracking SSC, consider the following: Two-way Doppler required; Range tracking required; Time transfer required. Also, the return services in the following section must be coherent to the forward.			

Step	Location	Action	Result
4.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
4.2	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A29	046	T + 00:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	00:00:00
B29	046	T + 00:00:00	MAF SSAR 01 TRK-C	00:10:00 00:15:00 00:15:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank blank	blank + 01:00:00 blank	blank blank blank	Request declined
C16	046	T + 00:00:00	MAF SSAR 01 TRK-C	00:10:00 00:15:00 00:25:00	00:20:00 00:20:00 00:05:00	blank blank blank	blank blank blank	blank + 01:00:00 blank	blank blank blank	00:10:00 00:21:30 00:25:00
A30	046	T + 01:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	01:00:00
B30	046	T + 00:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:08:30 00:05:00	blank blank blank	blank blank blank	blank - 01:00:00 blank	blank blank blank	Request declined
C17	046	T + 00:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:08:30 00:03:30	blank blank blank	blank blank blank	blank - 01:00:00 blank	blank blank blank	00:50:00 00:50:00 00:55:00
A31	046	T + 02:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	02:00:00
B31	046	T + 01:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:03:31	blank blank blank	blank blank blank	blank blank blank	blank 00:01:00 blank	Request declined
C18	046	T + 01:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:03:30	blank blank blank	blank blank blank	blank blank blank	blank 00:01:00 blank	01:50:00 01:55:00 01:55:00

4.3	*Batch Schedule*	Generate and activate ‘batch24’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
4.4	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B29 declined because once the SSAR uses its plus tolerance to schedule, the tracking service is no longer bounded by the intersection of the forward and return. Request B30 declined because once the SSAR uses its minus tolerance to schedule, the tracking service is no longer bounded by the intersection of the forward and return. Request B31 declined because once the SSAR decreases its duration to schedule, the tracking service is no longer bounded by the intersection of the forward and return. Requests C16, C17 and C18 schedule because no ground rules are violated.
4.5	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A32	285	T + 03:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00
B32	285	T + 03:00:00	MAF SSAR 01 TRK-C	00:10:00 00:15:00 00:15:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank 02	blank + 01:00:00 blank	blank blank blank	Request declined
A33	285	T + 03:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	03:00:00

Step	Location	Action	Result

B33	285	T + 03:00:00	MAF SSAR 01 TRK-C	00:10:00 00:15:00 00:15:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank 02	+ 00:10:00 + 01:00:00 blank	blank blank blank	03:16:30 03:21:30 03:21:30
A34	285	T + 04:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	04:00:00
B34	285	T + 03:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:08:30 00:05:00	blank blank blank	blank blank 02	blank - 01:00:00 blank	blank blank blank	03:50:00 03:50:00 03:50:00
A35	285	T + 05:00:00	SSAR 01	00:00:00	00:20:00	blank	blank	blank	blank	27:00:00
B35	285	T + 04:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:03:31	blank blank blank	blank blank 02	blank blank blank	blank 00:01:00 blank	04:50:00 04:55:00 04:55:00

4.6	*Batch Schedule*	Generate and activate ‘batch25’ with the above requests.	Batch is generated and activated.
4.7	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B32 declined because when the SSAR uses its plus tolerance to avoid conflict, the tracking service moves wit it and is no longer bounded by the intersection of the forward and return. Requests B33, B34 and B35 above schedule because they use the flexibility of the service they are bounded by to schedule.
4.8	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A36	046	T + 06:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	06:00:00

Step	Location	Action	Result

B36	046	T + 05:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank blank	blank blank blank	00:01:00 blank blank	Request declined
C19	046	T + 05:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank 01 02	blank blank blank	00:01:00 blank blank	05:50:00 05:50:00 05:50:00
A37	046	T + 06:00:00	MAF	00:00:00	00:20:00	blank	blank	blank	blank	06:00:00
C20	046	T + 05:50:00	MAF SSAR 01 TRK-C	00:00:00 00:05:00 00:05:00	00:20:00 00:20:00 00:15:00	blank blank blank	blank blank 01	blank blank blank	00:01:00 blank blank	05:50:00 05:50:00 05:50:00

4.9	*Batch Schedule*	Generate and activate ‘batch26’ with the above requests.	Batch is generated and activated.
4.10	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B36 is declined because once the MAF decreases its duration to schedule, the tracking service is no longer bounded by the intersection of the forward and return. Request C19 schedules because the return is bounded to the forward and uses its flexibility and the tracking is bounded to the return. Request C20 schedules because the tracking is bounded to the forward and uses its flexibility.
4.11	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Nom Service Duration	Coupled Service Number	Bounded Service	Service + / - Tolerances	Min Service Duration	Actual service start
A38	TDE	T + 07:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	07:00:00

Step	Location		Action					Result		
B37	TDE	T + 06:40:00	SMAF	00:00:00	00:30:00	blank	blank	blank	00:01:00	06:40:00
			SSAR 01	00:15:00	00:20:00	01	blank	- 01:00:00	blank	06:44:30
			TRK-C	00:00:00	00:15:00	02	blank	blank	blank	06:44:30
A39	TDE	T + 08:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	08:00:00
B38	TDE	T + 08:00:00	SMAF	00:10:00	00:20:00	blank	blank	+ 01:00:00	blank	08:20:30
			SSAR 01	00:15:00	00:10:00	blank	blank	+ 01:00:00	blank	08:20:30
			TRK-C	00:03:00	00:05:00	02	blank	blank	blank	08:23:30
A40	TDE	T + 09:00:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	blank	09:00:00
B39	TDE	T + 08:50:00	SSAF 01	00:00:00	00:20:00	blank	blank	blank	00:01:00	08:50:00
			SSAR 01	00:05:00	00:15:00	blank	blank	blank	00:01:00	08:55:00
			TRK-N	00:12:00	00:03:00	02	blank	- 01:00:00	blank	08:55:30
A41	TDE	T + 10:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	10:00:00
B40	TDE	T + 10:00:00	SMAF	00:10:00	00:20:00	blank	blank	+ 01:00:00	blank	10:20:30
			SSAR 01	00:18:00	00:15:00	blank	blank	+ 01:00:00	blank	10:20:30
			TRK-C	00:00:00	00:05:00	02	blank	+ 01:00:00	blank	10:20:30
A42	TDE	T + 11:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	11:00:00
B41	TDE	T + 10:50:00	SMAF	00:00:00	00:20:00	blank	blank	blank	00:01:00	10:50:00
			SSAR 01	00:05:00	00:20:00	blank	blank	blank	blank	10:55:00
			TRK-C	00:00:00	00:10:00	02	blank	blank	00:01:00	10:55:00
A43	TDE	T + 12:00:00	SMAF	00:00:00	00:20:00	blank	blank	blank	blank	12:00:00
B42	TDE	T + 12:40:00	SMAF	00:00:00	00:30:00	blank	blank	- 01:00:00	blank	11:29:30
			SSAR 01	00:15:00	00:20:00	01	blank	blank	blank	11:44:30
			TRK-C	00:00:00	00:15:00	02	blank	blank	blank	11:44:30
4.12	*Batch Schedule*		Generate and activate ‘batch27’ with the above requests.					Batch is generated and activated.		

Step	Location	Action	Result
4.13	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request B37 schedules because the SSAR uses its minus tolerance to move so that the tracking that's coupled to it can move to fit within the intersection of the forward and return. Request B38 schedules because the SSAR uses its plus tolerance to move so that the tracking that's coupled to it can move to fit within the intersection of the forward and return. Requests B39, B40 and B41 schedule because the tracking service uses its flexibility to move within the intersection of the forward and return. Request B42 schedules because when the SMAF uses its minus tolerance to schedule, the SSAR and tracking move with it.
FLEXIBILITY TO AVOID EET CONFLICTS WITHOUT VIOLATING GROUND RULES			
5.1	*Active Schedule*	**Delete** all events previously scheduled.	Resources are available to schedule the following events.
5.2	NTS	Transmit SARs as described below:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D15	041	T + 04:00:00	KSAF01	00:00:00	00:10:00	blank	blank	blank	04:00:00
			K-FEET	00:00:00	00:10:00	blank	blank	blank	04:00:00
E23	041	T + 04:00:00	SSAF02	00:00:00	00:10:00	blank	blank	blank	04:00:00
			S-FEET	00:00:00	00:10:00	blank	blank	blank	04:00:00
			KSAF02	00:00:00	00:10:00	blank	00:15:00	blank	04:10:00
			K-FEET	00:00:00	00:10:00	blank	00:20:00	blank	04:10:00

5.3	*Batch Schedule*	Generate and activate ‘batch28’ with the above requests.	Batch is generated and activated.
5.4	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Although the normal KSAF service in event E23 could have scheduled at the requested time, the K-band EET could not, therefore service plus tolerance was used to move the EET and the associated normal service moved the same amount.
5.5	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D16	041	T + 05:10:00	SSAR01	00:00:00	00:10:00	blank	blank	blank	05:10:00
			S-REET	00:00:00	00:10:00	blank	blank	blank	05:10:00
E24	041	T + 05:00:00	SSAR01	00:10:00	00:10:00	00:10:00	blank	00:01:00	05:00:00
			S-REET	00:10:00	00:10:00	00:05:00	blank	00:05:00	05:00:00
			KSAR01	00:00:00	00:10:00	blank	blank	00:01:00	05:00:00
			K-REET	00:00:00	00:10:00	blank	blank	blank	05:00:00

5.6	*Batch Schedule*	Generate and activate ‘batch29’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
5.7	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Both the SSAR and the S-band EET in event E24 used minus service start time flexibility to avoid conflicts. The normal services had to decrease duration to allow a 3 minute setup time for the same antenna in an EET event (i.e., the end time of the second event should be 05:07:00). The EET services decreased duration to preserve identical start and stop times with the associated normal services. MIND and Plus/Minus tolerances are ignored for EET services (the EET services use the tolerances of the associated normal service)
5.8	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	UIFCs specified in the SSC	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D17	041	T + 06:10:00	SSAR01	A	00:00:00	00:05:00	blank	blank	blank	06:10:00
E25	041	T + 06:00:00	SSAR02	A	00:10:00	00:05:00	blank	00:10:00	blank	06:15:15
			S-REET	n/a	00:10:00	00:05:00	blank	00:10:00	blank	06:15:15
			KSAR02	B	00:00:00	00:30:00	blank	blank	blank	06:00:00
			K-REET	n/a	00:00:00	00:30:00	blank	blank	blank	06:00:00

5.9	*Batch Schedule*	Generate and activate ‘batch30’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
5.10	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E25's normal SSAR service used plus tolerance to avoid a UIFC conflict with event D17, and the associated EET service changed its start time to stay with the SSAR.
5.11	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	UIFCs specified in the SSC	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D18	041	T + 07:10:00	SSAR01	A	00:00:00	00:05:00	blank	blank	blank	07:10:00
E26	041	T + 07:00:00	SSAR02	A	00:10:00	00:05:00	00:10:00	blank	blank	07:04:45
			S-REET	n/a	00:10:00	00:05:00	00:10:00	blank	blank	07:04:45
			KSAR02	B	00:00:00	00:30:00	blank	blank	blank	07:00:00
			K-REET	n/a	00:00:00	00:30:00	blank	blank	blank	07:00:00

5.12	*Batch Schedule*	Generate and activate ‘batch31’ with the above requests.	Batch is generated and activated.
5.13	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E26's normal SSAR service used minus tolerance to avoid a UIFC conflict with event D18, and the associated EET service changed its start time to stay with the SSAR.
5.14	NTS	Transmit SARs as described below:	Requests are received.

Step	Location	Action	Result

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D19	041	T + 08:10:00	KSAF01 K-FEET	00:00:00 00:00:00	00:10:00 00:10:00	blank blank	blank blank	blank blank	08:10:00 08:10:00
E27	041	T + 08:00:00	KSAR02 K-REET	00:00:00 00:00:00	00:12:00 00:12:00	blank blank	blank blank	00:01:00 00:01:00	08:00:00 08:00:00

5.15	*Batch Schedule*	Generate and activate ‘batch32’ with the above requests.	Batch is generated and activated.
5.16	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E27's EET service had to decrease duration by 2 minutes (ending at 08:10:00) to avoid a conflict with D19, and E27's normal service reduced its duration by the same amount to preserve identical start and stop times.
5.17	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D20	041	T + 09:10:00	SSAF01	00:00:00	00:10:00	blank	blank	blank	09:10:00
E28	041	T + 09:00:00	SSAR01 S-REET	00:00:00 00:00:00	00:12:00 00:12:00	blank blank	blank blank	00:01:00 blank	09:00:00 09:00:00

5.18	*Batch Schedule*	Generate and activate ‘batch33’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
5.19	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E28's SA01 service had to decrease duration by 2 minutes plus 90 seconds (ending at 09:08:30) to avoid a conflict with D20 and to allow for SA01 setup time. E28's EET service reduced its duration by the same amount to preserve identical start and stop times.
5.20	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	UIFCs specified in the SSC	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D21	041	T + 10:10:00	SSAR02	A	00:00:00	00:01:00	blank	blank	blank	10:10:00
E29	041	T + 10:00:00	SSAR01	A	00:10:00	00:10:00	blank	00:05:00	blank	10:11:15
			S-REET	n/a	00:10:00	00:10:00	blank	blank	blank	10:11:15
			KSAR01	B	00:00:00	00:10:00	blank	blank	blank	10:00:00
			K-REET	n/a	00:00:00	00:10:00	blank	blank	blank	10:00:00

5.21	*Batch Schedule*	Generate and activate ‘batch34’ with the above requests.	Batch is generated and activated.
5.22	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: E29's normal KSAR and K-band EET services increase their durations by 1 minute and 15 seconds to fill the gap made by E29's SSAR and S-band EET using plus tolerance to avoid a UIFC conflict with event D21.

Step	Location	Action	Result
5.23	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Service Minus Tolerance	Service Plus Tolerance	Minimum Service Duration	Actual service start
D22	041	T + 11:00:00	MAF S-FEET	00:00:00 00:00:00	00:20:00 00:20:00	blank blank	blank blank	blank blank	11:00:00 11:00:00
D23	041	T + 11:20:00	SSAF01	00:00:00	00:10:00	blank	blank	blank	11:20:00
E30	041	T + 11:10:00	SSAR01 S-REET	00:00:00 00:00:00	00:10:00 00:10:00	00:12:00 00:12:00	00:15:00 00:15:00	blank blank	Request Rejected

5.24	*Batch Schedule*	Generate and activate ‘batch35’ with the above requests.	Batch is generated and activated.
5.25	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Request E30 was rejected. In the plus direction there would be an SA01 conflict, and in the minus direction there would be an S-band EET conflict, so the pair of services could not move together as required.
5.26	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Services	Service Start	Nominal Service Duration	Coupled Service Keyword	Bounded Service Keyword	Service Plus/Minus Tolerance	Minimum Service Duration	Actual service start
E31	041	T + 12:00:00	MAF S-FEET	00:01:00 00:00:00	00:09:00 00:10:00	02 blank	blank blank	blank blank	blank blank	Request Rejected
E32	041	T + 13:00:00	MAF S-FEET	00:00:00 00:00:00	00:13:00 00:10:00	blank blank	02 blank	blank blank	blank blank	Request Rejected

5.27	*Batch Schedule*	Generate and activate ‘batch36’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
5.28	*Schedule Requests*	Review the status of the above requests. Make a **hardcopy**.	Hardcopy is printed. Verify: Requests were rejected. Chains of Coupled or Bounded services may not close to create circular references. In E32, by setting a non-zero offset for MAF from the start time of the EET, the services could not start together.
		CLEANUP	
6.1	*Active Schedule*	**Delete** all events scheduled in the above steps.	The resources for day T are available.
		DOCUMENTATION	
7.1	User's Guide	Review the documentation related to service flexibility fields on the windows.	Verify: Windows and procedures are correctly documented.

2.9 Detailed Test Procedure for 99.1- 02.9 EVENT TOLERANCES WITH SERVICE FLEXIBILITY -- AUTOMATIC MOC ICD 7.2.1.1.c

OBJECTIVES: This test item will verify the following:

- The event must start at its Event Start Time. To ensure this, the following constraints are specified on the use of event start time and service start time flexibility: If a SAR specifies non-zero event start time plus tolerance or non-zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time and must have its relative start time, start time minus tolerance, and start time plus tolerance all equal to zero. [MOC ICD 7.2.1.1.c]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database (or "all") capabilities.	Operator with necessary privileges is logged on.
1.2	*Scheduling Priorities List*	Select two full-support SICs to use for this test, such that SIC A has higher priority than SIC B. SIC A: _____ SIC B: _____	Test data is selected.
1.3	*Schedule Control Database*	Note the Current Batch Boundary. Choose a day T in the Automatic Period where no events are scheduled.	Boundary noted.
1.4	*Schedulable Parameters*	Create SSCs as needed for the requests in this test.	SSCs are ready.
1.5	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below.	NTS blocks are ready. Block file: _____ _____
		RELATIVE START TIME NOT EQUAL TO ZERO	
2.1	NTS	Transmit SARs as described below. T is a time in the automatic scheduling period.	Requests are received.

Step	Location	Action	Result
2.2	*Schedule Requests*	Review the events on the *Schedule Requests* window and make a **hardcopy**.	Verify: Requests A1 and A2 were either stored with status **Invalid** or not stored at all. If they are stored, verify that the explanation on the *View SAR* window indicates that no service starts at the event start time.
2.3	*Operator Alerts*	Review the *Operator Alerts* window and make a **hardcopy**.	Verify: Alerts indicate to the operator that requests A1 and A2 were invalid.

START TIME MINUS TOLERANCE NOT EQUAL TO ZERO

Step	Location	Action	Result
3.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Keywords (include only those that have a value specified)
A3	TDE	T + 00:00:00	01:00:00	--	SMAR	00:00:00	00:01:00	STPT = -- STMT = 00:15:00 CSN = -- SBSN = -- MIND = --
A4	TDE	T + 00:00:00	--	01:00:00	SMAR	00:00:00	00:01:00	STPT = -- STMT = 00:15:00 CSN = -- SBSN = -- MIND = --

Step	Location	Action	Result
3.2	*Schedule Requests*	Review the events on the *Schedule Requests* window and make a **hardcopy**.	Verify: Requests A3 and A4 were either stored with status **Invalid** or not stored at all. If they are stored, verify that the explanation on the *View SAR* window indicates that no service starts at the event start time.
3.3	*Operator Alerts*	Review the *Operator Alerts* window and make a **hardcopy**.	Verify: Alerts indicate to the operator that requests A3 and A4 were invalid.
START TIME PLUS TOLERANCE NOT EQUAL TO ZERO			
4.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Keywords (include only those that have a value specified)
A5	TDE	T + 00:00:00	01:00:00	--	SMAR	00:00:00	00:01:00	STPT = 00:10:00 STMT = -- CSN = -- SBSN = -- MIND = --
A6	TDE	T + 00:00:00	--	01:00:00	SMAR	00:00:00	00:01:00	STPT = 00:10:00 STMT = -- CSN = -- SBSN = -- MIND = --

Step	Location	Action	Result
4.2	*Schedule Requests*	Review the events on the *Schedule Requests* window and make a **hardcopy**.	Verify: Requests A5 and A6 were either stored with status **Invalid** or not stored at all. If they are stored, verify that the explanation on the *View SAR* window indicates that no service starts at the event start time.
4.3	*Operator Alerts*	Review the *Operator Alerts* window and make a **hardcopy**.	Verify: Alerts indicate to the operator that requests A5 and A6 were invalid.
CSN IS VALID IN COMBINATION WITH EVENT TOLERANCES			
5.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Service Keywords	Result
A7	TDE	T + 00:10:00	--	--	SMAF	00:00:00	00:01:00	None	Activated
B1	TDE	T + 00:10:00	01:00:00	--	SMAF SMAR	00:00:00 00:00:30	00:01:00 00:01:00	None CSN = 01	Activated at T + 00:11:30
B2	TDE	T + 00:10:00	--	01:00:00	SMAF SMAR	00:00:00 00:00:30	00:01:00 00:01:00	None CSN = 01	Activated at T + 00:08:30

Step	Location	Action	Result
5.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B1 scheduled using both event plus tolerance (to avoid the blocking event A7) and CSN (the SMAR service starts 30 seconds after the SMAF start time). Request B2 scheduled using both event minus tolerance (to avoid the blocking event A7) and CSN (the SMAR service starts 30 seconds after the SMAF start time).
SBSN IS VALID IN COMBINATION WITH EVENT TOLERANCES			
6.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Service Keywords	Result
A8	TDE	T + 00:30:00	--	--	SMAF	00:00:00	00:01:00	None	Activated
B3	TDE	T + 00:30:00	01:00:00	--	SMAF SMAR	00:00:00 00:00:00	00:01:00 00:01:00	None SBSN = 01	Activated at T + 00:31:30
B4	TDE	T + 00:30:00	--	01:00:00	SMAF SMAR	00:00:00 00:00:00	00:01:00 00:01:00	None SBSN = 01	Activated at T + 00:28:30

Step	Location	Action	Result
6.2	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B3 scheduled using both event plus tolerance (to avoid the blocking event A8) and SBSN (the SMAR service schedules within the time of the SMAF). Request B4 scheduled using both event minus tolerance (to avoid the blocking event A8) and SBSN (the SMAR service schedules within the time of the SMAF).
MIND IS VALID IN COMBINATION WITH EVENT TOLERANCES			
7.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Service Keywords	Result
A9	TDE	T + 02:00:00	--	--	SMAF	00:00:00	00:05:00	None	Activated
A10	TDE	T + 02:10:00	--	--	SMAF	00:00:00	00:05:00	None	Activated
A11	TDE	T + 02:20:00	--	--	SMAF	00:00:00	00:05:00	None	Activated
A12	TDE	T + 02:30:00	--	--	SMAF	00:00:00	00:05:00	None	Activated
B5	TDE	T + 02:10:00	00:10:00	--	SMAF	00:00:00	00:05:00	MIND = 00:01:00	Activated at T + 02:15:30
B6	TDE	T + 02:10:00	--	00:10:00	SMAF	00:00:00	00:05:00	MIND = 00:01:00	Activated at T + 02:05:30

Step	Location			Action				Result	
B7	TDE	T + 02:10:00	00:20:00	00:05:00	SMAF SMAR SSAR	00:00:00 00:01:00 00:00:00	00:05:00 00:05:00 00:02:00	MIND = 00:01:00 CSN = 01 SBSN = 02	Activated at T + 02:25:30
7.2	*Active Schedule*			Review the events on the *Active Schedule* window and make a **hardcopy**.				Hardcopy is printed. Verify: Request B5 scheduled using both event plus tolerance (to avoid the blocking event A10) and MIND (the SMAF reduces its duration to 4 minutes). Request B6 scheduled using both event minus tolerance (to avoid the blocking event A10) and MIND (the SMAF reduces its duration to 4 minutes). Request B7 scheduled, the SMAF moved forward (using event plus tolerance) and reduced duration to 4 minutes, the SMAR used CSN to move with the SMAF and start at 02:26:30, and the SSAR used SBSN to stay within the time of the SMAR.	

2.10 Detailed Test Procedure for 99.1- 02.10
EVENT TOLERANCES WITH SERVICE FLEXIBILITY -- BATCH
MOC ICD 7.2.1.1.c

OBJECTIVES: This test item will verify the following:

- The event must start at its Event Start Time. To ensure this, the following constraints are specified on the use of event start time and service start time flexibility: If a SAR specifies non-zero event start time plus tolerance or non-zero event start time minus tolerance, at least one of the services in the SAR must have its start time specified relative to the Event Start Time and must have its relative start time, start time minus tolerance, and start time plus tolerance all equal to zero. [MOC ICD 7.2.1.1.c]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database (or "all") capabilities.	Operator with necessary privileges is logged on.
1.2	*Scheduling Priorities List*	Select two SICs to use for this test, such that SIC A has higher priority than SIC B. SIC A: _____ SIC B: _____	Test data is selected.
1.3	*Schedule Control Database*	Note the Current Batch Boundary.	Boundary noted.
1.4	*Schedulable Parameters*	Create SSCs as needed for the requests in this test.	SSCs are ready.
1.5	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below.	NTS blocks are ready. Block file: _____ _____
		RELATIVE START TIME NOT EQUAL TO ZERO	
2.1	NTS	Transmit SARs as described below. T is a time in the batch scheduling period.	Requests are received.

Step	Location	Action	Result

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration
A1	TDE	T + 00:00:00	01:00:00	--	SMAR	00:15:00	00:01:00
A2	TDE	T + 00:00:00	--	01:00:00	SMAR	00:15:00	00:01:00

2.2	*Schedule Requests*	Review the events on the *Schedule Requests* window and make a **hardcopy**.	Verify: Requests A1 and A2 were either stored with status **Invalid** or not stored at all. If they are stored, verify that the explanation on the *View SAR* window indicates that no service starts at the event start time.
2.3	*Operator Alerts*	Review the *Operator Alerts* window and make a **hardcopy**.	Verify: Alerts indicate to the operator that requests A1 and A2 were invalid.
START TIME MINUS TOLERANCE NOT EQUAL TO ZERO			
3.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Keywords (include only those that have a value specified)
A3	TDE	T + 00:00:00	01:00:00	--	SMAR	00:00:00	00:01:00	STPT = -- STMT = 00:15:00 CSN = -- SBSN = -- MIND = --
A4	TDE	T + 00:00:00	--	01:00:00	SMAR	00:00:00	00:01:00	STPT = -- STMT = 00:15:00 CSN = -- SBSN = -- MIND = --

Step	Location	Action	Result
3.2	*Schedule Requests*	Review the events on the *Schedule Requests* window and make a **hardcopy**.	Verify: Requests A3 and A4 were either stored with status **Invalid** or not stored at all. If they are stored, verify that the explanation on the *View SAR* window indicates that no service starts at the event start time.
3.3	*Operator Alerts*	Review the *Operator Alerts* window and make a **hardcopy**.	Verify: Alerts indicate to the operator that requests A3 and A4 were invalid.
START TIME PLUS TOLERANCE NOT EQUAL TO ZERO			
4.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Keywords (include only those that have a value specified)
A5	TDE	T + 00:00:00	01:00:00	--	SMAR	00:00:00	00:01:00	STPT = 00:10:00 STMT = -- CSN = -- SBSN = -- MIND = --
A6	TDE	T + 00:00:00	--	01:00:00	SMAR	00:00:00	00:01:00	STPT = 00:10:00 STMT = -- CSN = -- SBSN = -- MIND = --

Step	Location	Action	Result
4.2	*Schedule Requests*	Review the events on the *Schedule Requests* window and make a **hardcopy**.	Verify: Requests A5 and A6 were either stored with status **Invalid** or not stored at all. If they are stored, verify that the explanation on the *View SAR* window indicates that no service starts at the event start time.
4.3	*Operator Alerts*	Review the *Operator Alerts* window and make a **hardcopy**.	Verify: Alerts indicate to the operator that requests A5 and A6 were invalid.
CSN IS VALID IN COMBINATION WITH EVENT TOLERANCES			
5.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Service Keywords	Result
A7	TDE	T + 00:10:00	--	--	SMAF	00:00:00	00:01:00	None	Activated
B1	TDE	T + 00:10:00	01:00:00	--	SMAF SMAR	00:00:00 00:00:30	00:01:00 00:01:00	None CSN = 01	Activated at T + 00:11:30
B2	TDE	T + 00:10:00	--	01:00:00	SMAF SMAR	00:00:00 00:00:30	00:01:00 00:01:00	None CSN = 01	Activated at T + 00:08:30

5.2	*Batch Schedule*	Generate and activate ‘batch1’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
5.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B1 scheduled using both event plus tolerance (to avoid the blocking event A7) and CSN (the SMAR service starts 30 seconds after the SMAF start time). Request B2 scheduled using both event minus tolerance (to avoid the blocking event A7) and CSN (the SMAR service starts 30 seconds after the SMAF start time).
SBSN IS VALID IN COMBINATION WITH EVENT TOLERANCES			
6.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Service Keywords	Result
A8	TDE	T + 00:30:00	--	--	SMAF	00:00:00	00:01:00	None	Activated
B3	TDE	T + 00:30:00	01:00:00	--	SMAF SMAR	00:00:00 00:00:00	00:01:00 00:01:00	None SBSN = 01	Activated at T + 00:31:30
B4	TDE	T + 00:30:00	--	01:00:00	SMAF SMAR	00:00:00 00:00:00	00:01:00 00:01:00	None SBSN = 01	Activated at T + 00:28:30

6.2	*Batch Schedule*	Generate and activate ‘batch2’ with the above requests.	Batch is generated and activated.

Step	Location	Action	Result
6.3	*Active Schedule*	Review the events on the *Active Schedule* window and make a **hardcopy**.	Hardcopy is printed. Verify: Request B3 scheduled using both event plus tolerance (to avoid the blocking event A8) and SBSN (the SMAR service schedules within the time of the SMAF). Request B4 scheduled using both event minus tolerance (to avoid the blocking event A8) and SBSN (the SMAR service schedules within the time of the SMAF).
MIND IS VALID IN COMBINATION WITH EVENT TOLERANCES			
7.1	NTS	Transmit SARs as described below:	Requests are received.

Req	TDRS	Event Start	Event Plus	Event Minus	Svcs	Service Start	Nominal Service Duration	Service Keywords	Result
A9	TDE	T + 02:00:00	--	--	SMAF	00:00:00	00:05:00	None	Activated
A10	TDE	T + 02:10:00	--	--	SMAF	00:00:00	00:05:00	None	Activated
A11	TDE	T + 02:20:00	--	--	SMAF	00:00:00	00:05:00	None	Activated
A12	TDE	T + 02:30:00	--	--	SMAF	00:00:00	00:05:00	None	Activated
B5	TDE	T + 02:10:00	00:10:00	--	SMAF	00:00:00	00:05:00	MIND = 00:01:00	Activated at T + 02:15:30
B6	TDE	T + 02:10:00	--	00:10:00	SMAF	00:00:00	00:05:00	MIND = 00:01:00	Activated at T + 02:05:30

Step	Location			Action				Result	
B7	TDE	T + 02:10:00	00:20:00	00:05:00	SMAF SMAR SSAR	00:00:00 00:01:00 00:00:00	00:05:00 00:05:00 00:02:00	MIND = 00:01:00 CSN = 01 SBSN = 02	Activated at T + 02:25:30
7.2	*Batch Schedule*			Generate and activate 'batch3' with the above requests.				Batch is generated and activated.	
7.3	*Active Schedule*			Review the events on the *Active Schedule* window and make a **hardcopy**.				Hardcopy is printed. Verify: Request B5 scheduled using both event plus tolerance (to avoid the blocking event A10) and MIND (the SMAF reduces its duration to 4 minutes). Request B6 scheduled using both event minus tolerance (to avoid the blocking event A10) and MIND (the SMAF reduces its duration to 4 minutes). Request B7 scheduled, the SMAF moved forward (using event plus tolerance) and reduced duration to 4 minutes, the SMAR used CSN to move with the SMAF and start at 02:26:30, and the SSAR used SBSN to stay within the time of the SMAR.	

Section 3. TDRS Scheduling Windows

3.1 Detailed Test Procedure for 99.1- 3.01
INVALID TSWs
5.3.6.2, 5.3.6.3

OBJECTIVES: This test item will verify the following:

- The NCCDS rejects any TSW message that:
  - Is not for a valid customer spacecraft. [5.3.6.2.a]
  - Does not specify a valid TDRS operational name. [5.3.6.2.b]
  - Contains a TSW with a duration less than the customer's specified minimum or greater than the customer's specified maximum. [5.3.6.2.c]
  - Contains only TSWs with window closing times in the past. [5.3.6.2.d]
  - Contains only TSWs with window opening times more than 28 days in the future. [5.3.6.2.e]
  - Specifies a timespan end earlier than the timespan start. [5.3.6.2.f]
  - Contains a TSW with window closing time earlier than window opening time. [5.3.6.2.g]
  - Contains a TSW with window opening time or window closing time that does not lie within the timespan start and timespan end of the message. [5.3.6.2.h]
  - Contains overlapping TSWs. [5.3.6.2.i]
- If a TSW is invalid, the NCCDS alerts the operator. [5.3.6.3]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduler capabilities.	Toolbar appears.
1.2	NTS	Create NTS blocks for invalid TSW messages needed in step 2.0.	NTS blocks are ready Block file:_____
1.3	Scheduling Subpanel	Click the **TSW Sets** icon.	Verify: *TDRS Scheduling Window Sets* appears

Step	Location	Action	Result
1.4	*TDRS Scheduling Window Sets*	Obtain a **Hardcopy** of existing SICs Select a TSW set and click **Modify...**	*TDRS Scheduling Window Set Details* appears.
1.5	*TDRS Scheduling Window Set Details*	Obtain a **Hardcopy** of TDRSs.	Printout of TDRSs.
		RECEIPT AND VALIDATION	
2.1	NTS	Submit a 99/25 (TSW message) that is not for a valid customer spacecraft SUPIDEN_____	Verify: 99/25 is rejected Operator is alerted.
2.2	*TDRS Scheduling Window Sets*	Highlight a TSW Set from the summary and click **Modify...**	*TDRS Scheduling Window Set Details* appears.
	TDRS Scheduling Window Set Details	Select a TDRS Review TSWs.	Verify: 99/25 is not stored.
2.3	NTS	Submit a 99/25 that does not specify a valid TDRS operational name TDRS_____	Verify: 99/25 is rejected Operator is alerted.
2.4	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.5	NTS	Submit a 99/25 that contains a TSW with a duration less than the customer's specified minimum (from SIC Editor).	Verify: 99/25 is rejected Operator is alerted.
2.6	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.

Step	Location	Action	Result
2.7	NTS	Submit a 99/25 that contains a TSW with a duration greater than the customer's specified maximum (from SIC Editor).	Verify: 99/25 is rejected Operator is alerted.
2.8	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.9	NTS	Submit a 99/25 that contains only TSWs with window closing times in the past.	Verify: 99/25 is rejected Operator is alerted.
2.10	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.11	NTS	Submit a 99/25 that contains only TSWs with window opening times more than 28 days in the future.	Verify: 99/25 is rejected Operator is alerted.
2.12	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.13	NTS	Submit a 99/25 that contains an invalid TSW Set ID (e.g. blanks) TSW Set ID_____	Verify: 99/25 is rejected Operator is alerted.
2.14	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.15	NTS	Submit a 99/25 that contains an invalid timespan start (e.g. blanks) Timespan Start_____	Verify: 99/25 is rejected Operator is alerted.

Step	Location	Action	Result
2.16	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.17	NTS	Submit a 99/25 that contains an invalid timespan end (e.g. blanks) Timespan End_____	Verify: 99/25 is rejected Operator is alerted.
2.18	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.19	NTS	Submit a 99/25 that contains an invalid number of TSWs (e.g. blanks, alpha character, 389, and a negative number) Number of TSWs_____	Verify: 99/25 is rejected Operator is alerted.
2.20	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.21	NTS	Submit a 99/25 that contains invalid TSW Opening Time (e.g. blanks) Opening Time_____	Verify: 99/25 is rejected Operator is alerted.
2.22	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.23	NTS	Submit a 99/25 that contains invalid TSW Closing Time (e.g. blanks) Closing Time_____	Verify: 99/25 is rejected Operator is alerted.
2.24	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.

Step	Location	Action	Result
2.25	NTS	Submit a 99/25 that contains an invalid User ID User ID_____	Verify: 99/25 is rejected Operator is alerted.
2.26	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.27	NTS	Submit a 99/25 that contains an invalid Password Password_____	Verify: 99/25 is rejected Operator is alerted.
2.28	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.29	NTS	Submit a 99/25 that has a window opening time later than a window closing time.	Verify: 99/25 is rejected Operator is alerted.
2.30	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.31	NTS	Submit a 99/25 that has a timespan start later than a timespan end.	Verify: 99/25 is rejected Operator is alerted.
2.32	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.33	NTS	Submit a 99/25 that contains TSWs that do not have window opening and closing times within the timespan start and end.	Verify: 99/25 is rejected Operator is alerted.

Step	Location	Action	Result
2.34	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.35	NTS	Submit a 99/25 that contains TSWs that overlap.	Verify: 99/25 is rejected Operator is alerted.
2.36	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
2.37	NTS	Submit a 99/25 that has a TSW with the window opening time the same as the window closing time.	Verify: 99/25 is rejected Operator is alerted.
2.38	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: 99/25 is not stored.
		DOCUMENTATION	
3.1	User's Guide	Review the documentation.	Verify: Alerts are correctly documented.

3.2 Detailed Test Procedure for 99.1- 03.02
VALID TSWs
5.3.6.1, 5.3.6.2, 5.3.6.4.1

OBJECTIVES: This test item will verify the following:

- For any customer, the NCCDS will have the capability to receive TSW messages from either the customer or from a customer designated facility. [5.3.6.2]
- Upon receipt of a TSW, the NCCDS determines whether it is valid. [5.3.6.2]
- The NCCDS stores valid TSWs. [5.3.6.4.1]
- When new TSW information is an update to previously stored TSW information for the same timespan, customer spacecraft, TSW set ID, and TDRS, the NCCDS alerts the operator. [5.3.6.4.1]
- When updated TSW information is stored, the NCCDS deletes previous TSWs for the same customer spacecraft, TSW set ID, and TDRS and with window opening or window closing times that lie within the timespan start and timespan end of the new TSW message. [5.3.6.4.1]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduler capabilities.	Toolbar appears.
1.2	NTS	Create NTS blocks for valid 99/25s (TSW messages) needed in steps 2.0 thru 4.0.	NTS blocks are ready. Block file:_____
1.3	NTS	Submit a new 99/25 that contains a new TSW.	99/25 is accepted.

Step	Location	Action	Result
		TSW UPDATES	
2.1	NTS	Submit 99/25s (TSW messages) that are updates to previously stored information for the same timeframe, customer spacecraft, TSW set ID, and TDRS SIC_____ Set ID_____ TDRS_____ Timeframe_____	Verify: 99/25s are accepted Operator is alerted of updates to existing TSWs.
2.2	NTS	Submit 99/25s that contain new TSWs include one with a TSW within the timespan of previous TSW and the other with a TSW that overlaps a previous TSW.	99/25s are accepted.
2.3	Scheduling Subpanel	Click **TSW Sets** icon.	Verify: *TDRS Scheduling Window Sets* appears
2.4	*TDRS Scheduling Window Sets*	Highlight the appropriate TSW Set and click **Modify...**	*TDRS Scheduling Window Set Details* appears
2.5	*TDRS Scheduling Window Set Details*	Highlight the appropriate TDRS Review TSWs Note: The TSW Set and TDRS selected should match the one submitted in 2.1.	Verify: New TSW updates are stored Old TSWs are deleted that were within the timespan of the new TSW Old TSWs are deleted because they overlapped the timespan of the new TSW.

Step	Location	Action	Result
		PARTIALLY VALID TSWs	
3.1	NTS	Submit 99/25s that are partially valid (e.g. the timeframe starts before but runs over 28 days).	Verify: 99/25s are accepted Operator is not alerted of invalid TSW.
3.2	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: Valid portions of TSWs are stored.
		EMPTY TSW	
4.1	NTS	Submit an empty (number of TSWs is zero) 99/25 for the same timeframe, customer spacecraft, TSW set ID, and TDRS as an existing TSW SIC_____ Set ID_____ TDRS_____ Timeframe_____	Verify: 99/25 is accepted.
4.2	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: Existing TSW <u>is deleted</u>.
4.3	NTS	Submit an empty (number of TSWs is zero) 99/25 for a timeframe, customer spacecraft, TSW set ID, and TDRS that does not have an associated TSW SIC_____ Set ID_____ TDRS_____ Timeframe_____	Verify: 99/25 is accepted.

Step	Location	Action	Result
4.4	*TDRS Scheduling Window Set Details*	Review TSWs.	Verify: TSWs are not changed.
		DOCUMENTATION	
5.1	User's Guide	Review the documentation.	Verify: Alerts are correctly documented.

3.3 Detailed Test Procedure for 99.1-3.03 TDRS SCHEDULING WINDOWS - AUTOMATIC SCHEDULING 5.4.3

OBJECTIVES: This test item will verify the following:

- If TSWs are to be used in the scheduling of an event, each service will be scheduled such that it is fully contained with the intersection of the acceptable service times specified by the request and a TSW from the TSW set identified by the service's SSC. [5.4.3]
- The operator will be alerted if upon attempting to schedule an event that requires the use of TSWs the NCCDS determines that the applicable TSWs have not been stored within the NCCDS. [5.4.3]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities	Toolbar appears
1.2	Database subpanel	Select the **Schedule Control** icon	
	Schedule Maintenance Control Parameters	Note the Current Batch Boundary. Ensure that the automatic scheduling period is at least 3 days long.	Automatic scheduling period is determined.
1.3	Workstation	Identify or create SSCs necessary for the following steps. All SSCs should specify TSW Set XYZ.	SSCs for this test item have been identified.
1.4	NTS	Create NTS blocks for the messages needed in steps 1.0 and 2.0.	NTS blocks are ready. Block file: _____ _____
1.5	NTS	Submit a TSW message for TSW Set XYZ with no TSWs.	All TSWs for Set XYZ are deleted.
1.6	NTS	Submit a TSW message for TSW Set XYZ with the following TSWs for TDRS 041:	2 TSWs for Set XYZ are stored.

Step	Location	Action	Result
		Opening Time / Closing Time T+001/000000 / T+001/003000 T+001/010000 / T+001/013000	
		OUTSIDE TSWs	
2.1	NTS	Submit the following SARs for the automatic scheduling subphase requesting TDRS 041 and specifying TSWs are to be used:	Verify: All requests are accepted, but declined due to lack of TSW coverage Operator is alerted to lack of TSW coverage for each request

Request	Event Start Time	Duration	Service	Result
A	T + 000/00:00:00	01:00:00	MAF	declined
B	T + 002/00:00:00	01:00:00	MAF	declined
C	T + 001/00:00:00	00:30:01	MAF	declined
D	T + 000/23:45:00	00:15:00	MAF	declined
E	T + 001/00:20:00	00:15:00	MAR	declined

2.2	Scheduling Icon	Select **Schedule Requests**	*Schedule Requests* window appears
	Schedule Requests	Review request summary	Verify: SARs A, B, C, D, and E are listed as declined
2.3	NTS	Resubmit request D, but add an event plus tolerance of 00:20:00.	Verify: The request is accepted Operator is not alerted
2.4	*Schedule Requests*	Review request summary	Verify: The request scheduled at T+001/00:00:00 The request is fully contained within the applicable TSW

Step	Location	Action	Result
2.5	NTS	Resubmit request E, but add an event minus tolerance of 00:10:00.	Verify: The request is accepted Operator is not alerted
2.6	*Schedule Requests*	Review request summary	Verify: The request scheduled at T+001/00:15:00 The request is fully contained within the applicable TSW
		OVERLAPPING TSWs	
3.1	NTS	Submit the following SARs for the automatic scheduling subphase requesting TDRS 041 and specifying TSWs are to be used:	Verify: All requests are accepted, but declined due to lack of TSW coverage Operator is alerted to lack of TSW coverage for each request

Request	Event Start Time	Duration	Service	Result
F	T + 001/00:15:00	01:00:00	MAR	declined
G	T + 001/00:30:00	00:30:00	MAR	declined

3.2	*Schedule Requests*	Review request summary	Verify: SARs F and G are listed as declined
		INSIDE TSWs	
4.1	NTS	Submit the following SARs for the automatic scheduling subphase requesting TDRS 041 and specifying TSWs are to be used:	Verify: All requests are accepted and schedule Operator is not alerted.

Request	Event Start Time	Duration	Service	Result
H	T + 001/01:00:00	00:15:00	SSAF	schedules
I	T + 001/00:00:00	00:30:00	KuSAR	schedules

Step	Location	Action	Result
4.2	*Schedule Requests*	Review request summary	Verify: SARs H and I are listed as scheduled. Each request is fully contained within the applicable TSW
		DOCUMENTATION	
5.1	User's Guide	Review the documentation	Verify: Alerts are correctly documented.

3.4 Detailed Test Procedure for 99.1-3.04 TDRS SCHEDULING WINDOWS - BATCH SCHEDULING 5.4.3

OBJECTIVES: This test item will verify the following:

- If TSWs are to be used in the scheduling of an event, each service will be scheduled such that it is fully contained with the intersection of the acceptable service times specified by the request and a TSW from the TSW set identified by the service's SSC. [5.4.3]
- The operator will be alerted if upon attempting to schedule an event that requires the use of TSWs the NCCDS determines that the applicable TSWs have not been stored within the NCCDS. [5.4.3]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities	Toolbar appears
1.2	Database subpanel	Select the **Schedule Control** icon	
	Schedule Maintenance Control Parameters	Note the Current Batch Boundary. Ensure that the batch scheduling period is at most 3 days in the future.	Batch scheduling period is determined.
1.3	Workstation	Identify or create SSCs that specify TSW Set XYZ.	SSCs for this test item have been identified.
1.4	NTS	Create NTS blocks for the messages needed in steps 1.0 and 2.0.	NTS blocks are ready. Block file: _____ _____
1.5	NTS	Submit a TSW message for TSW Set XYZ with no TSWs.	All TSWs for Set XYZ are deleted.
1.6	NTS	Submit a TSW message for TSW Set XYZ with the following TSWs for TDRS 041:	2 TSWs for Set XYZ are stored.

Step	Location	Action	Result
		Opening Time / Closing Time T+005/000000 / T+005/003000 T+005/010000 / T+005/013000	
		OUTSIDE TSWs	
2.1	NTS	Submit the following SARs for the batch scheduling subphase requesting TDRS 041 and specifying TSWs are to be used:	Verify: All requests are accepted and stored for batch processing

Request	Event Start Time	Duration	Service
A	T + 004/00:00:00	01:00:00	MAF
B	T + 006/00:00:00	01:00:00	MAF
C	T + 005/00:00:00	00:30:01	MAF
D	T + 004/23:45:00	00:15:00	MAF
E	T + 005/00:20:00	00:15:00	MAR

2.2	NTS	Resubmit request D (new request is D2), but add an event plus tolerance of 00:20:00.	Verify: The request is accepted and stored for batch processing
2.3	NTS	Resubmit request E (new request is E2), but add an event minus tolerance of 00:10:00.	Verify: The request is accepted and stored for batch processing
		OVERLAPPING TSWs	
3.1	NTS	Submit the following SARs for the batch scheduling subphase requesting TDRS 041 and specifying TSWs are to be used:	Verify: All requests are accepted and stored for batch processing

Request	Event Start Time	Duration	Service
F	T + 005/00:15:00	01:00:00	MAR
G	T + 005/00:30:00	00:30:00	MAR

INSIDE TSWs

Step	Location	Action	Result
4.1	NTS	Submit the following SARs for the batch scheduling subphase requesting TDRS 041 and specifying TSWs are to be used:	Verify: All requests are accepted and stored for batch processing

Request	Event Start Time	Duration	Service
H	T + 005/01:00:00	00:15:00	SSAF
I	T + 005/00:00:00	00:30:00	KuSAR

4.2	Workstation	Select requests A-J for inclusion in a batch schedule generation.	All requests are accepted
4.3	Workstation	Generate a batch schedule.	Batch schedule is successfully generated.
4.4	Workstation	Review the batch schedule.	Verify: SARs A, B, C, D, E, F, and G are listed as declined. Operator is alerted to lack of TSW coverage for the applicable requests (A-G) SARs D2, E2, and H scheduled at the following times: D2 - T+005/00:00:00 E2 - T+005/00:15:00 H - T+005/01:00:00 All scheduled requests are fully contained within the applicable TSW
		DOCUMENTATION	
5.1	User's Guide	Review the documentation	Verify: Alerts are correctly documented.

3.5 Detailed Test Procedure for 99.1-3.05 TSWs UPDATES 5.3.6.4.2, 5.3.6.4.2.a, 5.3.6.4.2.b, 5.3.6.4.2.e

OBJECTIVES: This test item will verify the following:

- The NCCDS determines the impacts of TSW updates on previously scheduled events. [5.3.6.4.2]
- The NCCDS determines the impacts of TSW updates on previously stored scheduled requests. [5.3.6.4.2]
- For fixed events on the active schedule, the NCCDS reviews each applicable fixed event to verify that it still fits in the new TSW. [5.3.6.4.2.a]
- For fixed events on the active schedule, if each applicable fixed event does not fit within the new TSW then the operator is alerted. [5.3.6.4.2.a]
- For flexible events on the active schedule, the NCCDS reviews each applicable flexible event to verify that it still fits in the new TSW. [5.3.6.4.2.b]
- For flexible events on the active schedule, if each applicable flexible event does not fit within the new TSW then the operator is alerted. [5.3.6.4.2.b]
- For queued requests that have never been scheduled, the NCCDS verifies that the request is schedulable within the new TSW. [5.3.6.4.2.e]
- If the queued request is not schedulable within the new TSW, the NCCDS sends an SRM to the customer's primary logical destination or provides an equivalent alert to the NCC operator if the operator originated the request. [5.3.6.4.2.e]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	NTS	Create NTS blocks for valid TSW messages (99/25s) and SARs (99/10s).	NTS blocks are ready. Block file: _____
1.3	Database Subpanel	Select **Schedule Control** icon.	*Schedule Maintenance Control Parameters* appears.

Step	Location	Action	Result
1.4	*Schedule Maintenance Control Parameters*	Note the times of the **Current Batch Boundary** and the **Active Period End**.	Times are noted.
		FIXED EVENTS	
2.1	NTS	Submit a TSW message (99/25) for a full support customer. Include window times that are in the automatic scheduling period.	TSW message is accepted and stored.
2.2	NTS	Submit an automatic SAR from the MOC that references the TSW set from the previous step. Note: Do not use any flexibility parameters in the SAR. Use an event start time that will occur during the test session (such as, UTC + 45 minutes).	Event schedules as a fixed event that uses TSWs. Event appears on both CCS and SPSR active schedule windows.
2.3	NTS	Submit a TSW message (99/25) with the same set id as the 99/25 in step 2.1. Use new TSWs such that the event scheduled in the previous step no longer fits.	Verify: The operator receives an alert for the event that no longer fits. Nothing else happens to the event, it is not removed from the schedule, and CCS is not notified of any change to the event.
2.4	NTS	Submit a TSW message (99/25) with the same set id as the 99/25 in step 2.1. Use the original TSWs created in step 2.1 such that the event will fit.	Verify: The TSWs are successfully stored and that the event was not adversely affected by the “no-fit” TSWs. At the scheduled event start time the event becomes ongoing (CCS active schedule window indicates the event is active).

Step	Location	Action	Result
2.5	Workstation	Repeat steps 2.1-2.4 from the operator.	Verify: Same results.
		FLEXIBLE EVENTS	
3.1	NTS	Submit a TSW message (99/25) for a full support customer. Include window times that are in the automatic scheduling period.	TSW message is accepted and stored.
3.2	NTS	Submit an automatic SAR that references the TSW set from the previous step. Use at least one flexibility parameter in the SAR (such as, event plus tolerance), and a freeze interval of 5 minutes (to avoid the event freezing). Note: No STRS should be active that would send this event to the GT (or other non-flexible destination) because that would freeze it.	Event schedules as a flexible event that uses TSWs.
3.3	NTS	Submit a TSW message (99/25) with new TSWs such that the flexible event no longer fits (not even if it uses its flexibility).	Verify: The operator receives an alert for the event that no longer fits. Nothing else happens to the event, it is not removed from the schedule, and CCS is not notified of any change to the event.
3.4	NTS	Submit a TSW message (99/25) with new TSWs such that the event will fit.	Verify: The TSWs are successfully stored and that the event was not adversely affected by the “no-fit” TSWs.

Step	Location	Action	Result
3.5	NTS	Submit a TSW message (99/25) with no TSWs (so that all current windows for the timespan will be deleted).	Verify: The operator receives an alert for the event that no longer fits. Nothing else happens to the event, it is not removed from the schedule, and CCS is not notified of any change to the event.
3.6	Workstation	Repeat steps 3.1 and 3.5 from the operator.	Verify: Same results.
QUEUED REQUESTS THAT HAVE NEVER BEEN SCHEDULED			
4.1	NTS	Submit a TSW message (99/25) for a full support customer. Include window times that are in the batch scheduling period.	TSW message is accepted and stored.
4.2	NTS	Submit a batch SAR that references the TSW set from the previous step.	Request is stored on the batch queue.
4.3	NTS	Submit a TSW message (99/25) with the same set id. Use new TSWs such that the request in the previous step no longer fits.	Verify: An SRM is sent to the customer's primary logical destination (informing them that the request does not fit in the TSWs).
4.4	*Create SAR*	From the operator, submit a batch schedule request that references the TSW set from step 4.3.	Request is stored on the batch queue.
4.5	NTS	Submit a TSW message (99/25) with the same set id. Use new TSWs such that the request in the previous step no longer fits.	Verify: The operator is alerted that the stored request no longer fits in the TSWs.

Step	Location	Action	Result
		DOCUMENTATION	
5.1	User's Guide	Review the documentation.	Verify: Alerts are correctly documented

3.6 Detailed Test Procedure for 99.1-3.06 TSW UPDATES BEFORE ACTIVATION 5.5.4.2.3

OBJECTIVES: This test item will verify the following:

- The NCCDS reviews each event to verify that each service within the event fits within the newest available applicable TSW when the operator activates a schedule. [5.5.4.2.3]
- The NCCDS alerts the operator if any service within the event no longer fits within the newest available applicable TSW when the operator activates the schedule. [5.5.4.2.3]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon as an operator with scheduling and database capabilities.	Toolbar appears.
1.2	Database subpanel	Click the **Customer** icon.	*Customer Database* window appears.
1.3	*Customer Database*	Select a SIC for use in this test item. Click the **Modify...** button. SIC A:_____	*SIC Editor* window appears.
1.4	*SIC Editor*	Ensure the **Full Support** button is depressed. Ensure **Shuttle** is depressed for Type of User.	A Shuttle SIC is identified for use in this test item.
1.5	NTS	Create NTS blocks for the requests needed in this test.	NTS blocks are ready. Block file: _____ _____
		SUBMIT REQUESTS/MESSAGES	
2.1	Database Subpanel	Click the **Schedule Control** icon.	*Schedule Maintenance Control Parameters* window appears.

Step	Location	Action	Result
2.2	*Schedule Maintenance Control Parameters*	Determine the **Current Batch Boundary**. Make a **hardcopy**. To ensure that all of the requests submitted are for the batch period, **T** in the following steps will equal the **Current Batch Boundary**.	Current batch boundary is determined. Hardcopy is generated.
2.3	NTS	Submit a TSW message (99/25) specifying a TSW Set ID and TDRS 041 for SIC 1446 which contains a Timespan Start equal to **T** and a Timespan End equal to **T** plus 3 days. The TSW message should contain 1 TSW with a start time of **T** and an end time of T + 2 days.	Message is successfully submitted.
2.4	Scheduling Subpanel	Click the **TSW Sets** icon.	*TDRS Scheduling Window Sets* window appears.
2.5	*TDRS Scheduling Window Sets*	The TSW added in step 2.3 is listed.	TSW has been successfully added.
2.6	NTS	Submit the following batch scheduling requests which request the use of TSWs (byte 38 = 1).	Requests are successfully submitted.

SIC/ Request #	TDRS	Event Start	Services	Service Start	Service Duration	Within Current TSW Window	SSC
A1	041	T + 01:00:00	SSAF KuSAF SSAR KuSAR	00:00:00 01:30:00 00:30:00 02:00:00	02:00:00 01:00:00 01:30:00 00:30:00	Yes Yes Yes Yes	
A2	041	T + 05:00:00	SSAF SSAR	00:00:00 01:00:00	02:00:00 00:30:00	Yes Yes	
A3	041	T + 12:00:00	KuSAF KuSAR	00:00:00 00:30:00	01:00:00 00:30:00	Yes Yes	

Step	Location	Action			Result		
A4	041	T + 30:00:00	MAF	00:00:00	06:00:00	Yes	
A5	041	T + 22:00:00	MAR	00:00:00	01:00:01	Yes	
A6	041	T + 19:59:59	MAR	00:00:00	02:00:00	Yes	
A7	041	T + 20:00:00	MAR	00:00:00	03:00:00	Yes	

ACTIVATE SCHEDULE USING NEW TSW			
3.1	Scheduling Subpanel	Click the **Batch Schedules** icon.	*Batch Scheduling* window appears.
3.2	*Batch Scheduling*	Click the **Add...** button.	*Schedule Editor* window appears.
3.3	*Schedule Editor*	Provide a Schedule Name and click the **Import Requests...** button.	*Import Requests* window appears.
3.4	*Import Requests*	Select the request submitted in step 2.6 to be included in the batch schedule. Click **Import**. Click **Close**.	All requests are selected and appear in the *Schedule Editor* list.
3.5	*Schedule Editor*	Click the **Generate Schedule** button.	Batch schedule is successfully generated. All requests schedule.

Step	Location	Action	Result
3.6	NTS	Submit a new TSW message (99/25) for SIC A specifying a TSW Set ID and TDRS 041 which contains a Timespan Start equal to **T** and a Timespan End equal to **T** plus 2 days. The TSW message should contain 4 TSWs which start and end as follows: Start / End T + 1hr / T + 6hr,30 min T + 20hr / T + 23 hr T + 28hr,30min / T + 31 hr T + 35hr,30min / T + 37hr,30min	Verify: Message is successfully submitted.
3.7	Scheduling Subpanel	Click the **TSW Sets** icon.	*TDRS Scheduling Window Sets* window appears.
3.8	*TDRS Schedule Windows Sets*	The TSW added in step 3.6 is listed.	TSW has been successfully added.
3.9	*Batch Scheduling*	Select the batch schedule generated in the previous step.	
		Click the **Activate** button.	The *Schedule Activation Dialog* Window appears.
	Schedule Activation Dialog	Click the **Activate** button.	Schedule is activated. *Schedule Transmission Details* window appears.
	Schedule Transmission Details	Cancel transmission.	Verify: Operator receives alert 'Event %d not consistent with newest TSWs'
		SERVICES FIT WITHIN NEW TSW	
4.1	*Active Schedule*	Review the active schedule.	Verify: A1 and A7 are listed..
		SERVICES DO NOT FIT WITHIN NEW TSW	
5.1	*Conflict Information*	Review the conflict information for the schedule name provided in step 3.3.	Verify:

Step	Location	Action	Result
Request	**Service**	**Fits TSW?**	**Comment**
A2	SSAF SSAR	No Yes	
A3	KuSAF KuSAR	No No	Totally out of the TSW
A4	MAF	No	Middle of service not covered by the TSW.
A5	MAR	No	One second beyond the TSW.
A6	MAR	No	One second before the TSW.
DOCUMENTATION			
6.1	User's Guide	Review the documentation.	Verify: Alerts are documented correctly. Information concerning the impact of new TSWs on activated schedules is correctly provided.

Section 4. TDRS Flexibility

4.1 Detailed Test Procedure for 99.1-4.01 TDRS SELECTION - AUTOMATIC SCHEDULING 5.4.2, 5.4.5.1.e

OBJECTIVES: This test item will verify the following:

- When attempting to satisfy a schedule request for a given SUPIDEN, only TDRSs that are both valid for that SUPIDEN and are specified by the scheduled request are used. [5.4.2]
- Events and services are scheduled on a specified TDRS only when the TDRS operational name is both assigned to a TDRS ID and an SGLT. [5.4.2]
- All services within an event will be scheduled on the same TDRS. [5.4.5.1.e]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with DBA and Scheduler capabilities	Toolbar appears
1.2	Database subpanel	Select the **Schedule Control** icon	*Schedule Maintenance Control Parameters* appears.
	Schedule Maintenance Control Parameters	Note the Current Batch Boundary. Click the **Close** button.	Automatic scheduling period is determined.
1.3	Database subpanel	Click the **Space Network** Icon	*Space Network Summary* window appears
	Space Network Summary	Select **TDRS Operational Names & Mappings** from the Edit menu.	*TDRS Operational Names & Mappings* window appears
	TDRS Operational Names & Mappings	Ensure the TDRS/ID/SGLT assignments for the automatic scheduling subphase are as follows:	TDRS Assignments are correct. TDE and TDW are defined but unassigned.

Step	Location	Action	Result
		041 D SGT1 171 G SGT2 192 H SGT3 TDE TDW 046 F WSC1 174 E WSC2 285 A WSC3 TDS J WSC4 TDZ Z WSC5	
1.4	*TDRS Operational Names & Mappings*	Click the **Close** button.	*Space Network Summary* window reappears
	Space Network Summary	Select **TDRS Sets...** from the Edit menu.	*TDRS Sets* window appears.
	TDRS Sets	Depress the **Enable Editing** toggle button.	
		Add a new TDRS Set "E41" that contains TDRSs TDE, 285, and 041.	New TDRS set is successfully added.
		Click **Save**.	
1.5	Database subpanel	Click the **Customer** Icon	*Customer Database* window appears
	Customer Database	Select SIC A and click the **Modify...** button.	*SIC Editor* window appears
	SIC Editor	Select **Valid SUPIDENs and TDRSs...** from the Edit menu.	*Valid Customer SUPIDEN and TDRSs* window appears
	Valid Customer SUPIDEN and TDRSs	Select SUPIDEN X. SUPIDEN _____	Valid TDRSs appear in list.
		Ensure (by adding and/or removing as necessary) that the valid TDRS list only includes TDE and 041.	Only TDE and 041 are valid for SUPIDEN X.

Step	Location	Action	Result
1.6	NTS	Create NTS blocks for the requests needed in step 2.0.	NTS blocks are ready. Block file: _____ _____
		TDRS VALIDATION	
2.1	NTS	Submit an automatic scheduling SAR (for SSAR) for SUPIDEN X that specifies TDRS TDE.	Verify: The SAR is accepted, but declined. SRM (99/02) is sent to MOC with result:explanation 02:07
2.2	Scheduling Subpanel *Schedule Requests*	Select **Schedule Requests** Review request summary	*Schedule Requests* window appears Verify: SAR is listed as declined
2.3	NTS	Submit an automatic scheduling SAR for SUPIDEN X that specifies TDRS 285.	Verify: The SAR is rejected SRM (99/02) is sent to MOC with result:explanation 10:12
2.4	*Schedule Requests*	Review request summary	Verify: SAR is listed as invalid
2.5	NTS	Submit an automatic scheduling SAR with multiple services for SUPIDEN X that specifies TDRS 041.	Verify: The SAR is accepted and schedules SRM (99/02) is sent to MOC with result code 00
2.6	*Schedule Requests*	Review request summary	Verify: SAR is listed scheduled on 041 All services schedule on the same TDRS

Step	Location	Action	Result
2.7	NTS	Submit an automatic scheduling SAR with multiple services (SSAF1/KuSAF1/SSAR1/KuSAR1) for SUPIDEN X that specifies TDRS Set E41. The start time should not conflict with any of the previous requests.	Verify: The SAR is accepted and schedules SRM (99/02) is sent to MOC with result code 00
2.8	*Schedule Requests*	Review request summary	Verify: SAR is listed as scheduled on TDRS 041 All services schedule on the same TDRS
		TDRS SET VALIDATION	
3.1	NTS	Submit an automatic scheduling SAR for SUPIDEN X that specifies TDRS Set E41. The Event Start Time and Services should be the same as in step 2.7.	Verify: The SAR is accepted but declined SRM (99/02) is sent to MOC with result code 02
3.2	*Schedule Requests*	Review request summary	Verify: SAR is listed as declined due to resource conflicts (e.g. antenna).
3.3	NTS	Resubmit the request from 3.1 with a start time that falls in the middle of the event from 2.7.	Verify: The SAR is accepted but declined SRM (99/02) is sent to MOC with result code 02
3.4	*Schedule Requests*	Review request summary	Verify: SAR is listed as declined due to resource conflicts (e.g. antenna).
3.5	*Customer Database*	Select SIC A and click the **Modify...** button.	*SIC Editor* window appears.

Step	Location	Action	Result
	SIC Editor *Valid Customer SUPIDEN and TDRSs*	Select **Valid SUPIDENs and TDRSs...** from the Edit menu. Select SUPIDEN X. Add TDRS 285 to the valid TDRS list. Click the **Save** button.	*Valid Customer SUPIDEN and TDRS* window appears. TDRS 285 is now a valid TDRS for SUPIDEN X.
3.6	NTS	Resubmit the request from step 3.3	Verify: The SAR is accepted and schedules SRM (99/02) is sent to MOC with result code 00
3.7	*Schedule Requests*	Review request summary	Verify: SAR is listed as scheduled on TDRS 285
3.8	NTS	Resubmit the request from step 3.6	Verify: The SAR is accepted but declined SRM (99/02) is sent to MOC with result code 02
3.9	*Schedule Requests*	Review the request summary	Verify: SAR is listed as declined due to resource conflicts (e.g. antenna).
3.10	*TDRS Operational Names & Mappings*	Assign TDRS TDE to TDRS ID **C** and SGLT **SGT4**. Click the **Save** button.	TDE is assigned to an ID and an SGLT.
3.11	NTS	Resubmit the request from step 3.8	Verify: The SAR is accepted and schedules SRM (99/02) is sent to MOC with result code 00

Step	Location	Action	Result
3.12	*Schedule Requests*	Review the request summary	Verify: SAR is listed as scheduled on TDRS TDE.
3.13	NTS	Submit an automatic scheduling SAR with multiple services (SSAF/KuSAF/SSAR/KuSAR) for SUPIDEN X that specifies TDRS Set E41. The requested start time should not conflict with any of the other events.	Verify: The SAR is accepted and schedules SRM (99/02) is sent to MOC with result code 00
3.14	*Schedule Requests*	Review request summary	Verify: SAR is listed scheduled. All services schedule on the same TDRS.
		DELOG ANALYSIS	
4.1	NTS DART	Get delog for 99/02s.	Verify: The correct result and explanation codes are in the SRMs (see individual steps).

4.2 Detailed Test Procedure for 99.1-4.02 TDRS SELECTION - BATCH SCHEDULING 5.4.2, 5.4.5.1.e

OBJECTIVES: This test item will verify the following:

- When attempting to satisfy a schedule request for a given SUPIDEN, only TDRSs that are both valid for that SUPIDEN and are specified by the scheduled request are used. [5.4.2]
- Events and services are scheduled on a specified TDRS only when the TDRS operational name is both assigned to a TDRS ID and an SGLT. [5.4.2]
- All services within an event will be scheduled on the same TDRS. [5.4.5.1.e]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with DBA and Scheduler capabilities	Toolbar appears
1.2	Database subpanel	Select the **Schedule Control** icon	*Schedule Maintenance Control Parameters* appears.
	Schedule Maintenance Control Parameters	Note the Current Batch Boundary. Click the **Close** button.	Batch scheduling period is determined.
1.3	Database subpanel	Click the **Space Network** Icon	*Space Network Summary* window appears
	Space Network Summary	Select **TDRS Operational Names & Mappings** from the Edit menu.	*TDRS Operational Names & Mappings* window appears
	TDRS Operational Names & Mappings	Ensure the TDRS/ID/SGLT assignments for the batch scheduling subphase are as follows:	TDRS Assignments are correct. TDE and TDW are defined but unassigned.

Step	Location	Action	Result
		041 D SGT1 171 G SGT2 192 H SGT3 TDE TDW 046 F WSC1 174 E WSC2 285 A WSC3 TDS J WSC4 TDZ Z WSC5	
1.4	*TDRS Operational Names & Mappings*	Click the **Close** button.	
	Space Network Summary	Select **TDRS Sets...** from the Edit menu.	
	TDRS Sets	Depress the **Enable Editing** toggle button.	
		Add a new TDRS Set "E41" that contains TDRSs TDE, 285, and 041.	New TDRS set is successfully added.
		Click **Save**.	
1.5	Database subpanel	Click the **Customer** Icon	*Customer Database* window appears
	Customer Database	Select SIC A and click the **Modify...** button.	*SIC Editor* window appears
	SIC Editor	Select **Valid SUPIDENs and TDRSs...** from the Edit menu.	*Valid Customer SUPIDEN and TDRSs* window appears
	Valid Customer SUPIDEN and TDRSs	Select SUPIDEN X. SUPIDEN _____	Valid TDRSs appear in list.
		Ensure (by adding and/or removing as necessary) that the valid TDRS list only includes TDE and 041.	Only TDE and 041 are valid for SUPIDEN X.

Step	Location	Action	Result
1.6	NTS	Create NTS blocks for the requests needed in step 2.0.	NTS blocks are ready. Block file: _____ _____
		TDRS VALIDATION	
2.1	NTS	Submit a batch scheduling SAR for SUPIDEN X that specifies TDRS TDE.	Verify: The SAR is accepted
2.2	NTS	Submit a batch scheduling SAR for SUPIDEN X that specifies TDRS 285.	Verify: The SAR is rejected SRM (99/02) is sent to MOC with result:explanation 10:12
2.3	*Schedule Requests*	Review request summary	Verify: SAR is listed as invalid
2.4	NTS	Submit a batch scheduling SAR with multiple services for SUPIDEN X that specifies TDRS 041.	Verify: The SAR is accepted
2.5	NTS	Submit a batch scheduling SAR with multiple services (SSAF1/KuSAF1/SSAR1/KuSAR1) for SUPIDEN X that specifies TDRS Set E41 (with a start time that does not conflict with the previous requests).	Verify: The SAR is accepted
2.6	Scheduling Subpanel	Click the Batch Schedule icon.	*Batch Scheduling* window appears.
	Batch Scheduling	Click the **Add...** button.	*Schedule Editor* window appears.
	Schedule Editor	Provide a Schedule Name and click **Import Requests...**	*Import Requests* window appears.
	Import Requests	Select all of the above requests to be included in batch scheduling. Click the **Close** button.	All 3 requests are selected and appear in the *Schedule Editor* list. (Request from 2.3 is invalid and cannot be selected)

Step	Location	Action	Result
2.7	*Schedule Editor*	Click the **Generate Schedule** button.	Batch schedule is successfully generated.
2.8	*Batch Scheduling*	Select the batch schedule from step 2.7 and click the **View...** button.	*Schedule Editor* window appears.
	Schedule Editor	Review the batch schedule.	Verify: Request from step 2.1 was declined because the GT cannot support it Requests from steps 2.4 and 2.5 scheduled on TDRS 041. All services within each event from 2.4 and 2.5 scheduled on the same TDRS.
		TDRS SET VALIDATION	
3.1	NTS	Submit a batch scheduling SAR for SUPIDEN X that specifies TDRS Set E41. The Event Start Time and Services should be the same as in step 2.5.	Verify: The SAR is accepted
3.2	NTS	Resubmit the request from 3.1 with a start time that falls in the middle of the event from 2.5.	Verify: The SAR is accepted
3.3	*Batch Scheduling*	Select the schedule from step 2.7 and click the **Modify...** button.	*Schedule Editor* window appears.
	Schedule Editor	Click **Import Requests...**	*Import Requests* window appears.
	Import Requests	Select the requests from steps 3.1 and 3.2 to be added to the batch. Click the **Close** button.	2 additional requests are selected
3.4	*Schedule Editor*	Click the **Generate Schedule** button.	Batch schedule is successfully generated.
3.5	*Batch Scheduling*	Select the batch schedule from step 3.4 and click the **View...** button.	*Schedule Editor* window appears.

Step	Location	Action	Result
	Schedule Editor	Review the batch schedule.	Verify: Requests from steps 3.1 and 3.2 were declined due to resource conflicts
3.6	*Customer Database*	Select SIC A and click the **Modify...** button.	*SIC Editor* window appears
	SIC Editor	Select **Valid SUPIDENs and TDRSs...** from the Edit menu.	*Valid Customer SUPIDEN and TDRSs* window appears
	Valid Customer SUPIDEN and TDRSs	Select SUPIDEN X.	
		Add TDRS 285 to the valid TDRS list.	TDRS 285 is now a valid TDRS for SUPIDEN X.
		Click the **Save** button.	
3.7	*Batch Scheduling*	Select the schedule from step 2.7 and click the **Modify...** button.	*Schedule Editor* window appears.
	Schedule Editor	Click the **Generate Schedule** button.	Batch schedule is successfully generated.
3.8	*Batch Scheduling*	Select the batch schedule from step 3.7 and click the **View...** button.	*Schedule Editor* window appears.
	Schedule Editor	Review the batch schedule.	Verify: The request from step 3.1 scheduled on TDRS 285. The request from step 2.1 is still declined because the GT cannot support it. The request from step 3.2 was declined due to resource conflicts.
3.9	*TDRS Operational Names & Mappings*	Assign TDRS TDE to TDRS ID **C** and SGLT **SGT4**. Click the **Save** button.	TDE is assigned to an ID and an SGLT.

Step	Location	Action	Result
3.10	NTS	Submit a batch scheduling SAR with multiple services (SSAF/KuSAF/SSAR/KuSAR) for SUPIDEN X that specifies TDRS Set E41. The requested start time should not conflict with any of the other requests.	Verify: The SAR is accepted.
3.11	*Batch Scheduling*	Select the schedule from step 3.7 and click the **Modify...** button.	*Schedule Editor* window appears.
	Schedule Editor	Click **Import Requests...**	*Import Requests* window appears.
	Import Requests	Select the request from step 3.10 to be added to the batch. Click the **Close** button.	1 additional request is selected.
3.12	*Schedule Editor*	Click the **Generate Schedule** button.	Batch schedule is successfully generated.
3.13	*Batch Scheduling*	Select the batch schedule from step 3.12 and click the **View...** button.	*Schedule Editor* window appears.
	Schedule Editor	Review the batch schedule.	Verify: The requests from steps 3.2 and 2.1 scheduled on TDRS TDE. The request from step 3.10 scheduled and all services scheduled on the same TDRS.

Section 5. Wait List Processing

5.1 Detailed Test Procedure for 99.1-5.01
INVALID WAIT LIST REQUESTS - MOC REQUESTS - AUTOMATIC SCHEDULING
5.3.2.2.7.2, 5.3.2.2.7.3, 5.3.3.1.a

OBJECTIVES: This test item will verify the following:

- The NCCDS rejects any Wait-List Request that references a request that has not been reported to the customer as declined via an SRM. [5.3.2.2.7.2]
- For invalid wait-list requests from the MOC, the NCCDS transmits an SRM to the customer's primary logical destination containing the reason and alerts the operator. [5.3.2.2.7.3]
- The NCCDS reports in the SRMs when the Wait-List Request fails validation. [5.3.3.1.a]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling capabilities.	Toolbar appears
1.2	NTS	Prepare NTS blocks	Test data is ready
1.3	*Schedule Control Database*	Enable Wait Listing in Automatic Mode	Wait Listing is in Automatic Mode
1.4	*Schedule Distribution List*	Choose a SIC whose Schedule Distribution List contains more than one destination	SIC has primary and secondary destinations.
		VALIDATION - REFERENCED REQUEST NON-EXISTENT	
2.1	NTS	Submit a Wait-List Request to the NCCDS that references a request ID that is valid, but does not appear on the Schedule Request window. Note UTC.	Verify: Wait-list request is rejected. SRM is sent to the MOC with Result code 11.

Step	Location	Action	Result
2.2	*Operator Alerts*	Review Alerts.	Verify: Operator is alerted.
2.3	NTS	Repeat steps 2.1 and 2.2 using a reference request ID containing characters (i.e. ‘ ‘, *,*).	Verify: Same results.
VALIDATION - REFERENCED REQUEST NOT DECLINED			
3.1	NTS	Submit requests for automatic scheduling according to the table below.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Result
SAR 1	SMAF	TDE	T + 00:00:00	01:00:00	Activated
SAR 2	SMAF	TDE	T + 00:15:00	00:30:00	Declined
SAR 3	SMAF	TDE	T + 01:00:00	00:30:00	Declined
SAR 4	SMAF	TDE	T - 00:15:00	00:30:00	Declined

3.2	NTS	Submit a Wait-List Request (99/24) that references SAR 1. Note UTC.	Verify: Wait-List Request is rejected because SAR1 has scheduled. SRM is sent to the customer with result explanation code 10:74.
3.3	*Operator Alert*	Review Alerts. Make **Hardcopy**.	Verify: Operator is alerted.
3.4	*Schedule Requests*	Review request summary. Make **Hardcopy**.	Verify: SAR 1 is not marked waitlisted and remain activated.
3.5	NTS	Repeat steps 3.2 – 3.4 referencing non-chained requests with the following statuses: autoqueued, batchstored, chained, completed, deleted, expired, invalid, secondary, and waitlisted.	Verify: Same results.

Step	Location	Action	Result
		DELOG ANALYSIS	
4.1	NTS DART	Get delog for 99/02s.	Verify: SRMs with the appropriate reason code are sent to the customer.

5.2 Detailed Test Procedure for 99.1-5.02
INVALID WAIT LIST REQUESTS - OPERATOR REQUESTS - AUTOMATIC SCHEDULING
5.3.2.2.7.2, 5.3.2.2.7.3, 5.3.2.4

OBJECTIVES: This test item will verify the following:

- The NCCDS rejects any Wait-List Request that references a request that has not been reported to the customer as declined via an SRM. [5.3.2.2.7.2]
- If an operator-originated Wait-List Request is invalid, the NCCDS alerts the operator. [5.3.2.2.7.3]
- For all types of schedule requests that may be received via formatted messages, the NCCDS provides the operator with an equivalent capability. [5.3.2.4]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling capabilities.	Toolbar appears.
1.2	NTS	Prepare NTS blocks.	Test data is ready.
1.3	*Schedule Control Database*	Enable Wait listing in Automatic Mode.	Wait listing is enabled in Automatic Mode.
		VALIDATION - REFERENCED REQUEST NOT A SAR	
2.1	*Schedule Requests*	Select a Delete Request and click **Generate Wait List...**	Verify: Error Dialog box appears (unable to generate a Wait List Request for a Delete Request).
		VALIDATION - REFERENCED REQUEST NOT DECLINED	
3.1	*Schedule Requests*	Generate a SAR for automatic scheduling according to the table below. T is a time in the automatic scheduling period.	SAR is activated.

Request	TDRS	Service	Event Start	Event Duration	Result
SAR 1	TDE	SMAF	T + 00:00:00	01:00:00	Activated

Step	Location	Action	Result
3.2	*Schedule Requests*	Select SAR1 and click **Generate Wait List...**	Error Dialog box appears.
3.3	*Error Dialog Box*	Make **Hardcopy**.	Window is printed. Verify: Error message is helpful to the operator.
3.4	*Schedule Requests*	Review request summary. Make **Hardcopy**.	Verify: SAR 1 is not marked waitlisted and remains Activated.
3.5	*Schedule Requests*	Repeat steps 3.2 – 3.4 referencing requests with the following statuses: autoqueued, batchstored, chained, completed, deleted, expired, invalid, secondary, and waitlisted.	Verify: Same results.
	VALIDATION - REFERENCED REQUEST NOT REPORTED AS DECLINED		
4.1	NTS	Submit the following SARs in the batch scheduling period. T is a time in the batch period.	SARs are Batchstored.

Request	Service	TDRS	Event Start	Event Duration	Priority	Result
SAR 2	MAF	041	T + 01:00:00	01:00:00	1	Batchstored
SAR 3	MAF	041	T + 01:00:00	01:00:00	2	Batchstored

4.2	*Schedule Editor*	Generate a batch schedule and import SARs 2 and 3.	SAR 2 is a batch event (BE). SAR 3 is declined.
4.3	*Schedule Requests*	Select SAR 3 and click **Generate Wait List...**	Verify: Error Dialog box appears stating that the status is not declined. (declined in Declined Request window, but batchstored here)
4.4	*Batch Scheduling*	Activate the batch schedule.	Batch schedule is activated.

Step	Location	Action	Result
4.5	*Operator Alerts*	Review alerts.	Verify: Operator is alerted that the initial activation mode is ready for review. No SRM is sent because the initial activation mode has not been executed.
4.6	*Schedule Requests*	Review the status of SAR 3. Make a **hardcopy**.	Verify: The status of SAR 3 changed to declined.
4.7	*Schedule Requests*	Select SAR 3 and click **Generate Wait List...**	Verify: The wait list request is rejected because it references a request that has not been reported as declined (via SRM).
		INVALID WAIT LIST EXPIRATION TIME	
5.1	*Schedule Requests*	Select a declined SAR and click **Generate Wait List...**	*Create Wait List Request* appears.
5.2	*Create Wait List Request*	Attempt to enter invalid characters and numbers in the Wait List Expiration Time field. (example: enter 24 in the hour field)	Verify: Operator is prevented from entering invalid data.
		DELOG ANALYSIS	
6.1	NTS DART	Get delog for 99/02s.	Verify: No SRMs are sent for the operator generated wait list requests that fail validation.
		DOCUMENTATION	
7.1	User's Guide	Review the documentation.	Verify: Error Dialog boxes reporting invalid wait list requests are correctly documented.

5.3 Detailed Test Procedure for 99.1-5.03
VALID WAIT LIST REQUESTS - MOC REQUESTS - AUTOMATIC SCHEDULING
5.3.2.2.6.1, 5.3.2.2.7.4.c, 5.3.2.2.7.4.d, 5.3.3.1.e

OBJECTIVES: This test item will verify the following:

- The NCCDS will validate that a replace request provides the customer the capability to specify that it is to be placed on the wait list if its initial processing is unsuccessful, the replace request applies to the active period, and it references either an active event, the first member of a chain of requests, or a request that is not a member of a chain. [5.3.2.2.6.1]
- The NCCDS includes the individual request in future wait list processing if the Wait List Request refers to a request that is not a member of a chain of requests. [5.3.2.2.7.4.c]
- In all cases, whenever a declined request is to be included in future wait list processing, the NCCDS reports this to the customer with an SRM. [5.3.2.2.7.4.d]
- The NCCDS sends an SRM when a customer request is placed on the wait list. [5.3.3.1.e]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon as Scheduler.	Toolbar appears.
1.2	NTS	Prepare NTS blocks.	Test data is ready.
1.3	*Schedule Control Database*	Enable Wait List Parameters in Semi-Automatic mode.	Wait list processing is in semi-automatic mode.
		NON-MEMBER OF CHAIN	
2.1	NTS	Submit requests for automatic scheduling according to the table below. Note: Requests should not specify wait-listing. Note UTC. Make **Hardcopy**.	Results are specified in the last column.

Request	TDRS	Service	Event Start	Event Duration	Result

Step	Location	Action	Result
SAR 1	041	MAF	T + 01:00:00	00:30:00	Activated
SAR 2	041	MAF	T + 01:15:00	01:00:00	Declined
2.2	*Schedule Requests*	Review Request Summary. Make **Hardcopy**.	SARs are listed.
2.3	NTS	Submit a Wait List Request that references SAR 2 (is not a member of a chain). Note UTC.	Verify: SAR 2 is on the wait list. Wait List Request is completed. No SRMs are sent for Wait List Request.
2.4	*Schedule Requests*	Review Request Summary. Make **Hardcopy**.	Verify: Request has wait-listed status.
REPLACE REQUEST WITH WAIT LISTING FLAG			
3.1	*Schedule Request*	Submit requests for automatic scheduling according to the table below. Note: Requests should specify wait-listing. Note UTC. Make **Hardcopy**.	Results are specified in the last column.

Request	TDRS	Service	Event Start	Event Duration	Result
SAR 3	041	MAF	T + 01:00:00	00:10:00	Activated
SAR 4	041	MAF	T + 01:20:00	00:10:00	Activated

Step	Location	Action	Result
3.2	NTS	Submit a Replace Request starting at 01:25:00 with wait list flag set that references SAR 3.	Verify: SAR 3 is deleted. Replaced Request is declined and wait-listed. SRM is sent to customer with result code 12.
3.3	*Schedule Request*	Review Request Summary. Make **Hardcopy**.	Verify: SAR 3 is deleted. Replaced Request is declined and wait-listed.
		DELOG ANALYSIS	
4.1	NTS	Get delogs for 99/02s.	Verify: SRMs with the appropriate problem code were sent to the customer.
		DOCUMENTATION	
5.1	User's Guide	Check documentation for Wait List Request window.	Verify: Documentation is correct.

5.4 Detailed Test Procedure for 99.1-5.04
VALID WAIT LIST REQUESTS - OPERATOR REQUESTS - AUTOMATIC SCHEDULING
5.3.2.2.6.1, 5.3.2.2.7.4.c, 5.3.2.2.7.4.d, 5.3.2.4, 5.3.3.1.e

OBJECTIVES: This test item will verify the following:

- The NCCDS will validate that a replace request provides the customer the capability to specify that it is to be placed on the wait list if its initial processing is unsuccessful, the replace request applies to the active period, and it references either an active event, the first member of a chain of requests, or a request that is not a member of a chain. [5.3.2.2.6.1]
- The NCCDS includes the individual request in future wait list processing if the Wait List Request refers to a request that is not a member of a chain of requests. [5.3.2.2.7.4.c]
- In all cases, whenever a declined request is to be included in future wait list processing, the NCCDS reports this to the customer with an SRM. [5.3.2.2.7.4.d]
- For all types of schedule requests that may be received via formatted messages, the NCCDS provides the operator with an equivalent capability. [5.3.2.4]
- The NCCDS sends an SRM when a customer request is placed on the wait list. [5.3.3.1.e]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon as Scheduler.	Toolbar appears.
1.2	NTS	Prepare NTS blocks.	Test data is ready.
1.3	*Schedule Control Database*	Enable Wait List Parameters in Semi-Automatic mode.	Wait list processing is in semi-automatic mode.
		NON-MEMBER OF CHAIN	
2.1	*Schedule Requests*	Generate requests for automatic scheduling according to the tables below. Note: Requests should not specify wait-listing. Note UTC. Make **Hardcopy**.	Results are specified in the last column.

Step	Location	Action	Result

Request	TDRS	Service	Event Start	Event Duration	Result
SAR 1	041	MAF	T + 01:00:00	00:30:00	Activated
SAR 2	041	MAF	T + 01:15:00	01:00:00	Declined

2.2	*Schedule Requests*	Review Request Summary. Make **Hardcopy**.	SARs are listed.
2.3	*Schedule Request*	Select SAR 2 (not a member of chain). Click **Generate Wait List**.	*Edit Wait List Request* window appears
2.4	*Edit Wait List Request Window*	Enter Wait List expiration time. Click **Save.** Note UTC.	Verify: Wait List Request is saved.
2.5	*Schedule Requests*	Review request summary. Make **Hardcopy**.	Verify: SAR 2 is on the wait list. Wait List Request is completed. No SRM are sent for wait list SAR request.
2.6	*Schedule Requests*	Select SAR 1. Click **Delete**.	SAR 1 is deleted. Operator receives alert that batch schedule WAITLIST is ready for review.
2.7	*Batch Scheduling*	View WAITLIST batch.	Verify: SAR 2 is included in the wait list.
2.8	*Batch Scheduling*	Activate WAITLIST batch.	Batch activated.
2.9	*Schedule Request*	Review Request Summary. Make **Hardcopy**.	Verify: SAR 2 activates.
2.10	*Schedule Transmission*	**Execute** the Initial Activation Mode transmission that was created by the activation of the WAITLIST batch.	Verify: SRMs are sent for activated events.

Step	Location	Action	Result
REPLACE REQUEST WITH WAIT LISTING FLAG			
3.1	NTS	Generate requests for automatic scheduling according to the table below. Note: Requests should not specify wait-listing. Note UTC. Make **Hardcopy**.	Results are specified in the last column.

Request	TDRS	Service	Event Start	Event Duration	Result
SAR 3	041	MAF	T + 01:00:00	00:30:00	Activated
SAR 4	041	MAF	T + 01:00:00	00:30:00	Declined

3.2	*Schedule Request*	Review Request Summary. Make **Hardcopy**.	SARs are listed.
3.3	*Schedule Requests*	Select SAR 4 (not a member of the chain) . Click **Generate Replace**.	*Create Replace Request* window appears.
3.4	*Create Replace Request*	Modify start time = 01:05:00. Click wait list check box. Click **Save**. Note the UTC.	Verify: Replace request is saved.
3.5	*Schedule Requests*	Review request summary. Make **Hardcopy**.	Verify: SAR 4 indicates deleted as status. Replace Request is declined and wait-listed. SRM is sent to the customer with result code 12.
3.6	*Schedule Requests*	Select SAR 3. Click **Delete**.	SAR 3 is deleted.

Step	Location	Action	Result
3.7	*Batch Scheduling*	View WAITLIST batch.	Verify: Replace request is included in the wait list.
3.8	*Batch Scheduling*	Activate WAITLIST batch.	Batch activated.
3.9	*Schedule Request*	Review Request Summary. Make **Hardcopy**.	Verify: Replace request is activated.
3.10	*Schedule Transmission*	**Execute** the Initial Activation Mode transmission that was created by the activation of the WAITLIST batch.	Verify: SRMs are sent for activated event.
3.11	*Schedule Request*	Generate requests for automatic scheduling according to the table below. Note: Requests should specify wait-listing. Note UTC. Make **Hardcopy**.	Results are specified in the last column.

Request	TDRS	Service	Event Start	Event Duration	Result
SAR 5	041	MAF	T + 01:00:00	00:10:00	Activated
SAR 6	041	MAF	T + 01:20:00	00:10:00	Activated

3.12	*Schedule Request*	Select SAR 5. Click **Generate Replace**.	*Create Replace Request* window appears.
3.13	*Create Replace Request*	Modify start time = 01:25:00. Click wait list check box. Click **Save**. Note the UTC.	Verify: Replace request is saved.

Step	Location	Action	Result
3.14	*Schedule Request*	Review Request Summary. Make **Hardcopy**.	Verify: SAR 5 is deleted Replaced Request is declined and wait-listed. SRM is sent to customer with result code 12.
3.15	*Schedule Request*	Select SAR 6. Click **Delete**.	Verify: SAR 6 is deleted.
3.16	*Batch Scheduling*	View WAITLIST batch.	Verify: Replace Request is included in WAITLIST batch.
3.17	*Batch Scheduling*	Activate WAITLIST Batch	Batch activated.
3.18	*Schedule Request*	Review Request Summary. Make **hardcopy**.	Verify: Replace request activates.
3.19	*Schedule Transmission*	**Execute** the Initial Activation Mode transmission that was created by the activation of the WAITLIST batch.	Verify: SRMs are sent for activated event.
		DELOG ANALYSIS	
4.1	NTS	Get delogs for 99/02s.	Verify: SRMs with the appropriate problem code were sent to the customer.
		DOCUMENTATION	
5.1	User's Guide	Check documentation for Wait List Request window.	Verify: Documentation is correct.

5.5 Detailed Test Procedure for 99.1-5.05 ACTIVATED SCHEDULE WAIT LIST PROCESSING 5.5.3.3.a, 5.5.4.4.a, 5.5.4.4.b, 5.5.4.4.c, 5.5.4.4.d

OBJECTIVES: This test item will verify the following:

- The NCCDS does not allow the operator to include waitlisted requests in a batch scheduling process. [5.5.3.3.a]
- After a schedule is activated, the NCCDS places all requests within the activated batch on the wait list that meet the following criteria:
  - The request was declined. [5.5.4.4.a]
  - The request specifies that it is to be placed on the wait list if it is declined. [5.5.4.4.b]
  - The request applied to the active period when it was received. [5.5.4.4.c]
  - An attempt to place the request on the wait list in response to a Wait List Request would be valid according to the rules for valid Wait List Requests. [5.5.4.4.d]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	*Schedule Control Database*	Note the Current Batch Boundary. Ensure the End of Active Period extends exactly 1 day beyond the Current Batch Boundary. Click **Close**.	Batch and Active scheduling periods are determined. |----------|----------| Auto Batch |----------| Forecast Active EOAP ---> 1 day <---

Step	Location	Action	Result
1.3	*TDRS Operational Names & Mappings*	Ensure the TDRS/ID/SGLT assignments for the batch scheduling subphase are as follows: 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5 Click **Close**.	Mappings are correct.
1.4	*Scheduling Priority List*	Choose SICs such that A has the highest scheduling priority and E has the lowest. Make this priority list **Active**. SIC A _____ SIC B _____ SIC C _____ SIC D _____ SIC E _____	SICs are correctly ordered in the priority list.
1.5	*Customer Services*	Create/identify SSCs necessary for the requests needed in this test.	SSCs for the specified SICs and service types are in the DB.
1.6	NTS	Create NTS blocks for the requests needed in this test item. See tables for Wait List flag enable.	NTS blocks are ready. Block file: _____ _____
		SARs SPECIFYING WAIT LISTING - MOC	
2.1	*Schedule Control Database*	Set Wait List Processing to be in **Automatic Mode**.	Wait List Processing is in Automatic Mode.

Step	Location	Action	Result
2.2	NTS	Submit the following SARs for the batch scheduling period. Note: T is the beginning of the (active) batch scheduling period (i.e. the Current Batch Boundary). T+001 day is the Forecast period (i.e. the End of Active Period). Note UTC.	Results below.

Req	TDRS	Event Start	Services	Service Start	Service Duration	Wait List Flag	Result (after activation)
A1	041	T + 00:00:00	SSAF1 KuSAF1 SSAR1 KuSAR1	00:00:00 00:00:00 00:00:00 00:00:00	01:00:00 01:00:00 01:00:00 01:00:00	N	Schedules
B1	041	T + 00:00:00	SSAF1 SSAR1	00:00:00 00:00:00	00:30:00 00:30:00	Y	Declines and wait listed
A2	041	T + 00:00:00	MAF MAR	00:00:00 00:00:00	01:00:00 01:00:00	N	Schedules
B2	041	T + 00:00:00	MAF MAR	00:00:00	00:10:00	N	Declines
A3	TDS	T + 23:50:00	SSAR1	00:00:00	01:10:00	N	Schedules
C1	TDS	001:23:50:00 +1hr tolerance	SSAR1	00:00:00	01:00:00	Y	Declines and wait listed (tolerance would extend start to forecast period)
B3	171	T+001:00:00:00	KuSAR2	00:00:00	00:10:00	N	Schedules
C2	171	T+001:00:00:01	KuSAR2	00:00:00	00:10:00	Y	Declines
D1	TDS	T + 23:00:00	MAF	00:00:00	00:30:00	N	Schedules
D2	TDS	T+001:00:00:00 -1hr tolerance	MAF	00:00:00	00:30:00	Y	Declines (tolerance would extend start back to active period)

2.3	*Batch Scheduling*	Create 'BatchA' with the above requests. **Generate** and **Activate** 'BatchA'.	Verify: Results are as shown in above table.

Step	Location	Action	Result
2.4	*Schedule Requests*	Review the window. Make a **hardcopy.** Click **Close.**	Verify: Request B1 declined during schedule run and appears with a status of 'wait listed'. Request B2 was declined but does not show up on the 'Wait List' because it was not Wait List requested. Status is declined. Request C1 requested Wait Listing, was declined, and should show up on the wait list because the requests original start time was part of the active period although a tolerance was requested which would have given it the potential to schedule in the forecast period. Status is wait listed. Request C2 requested Wait Listing, but is part of the Forecast Period therefore it should not show up on the Wait List. Status is declined. Request D2 requested Wait Listing, was declined, but should not show up on the wait list because the requests original start time was part of the forecast period although a tolerance was requested which would have given it the potential to schedule in the active period.
2.5	*Operator Alerts*	Review Operator Alerts.	Operator is alerted that Initial Activation Mode transmission is ready for review.

Step	Location	Action	Result
2.6	*Schedule Transmission*	Execute the Initial Activation Mode transmission created above with the events from step 2.1. Note UTC.	Verify: SRM code 12 is sent for those requests placed on the wait list. SRM code 02 is sent for declined requests.
2.7	*Schedule Requests*	Delete A1, A2, A3, B3, and D1.	Events are deleted.
2.8	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests B1 and C1 come off the wait list and schedule. SRMs are sent.
2.9	NTS	Delog 99/02s sent in steps 2.6 and 2.8.	Verify: SRMs with the appropriate reason code were sent for requests added to or removed from the Wait List.
2.10	NTS	Send in a request in the forecast period with the wait list flag set.	Request is batch stored.
2.11	*Schedule Control Database*	Move batch boundary such that the start time of the above request is in the automatic period.	Requests affected by the move of the boundary are processed automatically.
2.12	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Request is declined and not wait listed.
SARs SPECIFYING WAIT LISTING - OPERATOR			
3.1	*Schedule Requests*	Repeat section 2 sending the SARs in steps 2.2 and 2.10 from the operator.	Verify: Operator is allowed to wait list requests submitted for batch scheduling.
EDIT WAIT LIST BATCH			
4.1	*Schedule Control Database*	Set Wait List Processing to be in **Semi-Automatic Mode**.	Wait List Processing is in Semi-Automatic Mode.

Step	Location	Action	Result
4.2	NTS	Submit the following normal SARs for the automatic scheduling period. Note UTC.	Results below.

Req	TDRS	Event Start	Services	Service Start	Service Duration	Wait List Flag	Result
D3	041	T + 00:00:00	MAF	00:00:00	00:10:00	N	Schedules
E1	041	T + 00:00:00	MAF	00:00:00	00:10:00	Y	Declines,wait list
D4	041	T + 00:30:00	MAF	00:00:00	00:10:00	N	Schedules
E2	041	T + 00:30:00	MAF	00:00:00	00:10:00	Y	Declines,wait list

4.3	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: D3 and D4 activated. E1 and E2 declined and wait listed.
4.4	*Schedule Requests*	Delete D3.	D3 is deleted.
4.5	*Batch Scheduling*	Review the window.	WAIT LIST batch schedule is created and generated.
4.6	*Batch Scheduling*	Select the WAIT LIST batch and click **Edit**.	*Schedule Editor* appears.
4.7	*Schedule Editor*	Add D4 to the batch from the active schedule for reprocessing.	Verify: WAIT LIST batch can be modified.
4.8	*Schedule Editor*	Click **Generate Schedule**.	WAIT LIST batch can be generated again manually.
4.9	*Schedule Editor*	Review the window.	E1 schedules. E2 still declines.
4.10	*Schedule Editor*	Click **Declined list**. Add E2 back into the batch.	Verify: WAIT LIST batch can be modified.

Step	Location	Action	Result
4.11	*Schedule Editor*	Click **Generate Schedule**.	E1 still schedules. E2 still declines.
4.12	*Batch Scheduling*	Delete the WAIT LIST batch.	Verify: WAIT LIST batch can be deleted.
4.13	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: E1 and E2 are still wait listed.
4.14	*Batch Scheduling*	Create 'BatchB'. Attempt to include requests E1 and E2 in the batch.	Verify: Wait listed requests cannot be included in an operator generated batch scheduling process.
		DELOG ANALYSIS	
5.1	NTS DART	Get delog for 99/02s.	Verify: SRMs with the appropriate reason code were sent for requests added to the Wait List.

5.6 Detailed Test Procedure for 99.1-5.06 SCHEDULING FROM WAIT-LIST - AUTOMATIC MODE 5.5.6.7.a, 5.5.6.7.b, 5.5.6.7.c, 5.5.6.7.d

OBJECTIVES: This test item will verify the following:

- Whenever an event is deleted from the active schedule, the NCCDS attempts to use the relinquished resources to place events on the schedule in response to requests on the wait-list. [5.5.6.7.a]
- (Whenever an event is deleted), if wait-list processing is enabled in fully automatic mode, the NCCDS adds events resulting from successfully processed requests to the active schedule. [5.5.6.7.a]
- (Whenever an event is deleted), the NCCDS does not remove unsuccessfully processed requests from the wait-list and does not report such unsuccessful processing via SRMs. [5.5.6.7.a]
- Whenever TSW updates are received, if wait-list processing is enabled in fully automatic mode, the NCCDS adds events resulting from successfully processed requests to the active schedule. [5.5.6.7.b]
- (Whenever TSW updates are received), the NCCDS does not remove unsuccessfully processed requests from the wait-list and does not report such unsuccessful processing via SRMs. [5.5.6.7.b]
- When the expiration time for a wait-listed request is reached, the NCCDS makes a final attempt to schedule the associated request on the wait-list. If unsuccessful, the NCCDS removes the request from the wait-list. [5.5.6.7.c]
- (When the expiration time for a wait-listed request is reached), if the request was wait listed in response to a wait list request, the expiration time is explicitly specified by the wait list request. Otherwise, the expiration time is based on the customer's default wait listed request expiration interval. [5.5.6.7.c]
- The NCCDS removes the request from the wait-list when a wait-listed request's requested event start time and event start time tolerances no longer permit the event to be scheduled early enough to allow transmission to the ground terminal at least 5 minutes prior to actual event start time. [5.5.6.7.d]
- During batch scheduling, the NCCDS locks out all automatic schedule updates applicable to the same part of the active schedule to which the batch scheduling applies. [5.5.3.2]
- The NCCDS reenables automatic processing when the operator activates a batch schedule related to the lockout. [5.5.3.2.a]

- The NCCDS reenables automatic processing when the operator deletes all batch schedules related to the lockout. [5.5.3.2.b]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with scheduling capabilities.	Toolbar appears.
1.2	Workstation	Create/identify SSCs needed for this test item.	SSCs are ready.
1.3	Database Subpanel	Click the **Schedule Control** icon.	*Schedule Control Database* appears.
1.4	*Schedule Control Database*	Select Automatic mode in the *Wait-list Processing Parameters* section of the display. Note the active period end. Click **Save**. Click **Close**.	Automatic mode is enabled.
		SUCCESSFUL WAIT LIST PROCESSING AFTER EVENT DELETION	
2.1	NTS	Submit a request for the automatic period.	Event schedules.
2.2	NTS	Submit a request requesting the same time and resources as the event in step 2.1 and requesting wait-listing.	Request is declined and put on the wait-list.
2.3	Scheduling Subpanel	Click the **Schedule Requests** icon.	*Schedule Requests* appears.
2.4	*Schedule Requests*	Select the SAR scheduled in step 2.1. Click **Delete**. Note UTC. Make a **hardcopy**.	Event deleted. Verify: The wait listed SAR in step 2.2 comes off the wait-list and is scheduled.
2.5	NTS	Repeat step 2.1-2.2.	Same results.

Step	Location	Action	Result
2.6	NTS	Submit a delete request (99/11) that references the event scheduled in 2.5 from the MOC. Note UTC.	Event deleted.
2.7	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The wait-listed SAR in step 2.5 comes off the wait-list and is scheduled.
2.8	NTS DART	Delog 99/02s.	Verify: SRMs are sent to report the successful removal of the request from the wait-list.
UNSUCCESSFUL WAIT-LIST PROCESSING AFTER EVENT DELETION			
3.1	NTS	Submit a request for TDRS 041 using MAF service and User Interface Channel A.	Event schedules.
3.2	NTS	Send in a request for TDRS 041 using MAF service, but different User Interface Channel (B) and is wait-listed.	Request is declined and wait-listed.
3.3	NTS	Send in a request for TDRS 041 and User Interface Channel (B), but for a different service (SSAF).	Event schedules.
3.4	*Schedule Requests*	Select the SAR scheduled in step 3.1. Click **Delete**. Note UTC.	Event deleted. Verify: The SAR wait-listed in step 3.2 no longer conflicts with the service in step 3.1, but is not removed from the wait-list due to the UIFC conflict with the request from step 3.3.

Step	Location	Action	Result
3.5	NTS DART	Delog 99/02s.	Verify: No SRMs are sent to report the unsuccessful removal of the request from the wait-list.
		TSW UPDATES	
4.1	NTS	Create a TSW Set by submitting TSWs for the SIC, TDRS, and timeframe to be used by the requests below.	TSWs are received.
4.2	Scheduling Subpanel	Click the **TSW Sets** icon.	*TDRS Scheduling Window Sets* appears. The new TSW Set is saved in the database.
4.3	*TDRS Scheduling Window Sets*	Click **View...** Make a **hardcopy**.	*TDRS Scheduling Window Set Details* appears. The TSW Set contains the TSWs transmitted above.
4.4	NTS	Submit a request for the active period. (Use the TSW specifications printed in step 4.3)	Event schedules.
4.5	NTS	Submit a request requesting the same time and resources as the event in step 4.4, and requesting the use of TSWs, and requesting wait-listing. (Use the TSW specifications printed in step 4.3)	Request is declined and put on the wait-list.
4.6	NTS	For the TSW Set created in step 4.1, modify its times by submitting TSW updates such that the wait-listed request from step 4.5 no longer fits within the TSW. Note UTC. Make a **hardcopy**.	The wait-listed request now falls outside of the TSW. No SRMs are sent to report the unsuccessful removal of the request from the wait-list.

Step	Location	Action	Result
4.7	*Schedule Requests*	View the request put on the wait-list in step 4.5. Make a **hardcopy**.	Verify: The above TSW update does not remove the request from the wait-list because the request still conflicts with event scheduled in step 4.4 and also doesn't fit within available TSWs.
4.8	*Schedule Requests*	Select the event scheduled in step 4.4. Click **Delete**. Note UTC. Make a **hardcopy**.	Event is deleted. Verify: The request put on the wait-list in step 4.5 no longer conflicts with the event scheduled in step 4.4, but remains wait-listed due to still not fitting within available TSWs. No SRMs are sent to report the unsuccessful removal of the request from the wait-list.
4.9	NTS	For the TSW Set created in step 4.1, modify its times by submitting TSW updates such that the wait-listed request from step 4.5 now fits within the available TSWs. Note UTC. Make a **hardcopy**.	Verify: SRMs are sent to report the successful removal of the request from the wait-list.
4.10	*Schedule Requests*	View the request put on the wait-list in step 4.5. Make a **hardcopy**.	Verify: Request is removed from the wait-list and is Activated.
4.11	NTS	Submit a request that requests the use of TSWs, wait-listing, and keyword TSWs = "TSW Set ID not in the DB".	Request is declined and wait-listed.

Step	Location	Action	Result
4.12	NTS	Send in TSW that should allow the request to come off the wait-list and schedule. (Use TSW Set ID specified in previous step.) Note UTC.	SRMs are sent to report the successful removal of the request from the wait-list.
4.13	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Request is removed from the wait-list and is Activated.
4.14	NTS DART	Delog 99/02s.	Verify: SRMs are sent (as noted in each step above) to report the successful removal of the requests from the wait-list.
		EXPIRED WAIT-LIST REQUEST	
5.1	Database Subpanel	Click the **Customer Database** icon.	*Customer Database* appears.
5.2	*Customer Database*	Select a customer (SIC) that will be used in Section 5.0. Click **Modify...**	Customer (SIC) Entry appears for the selected SIC.
5.3	*Customer (SIC) Entry*	Set customer Default Waitlist Expiration to 3 hours. Click **Save**. Make a **hardcopy**.	The modified Default Waitlist Expiration is saved.
5.4	NTS	Submit a request for the automatic period to start in 3 hours and 10 minutes.	Event schedules.
5.5	NTS	Submit a request requesting the same time and resources as the event in step 5.4, and requesting wait-listing.	Request is declined and put on the wait-list.
5.6	*Schedule Requests*	Review the window before expiration time. Make a **hardcopy**.	Verify: Status of request is Waitlisted.

Step	Location	Action	Result
5.7	*Schedule Requests*	At expiration time: Click **Reload**. **<u>Note:</u>** Expiration is the interval of time prior to nominal start time. Make a **hardcopy**.	Verify: The request is removed from the wait-list when final scheduling attempt is unsuccessful at the expiration time. Status of request changes to Declined.
5.8	NTS	Submit a Wait List request referencing the request declined and wait-listed in step 5.5, and declined again at expiration time in step 5.7. Specify an expiration time of 2 hours and 45 minutes. Note UTC.	SRMs are sent to report the addition of the request to the wait-list.
5.9	*Schedule Requests*	Review the window before expiration time.	Verify: Request is wait-listed.
5.10	*Schedule Requests*	At expiration time: Click **Reload**. **<u>Note:</u>** Expiration is the interval of time prior to nominal start time. Make a **hardcopy**.	Verify: The request is removed from the wait-list when final scheduling attempt is unsuccessful at the expiration time. Status of request changes to Declined.
5.11	*Schedule Requests*	Select the event from step 5.4. Click **Delete**. Make a **hardcopy**.	Event is deleted. Verify: The above request remains declined.
5.12	NTS	Submit a Wait List request referencing the same request and specifying an expiration time of 2 hours and 30 minutes.	SRMs are sent to report the addition of the request to the wait-list.
5.13	*Schedule Requests*	Review the window before expiration time. Make a **hardcopy**.	Verify: Status of request is Waitlisted.

Step	Location	Action	Result
5.14	*Schedule Requests*	At expiration time: Click **Reload**. **<u>Note:</u>** Expiration is the interval of time prior to nominal start time. Make a **hardcopy**.	Verify: The request is removed from the wait-list when final scheduling attempt is made at expiration time. Status of request changes to Activated due to the deletion of the event in step 5.11. SRMs are sent to report the successful removal of the request from the wait-list.
5.15	NTS DART	Delog 99/02s.	Verify: SRMs are sent (as noted in each step above) to report the successful removal of the requests from the wait-list.
		START TIME EXPIRATION	
6.1	Database Subpanel	Click the **Customer Database** icon.	*Customer Database* appears.
6.2	*Customer Database*	Select a customer (SIC) that will be used in Section 6.0. Click **Modify...**	Customer (SIC) Entry appears for the selected SIC.
6.3	*Customer (SIC) Entry*	Set customer Default Waitlist Expiration to 1 minute. Click **Save**. Make a **hardcopy**.	The modified Default Waitlist Expiration is saved.
6.4	NTS	Submit a request for the automatic period to start at current UTC + 15 minutes, and a duration of at least 10 minutes.	Event schedules.

Step	Location	Action	Result
6.5	NTS	Submit a request requesting the same time and resources as the event in step 6.4, with same event start time, plus tolerance of 2 minutes, and requesting wait-listing. (UTC + 15 and plus tolerance of 2 minutes give event a latest start time of UTC +17).	Request is declined and put on the wait-list.
6.6	*Schedule Requests*	Select the SAR scheduled in step 6.4. At UTC +11: Click **Delete**. Make a **hardcopy**.	Event deleted. Verify: The wait-listed request schedules 6 minutes prior to latest event start time (transmission to GT must be at least 5 minutes prior to start time) and SRM is sent to the MOC.
6.7	Workstation	Repeat steps 6.4 and 6.5 with different times.	Same results.
6.8	*Schedule Requests*	Review the Schedule at UTC + 00:12:00. Make a **hardcopy**.	Verify: Wait-listed request was removed from the wait-list (because not enough time for transmission to the GT).
6.9	*Schedule Requests*	At UTC +13 select the first SAR scheduled in 6.7. Click **Delete**. Make a **hardcopy**.	Event deleted. Verify: The request removed from the wait-list at 5 minutes prior to event start remains declined and does not attempt to schedule.

Step	Location	Action	Result
6.10	NTS DART	Delog 99/02s.	Verify: SRMs are sent (as noted in each step above) to report the successful removal of the requests from the wait-list.
		WAIT LIST QUEUE	
7.1	*Schedule Control Database*	Ensure Wait List Processing is Enabled and in Automatic mode.	Wait List Processing is Enabled and in Automatic mode.
7.2	NTS	Submit the following requests for automatic scheduling from a full-support customer:	See Results.

Req.	TDRS	Ref.	Event Start	Service	Event Duration	Wait Listed	Results
A1	041	-	T + 00:00:00	SSAF 01	00:10:00	No	Scheduled
A2	041	-	T + 00:00:00	SSAF 01	00:10:00	Yes	Declined - Wait Listed
RR1	041	A1	T + 00:00:00	SSAF 01	00:15:00	No	Scheduled

7.3	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The Replace Request is processed before wait list processing initiates. SAR A2 is still wait listed.
7.4	NTS	Submit the following requests for automatic scheduling from a baseline customer:	See Results.

Req.	TDRS	Ref.	Event Start	Service	Event Duration	Wait Listed	Results
B1	041	-	T + 01:00:00	SSAF 01	00:10:00	No	Scheduled

Step	Location		Action			Result	
B2	041	-	T + 01:00:00	SSAF 01	00:10:00	Yes	Declined - Wait Listed
7.5	NTS		Submit the following requests at the same time (using the NTS command TRANSC with default message delay such that the deletion followed by the add are Autoqueued and processed as a "pair" instead of two requests): Note UTC.			See Results.	
Req.	TDRS	Ref.	Event Start	Service	Event Duration	Wait Listed	Results
DEL 1	-	B1	-	-	-	-	B1 Deleted
B3	041	-	T + 01:00:00	SSAF 01	00:15:00	No	Scheduled
7.6	*Schedule Requests*		Review the window. Make a **hardcopy**.			Verify: Both the Delete Request and the Schedule Add Request get processed before wait list processing initiates. SAR B2 is still wait listed.	
7.7	NTS		Submit the following requests for automatic scheduling from a baseline customer:			See Results.	
Req.	TDRS	Ref.	Event Start	Service	Event Duration	Wait Listed	Results
B4	041	-	T + 01:30:00	SSAF 01	00:10:00	No	Scheduled
B5	041	-	T + 01:30:00	SSAF 01	00:10:00	Yes	Declined - Wait Listed

Step	Location	Action	Result
7.8	NTS	Submit the following requests one at a time (do **NOT** use the NTS command TRANSC as in steps 12.1 through 12.3): Note UTC.	See Results.

Req.	TDRS	Ref.	Event Start	Service	Event Duration	Wait Listed	Results
DEL 2	-	B4	-	-	-	-	B4 Deleted
B6	041	-	T + 01:30:00	SSAF 01	00:15:00	No	Scheduled

7.9	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Wait-list processing initiates in between the Delete Request and the Schedule Add Request. SAR B5 comes off of the wait-list and is Activated. SRMs are sent to report the successful removal of the request from the wait-list.
7.10	NTS	Submit the following requests for automatic scheduling from a full-support customer:	See Results.

Req.	TDRS	Ref.	Event Start	Service	Event Duration	Wait Listed	Results
A3	041	-	T + 02:00:00	SSAF 01	00:10:00	No	Scheduled
A4	041	-	T + 02:40:00	SSAF 01	00:10:00	No	Scheduled
RR2	041	A3	T + 02:30:00	SSAF 01	00:10:00	Yes	Declined - Wait Listed

Step	Location	Action	Result
7.11	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The Replace Request is declined and wait listed. SAR A3 is not deleted.
7.12	*Schedule Requests*	**Delete** A4. Note UTC.	A4 is deleted.
7.13	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The Replace Request activates because the resources it needed became available when A4 was deleted. A3 is now deleted.
7.14	NTS	Submit 10 SARs to schedule in the automatic scheduling period.	SARs scheduled.
7.15	NTS	Submit the same 10 SARs for the same times, but requesting wait listing.	SARs declined and wait listed.
7.16	*Schedule Requests*	Select the first 10 SARs (all at once) in order to do a "bulk" delete. Click **Delete**. Note UTC. Make a **hardcopy**.	1st 10 SARs are deleted. Verify: Wait list processing waits until all of the deletes in the queue are processed before it initiates. (Otherwise, performance could be impacted.)
LOCKOUT AUTO SCHEDULING UPDATES			
8.1	NTS	Submit the following requests for automatic scheduling:	See Results.

Req.	TDRS	Ref.	Event Start	Service	Event Duration	Wait Listed	Results
A5	041	-	T + 03:00:00	SSAF 01	00:10:00	No	Scheduled

Step	Location		Action			Result	
A6	041	-	T + 03:00:00	SSAF 01	00:10:00	Yes	Declined - Wait Listed
8.2	*Batch Scheduling*		Generate a batch schedule including SARs with a different time frame than A5 and A6. (Do not include A5 and A6 in the batch.)			Batch is generated.	
8.3	NTS		Submit several SARs for the time of the batch just generated. (Do not specify wait listing for these SARs.)			SARs are autoqueued due to batch schedule lockout.	
8.4	*Schedule Requests*		**Delete** A5. Note UTC.			A5 is deleted.	
8.5	*Schedule Requests*		Review the window. Make a **hardcopy**.			Verify: SAR A6 scheduled. Wait list processing occurred even though there were SARs autoqueued for a different time.	
8.6	NTS		Submit a TSW for TDRS 041 and a window of 1 hour.			TSW created.	
8.7	*Schedule Requests*		Submit a request requesting wait-listing and use of the TSW created above. (Make time of SAR hang over the end time of TSW.)			Request declined and wait-listed.	
8.8	*Batch Scheduling*		Generate a batch with events spanning the same time period as the above wait-listed request.			Operator batch is generated.	
8.9	NTS		For the TSW Set created above, modify its times by submitting a TSW update such that the wait-listed request above now fits within the available TSW. Note UTC. Make a **hardcopy**.			TSW times are modified. Wait-list processing is initiated.	

Step	Location	Action	Result
8.10	*Batch Scheduling*	Review the window. Make a **hardcopy**.	Verify: The WAITLIST batch schedule was automatically deleted because of the operator batch, generated above, locking it out.
8.11	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The wait-listed request above is still wait-listed.
		REPROCESSING ACTIVE PERIOD EVENT	
9.1	NTS	Submit a request for the automatic period.	Event schedules.
9.2	NTS	Submit a request requesting the same resources as the above scheduled event and also requesting wait-listing.	Request declined and wait-listed.
9.3	*Batch Scheduling*	Create a batch selecting only the above scheduled event and toggling reprocessing.	Batch created.
9.4	*Batch Scheduling*	Generate the batch created above.	Verify: Reprocessed event shows as a batch event, not an active event.
9.5	*Batch Scheduling*	Activate the batch generated above.	Batch is activated.
9.6	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Reprocessed event is activated (with a new request ID), and the wait-listed request is still wait-listed.
		DOCUMENTATION	
10.1	User's Guide	Review the documentation.	Verify: Alerts are documented correctly.

5.7 Detailed Test Procedure for 99.1-5.07 SCHEDULING FROM WAIT-LIST - SEMI-AUTOMATIC MODE 5.5.6.7.a, 5.5.6.7.b, 5.5.6.7.c, 5.5.6.7.d

OBJECTIVES: This test item will verify the following:

- Whenever an event is deleted from the active schedule, the NCCDS attempts to use the relinquished resources to place events on the schedule in response to requests on the wait-list. [5.5.6.7.a]
- (Whenever an event is deleted), if wait-list processing is enabled in semiautomatic mode, and any requests were successfully processed, the NCCDS notifies the operator that the process is complete and provides the operator with all of the capabilities available at the completion of an operator-initiated batch scheduling run. [5.5.6.7.a]
- (Whenever an event is deleted), the NCCDS does not remove unsuccessfully processed requests from the wait-list and does not report such unsuccessful processing via SRMs. [5.5.6.7.a]
- (Whenever TSW updates are received), if wait-list processing is enabled in semiautomatic mode, and any requests were successfully processed, the NCCDS notifies the operator that the process is complete and provides the operator with all of the capabilities available at the completion of an operator-initiated batch scheduling run. [5.5.6.7.b]
- (Whenever TSW updates are received), the NCCDS does not remove unsuccessfully processed requests from the wait-list and does not report such unsuccessful processing via SRMs. [5.5.6.7.b]
- When the expiration time for a wait-listed request is reached, the NCCDS makes a final attempt to schedule the associated request on the wait-list. If unsuccessful, the NCCDS removes the request from the wait-list. [5.5.6.7.c]
- (When the expiration time for a wait-listed request is reached), if the request was wait listed in response to a wait list request, the expiration time is explicitly specified by the wait list request. Otherwise, the expiration time is based on the customer’s default wait listed request expiration interval. [5.5.6.7.c]
- The NCCDS removes the request from the wait-list when a wait-listed request's requested event start time and event start time tolerances no longer permit the event to be scheduled early enough to allow transmission to the ground terminal at least 5 minutes prior to actual event start time. [5.5.6.7.d]
- During batch scheduling, the NCCDS locks out all automatic schedule updates applicable to the same part of the active schedule to which the batch scheduling applies. [5.5.3.2]

- The NCCDS reenables automatic processing when the operator activates a batch schedule related to the lockout. [5.5.3.2.a]
- The NCCDS reenables automatic processing when the operator deletes all batch schedules related to the lockout. [5.5.3.2.b]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with scheduling capabilities.	Toolbar appears.
1.2	Workstation	Create/identify SSCs needed for this test item.	SSCs are ready.
1.3	Database Subpanel	Click the **Schedule Control** icon.	*Schedule Control Database* appears.
1.4	*Schedule Control Database*	Select Semi-Automatic mode in the *Wait-list Processing Parameters* section of the display. Note the active period end. Click **Save**. Click **Close**.	Semi-Automatic mode is enabled.
		SEMI-AUTOMATIC - SUCCESSFUL W/L PROCESSING AFTER EVENT DELETION	
2.1	NTS	Submit a request for the automatic period.	Event schedules.
2.2	NTS	Submit a request requesting the same time and resources as the event in step 2.1 and requesting wait-listing.	Request is declined and put on the wait-list.
2.3	Scheduling Subpanel	Click the **Schedule Requests** icon.	*Schedule Requests* appears.
2.4	*Schedule Requests*	Select the SAR scheduled in step 2.1. Click **Delete**. Note UTC. Make a **hardcopy**.	Event deleted.

Step	Location	Action	Result
2.5	*Operator Alerts*	Review operator alerts. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.
2.6	*Batch Scheduling*	Activate batch schedule WAITLIST that was generated above in semiautomatic mode.	The operator is provided with the capability to delete, activate, or modify the schedule. Verify: Batch schedule WAITLIST is activated.
2.7	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The wait listed SAR in step 2.2 comes off the wait-list and is scheduled.
2.8	*Schedule Transmission*	Execute the Initial Activation mode transmission created as a result of activating batch schedule WAITLIST.	An initial activation mode transmission was created when batch schedule WAITLIST was activated. Verify: SRMs are sent to report the successful removal of the request from the wait-list.
SEMI-AUTOMATIC - UNSUCCESSFUL WAIT LIST PROCESSING			
3.1	NTS	Submit a request for TDRS 041 using MAF service and User Interface Channel A.	Request schedules.
3.2	NTS	Send in a request for TDRS 041 using MAF service, but different User Interface Channel (B) and is wait-listed.	Request is declined and wait-listed.
3.3	NTS	Send in a request for TDRS 041 and User Interface Channel (B), but for a different service (SSAF).	Request schedules.

Step	Location	Action	Result
3.4	*Schedule Requests*	Select the SAR scheduled in step 3.1. Click **Delete**. Note UTC.	Event deleted.
3.5	*Batch Scheduling*	Review the window. Make a **hardcopy**.	Verify: A batch schedule called WAITLIST is **not** created because the wait-list processing triggered by the above deletion would not result in the scheduling of a wait-listed request.
3.6	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The SAR wait-listed in step 3.2 no longer conflicts with the service in step 3.1, but is not removed from the wait-list due to the UIFC conflict with the request from step 3.3.
3.7	NTS DART	Delog 99/02s.	Verify: No SRMs are sent to report the unsuccessful removal of the request from the wait-list.
		SEMI-AUTOMATIC MODE - TSW UPDATES	
4.1	NTS	Create a TSW Set by submitting TSWs for the SIC, TDRS, and timeframe to be used by the requests below. Note UTC.	TSWs are received.
4.2	Scheduling Subpanel	Click the **TSW Sets** icon.	*TDRS Scheduling Window Sets* appears. The new TSW Set is saved in the database.

Step	Location	Action	Result
4.3	*TDRS Scheduling Window Sets*	Click **View...** Make a **hardcopy**.	*TDRS Scheduling Window Set Details* appears. The TSW Set contains the TSWs transmitted above.
4.4	NTS	Submit a request for the active period. (Use the TSW specifications printed in step 4.3)	Event schedules.
4.5	NTS	Submit a request requesting the same time and resources as the event in step 4.4, and requesting the use of TSWs, and requesting wait-listing. (Use the TSW specifications printed in step 4.3)	Request is declined and put on the wait-list.
4.6	NTS	For the TSW Set created in step 4.1, modify its times by submitting TSW updates such that the wait-listed request from step 4.5 no longer fits within the TSW. Note UTC. Make a **hardcopy**.	The wait-listed request now falls outside of the TSW.
4.7	*Batch Scheduling*	Review the window. Make a **hardcopy**.	Verify: A batch schedule called WAITLIST is **not** created because the wait-list processing triggered by the above TSW update would not result in the scheduling of a wait-listed request.
4.8	*Schedule Requests*	View the request put on the wait-list in step 4.5. Make a **hardcopy**.	Verify: The above TSW update does not remove the request from the wait-list because the request still conflicts with event scheduled in step 4.4 and also doesn't fit within available TSWs.

Step	Location	Action	Result
4.9	*Schedule Requests*	Select the event scheduled in step 4.4. Click **Delete**. Note UTC.	Event is deleted.
4.10	*Batch Scheduling*	Review the window. Make a **hardcopy**.	Verify: A batch schedule called WAITLIST is **not** created because the wait-list processing triggered by the above deletion would not result in the scheduling of a wait-listed request.
4.11	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The request put on the wait-list in step 4.5 no longer conflicts with the event scheduled in step 4.4, but remains wait-listed due to still not fitting within available TSWs.
4.12	NTS	For the TSW Set created in step 4.1, modify its times by submitting TSW updates such that the wait-listed request from step 4.5 now fits within the available TSWs. Note UTC. Make a **hardcopy**.	The wait-listed request now fits within the available TSWs.
4.13	*Operator Alerts*	Review operator alerts. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.

Step	Location	Action	Result
4.14	*Batch Scheduling*	Activate batch schedule WAITLIST that was generated above in semiautomatic mode.	The operator is provided with the capability to delete, activate, or modify the schedule. Verify: Batch schedule WAITLIST is activated.
4.15	*Schedule Requests*	View the request put on the wait-list in step 4.5. Make a **hardcopy**.	Verify: Request is removed from the wait-list and is Activated.
4.16	*Schedule Transmission*	Execute the Initial Activation mode transmission created as a result of activating batch schedule WAITLIST.	An initial activation mode transmission was created when batch schedule WAITLIST was activated. Verify: SRMs are sent to report the successful removal of the request from the wait-list.
4.17	NTS	Submit a request that requests the use of TSWs, wait-listing, and keyword TSWs = “TSW Set ID not in the DB”.	Request is declined and wait-listed.
4.18	NTS	Send in TSW that should allow the request to come off the wait-list and schedule. (Use TSW Set ID specified in previous step.) Note UTC. Make a **hardcopy**.	The TSW Set ID now exists in the DB and contains the necessary TSWs to allow the above request to come off of the wait-list.
4.19	*Operator Alerts*	Review operator alerts. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.

Step	Location	Action	Result
4.20	*Batch Scheduling*	Activate batch schedule WAITLIST that was generated above in semiautomatic mode.	The operator is provided with the capability to delete, activate, or modify the schedule. Verify: Batch schedule WAITLIST is activated.
4.21	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Request is removed from the wait-list and is Activated.
4.22	*Schedule Transmission*	Execute the Initial Activation mode transmission created as a result of activating batch schedule WAITLIST.	An initial activation mode transmission was created when batch schedule WAITLIST was activated. Verify: SRMs are sent to report the successful removal of the request from the wait-list.
4.23	NTS DART	Delog 99/02s.	Verify: SRMs are sent (as noted in each step above) to report the successful removal of the requests from the wait-list.
SEMI-AUTOMATIC - EXPIRED WAIT-LIST REQUEST			
5.1	Database Subpanel	Click the **Customer Database** icon.	*Customer Database* appears.
5.2	*Customer Database*	Select a customer (SIC) that will be used in Section 5.0. Click **Modify...**	Customer (SIC) Entry appears for the selected SIC.
5.3	*Customer (SIC) Entry*	Set customer Default Waitlist Expiration to 3 hours. Click **Save**. Make a **hardcopy**.	The modified Default Waitlist Expiration is saved.

Step	Location	Action	Result
5.4	NTS	Submit a request for the automatic period to start in 3 hours and 10 minutes.	Event schedules.
5.5	NTS	Submit a request requesting the same time and resources as the event in step 5.4, and requesting wait-listing.	Request is declined and put on the wait-list.
5.6	*Schedule Requests*	Review the window before expiration time. Make a **hardcopy**.	Verify: Status of request is Waitlisted.
5.7	*Operator Alerts*	At expiration time: Review the window. **Note:** Expiration is the interval of time prior to nominal start time. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.
	Schedule Requests	Review the window. Make a **hardcopy**.	Verify: The request is removed from the wait-list when final scheduling attempt is unsuccessful at the expiration time. Status of request changes to Declined.
5.8	NTS	Submit a Wait List request referencing the request declined and wait-listed in step 5.5, and declined again at expiration time in step 5.7. Specify an expiration time of 2 hours and 45 minutes. Note UTC.	SRMs are sent to report the addition of the request to the wait-list.
5.9	*Schedule Requests*	Review the window before expiration time.	Verify: Request is wait-listed.

Step	Location	Action	Result
5.10	*Operator Alerts*	At expiration time: Review the window. **Note:** Expiration is the interval of time prior to nominal start time. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.
	Schedule Requests	Review the window. Make a **hardcopy**.	Verify: The request is removed from the wait-list when final scheduling attempt is unsuccessful at the expiration time. Status of request changes to Declined.
5.11	*Schedule Requests*	Select the event from step 5.4. Click **Delete**. Make a **hardcopy**.	Event is deleted.
	Operator Alerts	Review the window.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.
	Schedule Requests	Review the window. Make a **hardcopy**.	Verify: The above request remains declined.
5.12	NTS	Submit a Wait List request referencing the same request and specifying an expiration time of 2 hours and 30 minutes.	SRMs are sent to report the addition of the request to the wait-list.
5.13	*Schedule Requests*	Review the window before expiration time. Make a **hardcopy**.	Verify: Status of request is Waitlisted.

Step	Location	Action	Result
5.14	*Operator Alerts*	At expiration time: Review the window. **Note:** Expiration is the interval of time prior to nominal start time. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.
	Schedule Requests	Review the window. Make a **hardcopy**.	Verify: The request is removed from the wait-list when final scheduling attempt is made at expiration time. Status of request changes to Activated due to the deletion of the event in step 5.11. SRMs are sent to report the successful removal of the request from the wait-list.
5.15	NTS DART	Delog 99/02s.	Verify: SRMs are sent (as noted in each step above) to report the successful removal of the requests from the wait-list.
		SEMI-AUTOMATIC - START TIME EXPIRATION	
6.1	Database Subpanel	Click the **Customer Database** icon.	*Customer Database* appears.
6.2	*Customer Database*	Select a customer (SIC) that will be used in Section 6.0. Click **Modify...**	Customer (SIC) Entry appears for the selected SIC.
6.3	*Customer (SIC) Entry*	Set customer Default Waitlist Expiration to 1 minute. Click **Save**. Make a **hardcopy**.	The modified Default Waitlist Expiration is saved.

Step	Location	Action	Result
6.4	NTS	Submit a request for the automatic period to start at current UTC + 15 minutes, and a duration of at least 10 minutes.	Event schedules.
6.5	NTS	Submit a request requesting the same time and resources as the event in step 6.4, with same event start time, plus tolerance of 2 minutes, and requesting wait-listing. (UTC + 15 and plus tolerance of 2 minutes give event a latest start time of UTC +17).	Request is declined and put on the wait-list.
6.6	*Schedule Requests*	Select the SAR scheduled in step 6.4. At UTC +11: Click **Delete**. Make a **hardcopy**.	Event deleted.
	Operator Alerts	Review the window. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.
	Schedule Requests	Review the window. Make a **hardcopy**.	Verify: The wait-listed request schedules 6 minutes prior to latest event start time (transmission to GT must be at least 5 minutes prior to start time) and SRM is sent to the MOC.
6.7	Workstation	Repeat steps 6.4 and 6.5 with different times.	Same results.
6.8	*Schedule Requests*	Review the Schedule at UTC + 00:12:00. Make a **hardcopy**.	Verify: Wait-listed request was removed from the wait-list (because not enough time for transmission to the GT).

Step	Location	Action	Result
6.9	*Schedule Requests*	At UTC +13 select the first SAR scheduled in 6.7. Click **Delete**. Make a **hardcopy**.	Event deleted.
	Operator Alerts	Review the window. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.
	Schedule Requests	Review the window. Make a **hardcopy**.	Verify: The request removed from the wait-list at 5 minutes prior to event start remains declined and does not attempt to schedule.
6.10	NTS DART	Delog 99/02s.	Verify: SRMs are sent (as noted in each step above) to report the successful removal of the requests from the wait-list.
SEMI-AUTOMATIC - LOCKOUT AUTO SCHEDULING UPDATES			
7.1	NTS	Submit the following requests for automatic scheduling from a baseline customer:	See Results.

Req.	TDRS	Ref.	Event Start	Service	Event Duration	Wait Listed	Results
B1	041	-	T + 00:00:00	MAF	04:00:00	No	Scheduled
B2	041	-	T + 00:00:00	MAF	01:00:00	Yes	Declined - Wait Listed
B3	041		T + 03:00:00	MAF	01:00:00	Yes	Declined - Wait Listed

7.2	*Schedule Requests*	Select SAR B1. Click **Delete**.	Event deleted.

Step	Location	Action	Result
7.3	*Operator Alerts*	Review operator alerts. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.
7.4	*Batch Scheduling*	Review, but **don't** activate the batch schedule WAITLIST that was generated above in semiautomatic mode.	The operator is provided with the capability to delete, activate, or modify the schedule. Verify: Batch schedule WAITLIST is generated (but not activated) and contains events B2 and B3.
7.5	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: SARs B2 and B3 remain waitlisted since the batch schedule was not activated.
7.6	NTS	Submit a SAR to schedule somewhere between the time of the first and last request on the wait-list. (use time T + 01:30:00 to T + 02:30:00 in order to be "between" event B2 and B3).	Verify: The automatic scheduling period is locked out during wait-list processing.
7.7	*Batch Scheduling*	Activate batch schedule WAITLIST (containing events B2 and B3) that was generated above in semiautomatic mode.	The operator is provided with the capability to delete, activate, or modify the schedule. Verify: Batch schedule WAITLIST is activated.
7.8	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: SARs B2 and B3 are no longer locked out, come off the wait-list, and are Activated.

Step	Location	Action	Result
7.9	*Schedule Transmission*	Select the Initial Activation mode transmission created as a result of activating batch schedule WAITLIST.	An initial activation mode transmission was created when batch schedule WAITLIST was activated. Verify: SRMs are sent to report the successful removal of the request from the wait-list.
7.10	NTS	Submit the following requests for automatic scheduling:	See Results.

Req.	TDRS	Ref.	Event Start	Service	Event Duration	Wait Listed	Results
A1	041	-	T + 03:00:00	SSAF 01	00:10:00	No	Scheduled
A2	041	-	T + 03:00:00	SSAF 01	00:10:00	Yes	Declined - Wait Listed

7.11	*Batch Scheduling*	Generate a batch schedule including SARs with a different time frame than A1 and A2. (Do not include A1 and A2 in the batch.)	Batch is generated.
7.12	NTS	Submit several SARs for the time of the batch just generated. (Do not specify wait listing for these SARs.)	SARs are autoqueued due to batch schedule lockout.
7.13	*Schedule Requests*	**Delete** A1. Note UTC.	A1 is deleted. Wait list processing is initiated.
7.14	*Batch Scheduling*	Activate the WAITLIST batch.	WAITLIST batch is generated.

Step	Location	Action	Result
7.15	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: SAR A2 scheduled. Wait list processing occurred even though there were SARs autoqueued for a different time.
7.16	NTS	Submit a TSW for TDRS 041 and a window of 1 hour.	TSW created.
7.17	*Schedule Requests*	Submit a request requesting wait-listing and use of the TSW created above. (Make time of SAR hang over the end time of TSW.)	Request declined and wait-listed.
7.18	*Batch Scheduling*	Generate a batch with events spanning the same time period as the above wait-listed request.	Operator batch is generated.
7.19	NTS	For the TSW Set created above, modify its times by submitting a TSW update such that the wait-listed request above now fits within the available TSW. Note UTC. Make a **hardcopy**.	TSW times are modified. Wait-list processing is initiated.
7.20	*Batch Scheduling*	Activate the WAITLIST batch.	Verify: In order to activate the WAITLIST batch the operator would need to delete the operator batch generated previously.
7.21	*Schedule Activation Dialog*	**Do not** delete the operator batch.	WAITLIST batch was not activated.
7.22	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The wait-listed request above is still wait-listed.
7.23	*Batch Scheduling*	**Delete** the WAITLIST batch.	WAITLIST batch is deleted.

Step	Location	Action	Result
7.24	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: The wait-listed request above is still wait-listed.
		DOCUMENTATION	
8.1	User's Guide	Review the documentation.	Verify: Alerts are documented correctly.

5.8 Detailed Test Procedure for 99.1-5.08 WAIT-LIST ENABLE AND INHIBIT 5.5.6.7.a, 5.5.6.7.b, 5.5.6.7.c, 5.5.6.7.d, 5.5.6.7.e

OBJECTIVES: This test item will verify the following:

- Whenever an event is deleted from the active schedule, an attempt is made to use the relinquished resources to place events from the wait list and add them to the active schedule. [5.5.6.7.a]
- Whenever TSW updates are received or an event is deleted, if wait-list processing is enabled in fully automatic mode, the NCCDS adds events resulting from successfully processed requests to the active schedule. [5.5.6.7.b]
- Whenever TSW updates are received or an event is deleted, if wait-list processing is enabled in semiautomatic mode, and any requests were successfully processed, the NCCDS notifies the operator that the process is complete and provides the operator with all of the capabilities available at the completion of an operator-initiated batch scheduling run. [5.5.6.7.b]
- Whenever TSW updates are received or an event is deleted, the NCCDS does not remove unsuccessfully processed requests from the wait-list and does not report such unsuccessful processing via SRMs. [5.5.6.7.b]
- When the expiration time for a wait-listed request is reached, the NCCDS makes a final attempt to schedule the associated request on the wait-list. If unsuccessful, the NCCDS removes the request from the wait-list. [5.5.6.7.c]
- The NCCDS removes the request from the wait-list when a wait-listed request's requested event start time and event start time tolerances no longer permit the event to be scheduled early enough to allow transmission to the ground terminal at least 5 minutes prior to actual event start time. [5.5.6.7.d]
- Any wait list actions that cannot be executed because the operator has inhibited wait-list processing will be executed as soon as the operator re-enables wait-list processing. [5.5.6.7.e]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with scheduling privileges.	Toolbar appears.
1.2	Workstation	Create/identify SICs and SSCs needed for this test item. Use full-support SICs.	SSCs are ready.

Step	Location	Action	Result
1.4	*Schedule Control Database*	**Inhibit** *Wait-list Processing* section of the display. Note the active period end. Click **Save**..	Wait-list Processing is inhibited.
		ENABLE WAIT-LIST PROCESSING	
2.1	NTS	Send in the following SARs. T is a time in the automatic scheduling period.	Results are as specified in the table.

Request ID	TDRS	Service	Wait-List Flag in SAR	Event Start	Event Duration	Event Plus Tolerance	Result
A1	041	MAF	No	T + 00:00:00	01:00:00	none	Activated
B1	041	MAF	Yes	T + 00:00:00	00:15:00	00:45:00	Wait-listed
C1	041	MAF	Yes	T + 00:00:00	00:15:00	none	Wait-listed

2.2	*Schedule Requests*	Select request **A1** and click **Delete**. Make a hardcopy.	Verify: The status of A1 changes to Deleted. The status's of B1and C1 remain Wait-Listed (B1 does not come off the wait-list because wait-list processing is inhibited).
2.3	NTS	Send in the following SAR.	A new event is scheduled using part of the same resources that A1 used.

Request ID	TDRS	Service	Wait-List	Event Start	Event Duration	Event Plus Tolerance	Result
A2	041	MAF	No	T + 00:00:00	00:30:00	none	Activated

2.4	*Schedule Control Database*	**Enable** wait-listing in **automatic** mode. Click **Save**. Note UTC.	Automatic mode is enabled.

Step	Location	Action	Result
2.5	*Schedule Requests*	Review the status of B1. Make a hardcopy.	Verify: Event B1 automatically came off the wait-list and the status is now Activated. An SRM was sent to the MOC (probably need to execute the initial schedule transmission to see messages). Request C1 remains on the wait list (because A2 is blocking it). No SRMs are sent to report the unsuccessful removal of the request from the wait-list.
2.6	*Active Schedule*	Review the start time of event B1. Make a hardcopy.	Verify: Plus tolerance was used to schedule B1 at the first available time: T + 00:30:30. (MA setup time is 30 seconds.)
		INHIBIT WAIT LIST PROCESSING	
3.1	NTS	Send in the following SARs. T is a time in the automatic scheduling period.	Results are as specified in the table.

Request ID	TDRS	Service	Wait-List	Event Start	Event Duration	Event Plus Tolerance	Result
C2	041	MAF	No	T + 02:00:00	01:00:00	none	Schedules
D1	041	MAF	No	T + 02:00:00	01:00:00	none	Declined (wait-listed after step 3.2)
D2	041	MAF	No	T + 02:00:00	01:00:00	none	Declined (wait-listed after step 3.2)

Step	Location	Action	Result
3.2	NTS	Send in Wait-List Request messages referencing the declined requests D1 and D2.	The status's of D1 and D2 change to Wait-Listed.
3.3	*Schedule Control Database*	**Inhibit** wait-list processing. Click **Save**.	Wait-listing is inhibited.
3.4	*Schedule Requests*	Select request **C2** and click **Delete**. Make a hardcopy.	Verify: The status of C2 changes to Deleted. The status's of D1 and D2 remain Wait-Listed (because wait-list processing is inhibited).
3.5	*Schedule Control Database*	**Enable** wait-list processing in **semi-automatic** mode. Click **Save**. Note UTC.	Semi-automatic mode is enabled. Verify: One of the wait-listed requests (D1 or D2) is processed off the wait-list and the operator was prompted to complete the activation. The other request remains wait-listed.
3.6	*Batch Scheduling*	Activate the WAITLIST batch schedule that contains event D1 (or possibly D2 because both requests have the same request priority). Note UTC.	SRM is sent for the successful event. SRM is not sent for the unsuccessful request.
3.7	*Schedule Requests*	Review the status of the event that scheduled off the Wait List. Make a hardcopy.	Verify: The status has changed to Activated.
		"INITIATE WAIT LIST" BUTTON	
4.1	*Schedule Control Database*	**Inhibit** wait-list processing. Click **Save**.	Wait-listing is inhibited.

Step	Location	Action	Result
4.2	NTS	Send in the following SARs. T is a time in the automatic scheduling period.	Results are as specified in the table.

Request ID	TDRS	Service	Wait-List	Event Start	Event Duration	Event Plus Tolerance	Result
A3	041	MAF	No	T + 03:00:00	01:00:00	none	Activated
A4	041	MAF	No	T + 03:00:00	01:00:00	none	Declined (wait-listed after step 4.4)

4.3	*Schedule Requests*	Delete event A3.	The status of A3 changes to Deleted.
4.4	NTS	Send in a Wait-List Request message referencing the declined request A4.	The status of A4 changes to Wait-Listed.
4.5	*Active Schedule*	Pulldown the **View** menu. Select **Wait List**.	Verify: The *Wait List* window appears and displays a list of the wait listed requests contained in the active schedule (i.e., C1 and D1 or D2).
4.6	*Wait List*	Make a hardcopy.	Window is printed (save to verify documentation in later step).
4.7	*Active Schedule?*	Click the **Initiate Waitlist Processing Now** button.	Wait list processing is initiated. (Note: we do not really expect this button to work, if no PR has been written yet, write up a PR that this button does not work.)
4.8	*Schedule Requests*	Review status. Make a hardcopy.	Verify: A4 status should have changed to Activated, but is not expected to -- see note in above step.

Step	Location	Action	Result
4.9	*Schedule Control Database*	**Enable** wait-list processing in Automatic mode. Click **Save**. Note UTC.	Automatic mode is enabled. Verify: A4 status changes to Activated. SRM was sent.
4.10	*Schedule Requests*	Review status. Make a hardcopy.	Verify: A4 status changed to Activated.
EXPIRATION TIMES REACHED WHILE WAIT-LIST PROCESSING IS INHIBITED			
5.1	*Schedule Control Database*	**Inhibit** wait-list processing. Click **Save**.	Wait-listing is inhibited.
5.2	*Customer (SIC) Entry*	Set SIC A's **Default Wait List Expiration** Interval to 45 minutes. Click **Save**.	SIC A's wait-listed requests will expire 45 minutes before their start times (unless they specify a different interval with a Wait List Request).
5.3	NTS	Send in the following SARs, setting the wait list flag as specified in the table. T is current UTC.	Results are as specified in the table.

Request ID	TDRS	Req Priority	Svc	Wait-List	Event Start	Event Duration	Event Plus Tolerance	Result
A5	041	1	MAF	Yes	T + 01:15:00	01:00:00	none	Activated
A6	041	2	MAF	Yes	T + 01:15:00	01:00:00	none	Declines and is Wait-listed
A7	041	3	MAF	Yes	T + 01:15:00	01:00:00	none	Declines and is Wait-listed
A8	041	4	MAF	Yes	T + 01:15:00	01:00:00	none	Declines and is Wait-listed
A9	041	5	MAF	Yes	T + 01:15:00	01:00:00	none	Declines and is Wait-listed
A10	041	6	MAF	Yes	T + 01:15:00	01:00:00	none	Declines and is Wait-listed

Step	Location	Action	Result
5.4	*Schedule Requests*	Delete event A5.	The status of A5 changes to Deleted.
5.5	*Schedule Requests*	While current time is still more than 45 minutes before the start times of requests A6 - A10, review the status of the requests.	A6 - A10 are still Wait listed.
5.6	*Schedule Requests*	When current time is exactly 45 minutes before the start times of requests A6 - A10, **reload** the window and review the status of the requests (reload the window several times to verify the expected results). Make a hardcopy.	Verify: A6 - A10 status changes to Autoqueued (briefly). A6 status changes to Activated. A7 - A10 change to Declined.
5.7	*Customer (SIC) Entry*	Change SIC A's **Default Wait List Expiration** Interval to 1 minute. Click **Save**.	SIC A's wait-listed requests will expire 5 minutes before their start times because the default expiration is now smaller than the time necessary to send events to the GTs (requirement 5.5.6.7.d takes precedence).
5.8	NTS	Send in Wait List Requests as follows:	See table for results.

Reference Request	Wait-List Expiration Interval	Result
A7	00:15:00	A7 status changes to Wait-listed
A8	do not specify (should use default value of 1 minute)	A8 status changes to Wait-listed

5.9	*Schedule Requests*	Click on **Generate Wait List...** and fill in the operator wait list request as follows:	See table for results.

Reference Request	Wait-List Expiration Interval	Result
A9	00:10:00	A9 status changes to Wait-listed

5.10	*Schedule Requests*	Review the status of requests A7 - A9. Make a hardcopy.	Verify: A7 - A9 are Wait listed.

Step	Location	Action	Result
5.11	*Schedule Requests*	When current time is exactly 15 minutes before the start time of request A7, **reload** the window and review the status. Make a hardcopy.	Verify: A7 status changes to Declined at the expiration time specified in the MOC-generated Wait List Request (00:15:00). SRM is sent with result code 13.
5.12	*Schedule Requests*	When current time is exactly 10 minutes before the start time of request A9, **reload** the window and review the status. Make a hardcopy.	Verify: A9 status changes to Declined at the expiration time specified in the Operator-generated Wait List Request (00:10:00). SRM is sent with result code 13.
5.13	*Schedule Requests*	When current time is exactly 5 minutes before the start time of request A8, **reload** the window and review the status. Make a hardcopy.	Verify: A8 status changes to Declined at 5 minutes before the start time (disregarding the default value of 1 minute), because the event can no longer be scheduled early enough to allow transmission to the ground terminal at least 5 minutes prior to actual event start time. SRM is sent with result code 13.
TSWs RECEIVED WHILE WAIT LIST PROCESSING IS INHIBITED			
6.1	*Schedule Control Database*	**Inhibit** wait-list processing. Click **Save**.	Wait-listing is inhibited (it should already have been inhibited since the last step, but check it in case this part of the test is done on a different day).

Step	Location	Action	Result
6.2	NTS	Send in TSWs for SIC A as follows:	TSW Set is stored.

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
GOODBYENCC	041	04:00:00	05:00:00	04:00:00	04:10:00

6.3	NTS	Send in a SAR that requests use of TSWs as follows:	Request is stored.

Request ID	TDRS	Svc	Event Start	Event Duration	Keyword TSWS value	W-L flag	TSW flag	Result
A10	041	MAF	T + 04:00:00	01:00:00	GOODBYENCC	Y	Y	Wait listed

6.4	NTS	Send in a TSW update for SIC A as follows:	TSW Set is modified to a value that would allow A10 to schedule (if Wait listing was not inhibited).

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
GOODBYENCC	041	04:00:00	05:00:00	04:00:00	05:00:00

6.5	NTS	Send in a TSW update for SIC A as follows:	TSW Set is modified to a value that would not allow A10 to schedule.

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
GOODBYENCC	041	04:00:00	05:00:00	04:00:00	04:45:00

6.6	*Schedule Control Database*	**Enable** wait-list processing in **semi-automatic** mode. Click **Save**. Note UTC.	Semi-automatic mode is enabled.

Step	Location	Action	Result
6.7	*Batch Scheduling*	Review the batch schedule window looking for WAITLIST batch schedules. Make a hardcopy.	Verify: No WAITLIST batch schedules exist because even though one of the TSW updates received while wait listing was inhibited would have allowed the request to schedule, the most recent update to the TSWS does not allow A10 to schedule. No SRMs were sent.
6.8	*Schedule Control Database*	**Inhibit** wait-list processing. Click **Save**.	Wait list processing is inhibited.
6.9	NTS	Send in a TSW update for SIC A as follows:	TSW Set is modified to a value that would allow A10 to schedule (if Wait listing was not inhibited).

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
GOODBYENCC	041	04:00:00	05:00:00	04:00:00	05:00:00

6.10	*Schedule Control Database*	**Enable** wait-list processing in automatic mode. Click **Save**. Note UTC.	Automatic mode is enabled.
6.11	*Schedule Requests*	Review the status of request A10. Make a hardcopy.	Verify: The status has changed to Activated because enabling wait list processing triggered wait list processing to occur and the newest version of the TSW Set allowed the wait listed request to schedule. SRM was sent.

Step	Location	Action	Result
		DELOG ANALYSIS	
7.1	NCD	Perform a delog of SRMs (99/02s) for the times noted in this test.	Verify: SRMs were only sent when appropriate.
		DOCUMENTATION	
8.1	SPSR User's Guide	Check the documentation for: The Wait List window (compare to the hardcopy from step 4.6). The **Initiate Waitlist Processing Now** button on the Active Schedule window.	Verify: Documentation is accurate.

5.9 Detailed Test Procedurefor 99.1-5.09 WAIT LISTING ALTERNATE SARs - MOC REQUESTS 5.3.2.2.7.2, 5.3.2.2.7.3, 5.3.3.1.a, 5.3.2.2.6.1, 5.3.2.2.7.4.a, 5.3.2.2.7.4.d, 5.3.3.1.e, 5.5.4.4

OBJECTIVES: This test item will verify the following:

- The NCCDS rejects any Wait-List Request that references a request that has not been reported to the customer as declined via an SRM. [5.3.2.2.7.2]
- If the referenced request is a member of a chain of requests formed by use of Alternate SARs, the NCCDS rejects any Wait-List Request if any of the following conditions are true:
  - The referenced request is not the first member of the chain.
  - The chain has already been placed on the Wait List.
  - Any member of the chain has not been declined.
  - Any member of the chain has resulted in an event being placed on the active schedule. [5.3.2.2.7.2]
- For invalid wait-list requests from the MOC, the NCCDS transmits an SRM to the customer's primary logical destination containing the reason and alerts the operator. [5.3.2.2.7.3]
- The NCCDS reports in the SRMs when the Wait-List Request fails validation. [5.3.3.1.a]
- The NCCDS will validate that a replace request provides the customer the capability to specify that it is to be placed on the wait list if its initial processing is unsuccessful, the replace request applies to the active period, and it references either an active event, the first member of a chain of requests, or a request that is not a member of a chain. [5.3.2.2.6.1]
- The NCCDS includes all members of the chain in future wait list processing if the Wait List Request refers to a request that is the first member of a chain of requests.[5.3.2.2.7.4.a]
- The NCCDS preserves the linkage among the members of the chain. [5.3.2.2.7.4.a]
- In all cases, whenever a declined request is to be included in future wait list processing, the NCCDS reports this to the customer with an SRM. [5.3.2.2.7.4.d]
- The NCCDS sends an SRM when a customer request is placed on the wait list. [5.3.3.1.e]
- After a schedule is activated, the NCCDS places all requests within the activated batch on the wait list that meet the following criteria:
  - The request was declined. [5.5.4.4.a]

- The request specifies that it is to be placed on the wait list if it is declined. [5.5.4.4.b]
- The request applied to the active period when it was received. [5.5.4.4.c]
- An attempt to place the request on the wait list in response to a Wait List Request would be valid according to the rules for valid Wait List Requests. [5.5.4.4.d]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling capabilities.	Toolbar appears.
1.2	NTS	Prepare NTS blocks.	Test data is ready.
1.3	*Schedule Control Database*	Enable Wait Listing in Automatic Mode.	Wait Listing is in Automatic Mode.
1.4	*Schedule Control Database*	Note the Current Batch Boundary. **Ensure** that the Batch Active Period (time between the Current Batch Boundary and Active Period End) is set such that the start time of the earliest ASAR and the end time of the latest ASAR falls between the Current Batch Boundary and the Active Period End. **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. Make a **hardcopy**. Click **Close**.	Active and Batch scheduling periods are determined. |----------|----------| Auto Batch |----------| Active Forecast EOAP
1.5	*Schedule Distribution List*	Choose SICs whose Schedule Distribution List contain more than one destination. Make a **hardcopy**.	SICs have primary and secondary destinations.

Step	Location	Action	Result
VALIDATION – WL REQUEST DOES NOT REFERENCE FIRST MEMBER OF CHAIN			
2.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 1 has the highest scheduling priority and the SIC used for SAR 2 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
2.2	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Ref Req	W/L Flag	Result (after activation)
SAR 1	SMAF	TDE	T + 01:00:00	00:30:00	-	N	Activated
SAR 2	SMAF	TDE	T + 01:15:00	01:00:00	-	N	Declined
Alt SAR A	SMAF	TDE	T + 01:05:00	00:01:00	SAR 2	N	Declined
Alt SAR B	SMAF	TDE	T + 00:45:00	01:00:00	Alt SAR A	N	Declined
Alt SAR C	SMAF	TDE	T + 00:55:00	01:00:00	Alt SAR B	N	Declined

2.3	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.

Step	Location	Action	Result
2.4	NTS	Submit a Wait-List request that references Alt SAR B (an intermediate request in a chain), from a customer's non-primary destination. Note **UTC**.	Verify: Wait List request is rejected. SRM 10:74 is sent to customer's primary logical destination. No SRMs are sent specifying problem code 12.
2.5	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: ALT SAR B is not wait-listed. Other members of the chain are not included in future wait-list processing.
2.6	*Schedule Requests*	Select SAR 1 and click **Delete**. Make a **hardcopy**.	Verify: Alt SAR B stays declined (other members of the chain do not schedule).
2.7	NTS	Repeat steps 2.4 and 2.5 submitting a wait list request that references Alt SAR A (next highest request in chain). Note **UTC**. Make a **hardcopy**.	Verify: Same results.
2.8	NTS	Repeat steps 2.4 and 2.5 submitting a wait list request that references Alt SAR C (last request in chain). Note **UTC**. Make a **hardcopy**.	Verify: Same results.

Step	Location	Action	Result
VALIDATION - WL FLAG CHANGED TO SPARE IN ALTERNATE SAR			
3.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 3 has the highest scheduling priority and the SIC used for SAR 4 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
3.2	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
SAR 3	SMAF	TDE	T + 03:00:00	00:30:00	-	N	Batchstored
SAR 4	SMAF	TDE	T + 03:15:00	01:00:00	-	N	Batchstored

3.3	NTS	Submit an Alt SAR with field 9c (used to be wait list flag, now a spare field) equal to 1 and referencing SAR 4. Note **UTC**.	Verify: Alt SAR is not wait-listed. No SRMs are sent specifying problem code 12.

Step	Location	Action	Result

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
Alt SAR X	SMAF	TDE	T + 03:20:00	00:30:00	SAR 4	1	Chained

3.4	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: Alt SAR X is Chained and not wait-listed. New members of the chain are not included in future wait-list processing.
3.5	*Schedule Requests*	Select the Alt SAR submitted above. Click **View...** Make a **hardcopy**.	The *View Alternate SAR* window appears for the selected request. Verify: The “Wait List if unscheduled” button is unselected and/or desensitized indicating that the Alt SAR is not wait-listed.
3.6	NTS	Repeat step 3.3 setting flag to 0. Note **UTC**.	Verify: Alt SAR is not wait-listed. No SRMs are sent specifying problem code 12.

Step	Location	Action	Result
3.7	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: Alt SAR is Chained and not wait-listed. New members of the chain is not included in future wait-list processing.
3.8	*Schedule Requests*	Select the Alt SAR submitted above. Click **View...** Make a **hardcopy**.	The *View Alternate SAR* window appears for the selected request. Verify: The "Wait List if unscheduled" button is unselected and/or desensitized indicating that the Alt SAR is not wait-listed.
3.9	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table below.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 3	SMAF	TDE	T + 03:00:00	00:30:00	-	N	Activated
SAR 4	SMAF	TDE	T + 03:15:00	01:00:00	-	N	Declined
Alt SAR X	SMAF	TDE	T + 03:20:00	00:30:00	SAR 4	1	Declined
Alt SAR Y	SMAF	TDE	T + 03:25:00	00:30:00	Alt SAR X	0	Declined

Step	Location	Action	Result
3.10	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: SAR 3 is Activated, SAR 4, Alt SAR X, and Alt SAR Y are Declined.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
Alt SAR Y	SMAF	TDE	T + 03:25:00	00:30:00	Alt SAR X	0	Chained

Step	Location	Action	Result
3.11	NTS	Repeat step 3.3 setting flag to 1. Note **UTC**.	Verify: Alt SAR is not wait-listed. No SRMs are sent specifying problem code 12.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
Alt SAR Z	SMAF	TDE	T + 03:30:00	00:30:00	Alt SAR Y	1	Batchstored as a SAR

3.12	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: Alt SAR Z not wait-listed and is processed as a SAR because the referenced request has been declined. New members of the chain is not included in future wait-list processing.
VALIDATION - REPLACE REQUEST W/ WL FLAG SET DOES NOT REFERENCE 1st MEMBER OF CHAIN			
4.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 5 has the highest scheduling priority and the SIC used for SAR 6 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.

Step	Location	Action	Result
4.2	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 5	SMAF	TDE	T + 06:00:00	00:30:00	-	N	Activated
SAR 6	SMAF	TDE	T + 06:15:00	01:00:00	-	N	Declined
Alt SAR D	SMAF	TDE	T + 06:05:00	00:01:00	SAR 6	N	Declined
Alt SAR E	SMAF	TDE	T + 05:45:00	01:00:00	Alt SAR D	N	Declined
Alt SAR F	SMAF	TDE	T + 05:55:00	01:00:00	Alt SAR E	N	Declined

4.3	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
4.4	NTS	Submit a Replace Request with waitlist flag set that references Alt SAR E (an intermediate member of the chain). Note **UTC**.	Verify: Replace request is rejected. SRM 10:74 is sent to customer's primary logical destination. No SRMs are sent specifying problem code 12.

Step	Location	Action	Result
4.5	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: The status of all members of the chain remain declined.
VALIDATION - WL REQUEST REFERENCING MEMBER OF CHAIN DELETED AS A RESULT OF ANOTHER MEMBER PLACED ON THE ACTIVE SCHEDULE			
5.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 7 has the highest scheduling priority and the SIC used for SAR 8 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
5.2	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 7	SMAF	TDE	T + 09:00:00	00:30:00	-	N	Activated
SAR 8	SMAF	TDE	T + 09:15:00	01:00:00	-	N	Declined
Alt SAR G	SMAF	TDE	T + 09:05:00	00:01:00	SAR 8	N	Declined
Alt SAR H	SMAF	TDE	T + 08:45:00	01:00:00	Alt SAR G	N	Declined
Alt SAR I	SMAF	TDE	T + 08:55:00	01:00:00	Alt SAR H	N	Declined

Step	Location	Action	Result
5.3	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
5.4	NTS	Submit a Wait-List request that references SAR 8. Note **UTC**.	Verify: Entire chain is placed on wait list. SRMs are sent to the customer with result code 12 indicating requests were placed on the wait list.
5.5	NTS	Submit another Wait List Request that references SAR 8. Note **UTC**.	Verify: Wait List Request is rejected because chain is already waitlisted. SRM 10:76 is sent to customer's primary logical destination.
5.6	*Schedule Requests*	Select SAR 7 and click **Delete**. Make a **hardcopy**.	Verify: SAR 7 is deleted. SAR 8 is activated. Alt SAR G, H, and I are automatically deleted by Wait List Processing. The linkage of the members of the chain is not preserved.
5.7	NTS	Submit a waitlist request for deleted Alt SAR G. Note **UTC**.	Verify: Wait List Request is rejected because a member of the chain has resulted in an event on active schedule. SRM 10:74 is sent to customer's primary logical destination.
5.8	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: Status of requests remain the same.

Step	Location	Action	Result
FIRST MEMBER OF CHAIN PLACED ON ACTIVE SCHEDULE			
6.1	*Schedule Control Database*	Enable Wait Listing in Semi-Automatic Mode.	Wait Listing is in Semi-Automatic Mode.
6.2	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 9 has the highest scheduling priority and the SIC used for SAR 10 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
6.3	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in the last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 9	MAF	041	T + 12:00:00	00:30:00	-	N	Activated
SAR 10	MAF	041	T + 12:15:00	01:00:00	-	N	Declined
Alt SAR J	MAF	041	T + 11:55:00	01:00:00	SAR 10	N	Declined
Alt SAR K	MAF	041	T + 11:45:00	01:00:00	Alt SAR J	N	Declined
Alt SAR L	MAF	041	T +12:05:00	00:01:00	Alt SAR K	N	Declined

6.4	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.

Step	Location	Action	Result
6.5	*Schedule Requests*	Review Request Summary. Make a **hardcopy**.	SARs and Alt SARs are stored as indicated in the table above.
6.6	NTS	Submit a Wait List Request (99/24) that references SAR 10. Note **UTC**.	Verify: SAR 10 is wait listed. Wait List Request is completed. Alt SARs J-L are placed on the wait list. SRMs are sent to the customer with result code 12 indicating requests were placed on the wait list.
6.7	*Schedule Requests*	Review Request Summary. Make a **hardcopy**.	Verify: Requests have wait-listed status.
6.8	*Schedule Requests*	Select SAR 9. Click **Delete**. Make a **hardcopy**.	SAR9 is deleted. Verify: Operator receives alert that batch schedule WAITLIST is ready for review.
6.9	*Batch Scheduling*	View WAITLIST batch.	Verify: SAR 10 and ALT SAR J-L are included in the WAITLIST batch.
6.10	*Batch Scheduling*	Activate WAITLIST batch.	Verify: Batch activated.
6.11	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: SAR10 activates (other members of the chain are deleted).
6.12	*Schedule Transmission*	Execute the Initial Activation Mode transmission created above. Note **UTC**.	Verify: SRMs are sent for activated events.

Step	Location	Action	Result
6.13	*Schedule Requests*	Select SAR 10. Click **Delete**. Make a **hardcopy**.	SAR 10 is deleted.
6.14	*Schedule Requests*	Repeat steps 6.3-6.7. Make a **hardcopy**.	Verify: Waitlisted chain is created.
6.15	NTS	Submit a Replace Request for SAR 9 changing its start time to 12:30:00. Note **UTC**.	Verify: SAR 9 is deleted. The Replace request is activated. Operator receives alert that batch schedule WAITLIST is ready for review.
6.16	*Batch Scheduling*	Repeat steps 6.9-6.11.	Verify: Alt SAR L activates (other members are deleted).
6.17	*Schedule Transmission*	Execute the Initial Activation Mode transmission created above. Note **UTC**.	Verify: SRMs are sent for activated events.
WAIT LISTED REPLACE REQUEST PLACED ON ACTIVE SCHEDULE			
7.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 11 has the **highest** scheduling priority, the SIC used for SAR 12 has the **lowest** scheduling priority, and the SIC used for SAR 13 has the **middle** scheduling priority. **Note:** The priorities set up in this section are in a slightly different order than in previous sections. Make a **hardcopy**.	SICs are correctly ordered in the priority list.

Step	Location	Action	Result
7.2	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in the last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 11	MAF	041	T + 15:00:00	00:30:00	-	N	Activated
SAR 12	MAF	041	T + 15:00:00	00:30:00	-	N	Declined
SAR 13	MAF	041	T + 15:15:00	01:00:00	-	N	Declined
Alt SAR M	MAF	041	T + 14:55:00	01:00:00	SAR 13	N	Declined
Alt SAR N	MAF	041	T + 14:45:00	01:00:00	Alt SAR M	N	Declined
Alt SAR O	MAF	041	T +15:05:00	00:01:00	Alt SAR N	N	Declined

7.3	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
7.4	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	SARs and Alt SARs are stored as indicated in the table above.

Step	Location	Action	Result
7.5	NTS	Submit a Replace Request starting at 15:05:00 with wait list flag set that references SAR 12 (which is not a member of a chain). Note **UTC**.	Verify: SAR 12 indicates deleted as status. Replace Request is declined and wait-listed. SRM is sent to the customer with result code 12 indicating request was placed on the wait list.
7.6	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: Request has wait list status.
7.7	NTS	Submit a Replace Request starting at 15:20:00 with wait list flag set that references SAR 13 (the first member of the chain). Note **UTC**.	Verify: SAR 13 is deleted. Replace Request is declined and wait-listed. Alt SARs M-O are placed on the wait list. SRMs are sent for each request placed on the wait-list (total = 4), specifying result code 12.
7.8	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: Requests have wait list status.
7.9	*Schedule Requests*	Select SAR 11. Click **Delete**. Make a **hardcopy**.	Verify: SAR 11 is deleted.
7.10	*Batch Scheduling*	View WAITLIST batch.	Verify: Replace Request and ALT SARs M-O are included in WAITLIST batch.
7.11	*Batch Scheduling*	Activate WAITLIST batch.	Verify: Batch activated.

Step	Location	Action	Result
7.12	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: The replace request (that replaced SAR 13) activates (other members of the chain are deleted).
7.13	*Schedule Transmission*	Execute the Initial Activation Mode transmission created above. Note **UTC**.	Verify: SRMs are sent for activated events.
NEW MEMBER OF CHAIN INHERITS WAIT LIST STATUS			
8.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 14 has the highest scheduling priority and the SIC used for SAR 15 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
8.2	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in the last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
SAR 14	MAF	041	T + 17:00:00	00:30:00	-	N	Batchstored
SAR 15	MAF	041	T + 17:15:00	00:10:00	-	Y	Batchstored

Step	Location	Action	Result
8.3	NTS	Submit an Alternate SAR to start at 17:20:00 that references SAR 15. Note **UTC**.	Verify: Alt SAR is not wait listed. No SRMs are sent specifying problem code 12.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
Alt SAR X	MAF	041	T + 17:20:00	00:30:00	SAR 15	N	Chained

8.4	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: Alt SAR X is Chained and not wait-listed.
8.5	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table below.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 14	MAF	041	T + 17:00:00	00:30:00	-	N	Activated
SAR 15	MAF	041	T + 17:15:00	00:10:00	-	Y	Waitlisted
Alt SAR X	MAF	041	T + 17:20:00	00:30:00	SAR 15	N	Waitlisted

Step	Location	Action	Result
8.6	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: SAR 14 is Activated. SAR 15 is Waitlisted because its wait list flag was on when it was submitted. Alt SAR X is Waitlisted because a new member of the chain inherits wait list status of existing member. SRMs are sent to the customer with result code 12 indicating requests were placed on the wait list.
8.7	NTS	Submit an Alternate SAR to start at 17:25:00 that references Alt SAR X. Note **UTC**.	Verify: Alt SAR is not wait-listed. No SRMs are sent specifying problem code 12.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
Alt SAR Y	MAF	041	T + 17:25:00	00:30:00	Alt SAR X	N	Batchstored as a SAR

8.8	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: Alt SAR Y does not inherit the wait list status of the other members of the chain and is processed as a SAR because the referenced request has been declined and waitlisted.

Step	Location	Action	Result
LOWER MEMBERS OF CHAIN ARE INCLUDED IN BATCH AND WAITLISTED WHEN WAITLISTED FIRST MEMBER OF CHAIN IS ONLY MEMBER IMPORTED			
9.1	*Schedule Control Database*	Enable Wait Listing in Automatic Mode.	Wait Listing is in Automatic Mode.
9.2	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 16 has the highest scheduling priority and the SIC used for SAR 17 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
9.3	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results below.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 16	MAF	046	T + 19:00:00	01:00:00	-	N	Schedules
SAR 17	MAF	046	T + 19:00:00	00:30:00	-	Y	Declines and wait listed
Alt SAR P	MAF	046	T + 19:10:00	00:30:00	SAR 17	N	Declines and wait listed
Alt SAR Q	MAF	046	T + 19:20:00	00:30:00	Alt SAR P	N	Declines and wait listed

Step	Location	Action	Result
9.4	*Batch Scheduling*	Generate and activate a batch schedule importing only request Alt SAR P above.	Verify: Requests SAR 17 and Alt SAR Q are included in the batch by default because Alt SAR P (a member of their chain) was included. Results after activation are as shown in above table.
9.5	*Schedule Requests*	Review the window. Make a **hardcopy.**	Verify: Requests SAR 17, Alt SAR P and Alt SAR Q are wait listed because each of them declined in the batch. SRMs are sent to the customer with result code 12 indicating requests were placed on the wait list.
REQUESTS THAT APPLIED TO FORECAST PERIOD WHEN RECEIVED			
10.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 18 has the highest scheduling priority and the SIC used for SAR 19 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
10.2	NTS	Submit the following SARs and ALT SARs for the **forecast** period. **Note:** F is the Active Period End (beginning of the Forecast period). **Note:** After a batch schedule is activated, requests within the batch can be waitlisted only if they applied to the active period when they were received. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in the last column.

Step	Location	Action	Result
10.3	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
10.4	*Schedule Control Database*	Note the Active Period End. Make a **hardcopy**.	After generating and activating the batch above, the Active Period End moves by 1 day and equals the start time of SAR 18.
10.5	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: SAR 18 is Activated. SAR 19 is Declined, but not Waitlisted because the entire chain applied to the forecast period when it was received **and** after the boundary moved. Alt SAR R and Alt SAR S are also Declined and do not inherit wait list status since SAR 19 never became waitlisted.
10.6	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 20 has the highest scheduling priority and the SIC used for SAR 21 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 18	MAF	041	F + 1 day	06:00:00	-	N	Activated
SAR 19	MAF	041	F + 4 days	06:00:00	-	Y	Declined
Alt SAR R	MAF	041	F + 4 days	06:00:00	SAR 19	N	Declined
Alt SAR S	MAF	041	F + 4 days	06:00:00	Alt SAR R	N	Declined

Step	Location	Action	Result
10.7	NTS	Submit the following SARs and ALT SARs for the **forecast** period. **Note:** F is the Active Period End (beginning of the Forecast period). **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in the last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 20	MAF	041	F + 7 days	03:00:00	-	N	Activated
SAR 21	MAF	041	F + 5 days	03:00:00	-	Y	Declined
Alt SAR T	MAF	041	F + 5 days	03:00:00	SAR 21	N	Declined
Alt SAR U	MAF	041	F + 5 days	03:00:00	Alt SAR T	N	Declined

10.8	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
10.9	*Schedule Control Database*	Note the Active Period End. Make a **hardcopy**.	After generating and activating the batch above, the Active Period End moves by 7 days and equals the start time of SAR 20.

Step	Location	Action	Result
10.10	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: SAR 20 is Activated. SAR 21 is Declined, but not Waitlisted because while the entire chain applies to the active period (now that the boundary has moved) it still applied to the forecast period when it was received. Alt SAR T and Alt SAR U are also Declined and do not inherit wait list status since SAR 21 never became waitlisted.
		DELOG ANALYSIS	
11.1	NTS DART	Get delog for 99/02s.	Verify: SRMs are sent for activated events. SRMs with the appropriate reason code were sent for requests added to or removed from the Wait List
		DOCUMENTATION	
12.1	User's Guide	Check that “Wait List if unscheduled” button on Alternate SAR window is desensitized.	Verify: Documentation is correct.

5.10 Detailed Test Procedure for 99.1-5.10
WAIT LISTING ALTERNATE SARs - OPERATOR REQUESTS
5.3.2.2.7.2, 5.3.2.2.7.3, 5.3.2.4, 5.3.2.2.6.1, 5.3.2.2.7.4.a, 5.3.2.2.7.4.d, 5.3.3.1.e, 5.5.4.4

OBJECTIVES: This test item will verify the following:

- The NCCDS rejects any Wait-List Request that references a request that has not been reported to the customer as declined via an SRM. [5.3.2.2.7.2]
- If the referenced request is a member of a chain of requests formed by use of Alternate SARs, the NCCDS rejects any Wait list Request if any of the following conditions are true:
  - The referenced request is not the first member of the chain.
  - The chain has already been placed on the Wait List.
  - Any member of the chain has not been declined.
  - Any member of the chain has resulted in an event being placed on the active schedule. [5.3.2.2.7.2]
- If an operator-originated Wait-List Request is invalid, the NCCDS alerts the operator. [5.3.2.2.7.3]
- For all types of schedule requests that may be received via formatted messages, the NCCDS provides the operator with an equivalent capability. [5.3.2.4]
- The NCCDS will validate that a replace request provides the customer the capability to specify that it is to be placed on the wait list if its initial processing is unsuccessful, the replace request applies to the active period, and it references either an active event, the first member of a chain of requests, or a request that is not a member of a chain. [5.3.2.2.6.1]
- The NCCDS includes all members of the chain in future wait list processing if the Wait List Request refers to a request that is the first member of a chain of requests.[5.3.2.2.7.4.a]
- The NCCDS preserves the linkage among the members of the chain. [5.3.2.2.7.4.a]
- In all cases, whenever a declined request is to be included in future wait list processing, the NCCDS reports this to the customer with an SRM. [5.3.2.2.7.4.d]
- The NCCDS sends an SRM when a customer request is placed on the wait list. [5.3.3.1.e]
- After a schedule is activated, the NCCDS places all requests within the activated batch on the wait list that meet the following criteria:

- The request was declined. [5.5.4.4.a]
- The request specifies that it is to be placed on the wait list if it is declined. [5.5.4.4.b]
- The request applied to the active period when it was received. [5.5.4.4.c]
- An attempt to place the request on the wait list in response to a Wait List Request would be valid according to the rules for valid Wait List Requests. [5.5.4.4.d]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling capabilities.	Toolbar appears.
1.2	NTS	Prepare NTS blocks.	Test data is ready.
1.3	*Schedule Control Database*	Enable Wait Listing in Automatic Mode.	Wait Listing is in Automatic Mode.
1.4	*Schedule Control Database*	Note the Current Batch Boundary. **Ensure** that the Batch Active Period (time between the Current Batch Boundary and Active Period End) is set such that the start time of the earliest ASAR and the end time of the latest ASAR falls between the Current Batch Boundary and the Active Period End. **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. Make a **hardcopy**. Click **Close**.	Active and Batch scheduling periods are determined. |----------|----------| Auto Batch |----------| Active Forecast EOAP
1.5	*Schedule Distribution List*	Choose SICs whose Schedule Distribution List contain more than one destination. Make a **hardcopy**.	SICs have primary and secondary destinations.

Step	Location	Action	Result
VALIDATION – WL REQUEST DOES NOT REFERENCE FIRST MEMBER OF CHAIN			
2.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 1 has the highest scheduling priority and the SIC used for SAR 2 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
2.2	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 1	SMAF	TDE	T + 01:00:00	00:30:00	-	N	Activated
SAR 2	SMAF	TDE	T + 01:15:00	01:00:00	-	N	Declined
Alt SAR A	SMAF	TDE	T + 01:05:00	00:01:00	SAR 2	N	Declined
Alt SAR B	SMAF	TDE	T + 00:45:00	01:00:00	Alt SAR A	N	Declined
Alt SAR C	SMAF	TDE	T + 00:55:00	01:00:00	Alt SAR B	N	Declined

2.3	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
2.4	*Schedule Requests*	Select Alt SAR B and click **Generate Wait List...**	*Create Wait List Request* appears.

Step	Location	Action	Result
2.5	*Create Wait List Request*	Enter Wait List expiration time for 5 minutes. Click **Save**. Note **UTC**. Make a **hardcopy**.	Verify: Wait List Request is stored.
2.6	*Operator Alerts*	Review alerts. Make a **hardcopy**.	Verify: Operator is alerted of invalid wait list request.
2.7	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: The Wait List request status is invalid. Alt SAR B is not wait listed because it is not the first member of the chain. No SRM is sent. Other members of the chain are not included in future wait-list processing.
2.8	*Schedule Requests*	Select SAR 1 and click **Delete**. Make a **hardcopy**.	Verify: Alt SAR B stays declined (all members of the chain stay declined).
2.9	*Schedule Requests*	Repeat steps 2.4 and 2.7 submitting a wait list request that references Alt SAR A (next highest request in chain). Note **UTC**. Make a **hardcopy**.	Verify: Same results.
2.10	*Schedule Requests*	Repeat steps 2.4 and 2.7 submitting a wait list request that references Alt SAR C (last request in chain). Note **UTC**. Make a **hardcopy**.	Verify: Same results.

Step	Location	Action	Result
VALIDATION - REPLACE REQUEST WITH WL FLAG SET DOES NOT REFERENCE FIRST MEMBER OF THE CHAIN			
3.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 3 has the highest scheduling priority and the SIC used for SAR 4 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
3.2	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 3	SMAF	TDE	T + 04:00:00	00:30:00	-	N	Activated
SAR 4	SMAF	TDE	T + 04:15:00	01:00:00	-	N	Declined
Alt SAR D	SMAF	TDE	T + 04:05:00	00:01:00	SAR 4	N	Declined
Alt SAR E	SMAF	TDE	T + 03:45:00	01:00:00	Alt SAR D	N	Declined
Alt SAR F	SMAF	TDE	T + 03:55:00	01:00:00	Alt SAR E	N	Declined

3.3	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
3.4	*Schedule Requests*	Select Alt SAR E and click **Generate Replace...**	*Create Replace Request* appears.

Step	Location	Action	Result
3.5	*Create Replace Request*	Click Wait List if unscheduled. Change start time to 03:45:01. Click **Save**. Note **UTC**. Make a **hardcopy**.	Verify: Replace Request is rejected because only the first member of the chain can be waitlisted. No SRM is sent.
3.6	*Operator Alerts*	Review alerts. Make a **hardcopy**.	Verify: Operator is alerted of invalid Replace Request.
3.7	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: All members of the chain stayed declined.
VALIDATION - WL REQUEST REFERENCING MEMBER OF CHAIN ALREADY WAIT LISTED			
4.1	*Schedule Requests*	Select SAR 4 and click **Generate Wait List...**	*Create Wait List Request* appears.
4.2	*Create Wait List Request*	Enter Wait List expiration time for 5 minutes. Click **Save**. Note **UTC**. Make a **hardcopy**.	Verify: Entire chain is placed on the wait list. No SRM is sent.
4.3	*Schedule Requests*	Select SAR 4 and click **Generate Wait List...** Make a **hardcopy**.	Verify: Error Dialog box appears.
4.4	*Schedule Requests*	Select SAR 3 and click **Delete**. Make a **hardcopy**.	Verify: SAR 3 is deleted. SAR 4 is removed from the wait list and is activated. Alt SAR D, E, and F are automatically deleted by Wait List Processing.

Step	Location	Action	Result
4.5	*Schedule Requests*	Select Alt SAR D and click **Generate Wait List...** Make a **hardcopy**.	Verify: Error Dialog box appears indicating that Alt SAR D has invalid status of deleted (a member of the chain has already been placed on the active schedule). Status of requests remain the same. No SRM is sent.
FIRST MEMBER OF CHAIN PLACED ON ACTIVE SCHEDULE			
5.1	*Schedule Control Database*	Enable Wait Listing in Semi-Automatic Mode.	Wait Listing is in Semi-Automatic Mode.
5.2	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 5 has the highest scheduling priority and the SIC used for SAR 6 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
5.3	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in the last column.

Step	Location	Action	Result
5.4	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
5.5	*Schedule Requests*	Review Request Summary. Make a **hardcopy**.	SARs and Alt SARs are stored as indicated in the table above.
5.6	*Schedule Requests*	Select SAR 6. Click **Generate Wait List...**	*Edit Wait List Request* window appears.
5.7	*Edit Wait List Request*	Enter Wait List expiration time. Click **Save**. Note **UTC**. Make a **hardcopy**.	Verify: Wait list request is saved.
5.8	*Schedule Requests*	Review Request Summary. Make a **hardcopy**.	Verify: SAR 6 is wait listed. Wait List Request is completed. Alt SARs G-I are placed on the wait list. SRMs are sent to the customer with result code 12 indicating requests were placed on the wait list.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation
SAR 5	MAF	041	T + 07:00:00	00:30:00	-	N	Activated
SAR 6	MAF	041	T + 07:15:00	01:00:00	-	N	Declined
Alt SAR G	MAF	041	T + 06:55:00	01:00:00	SAR 6	N	Declined
Alt SAR H	MAF	041	T + 06:45:00	01:00:00	Alt SAR G	N	Declined
Alt SAR I	MAF	041	T +07:05:00	00:01:00	Alt SAR H	N	Declined

Step	Location	Action	Result
5.9	*Schedule Requests*	Select SAR 5. Click **Delete**. Make a **hardcopy**.	SAR5 is deleted. Verify: Operator receives alert that batch schedule WAITLIST is ready for review.
5.10	*Batch Scheduling*	View WAITLIST batch.	Verify: SAR 6 and ALT SAR G-I are include in the WAITLIST batch.
5.11	*Batch Scheduling*	Activate WAITLIST batch.	Verify: Batch activated.
5.12	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: SAR6 activates (other members of the chain are deleted).
5.13	*Schedule Transmission*	Execute the Initial Activation Mode transmission created above. Note **UTC**.	Verify: SRMs are sent for activated events.
5.14	*Schedule Requests*	Select SAR 6. Click **Delete**. Make a **hardcopy**.	SAR 6 is deleted.
5.15	*Schedule Requests*	Repeat steps 5.3-5.8. Make a **hardcopy**.	Verify: Waitlisted chain is created.
5.16	*Schedule Requests*	Generate a Replace Request for SAR 5 changing its start time to 07:30:00. Note **UTC**. Make a **hardcopy**.	Verify: SAR 5 is deleted. The Replace request is activated. Operator receives alert that batch schedule WAITLIST is ready for review.

Step	Location	Action	Result
5.17	*Batch Scheduling*	Repeat step 5.10-5.12.	Verify: Alt SAR I activates (and other members are deleted.
5.18	*Schedule Transmission*	Execute the Initial Activation Mode transmission created above. Note **UTC**.	Verify: SRMs are sent for activated events.
WAIT LISTED REPLACE REQUEST PLACED ON ACTIVE SCHEDULE			
6.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 7 has the highest scheduling priority and the SIC used for SAR 8 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
6.2	NTS	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in the last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 7	MAF	041	T + 10:00:00	00:30:00	-	N	Activated
SAR 8	MAF	041	T + 10:15:00	01:00:00	-	N	Declined
Alt SAR J	MAF	041	T + 09:55:00	01:00:00	SAR 7	N	Declined

Step	Location	Action	Result

Alt SAR K	MAF	041	T + 09:45:00	01:00:00	Alt SAR J	N	Declined
Alt SAR L	MAF	041	T +10:05:00	00:01:00	Alt SAR K	N	Declined

6.3	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
6.4	*Schedule Requests*	Select SAR 8 (first member of the chain) . Click **Generate Replace...**	*Create Replace Request* window appears.
6.5	*Create Replace Request*	Modify start time = 10:20:00. Click wait list check box. Click **Save**. Note the **UTC**. Make a **hardcopy**.	Verify: Replace request is saved.
6.6	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: SAR 8 is deleted. ALT SAR J-L have wait list as status. Replace Request is declined and wait-listed. SRMs are sent for each request placed on the wait-list (total = 4), specifying result code 12.
6.7	*Schedule Requests*	Select SAR 7. Click **Delete**. Make a **hardcopy**.	SAR 7 is deleted.
6.8	*Batch Scheduling*	View WAITLIST batch.	Verify: Replace Request and ALT SARs J-L are included in the WAITLIST batch.
6.9	*Batch Scheduling*	Activate WAITLIST batch.	Verify: Batch activated.

Step	Location	Action	Result
6.10	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: Replace Request activates (other members of the chain are deleted).
NEW MEMBER OF CHAIN INHERITS WAIT LIST STATUS			
7.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 9 has the highest scheduling priority and the SIC used for SAR 10 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
7.2	*Schedule Request*	Submit the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**. Make a **hardcopy**.	Results are specified in the last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
SAR 9	MAF	041	T + 12:00:00	00:30:00	-	N	Batchstored
SAR 10	MAF	041	T + 12:15:00	00:10:00	-	Y	Batchstored

7.3	*Schedule Request*	Select SAR 10. Click **Generate Alternate...**	*Create Alternate SAR* window appears.

Step	Location	Action	Result
7.4	*Create Alternate SAR*	Modify start time = 12:20:00. Attempt to set wait list flag. Click **Save**. Note **UTC**. Make a **hardcopy**.	Verify: Wait list flag cannot be set on window. Alternate SAR is saved. No SRMs are sent specifying problem code 12.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
Alt SAR X	MAF	041	T + 12:20:00	00:30:00	SAR 10	N	Chained

7.5	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: Alt SAR X is Chained and not wait-listed.
7.6	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table below.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 9	MAF	041	T + 12:00:00	00:30:00	-	N	Activated
SAR 10	MAF	041	T + 12:15:00	00:10:00	-	Y	Waitlisted
Alt SAR X	MAF	041	T + 12:20:00	00:30:00	SAR 10	N	Waitlisted

Step	Location	Action	Result
7.7	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: SAR 9 is Activated. SAR 10 is Waitlisted because its wait list flag was on when it was submitted. Alt SAR X is Waitlisted because a new member of the chain inherits wait list status of existing member. SRMs are sent to the customer with result code 12 indicating requests were placed on the wait list.
7.8	*Schedule Request*	Select Alt SAR X. Click **Generate Alternate...**	*Create Alternate SAR* window appears.
7.9	*Create Alternate SAR*	Modify start time = 12:25:00. Attempt to set wait list flag. Click **Save**. Note **UTC**. Make a **hardcopy**.	Verify: Wait list flag cannot be set on window. Alternate SAR is saved. No SRMs are sent specifying problem code 12.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result
Alt SAR Y	MAF	041	T + 12:25:00	00:30:00	Alt SAR X	N	Batchstored as a SAR

Step	Location	Action	Result
7.10	*Schedule Request*	Review Request Summary. Make a **hardcopy**.	Verify: Alt SAR Y does not inherit the wait list status of the other members of the chain and is processed as a SAR because the referenced request has been declined and waitlisted.
LOWER MEMBERS OF CHAIN ARE INCLUDED IN BATCH AND WAITLISTED WHEN WAITLISTED FIRST MEMBER OF CHAIN IS ONLY MEMBER IMPORTED			
8.1	*Schedule Control Database*	Enable Wait Listing in Automatic Mode.	Wait Listing is in Automatic Mode.
8.2	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 11 has the highest scheduling priority and the SIC used for SAR 12 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
8.3	*Schedule Requests*	Generate the following SARs and ALT SARs for the batch scheduling period. **Note:** T + Event Duration must be between the Current Batch Boundary and Active Period End (cannot go into Forecast period). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**. Make a **hardcopy**.	Results below. Verify: Operator is allowed to wait list requests submitted for batch scheduling.

Step	Location	Action	Result

Request	Service	TDRS	Event Start	Event Duration	Reference	W/L Flag	Result (after activation)
SAR 11	MAF	046	T + 14:00:00	01:00:00	-	N	Schedules
SAR 12	MAF	046	T + 14:00:00	00:30:00	-	Y	Declines and wait listed
Alt SAR M	MAF	046	T + 14:10:00	00:30:00	SAR 12	N	Declines and wait listed
Alt SAR N	MAF	046	T + 14:20:00	00:30:00	Alt SAR M	N	Declines and wait listed

8.4	*Batch Scheduling*	Generate and activate a batch schedule importing only request Alt SAR M above.	Verify: Requests SAR 12 and Alt SAR N are included in the batch by default because Alt SAR M (a member of their chain) was included. Results after activation are as shown in above table.
8.5	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests SAR 12, Alt SAR M and Alt SAR N are wait listed because each of them declined in the batch. SRMs are sent to the customer with result code 12 indicating requests were placed on the wait list.
REQUESTS THAT APPLIED TO FORECAST PERIOD WHEN RECEIVED			
9.1	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 13 has the highest scheduling priority and the SIC used for SAR 14 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.

Step	Location	Action	Result
9.2	*Schedule Requests*	Submit the following SARs and ALT SARs for the **forecast** period. **Note:** F is the Active Period End (beginning of the Forecast period). **Note:** After a batch schedule is activated, requests within the batch can be waitlisted only if they applied to the active period when they were received. **Note:** Full Support Customers Only. Note **UTC**. Make a **hardcopy**.	Results are specified in the last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 13	MAF	041	F + 1 day	06:00:00	-	N	Activated
SAR 14	MAF	041	F + 4 days	06:00:00	-	Y	Declined
Alt SAR O	MAF	041	F + 4 days	06:00:00	SAR 14	N	Declined
Alt SAR P	MAF	041	F + 4 days	06:00:00	Alt SAR O	N	Declined

9.3	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
9.4	*Schedule Control Database*	Note the Active Period End. Make a **hardcopy**.	After generating and activating the batch above, the Active Period End moves by 1 day and equals the start time of SAR 13.

Step	Location	Action	Result
9.5	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: SAR 13 is Activated. SAR 14 is Declined, but not Waitlisted because the entire chain applied to the forecast period when it was received **and** after the boundary moved. Alt SAR O and Alt SAR P are also Declined and do not inherit wait list status since SAR 14 never became waitlisted.
9.6	*Scheduling Priority List*	Choose different SICs such that the SIC used for SAR 15 has the highest scheduling priority and the SIC used for SAR 16 has the lowest. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
9.7	*Schedule Requests*	Submit the following SARs and ALT SARs for the **forecast** period. **Note:** F is the Active Period End (beginning of the Forecast period). **Note:** Full Support Customers Only. Note **UTC**. Make a **hardcopy**.	Results are specified in the last column.

Request	Service	TDRS	Event Start	Event Duration	Reference Request	W/L Flag	Result (after activation)
SAR 15	MAF	041	F + 7 days	03:00:00	-	N	Activated
SAR 16	MAF	041	F + 5 days	03:00:00	-	Y	Declined
Alt SAR Q	MAF	041	F + 5 days	03:00:00	SAR 16	N	Declined

Step	Location	Action	Result
Alt SAR R	MAF 041	F + 5 days 03:00:00	Alt SAR Q N Declined
9.8	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
9.9	*Schedule Control Database*	Note the Active Period End. Make a **hardcopy**.	After generating and activating the batch above, the Active Period End moves by 7 days and equals the start time of SAR 15.
9.10	*Schedule Requests*	Review request summary. Make a **hardcopy**.	Verify: SAR 15 is Activated. SAR 16 is Declined, but not Waitlisted because while the entire chain applies to the active period (now that the boundary has moved) it still applied to the forecast period when it was received. Alt SAR Q and Alt SAR R are also Declined and do not inherit wait list status since SAR 16 never became waitlisted.
		DELOG ANALYSIS	
10.1	NTS DART	Get delog for 99/02s.	Verify: SRM are sent for activated events. SRMs with the appropriate reason code were sent for requests added to or removed from the Wait List.
		DOCUMENTATION	
11.1	User's Guide	Check that “Wait List if unscheduled” button on Alternate SAR window is desensitized.	Verify: Documentation is correct.

Section 6. Flexible Events

6.1 Detailed Test Procedure for 99.1-6.01 FLEXIBLE USMs - SIMULATION SUPPORT 5.3.4.2.1.b, 5.3.4.2.2, 5.3.4.2.3, 5.6.1.a

OBJECTIVES: This test item will verify the following:

- The NCCDS uses simulation support User Schedule Messages (USMs) for flexible events (94/05s) containing end-to-end test services and which was scheduled more than or equal to 45 minutes prior to event start time. [5.3.4.2.1.b]
- The NCCDS provides a unique identification of each event for any individual customer. [5.3.4.2.2]
- For events scheduled in response to schedule requests submitted by the customer, the NCCDS bases the message ID of the USM on the message ID of the schedule request. [5.3.4.2.2]
- For events scheduled in response to operator inputs, the NCCDS creates USM message IDs that uniquely identify such events and that do not conflict with the identification of events scheduled in response to SARs. [5.3.4.2.2]
- If the schedule request specifies a TDRS set rather than a specific TDRS, the NCCDS uses the specified TDRS set in the flexible USM. [5.3.4.2.3.a.1]
- If the schedule request specifies SA antenna flexibility, the NCCDS indicates a specific SA antenna in the corresponding flexible USM parameter. [5.3.4.2.3.a.2]
- The NCCDS fills in the MAR and SMAR Link ID parameters with ASCII spaces in flexible USMs. [5.3.4.2.3.a.3]
- If the schedule request specifies User Interface Channel flexibility, the NCCDS indicates a specific User Interface Channel ID in the corresponding flexible USM parameter. [5.3.4.2.3.a.4]
- If the schedule request indicated any flexibility for a particular time-related parameter, the NCCDS uses the corresponding parameter in the flexible USM to specify an estimation of the value that the parameter would have had if the event had been frozen at the time of the schedule transmission. [5.3.4.2.3.b]

- The NCCDS sends each destination its schedule in the format specified in the applicable ICD. [5.6.1.a]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Database and Scheduling capabilities.	Toolbar appears.
1.2	Database Subpanel	Click the **Customer** icon.	*Customer Database* appears.
1.3	*Customer Database*	Identify full support customers for normal SIC's A through E and shuttle SIC's S and T.	Full support customers are identified.
1.4	*Schedule Distribution List*	Review fixed USM destinations for each SIC from step 1.3.	Flexible USMs can be received for these destinations when flexible column is set to yes.
1.5	*Customer Services*	Select a SSC from the list and click **Open...** to view an existing SSC. Enter a SSC, select the service type and service configuration and click **Add...** to create a SSC.	*<Service> Schedulable Parameters* appears.
1.6	*<Service> Schedulable Parameters*	Create or identify some SSCs with **multiple** user interface channels available and the **EITHER** button depressed for the SA antennas.	SSCs for the specified SICs and service types are in the database with multiple user interface channels specified and the SA antenna selectable.
1.7	*Space Network Summary*	Select **TDRS Sets...** from the **Edit** menu.	*TDRS Sets* appears.
1.8	*TDRS Sets*	Create TDRS Set 'ABC' to include TDRSs 041 and 046.	TDRS Set is correct.
1.9	NTS	Create NTS blocks (99/10s) for flexible requests as needed in this test case. (freeze interval (byte 65) should be less than the event start time).	NTS blocks are ready. Block file:_____
1.10	*Space Network Summary*	Select **TDRS Operational Names & Mappings** from the **Edit** menu.	*TDRS Operational Names & Mappings* appears.

Step	Location	Action	Result
	TDRS Operational Names & Mappings	Assign the TDRS/ID/SGLT as follows: 041 D SGT1 171 G SGT2 192 H SGT3 TDE I SGT4 TDW K SGT5 046 F WSC1 174 E WSC2 285 A WSC3 TDS J WSC4 TDZ Z WSC5	TDRS assignments are correct.
		USER REQUESTS - NORMAL SICs	
2.1	NTS	According to the table below, schedule normal events for each service type and their associated EET service on WSGT and STGT. Note UTC.	Verify: Events are scheduled.

Request Id	TDRS	Event Start	Services	Service Start	Service Duration	Flexible Parameters
A 1	ABC	UTC + 01:00:00	MAF FEET-D	00:00:00 00:00:00	00:10:00 00:10:00	TDRS
B 1	TDS	UTC + 02:00:00	SSAF FEET-L	00:00:00 00:00:00	00:10:00 00:10:00	SA Antenna
C 1	171	UTC + 03:00:00	KuSAF 01 FEET-D	00:00:00 00:00:00	00:10:00 00:10:00	Multiple User Interface Channels specified
D 1	TDS	UTC + 02:00:00	SMAR REET-L	00:00:00 00:00:00	00:10:00 00:10:00	Event Plus Tolerance 01:00:00
E 1	171	UTC + 02:30:00	SSAF 01 FEET-D SSAR 01 REET-D	00:00:00 00:00:00 00:20:00 00:20:00	00:25:00 00:25:00 00:10:00 00:10:00	Service Start Time Minus Tolerance -00:10:00 CSN=03

Step	Location	Action	Result			
A 2	171	UTC + 02:00:00	KuSAF 01 FEET-L KuSAR 01 REET-L	00:00:00 00:00:00 00:00:00 00:00:00	00:30:00 00:30:00 00:30:00 00:30:00	Service Duration Minimum 00:05:00
B 2	174	UTC + 04:00:00	MAR REET-D	00:00:00 00:00:00	00:10:00 00:10:00	Link #
C 2	192	UTC + 10:00:00	KuSAF 01 FEET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L	00:00:00 00:00:00 00:00:00 00:00:00 00:10:00 00:10:00 00:20:00 00:20:00 00:30:00 00:30:00 00:40:00 00:40:00 00:50:00 00:50:00 01:00:00 01:00:00	01:07:00 01:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00	
2.2	Scheduling Subpanel *Schedule Requests*	Select **Schedule Requests**. Review the request summary Obtain a **hardcopy**.	*Schedule Requests* appears. Verify: Start time for event D1 is 02:13:00 SSAR 01/EET-D services for event E1 scheduled 02:48:30-02:58:30 KuSAF 01/EET-L services for event A2 scheduled 02:00:00-02:28:30 Each event received an event ID			
2.3	*Schedule Requests*	Select a request and click **Edit...**	*Edit SAR* appears.			
2.4	*Edit SAR*	Obtain a **hardcopy** Select a service and click **Parameters...**	Screen is printed *<Service> Schedulable Parameters* appears.			

Step	Location	Action	Result
2.5	*<Service> Schedulable Parameters*	Obtain a **hardcopy**.	Screen is printed.
2.6	Workstation	Repeat steps 2.3-2.5 for each of the requests and for each of the services within the requests.	Screens are printed.
2.7	Workstation	Transmit the events to the MOCs. Note UTC.	Verify: 8 USMs (94/05s) are sent to the MOCs.
2.8	NTS DART	Delog all the 94/05s. Compare the delogs to the message formats in the MOC ICD, and to the hardcopies of event and service descriptions.	Verify: The format and content of each message is correct The shuttle parameters are blank The user interface channel ID and data rate fields in the USM are blank for local EETs The user interface channel ID and data rate fields in the USM are identical for DIS EETs TDRS set ABC is specified in the USM for event A1 A specific SA antenna is used in the USM for event B1 The MAR and SMAR Link ID field is filled with ASCII spaces for events D1 and B2 A specific User Interface Channel ID is used for event C1 An estimation of the time-related parameters is indicated in the USM for events D1, E1, and A2.
2.9	NTS DART	Delog 99/10s for steps 2.1 and 2.7.	Verify: The event IDs of the USMs are identical to the request IDs of the schedule requests.

Step	Location	Action	Result
2.10	NTS	Delete the events in step 2.1.	Events are deleted.
		OPERATOR REQUESTS - NORMAL SICs	
3.1	Scheduler Workstation	According to the table below, schedule normal events for each service type and their associated EET service on WSGT and STGT. Note UTC.	Verify: Events are scheduled.

Request Id	TDRS	Event Start	Services	Service Start	Service Duration	Flexible Parameters
A 3	ABC	UTC + 01:00:00	MAF FEET-D	00:00:00 00:00:00	00:10:00 00:10:00	TDRS
B 3	TDS	UTC + 02:00:00	SSAF FEET-L	00:00:00 00:00:00	00:10:00 00:10:00	SA Antenna
C 3	171	UTC + 03:00:00	KuSAF 01 FEET-D	00:00:00 00:00:00	00:10:00 00:10:00	Multiple User Interface Channels specified
D 3	TDS	UTC + 02:00:00	SMAR REET-L	00:00:00 00:00:00	00:10:00 00:10:00	Event Plus Tolerance +01:00:00
E 3	171	UTC + 02:30:00	SSAF 01 FEET-D SSAR 01 REET-D	00:00:00 00:00:00 00:20:00 00:20:00	00:25:00 00:25:00 00:10:00 00:10:00	Service Start Time Minus Tolerance -00:10:00 CSN=03
A 4	171	UTC + 02:00:00	KuSAF 01 FEET-L KuSAR 01 REET-L	00:00:00 00:00:00 00:00:00 00:00:00	00:30:00 00:30:00 00:30:00 00:30:00	Service Duration Minimum 00:05:00
B 4	174	UTC + 04:00:00	MAR REET-D	00:00:00 00:00:00	00:10:00 00:10:00	Link #

Step	Location	Action	Result			
C 4	192	UTC + 10:00:00	KuSAF 01 FEET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L	00:00:00 00:00:00 00:00:00 00:00:00 00:10:00 00:10:00 00:20:00 00:20:00 00:30:00 00:30:00 00:40:00 00:40:00 00:50:00 00:50:00 01:00:00 01:00:00	01:07:00 01:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00	
3.2	*Schedule Requests*	Review the request summary Obtain a **hardcopy**.	Verify: Start time for event D3 is 02:13:00 SSAR 01/EET-D services for event E3 scheduled 02:48:30-02:58:30 KuSAF 01/EET-L services for event A4 scheduled 02:00:00-02:28:30 Each event received an event ID The event IDs do not conflict with the identification of events scheduling in response to SARs (9,000,000-9,999,999)			
3.3	*Schedule Requests*	Select a request and click **Edit...**	*Edit SAR* appears.			
3.4	*Edit SAR*	Obtain a **hardcopy** Select a service and click **Parameters...**	Screen is printed *<Service> Schedulable Parameters* appears.			
3.5	*<Service> Schedulable Parameters*	Obtain a **hardcopy**.	Screen is printed.			

Step	Location	Action	Result
3.6	Workstation	Repeat steps 3.3-3.5 for each of the requests and for each of the services within the requests.	Screens are printed.
3.7	Workstation	Transmit the events to the MOCs. Note UTC.	Verify: 8 USMs (94/05s) are sent to the MOCs.
3.8	NTS DART	Delog all the 94/05s.	Verify: The format and content of each message is correct The shuttle parameters are blank The user interface channel ID and data rate fields in the USM are blank for local EETs The user interface channel ID and data rate fields in the USM are identical for DIS EETs The event IDs in the USMs are identical to the event IDs in step 3.2 TDRS set ABC is specified in the USM for event A3 A specific SA antenna is used in the USM for event B3 The MAR and SMAR Link ID field is filled with ASCII spaces for events D3 and B4 A specific User Interface Channel ID is used for event C3 An estimation of the time-related parameters is indicated in the USM for events D3, E3, and A4.
3.9	NTS DART	Use Block Compare tool to compare delogs from step 2.8 and 3.8. Masking out event ID and event start time fields.	Verify: Unique messages might be found if a different SA antenna is selected for (new) B3 or if a different user interface channel is selected for (new) C3.

Step	Location	Action	Result
3.10	NTS	Delete the events in step 3.1.	Events are deleted.
		USER REQUESTS - SHUTTLE SICs	
4.1	NTS	According to the table below, schedule shuttle events for each service type and their associated EET service on WSGT and STGT. Note UTC.	Verify: Events are scheduled.

Request Id	TDRS	Event Start	Services	Service Start	Service Duration	Flexible Parameters
A 5	ABC	UTC + 01:00:00	KuSAR 02 REET-L	00:00:00 00:00:00	00:10:00 00:10:00	TDRS
B 5	TDS	UTC + 02:00:00	SSAF FEET-L	00:00:00 00:00:00	00:10:00 00:10:00	SA Antenna
C 5	171	UTC + 03:00:00	KuSAF 01 FEET-L	00:00:00 00:00:00	00:10:00 00:10:00	Multiple User Interface Channels specified
D 5	TDS	UTC + 02:00:00	SSAR 01 REET-L	00:00:00 00:00:00	00:10:00 00:10:00	Event Plus Tolerance +01:00:00
C 6	192	UTC + 10:00:00	KuSAF 01 FEET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L KuSAR 01 REET-L	00:00:00 00:00:00 00:00:00 00:00:00 00:10:00 00:10:00 00:20:00 00:20:00 00:30:00 00:30:00 00:40:00 00:40:00 00:50:00 00:50:00 01:00:00 01:00:00	01:07:00 01:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00 00:07:00	

Step	Location	Action	Result
4.2	*Schedule Requests*	Review the request summary Obtain a **hardcopy**.	Verify: Start time for event D5 is 02:13:00 Each event received an event ID
4.3	*Schedule Requests*	Select a request and click **Edit...**	*Edit SAR* appears.
4.4	*Edit SAR*	Obtain a **hardcopy** Select a service and click **Parameters...**	Screen is printed *<Service> Schedulable Parameters* appears.
4.5	*<Service> Schedulable Parameters*	Obtain a **hardcopy**.	Screen is printed.
4.6	Workstation	Repeat steps 4.3-4.5 for each of the requests and for each of the services within the requests.	Screens are printed.
4.7	Workstation	Transmit the events to the MOCs. Note UTC.	Verify: 5 USMs (94/05s) are sent to the MOCs.
4.8	NTS DART	Delog all the 94/05s. Compare the delogs to the message formats in the MOC ICD, and to the hardcopies of event and service descriptions.	Verify: The format and content of each message is correct The normal parameters are blank The user interface channel ID and data rate fields in the USM are blank for local EETs TDRS set ABC is specified in the USM for event A5 A specific SA antenna is used in the USM for event B5 A specific User Interface Channel ID is used for event C5 An estimation of the time-related parameters is indicated in the USM for event D5.

Step	Location	Action	Result
4.9	NTS DART	Delog 99/10s for steps 4.1 and 4.7.	The event IDs of the USMs are identical to the request IDs of the schedule requests.
4.10	NTS	Delete events in step 4.1.	Events are deleted.
OPERATOR REQUESTS - SHUTTLE SICs			
5.1	Scheduler Workstation	According to the table below, schedule shuttle events for each service type and their associated EET service on WSGT and STGT. Note UTC.	Verify: Events are scheduled.

Request Id	TDRS	Event Start	Services	Service Start	Service Duration	Flexible Parameters
A 7	ABC	UTC + 01:00:00	KuSAR 02 REET-L	00:00:00 00:00:00	00:10:00 00:10:00	TDRS
B 7	TDS	UTC + 02:00:00	SSAF FEET-L	00:00:00 00:00:00	00:10:00 00:10:00	SA Antenna
C 7	171	UTC + 03:00:00	KuSAF 01 FEET-L	00:00:00 00:00:00	00:10:00 00:10:00	Multiple User Interface Channels specified
D 7	TDS	UTC + 02:00:00	SSAR 01 REET-L	00:00:00 00:00:00	00:10:00 00:10:00	Event Plus Tolerance +01:00:00

Step	Location	Action	Result
C 8	192	UTC + 10:00:00	KuSAF 01 00:00:00 01:07:00 FEET-L 00:00:00 01:07:00 KuSAR 01 00:00:00 00:07:00 REET-L 00:00:00 00:07:00 KuSAR 01 00:10:00 00:07:00 REET-L 00:10:00 00:07:00 KuSAR 01 00:20:00 00:07:00 REET-L 00:20:00 00:07:00 KuSAR 01 00:30:00 00:07:00 REET-L 00:30:00 00:07:00 KuSAR 01 00:40:00 00:07:00 REET-L 00:40:00 00:07:00 KuSAR 01 00:50:00 00:07:00 REET-L 00:50:00 00:07:00 KuSAR 01 01:00:00 00:07:00 REET-L 01:00:00 00:07:00
5.2	*Schedule Requests*	Review the request summary. Obtain a **hardcopy**.	Verify: Start time for event D7 is 02:13:00 Each event received an event ID The event IDs do not conflict with the identification of events scheduling in response to SARs (9,000,000-9,999,999)
5.3	*Schedule Requests*	Select a request and click **Edit...**	*Edit SAR* appears.
5.4	*Edit SAR*	Obtain a **hardcopy** Select a service and click **Parameters...**	Screen is printed *<Service> Schedulable Parameters* appears.
5.5	*<Service> Schedulable Parameters*	Obtain a **hardcopy**.	Screen is printed.
5.6	Workstation	Repeat steps 5.3-5.5 for each of the requests and for each of the services within the requests.	Screens are printed.
5.7	Workstation	Transmit the events to the MOCs. Note UTC.	Verify: 5 USMs (94/05s) are sent to the MOCs.

Step	Location	Action	Result
5.8	NTS DART	Delog all the 94/05s.	Verify: The format and content of each message is correct The normal parameters are blank The user interface channel ID and data rate fields in the USM are blank for local EETs The event IDs in the USMs are identical to the event IDs in step 5.2 TDRS set ABC is specified in the USM for event A7 A specific SA antenna is used in the USM for event B7 A specific User Interface Channel ID is used for event C7 An estimation of the time-related parameters is indicated in the USM for events D7.
5.9	NTS DART	Use Block Compare tool to compare delogs from step 4.8 and 5.8. Masking out event ID and event start time fields.	Verify: Unique messages might be found if a different SA antenna is selected for (new) B7 or if a different user interface channel is selected for (new) C7.

6.2 Detailed Test Procedure for 99.1-6.02 FLEXIBLE USMs - NORMAL SUPPORT 5.3.4.2.1.c, 5.3.4.2.2, 5.3.4.2.3, 5.6.1.a

OBJECTIVES: This test item will verify the following:

- The NCCDS uses normal support User Schedule Messages (USMs) for flexible events (94/04s) without EET services, and which were scheduled more than or equal to 45 minutes prior to the event start time. [5.3.4.2.1.c]
- The NCCDS provides a unique identification of each event for any individual customer. [5.3.4.2.2]
- For events scheduled in response to schedule requests submitted by the customer, the NCCDS bases the message ID of the USM on the message ID of the schedule request. [5.3.4.2.2]
- For events scheduled in response to operator inputs, the NCCDS creates USM message IDs that uniquely identify such events and that do not conflict with the identification of events scheduled in response to SARs. [5.3.4.2.2]
- If the schedule request specifies a TDRS set rather than a specific TDRS, the NCCDS uses the specified TDRS set in the flexible USM. [5.3.4.2.3.a.1]
- If the schedule request specifies SA antenna flexibility, the NCCDS indicates a specific SA antenna in the corresponding flexible USM parameter. [5.3.4.2.3.a.2]
- The NCCDS fills in the MAR and SMAR Link ID parameters with ASCII spaces in flexible USMs. [5.3.4.2.3.a.3]
- If the schedule request specifies User Interface Channel flexibility, the NCCDS indicates a specific User Interface Channel ID in the corresponding flexible USM parameter. [5.3.4.2.3.a.4]
- If the schedule request indicated any flexibility for a particular time-related parameter, the NCCDS uses the corresponding parameter in the flexible USM to specify an estimation of the value that the parameter would have had if the event had been frozen at the time of the schedule transmission. [5.3.4.2.3.b]
- The NCCDS sends each destination its schedule in the format specified in the applicable ICD. [5.6.1.a]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Database and Scheduling capabilities.	Toolbar appears.
1.2	Database Subpanel	Click the **Customer** icon.	*Customer Database* appears.
1.3	*Customer Database*	Identify full support customers for normal SIC's A through E and shuttle SIC's S and T.	Full support customers are identified.
1.4	*Schedule Distribution List*	Review fixed USM destinations for each SIC from step 1.3.	Flexible USMs can be received for these destinations when flexible column is set to yes.
1.5	*Customer Services*	Create or identify some SSCs with **multiple** user interface channels available and the **EITHER** button depressed for the SA antennas.	SSCs for the specified SICs and service types are in the database with multiple user interface channels specified and the SA antenna selectable.
1.6	*Space Network Summary*	Select **TDRS Sets...** from the **Edit** menu.	*TDRS Sets* appears.
1.7	*TDRS Sets*	Create a TDRS Set 'ABC' to include TDRSs 041 and 046.	TDRS Set is correct.
1.8	NTS	Create NTS blocks (99/10s) for flexible requests as needed in this test case. (freeze interval (byte 65) should be less than the event start time).	NTS blocks are ready. Block file:_____
1.9	*Space Network Summary*	Select **TDRS Operational Names & Mappings** from the **Edit** menu.	*TDRS Operational Names & Mappings* appears.

Step	Location	Action	Result
	TDRS Operational Names & Mappings	Assign the TDRS/ID/SGLT as follows: 041 D SGT1 171 G SGT2 192 H SGT3 TDE I SGT4 TDW K SGT5 046 F WSC1 174 E WSC2 285 A WSC3 TDS J WSC4 TDZ Z WSC5	TDRS assignments are correct.
		USER REQUESTS - NORMAL SICs	
2.1	NTS	According to the table below, schedule normal events for each service type on WSGT and STGT. Note UTC.	Verify: Events are scheduled.

Request Id	TDRS	Event Start	Services	Service Start	Service Duration	Flexible Parameters
A 1	ABC	UTC + 01:00:00	MAF	00:00:00	00:10:00	TDRS
B 1	TDS	UTC + 02:00:00	KuSAR	00:00:00	00:10:00	SA Antenna
C 1	TDE	UTC + 03:00:00	KuSAF 01	00:00:00	00:10:00	Multiple User Interface Channels specified
D 1	TDE	UTC + 03:10:00	SSAF 01 SMAR	00:00:00 00:00:00	00:10:00 00:10:00	Event Plus Tolerance 01:00:00
E 1	TDE	UTC + 02:30:00	SSAF 01 SSAR 01	00:00:00 00:20:00	00:25:00 00:10:00	Service Start Time Minus Tolerance -00:10:00

Step	Location	Action	Result			
A 2	TDE	UTC + 02:00:00	SMAR KaSAR 01 TRK-C	00:00:00 00:00:00 00:00:00	00:30:00 00:30:00 00:30:00	Service Duration Minimum 00:05:00 CSN=03
B 2	174	UTC + 04:00:00	MAR	00:00:00	00:10:00	Link #
C 2	192	UTC + 10:00:00	KaSAF 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02	00:00:00 00:00:00 00:02:00 00:04:00 00:06:00 00:08:00 00:10:00 00:12:00 00:14:00 00:16:00 00:18:00 00:20:00 00:22:00 00:24:00 00:26:00 00:28:00 00:30:00 00:32:00	00:33:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30	
2.2	Scheduling Subpanel	Select **Schedule Requests**.			*Schedule Requests* appears.	
	Schedule Requests	Review the request summary Obtain a **hardcopy**.			Verify: The start time for event D1 is 03:11:30 SSAR 01 service for event E1 scheduled 02:48:30-02:58:30 KaSAR 01 service for event A2 scheduled 02:00:00-02:28:30 Each event received an event ID	

Step	Location	Action	Result
2.3	*Schedule Requests*	Select a request and click **Edit...**	*Edit SAR* appears.
2.4	*Edit SAR*	Obtain a **hardcopy** Select a service and click **Parameters...**	Screen is printed *<Service> Schedulable Parameters* appears.
2.5	*<Service> Schedulable Parameters*	Obtain a **hardcopy**.	Screen is printed.
2.6	Workstation	Repeat steps 2.3-2.5 for each of the requests and for each of the services within the requests.	Screens are printed.
2.7	Workstation	Transmit the events to the MOCs. Note UTC.	Verify: 8 USMs (94/04s) are sent to the MOCs.

Step	Location	Action	Result
2.8	NTS DART	Delog all the 94/04s. Compare the delogs to the message formats in the MOC ICD, and to the hardcopies of event and service descriptions.	Verify: The format and content of each message is correct The shuttle parameters are blank A TDRS set ABC is specified in the USM for event A1 A specific SA antenna is used in the USM for event B1 The MAR and SMAR Link ID field is filled with ASCII spaces for events B2 and D1 A specific User Interface Channel ID is used for event C1 An estimation of the time-related parameters is indicated in the USM for events D1, E1, and A2 All 16 services are included in the USM for event C2.
2.9	NTS DART	Delog the 99/10s from steps 2.1 and 2.7.	The event IDs of the USMs are identical to the request IDs of the schedule requests
2.10	NTS	Delete the events in step 2.1.	Events are deleted.
		OPERATOR REQUESTS - NORMAL SICs	
3.1	Scheduler Workstation	According to the table below, schedule normal events for each service type on WSGT and STGT. Note UTC.	Verify: Events are scheduled.

Request Id	TDRS	Event Start	Services	Service Start	Service Duration	Flexible Parameters

Step	Location	Action	Result			
A 3	ABC	UTC + 01:00:00	MAF	00:00:00	00:10:00	TDRS
B 3	TDS	UTC + 02:00:00	KuSAR	00:00:00	00:10:00	SA Antenna
C 3	TDE	UTC + 03:00:00	KuSAF 01	00:00:00	00:10:00	Multiple User Interface Channels specified
D 3	TDE	UTC + 03:10:00	SSAF 01 SMAR	00:00:00 00:00:00	00:10:00 00:10:00	Event Plus Tolerance 01:00:00
E 3	TDE	UTC + 02:30:00	SSAF 01 SSAR 01	00:00:00 00:20:00	00:25:00 00:10:00	Service Start Time Minus Tolerance -00:10:00
A 4	TDE	UTC + 02:00:00	SMAR KaSAR 01 TRK-C	00:00:00 00:00:00 00:00:00	00:30:00 00:30:00 00:30:00	Service Duration Minimum 00:05:00 CSN=03
B 4	174	UTC + 04:00:00	MAR	00:00:00	00:10:00	Link #

Step	Location	Action	Result			
C 4	192	UTC + 10:00:00	KaSAF 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02 KaSAR 02	00:00:00 00:00:00 00:02:00 00:04:00 00:06:00 00:08:00 00:10:00 00:12:00 00:14:00 00:16:00 00:18:00 00:20:00 00:22:00 00:24:00 00:26:00 00:28:00 00:30:00 00:32:00	00:33:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30	
3.2	*Schedule Requests*	Review the request summary Obtain a **hardcopy**.	Verify: The start time for event D3 is 03:11:30 SSAR 01 service for event E3 scheduled 02:48:30-02:58:30 KaSAR 01 service for event A4 scheduled 02:00:00-02:28:30 Each event received an event ID The event IDs do not conflict with the identification of events scheduling in response to SARs (9,000,000-9,999,999)			
3.3	*Schedule Requests*	Select a request and click **Edit...**	*Edit SAR* appears.			
3.4	*Edit SAR*	Obtain a **hardcopy** Select a service and click **Parameters...**	Screen is printed *<Service> Schedulable Parameters* appears.			
3.5	*<Service> Schedulable Parameters*	Obtain a **hardcopy**.	Screen is printed.			

Step	Location	Action	Result
3.6	Workstation	Repeat steps 3.3-3.5 for each of the requests and for each of the services within the requests.	Screens are printed.
3.7	Workstation	Transmit the events to the MOCs. Note UTC.	Verify: 8 USMs (94/04s) are sent to the MOCs.
3.8	NTS DART	Delog all the 94/04s.	Verify: The format and content of each message is correct The shuttle parameters are blank The event IDs in the USM are identical to the event IDs in step 3.2 Event IDs are unique for each event A TDRS set ABC is specified in the USM for event A3 A specific SA antenna is used in the USM for event B3 The MAR and SMAR Link ID field is filled with ASCII spaces for events B4 and D3 A specific User Interface Channel ID is used for event C3 An estimation of the time-related parameters is indicated in the USM for events D3, E3, and A4 All 16 services are included in the USM for event C4.

Step	Location	Action	Result
3.9	NTS	Use Block Compare tool to compare delogs from step 2.8 and 3.8. Masking out the event ID and the event start time fields.	Verify: Format of the messages for the operator requests are the same as the format of messages for the MOC requests. (Note: Unique messages might be found if a different SA antenna is selected for the (new) B3 or if a different user interface channel is selected for the (new) C3.
3.10	NTS	Delete the events in step 3.1.	Events are deleted.
		USER REQUESTS - SHUTTLE SICs	
4.1	NTS	According to the table below, schedule shuttle events for each service type on WSGT and STGT. Note UTC.	Verify: Events are scheduled.

Request Id	TDRS	Event Start	Services	Service Start	Service Duration	Flexible Parameters
S 1	ABC	UTC + 01:00:00	SSAR 02	00:00:00	00:10:00	TDRS
T 1	TDS	UTC + 02:00:00	KuSAR	00:00:00	00:10:00	SA Antenna
S 2	TDE	UTC + 03:00:00	KuSAF 01	00:00:00	00:10:00	Multiple User Interface Channels specified
T 2	TDE	UTC + 03:10:00	KuSAF 01 KuSAR 01	00:00:00 00:00:00	00:10:00 00:10:00	Event Plus Tolerance 01:00:00
S 3	TDE	UTC + 02:30:00	SSAF 01 SSAR 01	00:00:00 00:20:00	00:25:00 00:10:00	Service Start Time Minus Tolerance -00:10:00

Step	Location	Action	Result			
T 3	TDE	UTC + 02:00:00	SSAF 01 SSAR 01 TRK-N	00:00:00 00:00:00 00:00:00	00:30:00 00:30:00 00:30:00	Service Duration Minimum 00:05:00 CSN=03
S 4	192	UTC + 10:00:00	KuSAF 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02	00:00:00 00:00:00 00:02:00 00:04:00 00:06:00 00:08:00 00:10:00 00:12:00 00:14:00 00:16:00 00:18:00 00:20:00 00:22:00 00:24:00 00:26:00 00:28:00 00:30:00 00:32:00	00:33:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30	
4.2	*Schedule Requests*	Review the request summary Obtain a **hardcopy**.	Verify: The start time for event T2 is 03:11:30 SSAR 01 service for event S3 scheduled 02:48:30-02:58:30 SSAF 01, SSAR 01/TRK-N services for event T3 are rescheduled Each event received an event ID			
4.3	*Schedule Requests*	Select a request and click **Edit...**	*Edit SAR* appears.			
4.4	*Edit SAR*	Obtain a **hardcopy** Select a service and click **Parameters...**	Screen is printed *<Service> Schedulable Parameters* appears.			

Step	Location	Action	Result
4.5	*<Service> Schedulable Parameters*	Obtain a **hardcopy**.	Screen is printed.
4.6	Workstation	Repeat steps 4.3-4.5 for each of the requests and for each of the services within the requests.	Screens are printed.
4.7	Workstation	Transmit the events to the MOCs. Note UTC.	Verify: 7 USMs (94/04s) are sent to the MOCs.
4.8	NTS DART	Delog all the 94/04s. Compare the delogs to the message formats in the MOC ICD, and to the hardcopies of event and service descriptions.	Verify: The format and content of each message is correct The normal parameters are blank A TDRS set ABC is specified in the USM for event S1 A specific SA antenna is used in the USM for event T1 A specific User Interface Channel ID is used for event S2 An estimation of the time-related parameters is indicated in the USM for events T2, S3, and T3 All 16 services are included in the USM for event S4.
4.9	NTS DART	Delog the 99/10s from steps 4.1 and 4.7.	The event IDs of the USMs are identical to the request IDs of the schedule requests
4.10	NTS	Delete the events from step 4.1.	Events are deleted.

Step	Location	Action	Result
OPERATOR REQUESTS - SHUTTLE SICs			
5.1	Scheduler Workstation	According to the table below, schedule shuttle events for each service type on WSGT and STGT. Note UTC.	Verify: Events are scheduled.

Request Id	TDRS	Event Start	Services	Service Start	Service Duration	Flexible Parameters
S 5	ABC	UTC + 01:00:00	SSAR 02	00:00:00	00:10:00	TDRS
T 5	TDS	UTC + 02:00:00	KuSAR	00:00:00	00:10:00	SA Antenna
S 6	TDE	UTC + 03:00:00	KuSAF 01	00:00:00	00:10:00	Multiple User Interface Channels specified
T 6	TDE	UTC + 03:10:00	KuSAF 01 KuSAR 01	00:00:00 00:00:00	00:10:00 00:10:00	Event Plus Tolerance 01:00:00
S 7	TDE	UTC + 02:30:00	SSAF 01 SSAR 01	00:00:00 00:20:00	00:25:00 00:10:00	Service Start Time Minus Tolerance -00:10:00
T 7	TDE	UTC + 02:00:00	SSAF 01 SSAR 01 TRK-N	00:00:00 00:00:00 00:00:00	00:30:00 00:30:00 00:30:00	Service Duration Minimum 00:05:00 CSN=03

Step	Location	Action	Result			
S 8	192	UTC + 10:00:00	KuSAF 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02 KuSAR 02	00:00:00 00:00:00 00:02:00 00:04:00 00:06:00 00:08:00 00:10:00 00:12:00 00:14:00 00:16:00 00:18:00 00:20:00 00:22:00 00:24:00 00:26:00 00:28:00 00:30:00 00:32:00	00:33:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30 00:01:30	
5.2	*Schedule Requests*	Review the request summary Obtain a **hardcopy**.	Verify: The start time for event T6 is 03:11:30 SSAR 01 service for event S7 scheduled 02:48:30-02:58:30 SSAF 01, SSAR 01/TRK-N services for event T7 are rescheduled Each event received an event ID The event IDs do not conflict with the identification of events scheduling in response to SARs (9,000,000-9,999,999)			
5.3	*Schedule Requests*	Select a request and click **Edit...**	*Edit SAR* appears.			
5.4	*Edit SAR*	Obtain a **hardcopy** Select a service and click **Parameters...**	Screen is printed *<Service> Schedulable Parameters* appears.			

Step	Location	Action	Result
5.5	*<Service> Schedulable Parameters*	Obtain a **hardcopy**.	Screen is printed.
5.6	Workstation	Repeat steps 5.3-5.5 for each of the requests and for each of the services within the requests.	Screens are printed.
5.7	Workstation	Transmit the events to the MOCs. Note UTC.	Verify: 8 USMs (94/04s) are sent to the MOCs.
5.8	NTS DART	Delog all the 94/04s.	Verify: The format and content of each message is correct The normal parameters are blank The event IDs in the USM are identical to the event IDs in step 5.2 Event IDs are unique for each event A TDRS set ABC is specified in the USM for event S5 A specific SA antenna is used in the USM for event T5 A specific User Interface Channel ID is used for event S6 An estimation of the time-related parameters is indicated in the USM for events T6, S7, and T7 All 16 services are included in the USM for event S8.

Step	Location	Action	Result
5.9	NTS	Use Block Compare tool to compare delogs from step 4.8 and 5.8. Masking out the event ID and the event start time fields.	Verify: Format of the messages for the operator requests are the same as the format of messages for the MOC requests. (Note: Unique messages might be found if a different SA antenna is selected for the (new) T5 or if a different user interface channel is selected for the (new) S6.

6.3 Detailed Test Procedure for NCC 99.1-6.03 SCHEDULE REQUEST FREEZE INTERVAL IS REACHED 5.5.5.a

OBJECTIVES: This test item will verify the following:

- The NCCDS freezes each flexible event when the interval specified in the request is reached. [5.5.5.a]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Operator with necessary privileges is logged on.
1.2	Database Subpanel	Click the **Space Network** icon.	*Space Network Database* window appears.
1.3	*Space Network Database*	Select **TDRS Operational Names & Mappings** from the **Edit** menu.	*TDRS Operational Names & Mappings* window appears.
1.4	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the automatic scheduling subphase are as follows: TDRS ID SGLT 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5	TDRS Assignments are correct.
1.5	*TDRS Operational Names & Mappings*	Click **Close**.	Window closes.

Step	Location	Action	Result
1.6	*Customer Database*	Choose four full-support SICs. SIC A: _____ SIC B: _____ SIC C: _____ SIC D: _____	SICs are identified.
1.7	*Schedule Transmission Rules Sets Details*	Make sure no STRS for the above SICs are active. For all following steps, do not transmit the schedules to the GTs or any other external entities.	No STRS are active.
1.8	*Customer Database*	Select SIC A and click **Modify...**	*Customer (SIC) Entry* window appears.
1.9	*Customer (SIC) Entry*	Change the Default Freeze Interval to be 50 minutes. **Note**: The Default Freeze Interval is set in this test item but should be ignored since the SAR Freeze Intervals are set in the SARs. The SAR Freeze interval will be subtracted from event start to determine when resources are frozen. The tester must perform this to determine 'freeze time'.	Default Freeze Interval has been set but should be ignored.
1.10	Workstation	Repeat steps 1.8-1.9 for each SIC used in this test.	Default Freeze Interval has been set but should be ignored.
1.11	*Schedulable Parameters* (for various services)	Create SSCs such that: - all the SSCs can be simultaneously scheduled on the SGLT (no other conflicts, such as UIFC conflicts exist).	Test data is ready.
1.12	*Schedule Distribution List*	Ensure that for each SIC in this test there has a destination that can receive Flexible USMs.	Destinations are flexible.
1.13	*TDRS Sets*	Create TDRS Set '04X' to include TDRSs 041 and 046.	TDRS Set '04X' is created.

Step	Location	Action	Result
1.14	*Active Schedule*	Choose a day "T" in the automatic scheduling period. Check that no events are scheduled on day "T" (delete any existing events).	No events are scheduled on day "T".
1.15	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below. Note: All blocks for this test item must be pre-scheduled prior to SAR Freeze interval. Troubleshooting blocks that won't schedule could skew test results if SAR freeze interval is reached before a necessary action.	NTS blocks are ready. Block file: _____ _____
SAR FREEZE INTERVAL IS REACHED (TDRS Flexibility)			
2.1	NTS	Submit SARs as described below: Note UTC.	Request are received

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	SAR Freeze Interval	MIND	Schedule Results
A1	041	T+01:00:00	SSAR1	00:00:00	00:10:00	N/A	N/A	Event Schedules at 01:00:00
A2	046	T+ 01:05:00	SSAR1	00:00:00	00:10:00	N/A	N/A	Event schedules at 01:05:00
A3	04X	T+01:00:00	SSAR1	00:00:00	00:10:00	00:00:45 DD:HH:MM	00:01:00	Event schedules at 01:00:00 on 046 and uses MIND to shrink to end at 01:03:30
A4	041	T+01:30:00	SSAR1	00:00:00	00:10:00	N/A	N/A	Event schedules at 01:30:00
A5	046	T+01:35:00	SSAR1	00:00:00	00:15:00	N/A	N/A	Event schedules at 01:35:00

Step	Location			Action				Result
A6	04X	T+ 01:30:00	SSAR1	00:00:00	00:10:00	00:00:45 DD:HH:MM	00:01:00	Event schedules at 01:30:00 on 046 and uses MIND to shrink to end at 01:33:30

2.2	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 2 Flexible USMs are sent.
2.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
2.4	*Active Schedule*	Delete A4 before freeze time of A6 is reached.	Verify: At freeze time A3 remains as scheduled. It can't lengthen its duration because resources are still unavailable. After A4 is deleted and A6 reaches its freeze time, A6 should lengthen back to its nominal duration of 00:10:00 by using its TDRS flexibility to switch to 041. 2 Fixed USMs are sent automatically .
2.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (Antenna Flexibility)			
3.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Step	Location			Action				Result
Req	**TDRS**	**Event Start**	**Svcs**	**Service Start**	**Service Duration**	**SAR Freeze Interval**	**MIND**	**Schedule Results**
B1	285	T+01:00:00	SSAR1	00:00:00	00:10:00	N/A	N/A	Event Schedules at 01:00:00
B2	285	T+01:05:00	SSAR2	00:00:00	00:10:00	N/A	N/A	Event schedules at 01:05:00
B3	285	T+01:00:00	SSAR-	00:00:00	00:10:00	00:00:45	00:01:00	Event schedules at 01:00:00 on antenna 2 and uses MIND to shrink to end at 01:03:30.
B4	285	T+01:30:00	SSAR1	00:00:00	00:10:00	N/A	N/A	Event schedules at 01:30:00
B5	285	T+01:35:00	SSAR2	00:00:00	00:15:00	N/A	N/A	Event schedules at 01:35:00
B6	285	T+01:30:00	SSAR-	00:00:00	00:10:00	00:00:45	00:01:00	Event schedules at 01:30:00 on antenna 2 and uses MIND to shrink to end at 01:33:30
3.2	*Schedule Transmissions*			Transmit the above events to the Flexible MOC destination prior to their freeze time.				Verify: 2 Flexible USMs are sent.
3.3	*Active Schedule*			Review the window. Make a hardcopy.				See results in above table.

Step	Location	Action	Result
3.4	*Active Schedule*	Delete B4 before freeze time of B6 is reached.	Verify: At freeze time B4 remains as scheduled. It can't lengthen its duration because resources are still unavailable. After B4 is deleted and B6 reaches its freeze time, B6 should lengthen back to its nominal duration of 00:10:00 by using its antenna flexibility to switch to antenna 1. 2 Fixed USMs are sent automatically .
3.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (UIFC Flexibility)			
4.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	SAR Freeze Interval	UIFC	MIND	Schedule Results
C1	285	T+01:30:00	KSAR2	00:00:00	00:10:00	N/A	MXX	N/A	Event schedules at 01:30:00
C2	046	T+01:35:00	KSAR2	00:00:00	00:15:00	N/A	MXY	N/A	Event schedules at 01:35:00
C3	171	T+01:30:00	KSAR2	00:00:00	00:15:00	00:01:10	MXX MXY	00:01:00	Event schedules at 01:30:00 with UIFC MXY and uses MIND to shrink to end at 01:33:30
C4	285	T+02:00:00	KSAR2	00:00:00	00:10:00	N/A	MXX	N/A	Event schedules at 02:00:00

Step	Location		Action					Result	
C5	046	T+02:05:00	KSAR2	00:00:00	00:15:00	N/A	MXY	N/A	Event schedules at 02:05:00
C6	171	T+02:00:00	KSAR2	00:00:00	00:15:00	00:01:00	MXX MXY	00:01:00	Event schedules at 02:00:00 with UIFC MXY and uses MIND to shrink to end at 02:03:30

4.2	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 2 Flexible USMs are sent.
4.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
4.4	*Active Schedule*	Delete C1 before freeze time of C3 is reached. Delete C5 before freeze time of C6 is reached.	Verify: After C1 is deleted and C3 reaches its freeze time, C3 should lengthen back to its nominal duration of 00:15:00 by using its UIFC flexibility to switch to UIFC MXX. After C5 is deleted and C6 reaches its freeze time, C6 should lengthen back to its nominal duration of 00:15:00 and continue to be scheduled with UIFC MXY. 2 Fixed USMs are sent automatically .
4.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (MAR/SMAR)			
5.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Step	Location			Action				Result
Req	**TDRS**	**Event Start**	**Svcs**	**Service Start**	**Service Duration**	**SAR Freeze Interval**	**MIND**	**Schedule Results**
D1	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	N/A	Event schedules at 01:00:00 on MAR1
D2	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	N/A	Event schedules at 01:00:00 on MAR2
D3	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	N/A	Event schedules at 01:00:00 on MAR3
D4	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	N/A	Event schedules at 01:00:00 on MAR4
D5	041	T+01:15:00	MAR	00:00:00	00:30:00	N/A	N/A	Event schedules at 01:15:00 on MAR5
D6	041	T+01:00:00	MAR	00:00:00	00:30:00	00:00:45	00:01:00	Event schedules at 01:00:00 on MAR5 and uses MIND to shrink to end at 01:14:30

5.2	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USM is sent.
5.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
5.4	*Active Schedule*	Delete D3 before freeze time of D6 is reached.	Verify: After D3 is deleted and D6 reaches its freeze time, D6 should lengthen back to its nominal duration of 00:30:00 by switching to MAR 3. 1 Fixed USM is sent automatically .
5.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
5.6	Workstation	Repeat the above steps with SMAR services on TDRS TDE.	Results are same as above
SAR FREEZE INTERVAL IS REACHED (Event Minus Tolerance)			

Step	Location	Action	Result
6.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	SAR Freeze Interval	Event Minus Tolerance	MIND	Schedule Results
D7	041	T+03:04:00	MAF	00:00:00	00:04:00	N/A	N/A	N/A	Event schedules at 03:04:00
D8	041	T+03:08:30	MAF	00:00:00	00:01:30	N/A	N/A	N/A	Event schedules at 03:08:30
D9	041	T+03:30:00	MAF	00:00:00	00:10:00	N/A	N/A	N/A	Event schedules at 03:30:00
D10	041	T+03:10:30	MAF	00:00:00	00:25:00	00:00:45	00:25:00	00:01:00	Event schedules at 03:10:30 and uses MIND to shrink to end at 03:29:30

6.2	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USM is sent.
6.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
6.4	*Active Schedule*	Delete D8 before freeze time of D10 is reached.	Verify: After D8 is deleted and D10 reaches its freeze time, D10 should lengthen to a duration of 00:21:00 by using its Event Minus Tolerance to start at 03:08:30. 1 Fixed USM is sent automatically .

Step	Location	Action	Result
6.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (Event Plus Tolerance)			
7.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	SAR Freeze Interval	Event Plus Tolerance	MIND	Schedule Results
D11	285	T+01:05:00	MAF	00:00:00	00:10:00	N/A	N/A	N/A	Event schedules at 01:05:00
D12	285	T+01:17:00	MAF	00:00:00	00:10:00	N/A	N/A	N/A	Event schedules at 01:17:00
D13	285	T+01:00:00	MAF	00:00:00	00:10:00	00:00:45	00:20:00	00:01:00	Event schedules at 01:00:00 and uses MIND to shrink to end at 01:04:30

7.2	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USMs is sent.
7.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
7.4	*Active Schedule*	Delete D12 before freeze time of D13 is reached.	Verify: After D12 is deleted and D13 reaches its freeze time, D13 should lengthen to its nominal duration of 00:10:00 by using its Event Plus Tolerance to start at 01:15:30. 1 Fixed USM is sent automatically .

Step	Location	Action	Result
7.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (Service Minus Tolerance)			
8.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	SAR Freeze Interval	Service Minus Tolerance	MIND	Schedule Results
A7	285	T+00:00:00	SSAR1	00:00:00	00:10:00	N/A	N/A	N/A	Event schedules at 00:00:00
A8	285	T+00:30:00	SSAR1	00:00:00	00:10:00	N/A	N/A	N/A	Event schedules at 00:30:00
A9	285	T+00:12:00	MAF SSAR1	00:00:00 00:00:00	00:20:00 00:23:00	00:00:08	00:18:00	00:20:00	Event schedules at 00:12:00 and uses MIND to shrink the SSAR1 to end at 00:28:30

8.2	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USMs is sent.
8.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.

Step	Location	Action	Result
8.4	*Active Schedule*	Delete A7 before freeze time of A9 is reached.	Verify: After A7 is deleted and A9 reaches its freeze time, A9 should lengthen its SSAR1 to its nominal duration of 00:23:00 by using its Service Minus Tolerance to start at 00:05:30. 1 Fixed USM is sent automatically .
8.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (Service Plus Tolerance)			
9.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	SAR Freeze Interval	Service Plus Tolerance	MIND	Schedule Results
C7	041	T+002: 00:28:00	SSAR1	00:00:00	00:02:00	N/A	N/A	N/A	Event schedules at 002:00:28:00
C8	041	T+002: 00:10:00	SSAR1	00:00:00	00:05:00	N/A	N/A	N/A	Event schedules at 002:00:10:00
C9	041	T+002: 00:17:00	SSAR1	00:00:00	00:05:00	N/A	N/A	N/A	Event schedules at 002:00:17:00
C10	041	T+002: 00:00:00	MAF SSAR1	00:00:00 00:00:00	00:20:00 00:16:00	01:00:00	00:18:00	00:01:00	Event schedules at 002:00:00:00 and uses MIND to shrink its SSAR1 to end at 002: 00:08:30

Step	Location	Action	Result
9.2	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USMs is sent.
9.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
9.4	*Active Schedule*	Delete C9 before freeze time of C10 is reached.	Verify: After C9 is deleted and C10 reaches its freeze time, C10 should lengthen its SSAR1 to a duration of 00:10:00 by using its Service Plus Tolerance to start at 00:16:30. 1 Fixed USM is sent automatically .
9.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
UPDATE SAR AT SAR FREEZE TIME DUE TO UPDATED TSW			
10.1	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:00:00:00 Close Time T + 000:01:00:00	TSW is sent.
10.2	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.3	NTS	Submit SARs A10 and A11 only.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	SAR Freeze Interval	Tolerance	MIND	Schedule Results
A10	041	T+00:00:00	MAF	00:00:00	00:15:00	00:00:45	N/A	N/A	Event schedules within TSW at 00:00:00

Step	Location			Action				Result	
A11	041	T+00:30:00	MAF	00:00:00	00:15:00	00:00:45	N/A	N/A	Event schedules within TSW 00:30:00
A12	041	T+02:00:00	MAF	00:00:00	00:10:00	00:00:45	-00:10:00	N/A	Event schedules within TSW 02:00:00
A13	041	T+02:30:00	MAF	00:00:00	00:20:00	00:00:45	N/A	00:01:00	Event schedules within TSW 02:30:50
A14	041	T+02:55:00	MAF	00:00:00	00:03:00	00:00:45	-00:30:00	N/A	Event schedules within TSW 02:55:00
A15	041	T+04:00:00	MAF	00:00:00	00:45:00	00:00:45	N/A	00:01:00	Event schedules at 04:00:00 and uses MIND to shrink to end at 04:30:00 to fit within TSW

10.4	*Schedule Transmissions*	Transmit A10 and A11 to the Flexible MOC destination prior to their freeze time.	Verify: 2 Flexible USMs are sent.
10.5	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:00:00:00 Close Time T + 000:00:40:00	TSW is sent.
10.6	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.7	*Operator Alerts*	Review the alerts.	Verify: A11 no longer falls within TSW.

Step	Location	Action	Result
10.8	*Schedule Request*	Wait until freeze time of A10 and A11 is reached. Review the window. Make a hardcopy.	A11 remains as 'Activated'.
10.9	*Active Schedule*	Review the window. Make a hardcopy.	A11 remains on the Active Schedule. Verify: 2 Fixed USMs are sent automatically.
10.10	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:02:00:00 Close Time T + 000:03:00:00	TSW is sent.
10.11	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.12	NTS	Submit SARs A12, A13 and A14 in the above table.	Requests are received, see table results.
10.13	*Schedule Transmissions*	Transmit A12, A13 and A14 to the Flexible MOC destination prior to their freeze time.	Verify: 3 Flexible USMs are sent.
10.14	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:02:05:00 Close Time T + 000:03:45:00	TSW is sent
10.15	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.16	*Operator Alerts*	Review the alerts.	Verify: A12, A13 and A14 no longer fit within TSW.

Step	Location	Action	Result
10.17	*Schedule Request*	Wait until freeze time of A12, A13 and A14 is reached. Review the window. Make a hardcopy.	A12, A13 and A14 remain 'Activated'.
10.18	*Active Schedule*	Review the window. Make a hardcopy.	Verify: A12 uses Plus Tolerance and schedules from 02:05:00 - 02:15:00. A13 uses MIND and schedules from 02:30:00 - 02:45:00. A14 uses Minus Tolerance and schedules from 02:26:30-02:29:30. All requests will fit within updated TSW. 3 Fixed USMs are sent automatically.
10.19	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:04:00:00 Close Time T + 000:04:30:00	TSW is sent.
10.20	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.21	NTS	Submit SAR A15 only.	Request received, see table results.
10.22	*Schedule Transmissions*	Transmit A15 to the Flexible MOC destination prior to its freeze time.	Verify: 1 Flexible USM is sent.
10.23	*TDRS Scheduling Window Set Details*	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:04:00:00 Close Time T + 000:04:50:00	TSW is sent.

Step	Location	Action	Result
10.24	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.25	*Operator Alerts*	Review the alerts.	Verify: Entire nominal duration of A15 now fits within TSW.
10.26	*Schedule Request*	Wait until freeze time of A15 is reached. Review the window. Make a hardcopy.	A15 remains 'Activated'.
10.27	*Active Schedule*	Review the window. Make a hardcopy.	Verify: A15 lengthens to its nominal duration of 00:45:00. 1 Fixed USM is sent automatically.
		DELOG ANALYSIS	
11.1	NTS DART	Get delog for 94/01s and 94/04s.	Verify: Fixed and Flexible USMs are sent for the appropriate events.
		DOCUMENTATION	
12.1	User’s Guide	Review the documentation.	Verify: Documentation is correct and complete.

6.4 Detailed Test Procedure for NCC 99.1-6.04 CUSTOMER DEFAULT FREEZE INTERVAL IS REACHED 5.5.5.b

OBJECTIVES: This test item will verify the following:

- The NCCDS freezes each flexible event when the customer default freeze interval is reached. [5.5.5.a]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Operator with necessary privileges is logged on.
1.2	Database Subpanel	Click the **Space Network** icon.	*Space Network Database* window appears.
1.3	*Space Network Database*	Select **TDRS Operational Names & Mappings** from the **Edit** menu.	*TDRS Operational Names & Mappings* window appears.
1.4	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the automatic scheduling subphase are as follows: TDRS ID SGLT 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5	TDRS Assignments are correct.
1.5	*TDRS Operational Names & Mappings*	Click **Close**.	Window closes.

Step	Location	Action	Result
1.6	*Customer Database*	Choose four full-support SICs. SIC A: _____ SIC B: _____ SIC C: _____ SIC D: _____	SICs are identified.
1.7	*Schedule Transmission Rules Sets Details*	Make sure no STRS for the above SICs are active. For all following steps, do not transmit the schedules to the GTs or any other external entities.	No STRS are active.
1.8	*Schedulable Parameters* (for various services)	Create SSCs such that: - all the SSCs can be simultaneously scheduled on the SGLT (no other conflicts, such as UIFC conflicts exist).	Test data is ready.
1.9	*Schedule Distribution List*	Ensure that for each SIC in this test there has a destination that can receive Flexible USMs.	Destinations are flexible.
1.10	*TDRS Sets*	Create TDRS Set '04X' to include TDRSs 041 and 046.	TDRS Set '04X' is created.
1.11	*Active Schedule*	Choose a day "T" in the automatic scheduling period. Check that no events are scheduled on day "T" (delete any existing events).	No events are scheduled on day "T".
1.12	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below. Note: All blocks for this test item must be pre-scheduled prior to SAR Freeze interval. Troubleshooting blocks that won't schedule could skew test results if SAR freeze interval is reached before a necessary action.	NTS blocks are ready. Block file: _____ _____
SAR FREEZE INTERVAL IS REACHED (TDRS Flexibility)			

Step	Location	Action	Result
2.1	*Customer Database*	Select SIC A and click **Modify...**	*Customer (SIC) Entry* window appears.
2.2	*Customer (SIC) Entry*	Set the Default Freeze Interval to be 45 minutes.	Default Freeze Interval is set to 45 minutes.
2.3	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Request are received

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	MIND	Schedule Results
A1	041	T+01:00:00	SSAR1	00:00:00	00:10:00	N/A	Event Schedules at 01:00:00
A2	046	T+ 01:05:00	SSAR1	00:00:00	00:10:00	N/A	Event schedules at 01:05:00
A3	04X	T+01:00:00	SSAR1	00:00:00	00:10:00	00:01:00	Event schedules at 01:00:00 on 046 and uses MIND to shrink to end at 01:03:30
A4	041	T+01:30:00	SSAR1	00:00:00	00:10:00	N/A	Event schedules at 01:30:00
A5	046	T+01:35:00	SSAR1	00:00:00	00:15:00	N/A	Event schedules at 01:35:00
A6	04X	T+ 01:30:00	SSAR1	00:00:00	00:10:00	00:01:00	Event schedules at 01:30:00 on 046 and uses MIND to shrink to end at 01:33:30

2.4	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 2 Flexible USMs are sent.
2.5	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.

Step	Location	Action	Result
2.6	*Active Schedule*	Delete A4 before freeze time of A6 is reached.	Verify: At freeze time A3 remains as scheduled. It can't lengthen its duration because resources are still unavailable. After A4 is deleted and A6 reaches its freeze time, A6 should lengthen back to its nominal duration of 00:10:00 by using its TDRS flexibility to switch to 041. 2 Fixed USMs are sent automatically .
2.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (Antenna Flexibility)			
3.1	*Customer Database*	Select SIC B and click **Modify...**	*Customer (SIC) Entry* window appears.
3.2	*Customer (SIC) Entry*	Set the Default Freeze Interval to be 45 minutes.	Default Freeze Interval is set to 45 minutes.
3.3	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	MIND	Schedule Results
B1	285	T+01:00:00	SSAR1	00:00:00	00:10:00	N/A	Event Schedules at 01:00:00
B2	285	T+01:05:00	SSAR2	00:00:00	00:10:00	N/A	Event schedules at 01:05:00
B3	285	T+01:00:00	SSAR-	00:00:00	00:10:00	00:01:00	Event schedules at 01:00:00 on antenna 2 and uses MIND to shrink to end at 01:03:30.
B4	285	T+01:30:00	SSAR1	00:00:00	00:10:00	N/A	Event schedules at 01:30:00
B5	285	T+01:35:00	SSAR2	00:00:00	00:15:00	N/A	Event schedules at 01:35:00

Step	Location	Action	Result
B6	285 T+01:30:00 SSAR- 00:00:00 00:10:00 00:01:00		Event schedules at 01:30:00 on antenna 2 and uses MIND to shrink to end at 01:33:30
3.4	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 2 Flexible USMs are sent.
3.5	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
3.6	*Active Schedule*	Delete B4 before freeze time of B6 is reached.	Verify: At freeze time B4 remains as scheduled. It can't lengthen its duration because resources are still unavailable. After B4 is deleted and B6 reaches its freeze time, B6 should lengthen back to its nominal duration of 00:10:00 by using its antenna flexibility to switch to antenna 1. 2 Fixed USMs are sent automatically .
3.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (UIFC Flexibility)			
4.1	*Customer Database*	Select SIC C and click **Modify...**	*Customer (SIC) Entry* window appears.
4.2	*Customer (SIC) Entry*	Set the Default Freeze Interval to be 1 hour and 10 minutes.	Default Freeze Interval is set to 1 hour and 10 minutes.
4.3	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Requests are received.

Step	Location	Action	Result
4.4	*Customer Database*	Select SIC C and click **Modify...**	*Customer (SIC) Entry* window appears.
4.5	*Customer (SIC) Entry*	Set the Default Freeze Interval to be 1 hour.	Default Freeze Interval is set to 1 hour.
4.6	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	UIFC	MIND	Schedule Results
C1	285	T+01:30:00	KSAR2	00:00:00	00:10:00	MXX	N/A	Event schedules at 01:30:00
C2	046	T+01:35:00	KSAR2	00:00:00	00:15:00	MXY	N/A	Event schedules at 01:35:00
C3	171	T+01:30:00	KSAR2	00:00:00	00:15:00	MXX MXY	00:01:00	Event schedules at 01:30:00 with UIFC MXY and uses MIND to shrink to end at 01:33:30

4.7	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 2 Flexible USMs are sent.
4.8	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	UIFC	MIND	Schedule Results
C4	285	T+02:00:00	KSAR2	00:00:00	00:10:00	MXX	N/A	Event schedules at 02:00:00
C5	046	T+02:05:00	KSAR2	00:00:00	00:15:00	MXY	N/A	Event schedules at 02:05:00
C6	171	T+02:00:00	KSAR2	00:00:00	00:15:00	MXX MXY	00:01:00	Event schedules at 02:00:00 with UIFC MXY and uses MIND to shrink to end at 02:03:30

Step	Location	Action	Result
4.9	*Active Schedule*	Delete C1 before freeze time of C3 is reached. Delete C5 before freeze time of C6 is reached.	Verify: After C1 is deleted and C3 reaches its freeze time, C3 should lengthen back to its nominal duration of 00:15:00 by using its UIFC flexibility to switch to UIFC MXX. After C5 is deleted and C6 reaches its freeze time, C6 should lengthen back to its nominal duration of 00:15:00 and continue to be scheduled with UIFC MXY. 2 Fixed USMs are sent automatically .
4.10	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (MAR/SMAR)			
5.1	*Customer Database*	Select SIC D and click **Modify...**	*Customer (SIC) Entry* window appears.
5.2	*Customer (SIC) Entry*	Set the Default Freeze Interval to be 45 minutes.	Default Freeze Interval is set to 45 minutes.
5.3	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	MIND	Schedule Results
D1	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:00:00 on MAR1
D2	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:00:00 on MAR2
D3	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:00:00 on MAR3
D4	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:00:00 on MAR4

Step	Location	Action	Result

D5	041	T+01:15:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:15:00 on MAR5
D6	041	T+01:00:00	MAR	00:00:00	00:30:00	00:01:00	Event schedules at 01:00:00 on MAR5 and uses MIND to shrink to end at 01:14:30

5.4	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USM is sent.
5.5	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
5.6	*Active Schedule*	Delete D3 before freeze time of D6 is reached.	Verify: After D3 is deleted and D6 reaches its freeze time, D6 should lengthen back to its nominal duration of 00:30:00 by switching to MAR 3. 1 Fixed USM is sent automatically .
5.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
5.8	Workstation	Repeat the above steps with SMAR services on TDRS TDE.	Results are same as above
SAR FREEZE INTERVAL IS REACHED (Event Minus Tolerance)			
6.1	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Event Minus Tolerance	MIND	Schedule Results
D7	041	T+03:04:00	MAF	00:00:00	00:04:00	N/A	N/A	Event schedules at 03:04:00
D8	041	T+03:08:30	MAF	00:00:00	00:01:30	N/A	N/A	Event schedules at 03:08:30
D9	041	T+03:30:00	MAF	00:00:00	00:10:00	N/A	N/A	Event schedules at 03:30:00

Step	Location	Action	Result

D10	041	T+03:10:30	MAF	00:00:00	00:25:00	00:25:00	00:01:00	Event schedules at 03:10:30 and uses MIND to shrink to end at 03:29:30

6.2	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USM is sent.
6.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
6.4	*Active Schedule*	Delete D8 before freeze time of D10 is reached.	Verify: After D8 is deleted and D10 reaches its freeze time, D10 should lengthen to a duration of 00:21:00 by using its Event Minus Tolerance to start at 03:08:30. 1 Fixed USM is sent automatically .
6.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (Event Plus Tolerance)			
7.1	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Event Plus Tolerance	MIND	Schedule Results
D11	285	T+01:05:00	MAF	00:00:00	00:10:00	N/A	N/A	Event schedules at 01:05:00
D12	285	T+01:17:00	MAF	00:00:00	00:10:00	N/A	N/A	Event schedules at 01:17:00
D13	285	T+01:00:00	MAF	00:00:00	00:10:00	00:20:00	00:01:00	Event schedules at 01:00:00 and uses MIND to shrink to end at 01:04:30

Step	Location	Action	Result
7.2	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USMs is sent.
7.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
7.4	*Active Schedule*	Delete D12 before freeze time of D13 is reached.	Verify: After D12 is deleted and D13 reaches its freeze time, D13 should lengthen to its nominal duration of 00:10:00 by using its Event Plus Tolerance to start at 01:15:30. 1 Fixed USM is sent automatically .
7.5	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (Service Minus Tolerance)			
8.1	*Customer Database*	Select SIC A and click **Modify...**	*Customer (SIC) Entry* window appears.
8.2	*Customer (SIC) Entry*	Set the Default Freeze Interval to be 8 minutes.	Default Freeze Interval is set to 8 minutes.
8.3	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Service Minus Tolerance	MIND	Schedule Results
A7	285	T+00:00:00	SSAR1	00:00:00	00:10:00	N/A	N/A	Event schedules at 00:00:00
A8	285	T+00:30:00	SSAR1	00:00:00	00:10:00	N/A	N/A	Event schedules at 00:30:00

Step	Location		Action					Result
A9	285	T+00:12:00	MAF SSAR1	00:00:00 00:00:00	00:20:00 00:23:00	00:18:00	00:20:00	Event schedules at 00:12:00 and uses MIND to shrink the SSAR1 to end at 00:28:30

8.4	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USMs is sent.
8.5	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
8.6	*Active Schedule*	Delete A7 before freeze time of A9 is reached.	Verify: After A7 is deleted and A9 reaches its freeze time, A9 should lengthen its SSAR1 to its nominal duration of 00:23:00 by using its Service Minus Tolerance to start at 00:05:30. 1 Fixed USM is sent automatically .
8.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
SAR FREEZE INTERVAL IS REACHED (Service Plus Tolerance)			
9.1	*Customer Database*	Select SIC C and click **Modify...**	*Customer (SIC) Entry* window appears.
9.2	*Customer (SIC) Entry*	Set the Default Freeze Interval to be 1 day.	Default Freeze Interval is set to 1 day.
9.3	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Service Plus Tolerance	MIND	Schedule Results

Step	Location			Action				Result
C7	041	T+002: 00:28:00	SSAR1	00:00:00	00:02:00	N/A	N/A	Event schedules at 002:00:28:00
C8	041	T+002: 00:10:00	SSAR1	00:00:00	00:05:00	N/A	N/A	Event schedules at 002:00:10:00
C9	041	T+002: 00:17:00	SSAR1	00:00:00	00:05:00	N/A	N/A	Event schedules at 002:00:17:00
C10	041	T+002: 00:00:00	MAF SSAR1	00:00:00 00:00:00	00:20:00 00:16:00	00:18:00	00:01:00	Event schedules at 002:00:00:00 and uses MIND to shrink its SSAR1 to end at 002: 00:08:30

9.4	*Schedule Transmissions*	Transmit the above events to the Flexible MOC destination prior to their freeze time.	Verify: 1 Flexible USMs is sent.
9.5	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
9.6	*Active Schedule*	Delete C9 before freeze time of C10 is reached.	Verify: After C9 is deleted and C10 reaches its freeze time, C10 should lengthen its SSAR1 to a duration of 00:10:00 by using its Service Plus Tolerance to start at 00:16:30. 1 Fixed USM is sent automatically .
9.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
UPDATE SAR AT SAR FREEZE TIME DUE TO UPDATED TSW			
10.1	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:00:00:00 Close Time T + 000:01:00:00	TSW is sent.
10.2	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.

Step	Location	Action	Result
10.3	*Customer Database*	Select SIC A and click **Modify...**	*Customer (SIC) Entry* window appears.
10.4	*Customer (SIC) Entry*	Set the Default Freeze Interval to be 45 minutes.	Default Freeze Interval is set to 45 minutes.
10.5	NTS	Submit SARs as described below: Note: Do not specify Freeze Intervals in the SAR. Note: Transmit A10 and A11 only.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Tolerance	MIND	Schedule Results
A10	041	T+00:00:00	MAF	00:00:00	00:15:00	N/A	N/A	Event schedules within TSW at 00:00:00
A11	041	T+00:30:00	MAF	00:00:00	00:15:00	N/A	N/A	Event schedules within TSW 00:30:00
A12	041	T+02:00:00	MAF	00:00:00	00:10:00	-00:10:00	N/A	Event schedules within TSW 02:00:00
A13	041	T+02:30:00	MAF	00:00:00	00:20:00	N/A	00:01:00	Event schedules within TSW 02:30:50
A14	041	T+02:55:00	MAF	00:00:00	00:03:00	-00:30:00	N/A	Event schedules within TSW 02:55:00
A15	041	T+04:00:00	MAF	00:00:00	00:45:00	N/A	00:01:00	Event schedules at 04:00:00 and uses MIND to shrink to end at 04:30:00 to fit within TSW

10.6	*Schedule Transmissions*	Transmit A10 and A11 to the Flexible MOC destination prior to their freeze time.	Verify: 2 Flexible USMs are sent.
10.7	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:00:00:00 Close Time T + 000:00:40:00	TSW is sent.

Step	Location	Action	Result
10.8	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.9	*Operator Alerts*	Review the alerts.	Verify: A11 no longer falls within TSW.
10.10	*Schedule Request*	Wait until freeze time of A10 and A11 is reached. Review the window. Make a hardcopy.	A11 remains as 'Activated'.
10.11	*Active Schedule*	Review the window. Make a hardcopy.	A11 remains on the Active Schedule. Verify: 2 Fixed USMs are sent automatically.
10.12	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:02:00:00 Close Time T + 000:03:00:00	TSW is sent.
10.13	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.14	NTS	Submit SARs A12, A13 and A14 in the above table. Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Requests are received, see table results.
10.15	*Schedule Transmissions*	Transmit A12, A13 and A14 to the Flexible MOC destination prior to their freeze time.	Verify: 3 Flexible USMs are sent.
10.16	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:02:05:00 Close Time T + 000:03:45:00	TSW is sent

Step	Location	Action	Result
10.17	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.18	*Operator Alerts*	Review the alerts.	Verify: A12, A13 and A14 no longer fit within TSW.
10.19	*Schedule Request*	Wait until freeze time of A12, A13 and A14 is reached. Review the window. Make a hardcopy.	A12, A13 and A14 remain 'Activated'.
10.20	*Active Schedule*	Review the window. Make a hardcopy.	Verify: A12 uses Plus Tolerance and schedules from 02:05:00 - 02:15:00. A13 uses MIND and schedules from 02:30:00 - 02:45:00. A14 uses Minus Tolerance and schedules from 02:26:30-02:29:30. All requests will fit within updated TSW. 3 Fixed USMs are sent automatically.
10.21	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:04:00:00 Close Time T + 000:04:30:00	TSW is sent.
10.22	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.23	NTS	Submit SAR A15 only. Note: Do not specify Freeze Intervals in the SAR. Note UTC.	Request received, see table results.

Step	Location	Action	Result
10.24	*Schedule Transmissions*	Transmit A15 to the Flexible MOC destination prior to its freeze time.	Verify: 1 Flexible USM is sent.
10.25	*TDRS Scheduling Window Set Details*	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:04:00:00 Close Time T + 000:04:50:00	TSW is sent.
10.26	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.27	*Operator Alerts*	Review the alerts.	Verify: Entire nominal duration of A15 now fits within TSW.
10.28	*Schedule Request*	Wait until freeze time of A15 is reached. Review the window. Make a hardcopy.	A15 remains 'Activated'.
10.29	*Active Schedule*	Review the window. Make a hardcopy.	Verify: A15 lengthens to its nominal duration of 00:45:00. 1 Fixed USM is sent automatically.
		DELOG ANALYSIS	
11.1	NTS DART	Get delog for 94/01s and 94/04s.	Verify: Fixed and Flexible USMs are sent for the appropriate events.
		DOCUMENTATION	
12.1	User's Guide	Review the documentation.	Verify: Documentation is correct and complete.

6.5 Detailed Test Procedure for NCC 99.1-6.05 EVENTS FROZEN WHEN SELECTED FOR TRANSMISSION 5.5.5.c

OBJECTIVES: This test item will verify the following:

- The NCCDS freezes each flexible event when the event is selected for schedule transmission to any destination not on the customer's distribution list for flexible USMs. [5.5.5.c]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Operator with necessary privileges is logged on.
1.2	Database Subpanel	Click the **Space Network** icon.	*Space Network Database* window appears.
1.3	*Space Network Database*	Select **TDRS Operational Names & Mappings** from the **Edit** menu.	*TDRS Operational Names & Mappings* window appears.
1.4	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the automatic scheduling subphase are as follows: TDRS ID SGLT 041 D SGT1 171 G SGT2 TDW K SGT3 TDE I SGT4 192 H SGT5 046 F WSC1 174 E WSC2 TDZ Z WSC3 TDS J WSC4 285 A WSC5	TDRS Assignments are correct.
1.5	*TDRS Operational Names & Mappings*	Click **Close**.	Window closes.

Step	Location	Action	Result
1.6	*Customer Database*	Choose four full-support SICs. SIC A: _____ SIC B: _____ SIC C: _____ SIC D: _____	SICs are identified.
1.7	*Schedule Distribution List*	For the above SICs toggle to **'YES'** at least one MOC to receive flexible USM. Note: All other destinations will be considered as fixed destinations.	Flexible destinations have been identified for each SIC.
1.8	*Schedule Transmission Rules Sets Details*	Make sure no STRS for the above SICs are active.	No STRS are active
1.9	*Customer Database*	Select SIC A and click **Modify...**	*Customer (SIC) Entry* window appears.
1.10	*SIC Editor*	Change the Default Freeze Interval to be 0 days 0 hours and 0 minutes.	Default Freeze Interval is set to 00:00:00.
1.11	Workstation	Repeat steps 1.8-1.9 for each SIC used in this test.	Default Freeze Interval is set to 00:00:00.
1.12	*TDRS Sets*	Create TDRS Set '04X' to include TDRSs 041 and 046.	TDRS Set '04X' is created.
1.13	*Schedulable Parameters* (for various services)	Create SSCs such that all can be simultaneously scheduled on the SGLT (no other conflicts, such as UIFC conflicts exist.	Test data is ready.
1.14	*Active Schedule*	Choose a day "T" in the automatic scheduling period. Check that no events are scheduled on day "T" (delete any existing events).	No events are scheduled on day "T".
1.15	NTS	Prepare NTS blocks for the SARs (99/10s) needed in the steps below.	NTS blocks are ready. Block file: _____ _____

Step	Location	Action	Result
EVENTS FROZEN WHEN SELECTED FOR TRANSMISSION (TDRS Flexibility)			
2.1	NTS	Submit SARs as described below: Note UTC.	Request are received

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	MIND	Schedule Results
A1	041	T+01:00:00	SSAR1	00:00:00	00:10:00	N/A	Event Schedules at 01:00:00
A2	046	T+ 01:05:00	SSAR1	00:00:00	00:10:00	N/A	Event schedules at 01:05:00
A3	04X	T+01:00:00	SSAR1	00:00:00	00:10:00	00:01:00	Event schedules at 01:00:00 on 046 and uses MIND to shrink to end at 01:03:30
A4	041	T+01:30:00	SSAR1	00:00:00	00:10:00	N/A	Event schedules at 01:30:00
A5	046	T+01:35:00	SSAR1	00:00:00	00:15:00	N/A	Event schedules at 01:35:00
A6	04X	T+ 01:30:00	SSAR1	00:00:00	00:10:00	00:01:00	Event schedules at 01:30:00 on 046 and uses MIND to shrink to end at 01:33:30

2.2	*Schedule Transmission Details*	Select A3 to be transmitted. Select MOC for SIC A that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
2.3	*Schedule Transmission Details*	Select A6 to be transmitted. Select MOC for SIC A that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
2.4	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
2.5	*Active Schedule*	Delete A4.	A4 is deleted.

Step	Location	Action	Result
2.6	*Schedule Transmission Details*	Select A3 to be transmitted. Select MOC for SIC A that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.
2.7	*Schedule Transmission Details*	Select A6 to be transmitted. Select MOC for SIC A that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.
2.8	*Active Schedule*	Review the window. Make a hardcopy.	Verify: Upon transmission freeze time, A3 remains as scheduled. It can't lengthen its duration because resources are still unavailable. After A4 is deleted and upon transmission freeze time, A6 should lengthen back to its nominal duration of 00:10:00 by using its TDRS flexibility to switch to 041.
2.9	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
EVENTS FROZEN WHEN SELECTED FOR TRANSMISSION (Antenna Flexibility)			
3.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	MIND	Schedule Results
B1	285	T+01:00:00	SSAR1	00:00:00	00:10:00	N/A	Event Schedules at 01:00:00
B2	285	T+01:05:00	SSAR2	00:00:00	00:10:00	N/A	Event schedules at 01:05:00

Step	Location		Action				Result
B3	285	T+01:00:00	SSAR-	00:00:00	00:10:00	00:01:00	Event schedules at 01:00:00 on antenna 2 and uses MIND to shrink to end at 01:03:30.
B4	285	T+01:30:00	SSAR1	00:00:00	00:10:00	N/A	Event schedules at 01:30:00
B5	285	T+01:35:00	SSAR2	00:00:00	00:15:00	N/A	Event schedules at 01:35:00
B6	285	T+01:30:00	SSAR-	00:00:00	00:10:00	00:01:00	Event schedules at 01:30:00 on antenna 2 and uses MIND to shrink to end at 01:33:30

3.2	*Schedule Transmission Details*	Select B3 to be transmitted. Select MOC for SIC B that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
3.3	*Schedule Transmission Details*	Select B6 to be transmitted. Select MOC for SIC B that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
3.4	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
3.5	*Active Schedule*	Delete B4.	B4 is deleted.
3.6	*Schedule Transmission Details*	Select B3 to be transmitted. Select MOC for SIC B that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.
3.7	*Schedule Transmission Details*	Select B6 to be transmitted. Select MOC for SIC B that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.

Step	Location	Action	Result
3.8	*Active Schedule*	Review the window. Make a hardcopy.	Verify: Upon transmission freeze time, B4 remains as scheduled. It can't lengthen its duration because resources are still unavailable. After B4 is deleted and upon transmission freeze time, B6 should lengthen back to its nominal duration of 00:10:00 by using its antenna flexibility to switch to antenna 1.
3.9	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
EVENTS FROZEN WHEN SELECTED FOR TRANSMISSION (UIFC Flexibility)			
4.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	UIFC	MIND	Schedule Results
C1	285	T+01:30:00	KSAR2	00:00:00	00:10:00	MXX	N/A	Event schedules at 01:30:00
C2	046	T+01:35:00	KSAR2	00:00:00	00:15:00	MXY	N/A	Event schedules at 01:35:00
C3	171	T+01:30:00	KSAR2	00:00:00	00:15:00	MXX MXY	00:01:00	Event schedules at 01:30:00 with UIFC MXY and uses MIND to shrink to end at 01:33:30
C4	285	T+02:00:00	KSAR2	00:00:00	00:10:00	MXX	N/A	Event schedules at 02:00:00
C5	046	T+02:05:00	KSAR2	00:00:00	00:15:00	MXY	N/A	Event schedules at 02:05:00
C6	171	T+02:00:00	KSAR2	00:00:00	00:15:00	MXX MXY	00:01:00	Event schedules at 02:00:00 with UIFC MXY and uses MIND to shrink to end at 02:03:30

Step	Location	Action	Result
4.2	*Schedule Transmission Details*	Select C3 to be transmitted. Select MOC for SIC C that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
4.3	*Schedule Transmission Details*	Select C6 to be transmitted. Select MOC for SIC C that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
4.4	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
4.5	*Active Schedule*	Delete C1 and C5.	C1 and C5 is deleted.
4.6	*Schedule Transmission Details*	Select C3 to be transmitted. Select MOC for SIC C that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.
4.7	*Schedule Transmission Details*	Select C6 to be transmitted. Select MOC for SIC C that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.

Step	Location	Action	Result
4.8	*Active Schedule*	Review the window. Make a hardcopy.	Verify: After C1 is deleted and upon transmission freeze time, C3 should lengthen back to its nominal duration of 00:15:00 by using its UIFC flexibility to switch to UIFC MXX. After C5 is deleted and upon transmission freeze time, C6 should lengthen back to its nominal duration of 00:15:00 and continue to be scheduled with UIFC MXY.
4.9	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
EVENT FROZEN WHEN SELECTED FOR TRANSMISSION (MAR/SMAR)			
5.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	MIND	Schedule Results
D1	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:00:00 on MAR1
D2	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:00:00 on MAR2
D3	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:00:00 on MAR3
D4	041	T+01:00:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:00:00 on MAR4
D5	041	T+01:15:00	MAR	00:00:00	00:30:00	N/A	Event schedules at 01:15:00 on MAR5
D6	041	T+01:00:00	MAR	00:00:00	00:30:00	00:01:00	Event schedules at 01:00:00 on MAR5 and uses MIND to shrink to end at 01:14:30

5.2	*Schedule Transmission Details*	Select D6 to be transmitted. Select MOC for SIC D that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.

Step	Location	Action	Result
5.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
5.4	*Active Schedule*	Delete D3.	D3 is deleted.
5.5	*Schedule Transmission Details*	Select D6 to be transmitted. Select MOC for SIC C that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.
5.6	*Active Schedule*	Review the window. Make a hardcopy.	Verify: After D3 is deleted and upon transmission freeze time, D6 should lengthen back to its nominal duration of 00:30:00 by switching to MAR 3.
5.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
5.8	Workstation	Repeat the above steps with SMAR services on TDRS TDE.	Results are same as above
EVENT FROZEN WHEN SELECTED FOR TRANSMISSION (Event Minus Tolerance)			
6.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Event Minus Tolerance	MIND	Schedule Results
D7	041	T+03:04:00	MAF	00:00:00	00:04:00	N/A	N/A	Event schedules at 03:04:00
D8	041	T+03:08:30	MAF	00:00:00	00:01:30	N/A	N/A	Event schedules at 03:08:30
D9	041	T+03:30:00	MAF	00:00:00	00:10:00	N/A	N/A	Event schedules at 03:30:00
D10	041	T+03:10:30	MAF	00:00:00	00:25:00	00:25:00	00:01:00	Event schedules at 03:10:30 and uses MIND to shrink to end at 03:29:30

Step	Location	Action	Result
6.2	*Schedule Transmission Details*	Select D10 to be transmitted. Select MOC for SIC D that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
6.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
6.4	*Active Schedule*	Delete D8.	D8 is deleted.
6.5	*Schedule Transmission Details*	Select D10 to be transmitted. Select MOC for SIC D that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.
6.6	*Active Schedule*	Review the window. Make a hardcopy.	Verify: After D8 is deleted and upon transmission freeze time, D10 should lengthen to a duration of 00:21:00 by using its Event Minus Tolerance to start at 03:08:30.
6.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
EVENT FROZEN WHEN SELECTED FOR TRANSMISSION (Event Plus Tolerance)			
7.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Step	Location	Action	Result

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Event Plus Tolerance	MIND	Schedule Results
D11	285	T+01:05:00	MAF	00:00:00	00:10:00	N/A	N/A	Event schedules at 01:05:00
D12	285	T+01:17:00	MAF	00:00:00	00:10:00	N/A	N/A	Event schedules at 01:17:00
D13	285	T+01:00:00	MAF	00:00:00	00:10:00	00:20:00	00:01:00	Event schedules at 01:00:00 and uses MIND to shrink to end at 01:04:30

7.2	*Schedule Transmission Details*	Select D13 to be transmitted. Select MOC for SIC D that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
7.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
7.4	*Active Schedule*	Delete D12.	D12 is deleted.
7.5	*Schedule Transmission Details*	Select D13 to be transmitted. Select MOC for SIC D that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.
7.6	*Active Schedule*	Review the window. Make a hardcopy.	Verify: After D12 is deleted and upon transmission freeze time, D13 should lengthen to its nominal duration of 00:10:00 by using its Event Plus Tolerance to start at 01:15:30.
7.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.

Step	Location	Action	Result
EVENT FROZEN WHEN SELECTED FOR TRANSMISSION (Service Minus Tolerance)			
8.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Service Minus Tolerance	MIND	Schedule Results
A7	285	T+00:00:00	SSAR1	00:00:00	00:10:00	N/A	N/A	Event schedules at 00:00:00
A8	285	T+00:30:00	SSAR1	00:00:00	00:10:00	N/A	N/A	Event schedules at 00:30:00
A9	285	T+00:12:00	MAF SSAR1	00:00:00 00:00:00	00:20:00 00:23:00	00:18:00	00:20:00	Event schedules at 00:12:00 and uses MIND to shrink the SSAR1 to end at 00:28:30

8.2	*Schedule Transmission Details*	Select A9 to be transmitted. Select MOC for SIC A that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
8.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.
8.4	*Active Schedule*	Delete A7.	A7 is deleted.
8.5	*Schedule Transmission Details*	Select A9 to be transmitted. Select MOC for SIC D that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.

Step	Location	Action	Result
8.6	*Active Schedule*	Review the window. Make a hardcopy.	Verify: After A7 is deleted and upon transmission freeze time, A9 should lengthen its SSAR1 to its nominal duration of 00:23:00 by using its Service Minus Tolerance to start at 00:05:30.
8.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
EVENT FROZEN WHEN SELECTED FOR TRANSMISSION (Service Plus Tolerance)			
9.1	NTS	Submit SARs as described below: Note UTC.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Service Plus Tolerance	MIND	Schedule Results
C7	041	T+002: 00:28:00	SSAR1	00:00:00	00:02:00	N/A	N/A	Event schedules at 002:00:28:00
C8	041	T+002: 00:10:00	SSAR1	00:00:00	00:05:00	N/A	N/A	Event schedules at 002:00:10:00
C9	041	T+002: 00:17:00	SSAR1	00:00:00	00:05:00	N/A	N/A	Event schedules at 002:00:17:00
C10	041	T+002: 00:00:00	MAF SSAR1	00:00:00 00:00:00	00:20:00 00:16:00	00:18:00	00:01:00	Event schedules at 002:00:00:00 and uses MIND to shrink its SSAR1 to end at 002: 00:08:30

9.2	*Schedule Transmission Details*	Select C10 to be transmitted. Select MOC for SIC C that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM 94/04 is sent.
9.3	*Active Schedule*	Review the window. Make a hardcopy.	See results in above table.

Step	Location	Action	Result
9.4	*Active Schedule*	Delete C9.	C9 is deleted.
9.5	*Schedule Transmission Details*	Select C10 to be transmitted. Select MOC for SIC C that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/04) is sent to the Fixed MOC. 1 Fixed USM (94/04) is sent automatically to the Flexible MOC.
9.6	*Active Schedule*	Review the window. Make a hardcopy.	Verify: After C9 is deleted and upon transmission freeze time, C10 should lengthen its SSAR1 to a duration of 00:10:00 by using its Service Plus Tolerance to start at 00:16:30.
9.7	*Active Schedule*	Delete the events scheduled in the table above.	Events are deleted.
UPDATE SAR AT FREEZE TIME WITH UPDATED TSW			
10.1	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:00:00:00 Close Time T + 000:01:00:00	TSW is sent.
10.2	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.3	NTS	Transmit SARs as described below: Note: Transmit A10 and A11 only.	Requests are received.

Req	TDRS	Event Start	Svcs	Service Start	Service Duration	Tolerance	MIND	Schedule Results
A10	041	T+00:00:00	MAF	00:00:00	00:15:00	N/A	N/A	Event Schedules within TSW at 00:00:00
A11	041	T+00:30:00	MAF	00:00:00	00:15:00	N/A	N/A	Event schedules within TSW 00:30:00

Step	Location			Action				Result
A12	041	T+02:00:00	MAF	00:00:00	00:10:00	-00:10:00	N/A	Event schedules within TSW 02:00:00
A13	041	T+02:30:00	MAF	00:00:00	00:20:00	N/A	00:01:00	Event schedules within TSW 02:30:50
A14	041	T+02:55:00	MAF	00:00:00	00:03:00	-00:30:00	N/A	Event schedules within TSW 02:55:00
A15	041	T+04:00:00	MAF	00:00:00	00:45:00	N/A	00:01:00	Event schedules at 04:00:00 and uses MIND to shrink to end at 04:30:00 to fit within TSW

10.4	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:00:00:00 Close Time T + 000:00:40:00	TSW is sent.
10.5	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.6	*Operator Alerts*	Review the alerts.	Verify: A11 no longer falls within TSW.
10.7	*Schedule Transmissions*	Click **Add...**	Schedule Transmission Details window appears
10.8	*Schedule Transmission Details*	Select A10 and A11 to be transmitted. Select MOC for SIC A that only receives fixed USMs. Click **Execute**.	Verify: A fixed USM (94/01) is transmitted to the Fixed MOC.
10.9	*Schedule Request*	Review the window. Make a hardcopy.	A11 remains as 'Activated'.
10.10	*Active Schedule*	Review the window. Make a hardcopy.	A11 remains on the Active Schedule.

Step	Location	Action	Result
10.11	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:02:00:00 Close Time T + 000:03:00:00	TSW is sent
10.12	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.13	NTS	Submit SARs A12, A13 and A14 in the above table.	Requests are received, see table results.
10.14	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:02:05:00 Close Time T + 000:03:45:00	TSW is sent
10.15	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.16	*Operator Alerts*	Review the alerts.	Verify: A12, A13 and A14 no longer fit within TSW.
10.17	*Schedule Transmissions*	Click **Add...**	Schedule Transmission Details window appears
10.18	*Schedule Transmission Details*	Select A12, A13 and A14 to be transmitted. Select MOC for SIC A that can receive flexible USMs. Click **Execute**.	Verify: 3 flexible USMs (94/04) are transmitted to the Flexible MOC.
10.19	*Schedule Transmissions*	Click **Add...**	Schedule Transmission Details window appears
10.20	*Schedule Transmission Details*	Select A12, A13 and A14 to be transmitted. Select MOC for SIC A that only receives fixed USMs. Click **Execute**.	Verify: 3 Fixed USMs (94/01) are transmitted to the Fixed MOC. 3 Fixed USMs (94/01) are automatically transmitted to the Flexible MOC.

Step	Location	Action	Result
10.21	*Active Schedule*	Review the window. Make a hardcopy.	Verify: When freeze time is reached: A12 uses plus tolerance and schedules from 02:05:00 - 02:15:00. A13 uses MIND and schedules from 02:30:00 - 02:45:00. A14 uses minus tolerance and schedules from 02:26:30-02:29:30. All requests will fit within updated TSW.
10.22	NTS	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:04:00:00 Close Time T + 000:04:30:00	TSW is sent.
10.23	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.24	NTS	Submit SAR A15 only.	Request received, see table results.
10.25	*TDRS Scheduling Window Set Details*	Submit TSW Set 'FREEZE' for TDRS 041 with the following TSW: Open Time T + 000:04:00:00 Close Time T + 000:04:50:00	TSW is sent.
10.26	*TDRS Scheduling Window Sets*	Review the window. Make a hardcopy.	TSW is stored as sent.
10.27	*Operator Alerts*	Review the alerts.	Verify: Entire nominal duration of A15 now fits within TSW.
10.28	*Schedule Transmissions*	Click **Add...**	Schedule Transmission Details window appears

Step	Location	Action	Result
10.29	*Schedule Transmission Details*	Select A15 to be transmitted. Select MOC for SIC A that can receive flexible USMs. Click **Execute**.	Verify: 1 Flexible USM (94/04) is transmitted to the Flexible MOC.
10.30	*Schedule Transmissions*	Click **Add...**	Schedule Transmission Details window appears
10.31	*Schedule Transmission Details*	Select A15 to be transmitted. Select MOC for SIC A that only receives fixed USMs. Click **Execute**.	Verify: 1 Fixed USM (94/01) is transmitted to the Fixed MOC. 1 Fixed USM (94/01) is automatically transmitted to the Flexible MOC.
10.32	*Active Schedule*	Review the window. Make a hardcopy.	Verify: When freeze time is reached: A15 lengthens to its nominal duration of 00:45:00.
10.33	*Workstation*	Repeat Section 2 transmitting events to a GT instead of the MOC.	Verify: Flexible events are frozen went sent to GT.
10.34	*Workstation*	Repeat Section 3 transmitting events to Nascom instead of the MOC.	Verify: Flexible events are frozen went sent to Nascom.
		DELOG ANALYSIS	
11.1	NTS DART	Get delog for USMs.	Verify: USM formats are correct
		DOCUMENTATION	
12.1	User's Guide	Review the documentation.	Verify: Alerts are correctly documented.

6.6 Detailed Test Procedure for 99.1-6.6
FLEXIBLE TUT
5.11.2, 5.11.2.a, 5.11.2.b, 5.11.2.c, 5.11.3.1, D.2, D.3.a, D.3.b, D.3.c, D.4.a, D.4.b, D.4.c, D.5.a, D.5.b, D.5.c

OBJECTIVES: This test item will verify the following:

- The NCCDS periodically generates TUT information in accord with parameters specified by the operator. [5.11.2]
- The NCCDS generates TUT information from the current time to the end of the active period. [5.11.2]
- For each TDRS, the NCCDS generates Unscheduled SA antenna time period information. [5.11.2.a]
- For each TDRS, the NCCDS generates Unscheduled MAF or SMAF antenna time period information. [5.11.2.b]
- For each TDRS, the NCCDS generates Unscheduled MAR or SMAR link time period information. [5.11.2.c]
- Following each generation of TUT, the NCCDS stores it in a database in a format suitable for remote access. [5.11.3.1]
- In all cases, the determination of TUT blocks is to be based on the earliest possible stop time of the service immediately prior to the TUT block and the latest possible service start time of the service immediately after the TUT block. [D.2]
- If resource flexibility is retained for an event, determination of TUT blocks is to be based on an estimation of the resources that would be used if the event had been frozen at the time of TUT generation. [D.2]
- For each SA antenna for each TDRS, TUT is determined as follows:
  - Based on the start and stop times of all SA services within the active schedule, identify all unscheduled blocks with durations of at least 4 minutes. [D.3.a]
  - Add 90 seconds to the beginning of the unscheduled block. [D.3.b]
  - Subtract 90 seconds from the end of the unscheduled block. [D.3.c]
- For each MAF or SMAF antenna for each TDRS, TUT is determined as follows:
  - Based on the start and stop times of all MAF or SMAF services within the active schedule, identify all unscheduled blocks with durations of at least 2 minutes. [D.4.a]
  - Add 30 seconds to the beginning of the unscheduled block. [D.4.b]

- Subtract 30 seconds from the end of the unscheduled block. [D.4.c]

- For each MAR or SMAR link for each TDRS, TUT is determined as follows:
  - Based on the start and stop times of all MAR or SMAR services within the active schedule, identify all unscheduled blocks with durations of at least 2 minutes. If a single event contains more than one MAR or SMAR service, any unscheduled blocks between such services within the event are to be discarded. [D.5.a]
  - Add 30 seconds to the beginning of the unscheduled block. [D.5.b]
  - Subtract 30 seconds from the end of the unscheduled block. [D.5.c]

Step	**Location**	**Action**	**Result**
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	*Schedule Control Database*	Determine the Current Batch Boundary.	Boundary is noted.
1.3	*TDRS Sets*	Create TDRS Sets as follows: 04X: 041, 046 TDX: TDS, TDE	TDRS Sets are ready.
1.4	*Customer Database*	Choose 3 SICs for use in this test.	
1.5	*Schedulable Parameters*	Create SSCs needed for requests in this test.	SSCs are ready.
1.6	NTS	Create NTS blocks needed for this test.	NTS blocks are ready. _____ _____

Step	Location	Action	Result
TUT VERIFICATION - AUTOMATIC SCHEDULING			
2.1	NTS	Submit the following SARs for the automatic scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Flexibility	Results
A1	041	T+01:00:00	MAF	00:00:00	00:10:00		Schedules
A2	04X	T+01:05:00	MAF	00:00:00	00:10:00	TDRS	Schedules
A3	041	T+01:10:00	MAF	00:00:00	00:10:00	+ 01:00:00	Schedules
A4	041	T+01:22:00	MAF	00:00:00	00:02:00		Schedules
A5	041	T+02:10:00	MAF	00:00:00	00:10:00		Schedules
A6	041	T+02:00:00	MAF	00:00:00	00:10:00	MIND= 00:05:00	Schedules
A7	041	T+02:00:00	MAF	00:00:00	00:10:00	- 01:00:00	Schedules
A8	041	T+01:45:30	MAF	00:00:00	00:02:00		Schedules

2.2	NTS	Submit the following SARs for the automatic scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Flexibility	Results
A9	TDE	T+01:00:00	SMAF	00:00:00	00:10:00		Schedules
A10	TDX	T+01:05:00	SMAF	00:00:00	00:10:00	TDRS	Schedules
A11	TDE	T+01:10:00	SMAF	00:00:00	00:10:00	+ 01:00:00	Schedules
A12	TDE	T+01:22:00	SMAF	00:00:00	00:02:00		Schedules
A13	TDE	T+02:10:00	SMAF	00:00:00	00:10:00		Schedules
A14	TDE	T+02:00:00	SMAF	00:00:00	00:10:00	MIND= 00:05:00	Schedules
A15	TDE	T+02:00:00	SMAF	00:00:00	00:10:00	- 01:00:00	Schedules
A16	TDE	T+01:45:30	SMAF	00:00:00	00:02:00		Schedules

2.3	NTS	Submit the following SARs for the automatic scheduling period.	Results below.

Step	Location		Action			Result	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Flexibility**	**Results**
B1	041	T+03:00:00	SSAF01	00:00:00	00:10:00		Schedules
B2	04X	T+03:05:00	SSAF01	00:00:00	00:10:00	TDRS	Schedules
B3	041	T+03:10:00	SSAF01	00:00:00	00:10:00	+ 01:00:00	Schedules
B4	041	T+03:22:00	SSAF01	00:00:00	00:02:00		Schedules
B5	041	T+04:10:00	SSAF01	00:00:00	00:10:00		Schedules
B6	041	T+04:00:00	SSAF01	00:00:00	00:10:00	MIND= 00:05:00	Schedules
B7	041	T+04:00:00	SSAF01	00:00:00	00:10:00	- 01:00:00	Schedules
B8	041	T+03:45:30	SSAF01	00:00:00	00:02:00		Schedules
2.4	NTS		Submit the following SARs for the automatic scheduling period.			Results below.	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Flexibility**	**Results**
S1	041	T+05:00:00	SSAF02	00:00:00	00:10:00		Schedules
S2	04X	T+05:05:00	SSAF02	00:00:00	00:10:00	TDRS	Schedules
S3	041	T+05:10:00	SSAF02	00:00:00	00:10:00	+ 01:00:00	Schedules
S4	041	T+05:22:00	SSAF02	00:00:00	00:02:00		Schedules
S5	041	T+06:10:00	SSAF02	00:00:00	00:10:00		Schedules
S6	041	T+06:00:00	SSAF02	00:00:00	00:10:00	MIND= 00:05:00	Schedules
S7	041	T+06:00:00	SSAF02	00:00:00	00:10:00	- 01:00:00	Schedules
S8	041	T+05:45:30	SSAF02	00:00:00	00:02:00		Schedules
2.5	NTS		Submit the following SARs for the automatic scheduling period.			Results below.	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Flexibility**	**Results**
T1	041	T+07:00:00	KSAF01	00:00:00	00:10:00		Schedules
T2	04X	T+07:05:00	KSAF01	00:00:00	00:10:00	TDRS	Schedules
T3	041	T+07:10:00	KSAF01	00:00:00	00:10:00	+ 01:00:00	Schedules

Step	Location		Action			Result	
T4	041	T+07:22:00	KSAF01	00:00:00	00:02:00		Schedules
T5	041	T+08:10:00	KSAF01	00:00:00	00:10:00		Schedules
T6	041	T+08:00:00	KSAF01	00:00:00	00:10:00	MIND= 00:05:00	Schedules
T7	041	T+08:00:00	KSAF01	00:00:00	00:10:00	- 01:00:00	Schedules
T8	041	T+07:45:30	KSAF01	00:00:00	00:02:00		Schedules
2.6	NTS		Submit the following SARs for the automatic scheduling period.			Results below.	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Flexibility**	**Results**
C1	041	T+09:00:00	KSAF02	00:00:00	00:10:00		Schedules
C2	04X	T+09:05:00	KSAF02	00:00:00	00:10:00	TDRS	Schedules
C3	041	T+09:10:00	KSAF02	00:00:00	00:10:00	+ 01:00:00	Schedules
C4	041	T+09:22:00	KSAF02	00:00:00	00:02:00		Schedules
C5	041	T+10:10:00	KSAF02	00:00:00	00:10:00		Schedules
C6	041	T+10:00:00	KSAF02	00:00:00	00:10:00	MIND= 00:05:00	Schedules
C7	041	T+10:00:00	KSAF02	00:00:00	00:10:00	- 01:00:00	Schedules
C8	041	T+09:45:30	KSAF02	00:00:00	00:02:00		Schedules
2.7	NTS		Submit the following SARs for the automatic scheduling period.			Results below.	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Flexibility**	**Results**
S9	041	T+11:00:00	SSAR01	00:00:00	00:10:00		Schedules
S10	04X	T+11:05:00	SSAR01	00:00:00	00:10:00	TDRS	Schedules
S11	041	T+11:10:00	SSAR01	00:00:00	00:10:00	+ 01:00:00	Schedules
S12	041	T+11:22:00	SSAR01	00:00:00	00:02:00		Schedules
S13	041	T+12:10:00	SSAR01	00:00:00	00:10:00		Schedules
S14	041	T+12:00:00	SSAR01	00:00:00	00:10:00	MIND= 00:05:00	Schedules
S15	041	T+12:00:00	SSAR01	00:00:00	00:10:00	- 01:00:00	Schedules
S16	041	T+11:45:30	SSAR01	00:00:00	00:02:00		Schedules

Step	Location	Action	Result
2.8	NTS	Submit the following SARs for the automatic scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Flexibility	Results
B9	041	T+13:00:00	SSAR02	00:00:00	00:10:00		Schedules
B10	04X	T+13:05:00	SSAR02	00:00:00	00:10:00	TDRS	Schedules
B11	041	T+13:10:00	SSAR02	00:00:00	00:10:00	+ 01:00:00	Schedules
B12	041	T+13:22:00	SSAR02	00:00:00	00:02:00		Schedules
B13	041	T+14:10:00	SSAR02	00:00:00	00:10:00		Schedules
B14	041	T+14:00:00	SSAR02	00:00:00	00:10:00	MIND= 00:05:00	Schedules
B15	041	T+14:00:00	SSAR02	00:00:00	00:10:00	- 01:00:00	Schedules
B16	041	T+13:45:30	SSAR02	00:00:00	00:02:00		Schedules

2.9	NTS	Submit the following SARs for the automatic scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Flexibility	Results
C9	041	T+15:00:00	KSAR01	00:00:00	00:10:00		Schedules
C10	04X	T+15:05:00	KSAR01	00:00:00	00:10:00	TDRS	Schedules
C11	041	T+15:10:00	KSAR01	00:00:00	00:10:00	+ 01:00:00	Schedules
C12	041	T+15:22:00	KSAR01	00:00:00	00:02:00		Schedules
C13	041	T+16:10:00	KSAR01	00:00:00	00:10:00		Schedules
C14	041	T+16:00:00	KSAR01	00:00:00	00:10:00	MIND= 00:05:00	Schedules
C15	041	T+16:00:00	KSAR01	00:00:00	00:10:00	- 01:00:00	Schedules
C16	041	T+15:45:30	KSAR01	00:00:00	00:02:00		Schedules

2.10	NTS	Submit the following SARs for the automatic scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Flexibility	Results
T9	041	T+17:00:00	KSAR02	00:00:00	00:10:00		Schedules
T10	04X	T+17:05:00	KSAR02	00:00:00	00:10:00	TDRS	Schedules

Step	Location		Action			Result	
T11	041	T+17:10:00	KSAR02	00:00:00	00:10:00	+ 01:00:00	Schedules
T12	041	T+17:22:00	KSAR02	00:00:00	00:02:00		Schedules
T13	041	T+18:10:00	KSAR02	00:00:00	00:10:00		Schedules
T14	041	T+18:00:00	KSAR02	00:00:00	00:10:00	MIND= 00:05:00	Schedules
T15	041	T+18:00:00	KSAR02	00:00:00	00:10:00	- 01:00:00	Schedules
T16	041	T+17:45:30	KSAR02	00:00:00	00:02:00		Schedules
2.11	NTS		Submit the following SARs for the automatic scheduling period.			Results below.	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Flexibility**	**Results**
B17	041	T+11:30:00	SSA Combining	00:00:00	00:05:00		Schedules
B18	04X	T+11:35:00	SSA Combining	00:00:00	00:05:00	+ 01:00:00	Schedules
2.12	NTS		Submit the following SARs for the automatic scheduling period.			Results below.	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Flexibility**	**Results**
A17	041	T+19:00:00	MAR	00:00:00	00:10:00		Schedules
A18	041	T+19:00:00	MAR	00:00:00	00:10:00		Schedules
A19	041	T+19:00:00	MAR	00:00:00	00:10:00		Schedules
A20	041	T+19:00:00	MAR	00:00:00	00:10:00		Schedules
A21	041	T+19:05:00	MAR	00:00:00	00:10:00		Schedules
A22	041	T+19:00:00	MAR	00:00:00	00:10:00	MIND=00:01:00	Schedules
A23	041	T+19:00:00	MAR	00:00:00	00:10:00	+ 01:00:00	Schedules
A24	041	T+19:00:00	MAR	00:00:00	00:10:00	- 01:00:00	Schedules
A25	041	T+20:00:00	MAR	00:00:00	00:10:00		Schedules
A26	041	T+20:00:00	MAR	00:00:00	00:10:00		Schedules
A27	041	T+20:00:00	MAR	00:00:00	00:10:00		Schedules

Step	Location		Action			Result	
A28	041	T+20:00:00	MAR	00:00:00	00:10:00		Schedules
A29	041	T+20:05:00	MAR	00:00:00	00:10:00		Schedules
A30	041	T+20:00:00	MAR	00:00:00	00:10:00	MIND=00:01:00	Schedules
A31	041	T+20:00:00	MAR	00:00:00	00:10:00	+ 01:00:00	Schedules
A32	041	T+20:00:00	MAR	00:00:00	00:10:00	- 01:00:00	Schedules
2.13	NTS		Submit the following SARs for the automatic scheduling period.			Results below.	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Flexibility**	**Results**
A33	TDE	T+21:00:00	SMAR	00:00:00	00:10:00		Schedules
A34	TDE	T+21:00:00	SMAR	00:00:00	00:10:00		Schedules
A35	TDE	T+21:00:00	SMAR	00:00:00	00:10:00		Schedules
A36	TDE	T+21:00:00	SMAR	00:00:00	00:10:00		Schedules
A37	TDE	T+21:05:00	SMAR	00:00:00	00:10:00		Schedules
A38	TDE	T+21:00:00	SMAR	00:00:00	00:10:00	MIND=00:01:00	Schedules
A39	TDE	T+21:00:00	SMAR	00:00:00	00:10:00	+ 01:00:00	Schedules
A40	TDE	T+21:00:00	SMAR	00:00:00	00:10:00	- 01:00:00	Schedules
A41	TDE	T+22:00:00	SMAR	00:00:00	00:10:00		Schedules
A42	TDE	T+22:00:00	SMAR	00:00:00	00:10:00		Schedules
A43	TDE	T+22:00:00	SMAR	00:00:00	00:10:00		Schedules
A44	TDE	T+22:00:00	SMAR	00:00:00	00:10:00		Schedules
A45	TDE	T+22:05:00	SMAR	00:00:00	00:10:00		Schedules
A46	TDE	T+22:00:00	SMAR	00:00:00	00:10:00	MIND=00:01:00	Schedules
A47	TDE	T+22:00:00	SMAR	00:00:00	00:10:00	+ 01:00:00	Schedules
A48	TDE	T+22:00:00	SMAR	00:00:00	00:10:00	- 01:00:00	Schedules
2.14	NTS		Submit the following SARs for the automatic scheduling period.			Results below.	

Step	Location		Action			Result	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Flexibility**	**Results**
A49	041	T+23:00:00	MAF MAF MAR	00:00:00 00:25:00 00:00:00	00:05:00 00:05:00 00:30:00		Schedules
A50	041	T+23:15:00	MAF MAF MAR	00:00:00 00:20:00 00:00:00	00:10:00 00:05:00 00:25:00	MIND=00:01:00	Schedules
2.15	*Active Schedule*		Review the window.			Verify: Events are scheduled correctly based on their flexibility used.	
2.16	*Schedule Control Database*		Click **Generate TUT**.			TUT is generated.	
2.17	*WEB Server*		Review Fixed TUT for the TDRSs and services in the above table.			Verify: The TUT surrounding the flexible events is based on the resources that would be available if the events were frozen at the time of TUT generation. TUT is based on the earliest possible stop time of the service immediately prior to the TUT block and the latest possible start time of the service immediately after the TUT block. SA and MA setup time are used when determining TUT.	
2.18	*WEB Server*		Review the *Confidence Level* of TUT for the TDRSs and services in the above table.			Verify: TUT treats all events as fixed and always reports a Confidence Level of 100%.	

Step	Location	Action	Result
2.19	*WEB Server*	Review the *Percentage Used* of TUT for the TDRSs and services in the above table.	Verify: The value indicates the percentage of the time in the block that the resources are used.
2.20	NTS	Submit SARs for time reported by TUT as unscheduled.	Verify: Events schedule.
TUT VERIFICATION - BATCH SCHEDULING			
3.1	NTS	Submit the requests from the table in 2.1 changing T to be in the batch scheduling period.	Requests are batchstored.
3.2	*Schedule Control Database*	Click **Generate TUT**.	TUT is generated.
3.3	*WEB Server*	Review TUT for the TDRSs and services in the above table.	Verify: Batch Requests are not used when determining TUT.
3.4	*Batch Scheduling*	Create and generate a batch with the requests from the table in 3.1.	Verify: Events schedule using their flexibility.
3.5	*Schedule Control Database*	Click **Generate TUT**.	TUT is generated.
3.6	*WEB Server*	Review TUT for the TDRSs and services in the above table.	Verify: Batch Events are not used when determining TUT.
3.7	*Batch Scheduling*	Activate the batch generated above.	Batch is activated.
3.8	*Active Schedule*	Review the window.	Verify: Events from the activated batch now appear on the active schedule.
3.9	*Schedule Control Database*	Click **Generate TUT**.	TUT is generated.

Step	Location	Action	Result
3.10	*WEB Server*	Review Fixed TUT for the TDRSs and services in the above table.	Verify: The TUT surrounding the flexible events is based on the resources that would be available if the events were frozen at the time of TUT generation. TUT is based on the earliest possible stop time of the service immediately prior to the TUT block and the latest possible start time of the service immediately after the TUT block. SA and MA setup time are used when determining TUT.
3.11	*WEB Server*	Review the *Confidence Level* of TUT for the TDRSs and services in the above table.	Verify: TUT treats all events as fixed and always reports a Confidence Level of 100%.
3.12	*WEB Server*	Review the *Percentage Used* of TUT for the TDRSs and services in the above table.	Verify: The value indicates the percentage of the time in the block that the resources are used.
		DOCUMENTATION	
4.1	User's Guide	Review the documentation on TUT generation.	Verify: Documentation is correct and complete.

Section 7. Alternate SARs

7.1 Detailed Test Procedure for 99.1-7.1 INVALID ALTERNATE SARs - MOC Requests 5.3.2.2.5.1, 5.3.2.2.5.2, 5.3.2.2.5.3.a, 5.3.2.2.5.3.b, 5.3.3.1

OBJECTIVES: This test item will verify the following:

- Upon receipt of a customer Alternate SAR, the NCCDS determines whether the Alternate SAR is valid. [5.3.2.2.5.1]
- The NCCDS rejects any invalid Alternate SAR. [5.3.2.2.5.2]
- The NCCDS rejects any Alternate SAR that does not reference a SAR, a replace request, or another alternate SAR that has either been declined or is currently stored for batch scheduling. [5.3.2.2.5.2]
- If an incoming Alternate SAR for an authorized requester is invalid, the NCCDS either transmits an SRM to the customer's primary logical destination and alerts the operator; or provides an equivalent alert to the NCC operator if the operator originated the request. [5.3.2.2.5.3.a, 5.3.2.2.5.3.b]
- The NCCDS uses the SRM to report to the customer actions taken by the NCCDS and the NCC operators in response to customer requests. [5.3.3.1]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduler capabilities.	Toolbar appears
1.2	NTS	Create NTS blocks needed in steps 2.0 and 3.0.	NTS blocks are ready. Block file:_____
1.3	*Scheduling Control Database*	Note the Current Batch Boundary.	Batch and automatic scheduling periods are determined.

Step	Location	Action	Result
1.4	NTS	For full-support customers, send in automatic scheduled SARs, batch scheduled SARs, Replace Requests, Wait List Requests, and Delete Requests for Alternate SARs to reference. Some of them should be declined.	The requests are ready.
1.5	*Schedule Requests*	Obtain **Hardcopy**	The scheduled requests are printed.
		VALIDATION	
2.1	NTS	Submit an Alternate SAR (99/21) that references a declined automatic SAR and has invalid syntax (e.g., its Number of Keyword Parameters is set to 01 but it is followed only by a semicolon). Note UTC error _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:43
2.2	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.3	NTS	Submit an Alternate SAR that references a declined batch SAR and has an event start time more than 28 days in the future. Note UTC start time _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:04
2.4	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.5	*Scheduling Control Database*	Note **SAR Start Time Interval** Obtain a **Hardcopy**	SAR Start Time is printed

Step	Location	Action	Result
2.6	NTS	Submit an Alternate SAR that references a declined automatic SAR and has an event start time less than the operator-specified minimum from the current time. Note UTC start time _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:05
2.7	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.8	NTS	Submit an Alternate SAR that references a declined batch SAR and specifies an invalid TDRS for the SUPIDEN. Note UTC SUPIDEN _____ TDRS _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:12
2.9	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.10	*Customer (SIC) Entry* *Prototype Events*	Select **Prototype Events...** from the **Edit** menu Obtain a **Hardcopy**	*Prototype Events* appears The prototype events for the specified SIC are printed
2.11	NTS	Submit an Alternate SAR that references a declined automatic SAR and references a prototype event that is not defined for the given spacecraft. Note UTC SUPIDEN _____ PE _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:50

Step	Location	Action	Result
2.12	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.13	*Customer (SIC) Entry* *Customer Services Parameters*	Select **Service Specification Codes (SSCs)...** from the **Edit** menu Obtain a **Hardcopy**	Verify: *Customer Services Parameters* appears The SSCs for the specified SIC are printed
2.14	NTS	Submit an Alternate SAR that references a declined batch SAR and references a SSC that is not defined for the given spacecraft. Note UTC SUPIDEN _____ SSC _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:49
2.15	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.16	NTS	Submit an Alternate SAR that references a declined automatic SAR and has its number of service specification codes set to zero. Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:43
2.17	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored

Step	Location	Action	Result
2.18	NTS	Submit an Alternate SAR that references a declined batch SAR and has its number of service specification codes set to one but with no (i.e., blank) data following Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:43
2.19	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.20	NTS	Submit an Alternate SAR that references a declined automatic SAR and respecifies an invalid parameter (e.g., QDAN=1). Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:43
2.21	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.22	NTS	Submit an Alternate SAR that references a declined automatic SAR and respecifies values outside the defined range for a parameter (e.g., UDAN=9). Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:43
2.23	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored

Step	Location	Action	Result
2.24	NTS	Submit an Alternate SAR that references a declined batch SAR and respecifies the Data Stream ID = 040 (for example, for DSD1 for a Normal SSAR service). Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:22
2.25	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.26	NTS	Submit an Alternate SAR that references a declined automatic SAR and respecifies an invalid Shuttle Mode/Subcarrier combination (for example, for Shuttle KuSAR). Note UTC Shuttle Mode _____ Subcarrier _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:18
2.27	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.28	NTS	Submit an Alternate SAR that references a declined batch SAR and specifies an event/service duration less than one minute. Note UTC Duration _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:02
2.29	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid

Step	Location	Action	Result
2.30	NTS	Submit an Alternate SAR (that references a declined automatic SAR) that specifies a total event duration of more than 24 hours, with at least one service active throughout the duration of the event (e.g., a 15-hour MAF service at event start, immediately followed by a 15-hour MAR service). Note UTC Total Event Duration _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:02
2.31	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.32	NTS	Submit an Alternate SAR that references a declined batch SAR and does not specify at least one service throughout the duration of the event (i.e., the event has at least one gap). Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:47
2.33	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.34	NTS	Submit an Alternate SAR that references a declined automatic SAR and specifies a MIND duration longer than its nominal service duration. Note UTC MIND duration _____ Service duration _____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:18

Step	Location	Action	Result
2.35	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.36	NTS	Submit an Alternate SAR that references a declined batch SAR and specifies an invalid TDRS (not defined in the database). Note UTC Invalid TDRS_____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:19
2.37	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.38	NTS	Submit an Alternate SAR (that references a declined automatic SAR) with the earliest service start time not the same as the event start time and with both event tolerances nonzero. Note UTC Service start time_____ Event start time_____	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:48
2.39	*Schedule Requests*	Review window contents	Verify: Alternate SAR is stored with status Invalid
2.40	NTS	Submit an automatic SAR for SIC1 which is declined; then submit an Alternate SAR for a different SIC that references the message ID for SIC1. Note UTC SIC 1_____ SIC 2_____	Verify: SAR is declined Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:18

Step	Location	Action	Result
2.41	*Schedule Requests*	Review window contents	Verify: SAR is stored Alternate SAR is not stored
		INVALID REFERENCES TO REQUESTS	
3.1	NTS	Submit an Alternate SAR that references a Wait List Request (99/24). Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:18
3.2	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
3.3	NTS	Submit an Alternate SAR that references a Delete Request (99/11). Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:18
3.4	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored

Step	Location	Action	Result
3.5	NTS	Submit an Alternate SAR that references a SAR (99/10) that has been activated. Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:74
3.6	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
3.7	NTS	Submit an Alternate SAR that references a Replace Request (99/12) that has been activated. Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:74
3.8	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
3.9	NTS	Submit an Alternate SAR that references an Alternate SAR (99/21) that has been activated. Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:74
3.10	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored

Step	Location	Action	Result
3.11	NTS	Submit an Alternate SAR whose Referenced Request ID does not exist in the Schedule Request database. Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 11:
3.12	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
3.13	NTS	Submit an Alternate SAR that references a SAR (99/10) that has been deleted. Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:74
3.14	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
3.15	NTS	Submit an Alternate SAR that references a Replace Request (99/12) that has been deleted. Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:74
3.16	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored

Step	Location	Action	Result
3.17	NTS	Submit an Alternate SAR that references an Alternate SAR (99/21) that has been deleted. Note UTC	Verify: Alternate SAR is rejected Operator is alerted SRM (99/02) is sent to user with result:explanation 10:74
3.18	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
		DELOG ANALYSIS	
4.1	NTS DART	Get delog for 99/02s.	Verify: The correct result and explanation codes are in the SRMs (see individual steps).
		DOCUMENTATION	
5.1	User's Guide	Review the documentation.	Verify: Alerts are correctly documented.

7.2 Detailed Test Procedure for 99.1-7.02 INVALID ALTERNATE SARs - Operator Requests 5.3.2.2.5.1, 5.3.2.2.5.2, 5.3.2.2.5.3.a, 5.3.2.2.5.3.b, 5.3.2.4

OBJECTIVES: This test item will verify the following:

- Upon receipt of a customer Alternate SAR, the NCCDS determines whether the Alternate SAR is valid. [5.3.2.2.5.1]
- The NCCDS rejects any invalid Alternate SAR. [5.3.2.2.5.2]
- The NCCDS rejects any Alternate SAR that does not reference a SAR, a replace request, or another alternate SAR that has either been declined or is currently stored for batch scheduling. [5.3.2.2.5.2]
- If an incoming Alternate SAR for an authorized requester is invalid, the NCCDS either transmits an SRM to the customer's primary logical destination and alerts the operator; or provides an equivalent alert to the NCC operator if the operator originated the request. [5.3.2.2.5.3.a, 5.3.2.2.5.3.b]
- For all types of schedule requests, other than the SRR, that may be received via formatted messages, the NCCDS provides the operator with an equivalent capability. [5.3.2.4]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduler capabilities.	Toolbar appears
1.2	Workstation	Identify and/or create test data needed in steps 2.0 and 3.0.	Test data is ready.
1.3	*Scheduling Control Database*	Note the Current Batch Boundary.	Batch and automatic scheduling periods are determined.
1.4	*Schedule Requests*	For full-support customers, identify and/or create automatic scheduled SARs, batch scheduled SARs, Replace Requests, Wait List Requests, and Delete Requests for Alternate SARs to reference. Some of them should be declined.	The requests are ready.
1.5	*Schedule Requests*	Obtain **Hardcopy**	The scheduled requests are printed

Step	Location	Action	Result
		VALIDATION	
2.1	*Schedule Requests*	Select a declined batch SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.2	*Create Alternate SAR*	Create an Alternate SAR that has an event start time more than 28 days in the future. Click **Save** Note UTC start time _____	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.3	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.4	*Scheduling Control Database*	Note **SAR Start Time Interval** Obtain a **Hardcopy**	SAR Start Time is printed
2.5	*Schedule Requests*	Select a declined automatic SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.6	*Create Alternate SAR*	Create an Alternate SAR that has an event start time less than the operator-specified minimum from the current time. Note UTC start time _____	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.7	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.8	*Schedule Requests*	Select a declined batch SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears

Step	Location	Action	Result
2.9	*Create Alternate SAR*	Attempt to create an Alternate SAR that specifies an invalid TDRS for the SUPIDEN. Note UTC SUPIDEN _____ TDRS _____	Verify: The *Create Alternate SAR* window prevents the selection of an invalid TDRS for the SUPIDEN since the TDRS must be selected from a pulldown list No SRM is sent
2.10	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.11	*Customer (SIC) Entry* *Prototype Events*	Select **Prototype Events...** from the **Edit** menu Obtain a **Hardcopy**	*Prototype Events* appears The prototype events for the specified SIC are printed
2.12	*Schedule Requests*	Select a declined automatic SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.13	*Create Alternate SAR*	Attempt to create an Alternate SAR that references a prototype event that is not defined for the given SIC. Note UTC SIC _____ PE _____	Verify: The *Create Alternate SAR* window prevents the selection of an invalid prototype event since the window provides the list of valid entries No SRM is sent
2.14	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.15	*Customer (SIC) Entry*	Select **Service Specification Codes (SSCs)...** from the **Edit** menu	Verify: *Customer Services Parameters* appears

Step	Location	Action	Result
	Customer Services Parameters	Obtain a **Hardcopy**	The SSCs for the specified SIC are printed
2.16	*Schedule Requests*	Select a declined batch SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.17	*Create Alternate SAR*	Attempt to create an Alternate SAR that references a SSC that is not defined for the given SIC. Note UTC SIC _____ SSC _____	Verify: The *Create Alternate SAR* window prevents the selection of an invalid SSC since the window provides the list of valid entries No SRM is sent
2.18	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.19	*Schedule Requests*	Select a declined automatic SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.20	*Create Alternate SAR*	Create an Alternate SAR that contains no services. Click **Save** Note UTC	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.21	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.22	*Schedule Requests*	Select a declined batch SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears

Step	Location	Action	Result
2.23	*Create Alternate SAR*	Create an Alternate SAR that contains more than 16 services. Click **Save** Note UTC	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.24	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.25	*Schedule Requests*	Select a declined automatic SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.26	*Create Alternate SAR*	Create an Alternate SAR that respecifies an invalid combination of values for Maximum EIRP and Minimum EIRP (e.g., for a MAR SSC, enter values of 100 and 200 for Maximum EIRP and Minimum EIRP, respectively). Click **Save** Note UTC	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.27	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.28	*Schedule Requests*	Select a declined batch SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears

Step	Location	Action	Result
2.29	*Create Alternate SAR*	Attempt to create an Alternate SAR that respecifies an invalid value for Maximum EIRP (e.g., for a MAR SSC, try to enter a value of 9999 for Maximum EIRP). If entry of 9999 is allowed, click **Save** Note UTC	Verify: If entry of 9999 was allowed, then an error dialog box should appear rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent If entry of 9999 was not permitted, then no further verification is needed.
2.30	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.31	*Schedule Requests*	Select a declined automatic SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.32	*Create Alternate SAR*	Create an Alternate SAR that respecifies the Data Stream ID = 040 (e.g., for the Data Stream ID for the I Channel for a Normal SSAR service). Click **Save** Note UTC	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field Operator is alerted No SRM is sent
2.33	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.34	*Schedule Requests*	Select a declined batch SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears

Step	Location	Action	Result
2.35	*Create Alternate SAR*	Create an Alternate SAR that respecifies an invalid Shuttle Mode/Subcarrier combination (e.g., for Shuttle KuSAR). Click **Save** Note UTC Shuttle Mode _____ Subcarrier _____	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.36	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.37	*Schedule Requests*	Select a declined automatic SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.38	*Create Alternate SAR*	Create an Alternate SAR that specifies an event/service duration of less than one minute. Click **Save** Note UTC Duration _____	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.39	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.40	*Schedule Requests*	Select a declined batch SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears

Step	Location	Action	Result
2.41	*Create Alternate SAR*	Create an Alternate SAR that specifies an event duration of more than 24 hours, and specifies at least one service throughout the duration of the event (e.g., a 15-hour MAF service at event start, immediately followed by a 15-hour MAR service). Click **Save** Note UTC Total Event Duration_____	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field Operator is alerted No SRM is sent
2.42	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.43	*Schedule Requests*	Select a declined automatic SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.44	*Create Alternate SAR*	Create an Alternate SAR that does not specify at least one service throughout the duration of the event (i.e., the event has at least one gap). Note UTC	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.45	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.46	*Schedule Requests*	Select a declined batch SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears

Step	Location	Action	Result
2.47	*Create Alternate SAR*	Create an Alternate SAR that specifies a MIND duration longer than its nominal service duration. Note UTC MIND duration _____ Service duration _____	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.48	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
2.49	*Schedule Requests*	Select a declined automatic SAR. Click **Generate Alternate...**	*Create Alternate SAR* window appears
2.50	*Create Alternate SAR*	Create an Alternate SAR with the earliest service start time not the same as the event start time and with both event tolerances nonzero. Note UTC Service start time_____ Event start time_____	Verify: An error dialog box appears rejecting the saving of the Alternate SAR. Check the error message given in the *Explanation* field No SRM is sent
2.51	*Schedule Requests*	Review window contents	Verify: Alternate SAR is not stored
		INVALID REFERENCES TO REQUESTS	
3.1	*Schedule Requests*	Select a Wait List Request. Attempt to click the **Generate Alternate...** button.	Verify: The **Generate Alternate...** button is greyed out, preventing the generation of an Alternate SAR for a Wait List Request.

Step	Location	Action	Result
3.2	*Schedule Requests*	Select a Delete Request. Attempt to click the **Generate Alternate...** button.	Verify: The **Generate Alternate...** button is greyed out, preventing the generation of an Alternate SAR for a Delete Request.
3.3	*Schedule Requests*	Select an activated SAR. Attempt to click the **Generate Alternate...** button.	Verify: The **Generate Alternate...** button is greyed out, preventing the generation of an Alternate SAR for an activated SAR.
3.4	*Schedule Requests*	Select an activated Replace Request. Attempt to click the **Generate Alternate...** button.	Verify: The **Generate Alternate...** button is greyed out, preventing the generation of an Alternate SAR for an activated Replace Request.
3.5	*Schedule Requests*	Select an Alternate SAR that has been activated. Attempt to click the **Generate Alternate...** button.	Verify: The **Generate Alternate...** button is greyed out, preventing the generation of an Alternate SAR for an activated Alternate SAR.
3.6	*Schedule Requests*	Select a SAR that has been deleted. Attempt to click the **Generate Alternate...** button.	Verify: The **Generate Alternate...** button is greyed out, preventing the generation of an Alternate SAR for a deleted SAR.

Step	Location	Action	Result
3.7	*Schedule Requests*	Select a Replace Request that has been deleted. Attempt to click the **Generate Alternate...** button.	Verify: The **Generate Alternate...** button is greyed out, preventing the generation of an Alternate SAR for a deleted Replace Request.
3.8	*Schedule Requests*	Select an Alternate SAR that has been deleted. Attempt to click the **Generate Alternate...** button.	Verify: The **Generate Alternate...** button is greyed out, preventing the generation of an Alternate SAR for a deleted Alternate SAR.
		DOCUMENTATION	
4.1	User's Guide	Review the documentation.	Verify: Alerts are correctly documented.

7.3 Detailed Test Procedure for 99.1- 7.03 VALID ALTERNATE SARs- MOC REQUESTS 5.3.2.2.5.1, 5.3.2.2.5.2, 5.3.2.2.5.4.a, 5.3.2.2.5.4.b, 5.3.2.2.5.4.d, 5.3.2.2.5.4.e, 5.3.3.1.b.1, 5.3.3.1.b.2, 5.3.3.1.b.3, 5.3.3.1.b.4

OBJECTIVES: This test item will verify the following:

- Upon receipt of a customer Alternate SAR, the NCCDS determines whether the Alternate SAR is valid. [5.3.2.2.5.1]
- The NCCDS queues an Alternate SAR that references a SAR, a Replace Request or another Alternate SAR that has neither been declined nor is currently stored for batch scheduling but, is currently placed on the automatic queue due to a batch scheduling lockout. [Derived from 5.3.2.2.5.2]
- If an Alternate SAR specifies that TSWs are to be used, the NCCDS determines whether the required TSWs are available within the NCCDS. [5.3.2.2.5.4.a]
- If an Alternate SAR specifies that TSWs are to be used, the NCCDS determines whether the timespan for each of the services specified by the Alternate SAR can fit within its specified TSW. [5.3.2.2.5.4.a]
- If an incoming Alternate SAR is valid, the NCCDS transmits a Schedule Result Message (SRM) to the customer's primary logical destination or provides an equivalent alert to the NCC operator if the operator originated the request. [5.3.2.2.5.4.b]
- If the Alternate SAR is valid but usable TSWs are not available, this will be indicated in the SRM. [5.3.2.2.5.4.b]
- If the request referenced by an Alternate SAR and all others in the associated chain have been declined, the NCCDS processes the Alternate SAR as if it were a SAR. [5.3.2.2.5.4.d]
- If the request is received during the customer request reception alert period, the NCCDS alerts the operator. [5.3.2.2.5.4.e]
- The NCCDS indicates in the SRM that the use of TSWs has not been requested. [5.3.3.1.b.1]
- The NCCDS indicates in the SRM that the use of TSWs has been requested, but the applicable TSWs are not available. [5.3.3.1.b.2]
- The NCCDS indicates in the SRM when use of TSWs has been requested, applicable TSWs are available, but the request cannot be scheduled within these TSWs. [5.3.3.1.b.3]
- The NCCDS indicates in the SRM when use of TSWs has been requested, applicable TSWs are available, and the request can be scheduled within these TSWs. [5.3.3.1.b.3]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	*Schedule Control Database*	Determine the current batch boundary.	Boundary is noted.
1.3	NTS	Create NTS blocks for SARs (99/10s), Alternate SARs (99/21s), Replace Requests (99/12s), and TSWs (99/25s), see steps below for details. Note: Use full-support SICs.	NTS blocks are ready. Block file:_____
		ALTSAR REFERENCES BATCH STORED SAR	
2.1	*Schedule Distribution List*	Choose a full-support SIC whose Schedule Distribution List contains more than one destination.	SIC has primary and secondary destinations.
2.2	NTS	From the SIC's <u>secondary</u> destination, submit an Alternate SAR that references a BatchStored SAR and does not request the use of TSWs. Note UTC.	Verify: SRM (99/02) is sent to the SIC's <u>primary</u> destination with explanation code 26:66.
2.3	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored with status Chained. Window shows the Reference ID of the SAR next to the Alternate SAR.
		ALTSAR REFERENCES DECLINED SAR	
3.1	NTS	Submit an Alternate SAR with automatic period start time that references a declined auto scheduling SAR. Note UTC.	SRM (99/02) is sent to user with explanation code 26:66.

Step	Location	Action	Result
3.2	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Activated.
3.3	NTS	Submit an Alternate SAR with batch start time that references a declined auto scheduling SAR. Note UTC.	SRM (99/02) is sent to user with explanation code 26:66.
3.2	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
ALTSAR REFERENCES DECLINED REPLACE REQUEST			
4.1	NTS	Submit the following requests in the auto scheduling period. Note UTC.	Requests are received.

Req	TDRS	Event Start	Reference Request ID	Services	Service Start	Nom Service Duration	Verify
SAR1	046	T + 00:00:00		MAF	00:00:00	00:01:00	blocking event
SAR2	041	T + 00:00:00		MAF	00:00:00	00:01:00	Activated
RR1	046	T + 00:00:00	SAR2	MAF	00:00:00	00:01:00	Declined
AltSAR1	174	T + 00:00:00	RR1	MAF	00:00:00	00:01:00	Activated (as a SAR)

Step	Location	Action	Result
4.2	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The SAR created from the AltSAR is Activated. The status of the other requests remain as specified in the above table.
ALTSAR REFERENCES CHAINED ALTSAR			
5.1	NTS	Submit the following requests in the batch scheduling period. Note UTC.	Requests are received. SRMs (99/02s) are sent to user with explanation code 26:66.

Req	TDRS	Event Start	Reference Request ID	Services	Service Start	Nom Service Duration	Verify
SAR1	TDE	T + 00:00:00		SMAF	00:00:00	00:01:00	BatchStored
AltSAR1	TDE	T + 00:00:00	SAR1	SMAF	00:00:00	00:01:00	Chained
AltSAR2	TDE	T + 00:00:00	AltSAR1	SMAF	00:00:00	00:01:00	Chained

5.2	*Schedule Requests*	Review AltSAR2.	Verify: AltSAR2 is stored as Chained. AltSAR2 is linked to the correct reference request (the Request ID of the first AltSAR is the Reference ID of the second AltSAR).
ALTSAR REFERENCES DECLINED ALTSAR			
6.1	NTS	Submit the following requests in the batch period.	Requests are received.

Req	TDRS	Event Start	Priority	Ref Req ID	Svcs	Service Start	Service Duration	Results after activation
SAR1	046	T + 02:00:00	1		MAF	00:00:00	00:01:00	blocking event
SAR2	046	T + 02:00:00	2		MAF	00:00:00	00:01:00	Declined
AltSAR1	046	T + 02:00:00	2	SAR2	MAF	00:00:00	00:01:00	Declined

Step	Location	Action	Result
6.2	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
6.3	NTS	Submit an Alternate SAR (AltSAR2) that references the Declined AltSAR1: Note UTC.	Alternate SAR is received.

Req	TDRS	Event Start	Priority	Ref Req ID	Svcs	Service Start	Service Duration	Results after activation
AltSAR2	046	T + 02:00:00	4	AltSAR1	MAF	00:00:00	00:01:00	BatchStored as a SAR

6.4	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The SAR created from AltSAR2 is BatchStored.
		TSW AVAILABILITY SETUP	
7.1	NTS	Transmit a TSW message for a full-support SIC and TDRS TDE with 4 TSWs as follows (B is in the batch period): Timespan: Start = B + 10:00:00 End = B + 14:00:00 TSWs: opening = B + 10:30:00 closing = B + 11:00:00 opening = B + 11:05:00 closing = B + 12:00:00 opening = B + 12:20:00 closing = B + 13:00:00 opening = B + 13:40:00 closing = B + 13:50:00	TSW Set is received.

Step	Location	Action	Result
7.2	NTS	Transmit a TSW message similar to the previous one, but for a time in the automatic scheduling period (A is in the auto period): Timespan: Start = A + 10:00:00 End = A + 14:00:00 TSWs: opening = A + 10:30:00 closing = A + 11:00:00 opening = A + 11:05:00 closing = A + 12:00:00 opening = A + 12:20:00 closing = A + 13:00:00 opening = A + 13:40:00 closing = A + 13:50:00	TSW Set is received.
7.3	*TDRS Scheduling Window Sets*	Review the TSW Sets. Obtain **Hardcopy**.	Printout of TSW Set IDs.
7.4	*TDRS Scheduling Window Set Details*	Review the TSW windows within the TSW Sets that were sent in above. Obtain **Hardcopy**.	Printout of TSWs.
		TSWs NOT AVAILABLE -- CODE 26:67	
8.1	NTS	Submit an Alternate SAR that requests use of TSWs, but they are not available. Note -- This is how TSWs have been implemented as of this writing: **Code 26:67** (TSWs Not Available) is used for requests that include times up to the opening time of the first window and after the closing time of the last window (notice it is defined by windows, not by timespan!).	Verify: Alternate SAR is received. Operator is alerted that requested TSWs do not exist. SRM (99/02) is sent to user with result:explanation 26:67.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 10:15:00	(ID of any batchstored SAR)	Y	SMAF	00:00:00	00:01:00	Chained

Step	Location	Action	Result
8.2	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored as Chained.
8.3	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs are not available.
8.4	NTS	Submit an Alternate SAR that requests use of TSWs, but they <u>are not</u> available, and that references a declined <u>automatic</u> scheduling request. Use a <u>batch</u> period start time in the AltSAR.	Verify: SRM (99/02) is sent to user with explanation code 26:67.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 09:55:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

8.5	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
8.6	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs do not exist.
8.7	NTS	Submit an Alternate SAR that requests use of TSWs, but they <u>are not</u> available, and that references a declined <u>automatic</u> scheduling request. Use an <u>automatic</u> period start time in the AltSAR.	Verify: SRM (99/02) is sent to user with explanation code 26:67.

Step	Location		Action				Result	
Req	**TDRS**	**Event Start**	**Reference Request ID**	**TSW flag**	**Services**	**Service Start**	**Nom Service Duration**	**Verify**
AltSAR	TDE	A + 09:55:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	Declined as a SAR
8.8	*Schedule Requests*		Review the *Schedule Requests* window.				Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Declined.	
8.9	*Operator Alerts*		Review the alerts				Verify: Operator is alerted that requested TSWs do not exist.	
8.10	NTS		Submit an Alternate SAR that requests use of TSWs, but they <u>are not</u> available, and that references a declined <u>batch</u> scheduling request. Use a <u>batch</u> period start time in the AltSAR.				Verify: SRM (99/02) is sent to user with explanation code 26:67.	
Req	**TDRS**	**Event Start**	**Reference Request ID**	**TSW flag**	**Services**	**Service Start**	**Nom Service Duration**	**Verify**
AltSAR	TDE	B + 09:55:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR
8.11	*Schedule Requests*		Review the *Schedule Requests* window.				Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.	

Step	Location	Action	Result
8.12	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs do not exist.
8.13	NTS	Submit an Alternate SAR that requests use of TSWs, but they <u>are not</u> available, and that references a declined <u>batch</u> scheduling request. Use an <u>automatic</u> period start time in the AltSAR.	Verify: SRM (99/02) is sent to user with explanation code 26:67.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	A + 09:55:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	Declined as a SAR

8.14	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Declined.
8.15	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs do not exist.

Step	Location	Action	Result
REQUEST DOES NOT FIT IN AVAILABLE TSWs -- CODE 26:68			
9.1	NTS	Submit an Alternate SAR that requests use of available TSWs, but the request does not fit, and that references a Declined batch scheduling request. Use a batch period start time in the AltSAR. Note -- This is how TSWs have been implemented as of this writing: **Code 26:68** (TSWs available but request does not fit) is used for requests that include times that are in gaps between the TSW windows inside a TSW set.	Verify: Alternate SAR is accepted. SRM (99/02) is sent to user with result:explanation 26:68.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR1	TDE	B + 12:10:00	(ID of any batchstored SAR)	Y	SMAF	00:00:00	00:01:00	Chained

9.2	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored as Chained.
9.3	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs are not available.
9.4	NTS	Submit an Alternate SAR with two services where the second service in the Alternate SAR does not fit within the TSWs:	Verify: SRM (99/02) is sent to user with result:explanation 26:68.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 11:50:00	(ID of any batchstored SAR)	Y	SMAF SMAR	00:00:00 00:00:00	00:10:00 00:15:00	Chained

Step	Location	Action	Result
9.5	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored as Chained.
9.6	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs are not available.
9.7	NTS	Submit an Alternate SAR that requests use of available TSWs, but the request does not fit, and that references a declined batch scheduling request. Use a automatic period start time in the AltSAR.	Verify: SRM (99/02) is sent to user with explanation code indicating request does not fit within TSWs, 26:68.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	A + 13:10:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	Declined as a SAR

9.8	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Declined.
9.9	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs are not available.
9.10	NTS	Submit an Alternate SAR that requests use of available TSWs, but the request does not fit, and that references a declined batch scheduling request. Use a batch period start time in the AltSAR.	Verify: SRM (99/02) is sent to user with explanation code 26:68.

Step	Location	Action	Result
9.11	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
9.12	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs are not available.
9.13	NTS	Submit an Alternate SAR that requests use of available TSWs, but the request <u>does not</u> fit, and that references a declined <u>automatic</u> scheduling request. Use a <u>automatic</u> period start time in the AltSAR.	Verify: SRM (99/02) is sent to user with explanation code indicating request does not fit within TSWs, 26:68.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 13:10:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

9.14	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Declined.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	A + 13:10:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	Declined as a SAR

Step	Location	Action	Result
9.15	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs are not available.
9.16	NTS	Submit an Alternate SAR that requests use of available TSWs, but the request <u>does not</u> fit, and that references a declined <u>automatic</u> scheduling request. Use a <u>batch</u> period start time in the AltSAR.	Verify: SRM (99/02) is sent to user with explanation code 26:68.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 13:10:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

9.17	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
9.18	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs are not available.
REQUEST FITS IN AVAILABLE TSWs -- CODE 26:69			
10.1	NTS	Submit an Alternate SAR where the request <u>does</u> fit within the TSWs. Note -- This is how TSWs have been implemented as of this writing: **Code 26:69** (TSWs available and request fits) is used for requests that fit totally within one TSW window.	Verify: SRM (99/02) is sent to user with result:explanation 26:69.

Step	Location	Action	Result

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 11:50:00	(ID of any batchstored SAR)	Y	SMAF	00:00:00	00:01:00	Chained

10.2	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored as Chained.
10.3	*Operator Alerts*	Review the alerts	Verify: Operator is alerted that requested TSWs are not available.
10.4	NTS	Submit an Alternate SAR that requests use of available TSWs, and the request does fit, and that references a declined batch scheduling request. Use a batch period start time in the AltSAR.	Verify: SRM (99/02) is sent to user with explanation code 26:69.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 10:45:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

10.5	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
10.6	NTS	Submit an Alternate SAR that requests use of available TSWs, and the request does fit, and that references a declined batch scheduling request. Use a automatic period start time in the AltSAR.	Verify: SRM (99/02) is sent to user with explanation code 26:69.

Step	Location		Action				Result	
Req	**TDRS**	**Event Start**	**Reference Request ID**	**TSW flag**	**Services**	**Service Start**	**Nom Service Duration**	**Verify**
AltSAR	TDE	A + 10:45:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	Activated as a SAR
10.7	*Schedule Requests*		Review the *Schedule Requests* window.				Verify: SAR was created whose status is Activated.	
10.8	NTS		Submit an Alternate SAR that requests use of TSWs, and they <u>are</u> available, and that references a declined <u>automatic</u> scheduling request. Use a <u>automatic</u> period start time in the AltSAR.				Verify: SRM (99/02) is sent to user with explanation code 26:69.	
Req	**TDRS**	**Event Start**	**Reference Request ID**	**TSW flag**	**Services**	**Service Start**	**Nom Service Duration**	**Verify**
AltSAR	TDE	A + 11:15:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	Activated as a SAR
10.9	*Schedule Requests*		Review the *Schedule Requests* window.				Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Activated.	
10.10	NTS		Submit an Alternate SAR that requests use of TSWs, and they <u>are</u> available, and that references a declined <u>automatic</u> scheduling request. Use a <u>batch</u> period start time in the AltSAR.				Verify: SRM (99/02) is sent to user with explanation code 26:69.	
Req	**TDRS**	**Event Start**	**Reference Request ID**	**TSW flag**	**Services**	**Service Start**	**Nom Service Duration**	**Verify**
AltSAR	TDE	B + 11:15:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

Step	Location	Action	Result
10.11	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
		LOCKOUT (AUTOQUEUED) REQUESTS	
11.1	NTS	Submit request as follows, where T is equal to the batch boundary.	The request is received.

Req	TDRS	Event Start	Reference Request ID	Services	Service Start	Nom Service Duration	Results after activation
SAR1	046	T + 00:00:00		MAF	00:00:00	01:00:00	BatchStored

11.2	NTS	Generate a batch schedule containing SAR1 (do <u>not</u> activate).	The batch schedule is generated. New requests will be locked out.
11.3	NTS	Submit requests as follows, where T is equal to the batch boundary.	The requests are submitted.

Req	TDRS	Event Start	Reference Request ID	Services	Service Start	Nom Service Duration	Results after activation
SAR2	046	T - 00:30:00		MAF	00:00:00	01:00:00	Autoqueued
RR1	046	T - 00:10:00	SAR2	MAF	00:00:00	01:00:00	Autoqueued
AltSAR1	046	T - 02:00:00	RR1	MAF	00:00:00	01:00:00	Autoqueued
AltSAR2	046	T - 02:00:00	AltSAR1	MAF	00:00:00	01:00:00	Autoqueued
AltSAR3	046	T - 04:00:00	SAR2	MAF	00:00:00	01:00:00	Autoqueued

Step	Location	Action	Result
11.4	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: AltSAR1 is placed on the autoqueue because it references an autoqueued RR. AltSAR2 is placed on the autoqueue because it references an autoqueued AltSAR. AltSAR3 is placed on the autoqueue because it references an autoqueued SAR. SRMs (99/02s) are sent to users with explanation code 26:66.
11.5	NTS	Activate the batch schedule that was generated in step 8.2.	The batch schedule is activated. The lockout is released. All requests are processed off the autoqueue.
	CUSTOMER REQUEST RECEPTION ALERT -- REFERENCING DECLINED		
12.1	*Schedule Control Database*	Set the Alert Period Parameters to values that will allow some requests to receive alerts and some not (for instance, if the automatic period is 10 days long, set the auto alert parameter to less than 10 days): Automatic Scheduling Update: _____ Batch Request Receipt: _____ Automatic Request Receipt during Lockout: _____	Alert parameters allow some valid requests to cause alerts and some valid requests to not cause alerts. Note: Inform other testers of the new values.

Step	Location	Action	Result
12.2	NTS	Submit an auto scheduling Alternate SAR with a start time that is within the Automatic Scheduling Update period and that references a declined request. Note UTC.	Alternate SAR is received. SRM (99/02) is sent to user with explanation code 26:66.
12.3	*Operator Alerts*	Review alerts.	Verify: Operator is alerted that an AltSAR was received. Operator is alerted that schedule was updated by the addition of an event.
12.4	NTS	Submit an auto scheduling Alternate SAR with a start time that is not within the Automatic Scheduling Update period and that references a declined request. Note UTC.	Alternate SAR is received. SRM (99/02) is sent to user with explanation code 26:66.
12.5	*Operator Alerts*	Review alerts.	Verify: Operator is not alerted that an AltSAR was received. Operator is alerted that the schedule was updated by the addition of an event.
12.6	NTS	Submit a batch scheduling Alternate SAR with a start time that is within the Batch Request Receipt period and that references a declined request. Note UTC.	Alternate SAR is received. SRM (99/02) is sent to user with explanation code 26:66.
12.7	*Operator Alerts*	Review alerts.	Verify: Operator is alerted that an AltSAR was received.

Step	Location	Action	Result
12.8	NTS	Submit a batch scheduling Alternate SAR with a start time that is not within the Batch Request Receipt period and that references a declined request. Note UTC.	Alternate SAR is received. SRM (99/02) is sent to user with explanation code 26:66.
12.9	*Operator Alerts*	Review alerts.	Verify: Operator is not alerted that an AltSAR was received.
12.10	*Batch Scheduling*	Generate two batch schedules in the automatic period (reprocess events or declined auto requests) such that one of the batch schedules (Batch1) is within the Automatic Request Receipt during Lockout period and one of them (Batch2) is not within the Automatic Request Receipt during Lockout period.	Batch schedules are generated and create lockouts.
12.11	NTS	Submit an Alternate SAR with a start time that is within the time of Batch1, and that references a declined request. Note UTC.	Alternate SAR is autoqueued. SRM (99/02) is sent to user with explanation code 26:66.
12.12	*Operator Alerts*	Review alerts.	Verify: Operator is alerted that an AltSAR was received in a lockout period.
12.13	NTS	Submit an Alternate SAR with a start time that is within the time of Batch2 and that references a declined request. Note UTC.	Alternate SAR is received and autoqueued. SRM (99/02) is sent to user with explanation code 26:66.
12.14	*Operator Alerts*	Review alerts.	Verify: Operator is not alerted that an AltSAR was received in a lockout period.

Step	Location	Action	Result
CUSTOMER REQUEST RECEPTION ALERT -- REFERENCING BATCH			
13.1	NTS	Submit an Alternate SAR with a start time that is within the time of Batch1, and that references a batch stored request. Note UTC.	Alternate SAR is autoqueued. SRM (99/02) is sent to user with explanation code 26:66.
13.2	*Operator Alerts*	Review alerts.	Verify: Operator is alerted that an AltSAR was received in a lockout period.
13.3	NTS	Submit an Alternate SAR with a start time that is not within the Automatic Request Receipt during Lockout period and that references a batch stored request. Note UTC.	Alternate SAR is received and autoqueued. SRM (99/02) is sent to user with explanation code 26:66.
13.4	*Operator Alerts*	Review alerts.	Verify: Operator is not alerted that an AltSAR was received in a lockout period.
13.5	NTS	Submit an Alternate SAR with a start time that is within the Automatic Scheduling Update period and that references a batch stored or chained request. Note UTC.	Alternate SAR is received and chained. SRM (99/02) is sent to user with explanation code 26:66.
13.6	*Operator Alerts*	Review alerts.	Verify: Operator is alerted that an AltSAR was received.
13.7	NTS	Submit an Alternate SAR with a start time that is not within the Automatic Scheduling Update period and that references a batch stored or chained request. Note UTC.	Alternate SAR is received and chained. SRM (99/02) is sent to user with explanation code 26:66.

Step	Location	Action	Result
13.8	*Operator Alerts*	Review alerts.	Verify: Operator is not alerted that an AltSAR was received.
13.9	NTS	Submit an Alternate SAR with a start time that is within the Batch Request Receipt period and that references a batch stored or chained request. Note UTC.	Alternate SAR is received and chained. SRM (99/02) is sent to user with explanation code 26:66.
13.10	*Operator Alerts*	Review alerts.	Verify: Operator is alerted that an AltSAR was received.
13.11	NTS	Submit an Alternate SAR with a start time that is not within the Batch Request Receipt period and that references a batch stored or chained request. Note UTC.	Alternate SAR is received and chained. SRM (99/02) is sent to user with explanation code 26:66.
13.12	*Operator Alerts*	Review alerts.	Verify: Operator is not alerted that an AltSAR was received.
		CLEANUP	
14.1	*Schedule Control Database*	Change alert periods back to original values (normally set all to 28 days).	All requests will result in alerts to the operator.
		DELOG ANALYSIS	
15.1	NCD	Get delog for 99/21s and 99/02s.	Verify: The correct explanation codes are in the SRMs (see individual steps).

7.4 Detailed Test Procedure for 99.1- 7.04 VALID ALTERNATE SARs- OPERATOR REQUESTS 5.3.2.2.5.2, 5.3.2.2.5.4.a, 5.3.2.2.5.4.b, 5.3.2.2.5.4.d, 5.3.2.4

OBJECTIVES: This test item will verify the following:

- The NCCDS queues an Alternate SAR that references a SAR, a Replace Request or another Alternate SAR that has neither been declined nor is currently stored for batch scheduling but, is currently placed on the automatic queue due to a batch scheduling lockout. [Derived from 5.3.2.2.5.2]
- If an Alternate SAR specifies that TSWs are to be used, the NCCDS determines whether the required TSWs are available within the NCCDS. [5.3.2.2.5.4.a]
- If an Alternate SAR specifies that TSWs are to be used, the NCCDS determines whether the timespan for each of the services specified by the Alternate SAR can fit within its specified TSW. [5.3.2.2.5.4.a]
- If an incoming Alternate SAR is valid, the NCCDS transmits a Schedule Result Message (SRM) to the customer's primary logical destination or provides an equivalent alert to the NCC operator if the operator originated the request. [5.3.2.2.5.4.b]
- If the Alternate SAR is valid but usable TSWs are not available, this will be indicated in the SRM. [5.3.2.2.5.4.b]
- If the request referenced by an Alternate SAR and all others in the associated chain have been declined, the NCCDS processes the Alternate SAR as if it were a SAR. [5.3.2.2.5.4.d]
- For all types of schedule requests, other than the SRR, that may be received via formatted messages, the NCCDS provides the operator with an equivalent capability. [5.3.2.4]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and database capabilities.	Toolbar appears.
1.2	*Schedule Control Database*	Determine the current batch boundary.	Boundary is noted.

Step	Location	Action	Result
ALTSAR REFERENCES BATCH STORED SAR			
2.1	*Create Alternate SAR*	Submit an Alternate SAR that references a BatchStored SAR and does not request the use of TSWs. Note UTC.	No SRM (99/02) is sent to user. Verify: Operator receives alert that indicates that a valid Alternate SAR was stored.
2.2	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored with status Chained. Window shows the Reference ID of the SAR next to the Alternate SAR.
ALTSAR REFERENCES DECLINED SAR			
3.1	*Schedule Requests*	Select any Declined automatic scheduling period SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
3.2	*Create Alternate SAR*	Submit an Alternate SAR with an automatic period start time. Note UTC.	Request is successfully created. No SRM (99/02) is sent to user. Verify: Operator receives alert that indicates that a valid Alternate SAR was stored.
3.3	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Activated.

Step	Location	Action	Result
3.4	*Schedule Requests*	Select any Declined batch scheduling period SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
3.5	*Create Alternate SAR*	Submit an Alternate SAR with a batch period start time. Note UTC.	Request is successfully created. No SRM (99/02) is sent to user. Verify: Operator receives alert that indicates that a valid Alternate SAR was stored.
3.6	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
ALTSAR REFERENCES DECLINED REPLACE REQUEST			
4.1	*Create Alternate SAR*	Submit the following requests in the auto scheduling period. Note UTC.	Requests are successfully created. Verify: Operator receives alert that indicates that a valid Alternate SAR was stored.

Req	TDRS	Event Start	Reference Request ID	Services	Service Start	Nom Service Duration	Verify
SAR1	046	T + 00:00:00		MAF	00:00:00	00:01:00	blocking event
SAR2	041	T + 00:00:00		MAF	00:00:00	00:01:00	Activated
RR1	046	T + 00:00:00	SAR2	MAF	00:00:00	00:01:00	Declined
AltSAR1	174	T + 00:00:00	RR1	MAF	00:00:00	00:01:00	Activated (as a SAR)

Step	Location	Action	Result
4.2	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Activated.
		ALTSAR REFERENCES CHAINED ALTSAR	
5.1	*Create Alternate SAR*	Submit the following requests in the batch scheduling period. Note UTC.	No SRMs (99/02s) are sent to user. Verify: Operator receives alert that indicates that a valid Alternate SAR was stored.

Req	TDRS	Event Start	Reference Request ID	Services	Service Start	Nom Service Duration	Verify
SAR1	TDE	T + 00:00:00		SMAF	00:00:00	00:01:00	BatchStored
AltSAR1	TDE	T + 00:00:00	SAR1	SMAF	00:00:00	00:01:00	Chained
AltSAR2	TDE	T + 00:00:00	AltSAR1	SMAF	00:00:00	00:01:00	Chained

5.2	*Schedule Requests*	Review AltSAR2.	Verify: AltSAR2 is stored as Chained. AltSAR2 is linked to the correct reference request (the Request ID of the first AltSAR is the Reference ID of the second AltSAR).

Step	Location	Action	Result
ALTSAR REFERENCES DECLINED ALTSAR			
6.1	*Create Alternate SAR*	Submit the following requests. T is a time in the batch period.	Requests are successfully created. No SRMs are transmitted. Verify: Operator receives alert that indicates that a valid Alternate SAR was stored.

Req	TDRS	Event Start	Ref Request ID	Svcs	Priority	Service Start	Nom Service Duration	Results after activation
SAR1	046	T + 02:00:00		MAF	1	00:00:00	00:01:00	blocking event
SAR2	046	T + 02:00:00		MAF	2	00:00:00	00:01:00	Declined
AltSAR1	046	T + 02:00:00	SAR2	MAF	2	00:00:00	00:01:00	Declined

6.2	*Batch Scheduling*	Generate and activate a batch schedule with the above requests.	Results are as specified in the table.
6.3	*Schedule Requests*	Select the Declined AltSAR1. Click **Generate Alternate...**	*Create Alternate SAR* appears.
6.4	*Create Alternate SAR*	Submit an Alternate SAR (AltSAR2) as follows: Note UTC.	Alternate SAR is successfully created. No SRMs are transmitted. Verify: Operator receives alert that indicates that a valid Alternate SAR was stored.

Req	TDRS	Event Start	Reference Request ID	Services	Service Start	Nom Service Duration	Results after activation
AltSAR2	046	T + 02:00:00	AltSAR1	MAF	00:00:00	00:01:00	BatchStored as a SAR

Step	Location	Action	Result
6.5	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
		TSW AVAILABILITY SETUP	
7.1	NTS	Transmit a TSW message for a full-support SIC and TDRS TDE with 4 TSWs as follows (B is in the batch period): Timespan: Start = B + 10:00:00 End = B + 14:00:00 TSWs: opening = B + 10:30:00 closing = B + 11:00:00 opening = B + 11:05:00 closing = B + 12:00:00 opening = B + 12:20:00 closing = B + 13:00:00 opening = B + 13:40:00 closing = B + 13:50:00	TSW Set is received.
7.2	NTS	Transmit a TSW message similar to the previous one, but for a time in the automatic scheduling period (A is in the auto period): Timespan: Start = A + 10:00:00 End = A + 14:00:00 TSWs: opening = A + 10:30:00 closing = A + 11:00:00 opening = A + 11:05:00 closing = A + 12:00:00 opening = A + 12:20:00 closing = A + 13:00:00 opening = A + 13:40:00 closing = A + 13:50:00	TSW Set is received.
7.3	*TDRS Scheduling Window Sets*	Review the TSW Sets. Obtain **Hardcopy**.	Printout of TSW Set IDs.
7.4	*TDRS Scheduling Window Set Details*	Review the TSW windows within the TSW Sets that were sent in above. Obtain **Hardcopy**.	Printout of TSWs.

Step	Location	Action	Result
		TSWs NOT AVAILABLE -- CODE 26:67	
8.1	*Schedule Requests*	Select any batch stored SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
8.2	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but they <u>are not</u> available. Use a <u>batch</u> period start time in the AltSAR.	No SRM (99/02) is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 10:15:00	(ID of any batchstored SAR)	Y	SMAF	00:00:00	00:01:00	Chained

8.3	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored as Chained.
8.4	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates TSWs unavailable (26:67).
8.5	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that TSWs are not available.
8.6	*Schedule Requests*	Select any declined <u>automatic</u> scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
8.7	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but they <u>are not</u> available. Use a <u>batch</u> period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 09:55:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

Step	Location	Action	Result
8.8	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
8.9	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates TSWs unavailable (26:67).
8.10	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that requested TSWs are not available.
8.11	*Schedule Requests*	Select any declined automatic scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
8.12	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but they are not available. Use an automatic period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	A + 09:55:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	Declined as a SAR

8.13	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Declined.
8.14	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates TSWs unavailable (26:67).

Step	Location	Action	Result
8.15	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that requested TSWs are not available.
8.16	*Schedule Requests*	Select any declined batch scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
8.17	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but they are not available. Use a batch period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 09:55:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

8.18	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
8.19	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates TSWs unavailable (26:67).
8.20	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that requested TSWs are not available.
8.21	*Schedule Requests*	Select any declined batch scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.

Step	Location	Action	Result
8.22	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but they <u>are not</u> available. Use an <u>automatic</u> period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	A + 09:55:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	Declined as a SAR

8.23	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Declined.
8.24	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates TSWs unavailable (26:67).
8.25	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that requested TSWs are not available.
REQUEST DOES NOT FIT IN AVAILABLE TSWs -- CODE 26:68			
9.1	*Schedule Requests*	Select any declined <u>batch</u> scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
9.2	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but the request <u>does not</u> fit. Use a <u>batch</u> period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR1	TDE	B + 12:10:00	(ID of any batchstored SAR)	Y	SMAF	00:00:00	00:01:00	Chained

Step	Location	Action	Result
9.3	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored as Chained.
9.4	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request does not fit in the available TSWs (26:68).
9.5	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that TSWs are not available.
9.6	*Schedule Requests*	Select any BatchStored scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
9.7	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but the <u>second</u> service in the Alternate SAR <u>does not</u> fit within the TSWs. Use a <u>batch</u> period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 11:50:00	(ID of any batchstored SAR)	Y	SMAF SMAR	00:00:00 00:00:00	00:10:00 00:15:00	Chained

9.8	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored as Chained.
9.9	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request does not fit in the available TSWs (26:68).
9.10	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that TSWs are not available.

Step	Location	Action	Result
9.11	*Schedule Requests*	Select any declined batch scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
9.12	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but the request does not fit. Use an automatic period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	A + 13:10:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	Declined as a SAR

9.13	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Declined.
9.14	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request does not fit in the available TSWs (26:68).
9.15	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that TSWs are not available.
9.16	*Schedule Requests*	Select any declined batch scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
9.17	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but the request does not fit. Use a batch period start time in the AltSAR.	No SRM is sent.

Step	Location		Action			Result		
Req	**TDRS**	**Event Start**	**Reference Request ID**	**TSW flag**	**Services**	**Service Start**	**Nom Service Duration**	**Verify**
AltSAR	TDE	B + 13:10:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR
9.18	*Schedule Requests*		Review the *Schedule Requests* window.			Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.		
9.19	*View Alternate SAR*		Review the explanation field in the *View Alternate SAR* window.			Verify: Explanation indicates request does not fit in the available TSWs (26:68).		
9.20	*Operator Alerts*		Review the alerts.			Verify: Operator is alerted that TSWs are not available.		
9.21	*Schedule Requests*		Select any declined automatic scheduling SAR. Click **Generate Alternate...**			*Create Alternate SAR* appears.		
9.22	*Create Alternate SAR*		Submit an Alternate SAR that requests use of TSWs, but the request does not fit. Use a automatic period start time in the AltSAR.			No SRM is sent.		
Req	**TDRS**	**Event Start**	**Reference Request ID**	**TSW flag**	**Services**	**Service Start**	**Nom Service Duration**	**Verify**
AltSAR	TDE	A + 13:10:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	Declined as a SAR

Step	Location	Action	Result
9.23	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Declined.
9.24	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request does not fit in the available TSWs (26:68).
9.25	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that TSWs are not available.
9.26	*Schedule Requests*	Select any declined automatic scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
9.27	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, but the request does not fit. Use a batch period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 13:10:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

9.28	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.

Step	Location	Action	Result
9.29	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request does not fit in the available TSWs (26:68).
9.30	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that TSWs are not available.
REQUEST FITS IN AVAILABLE TSWs -- CODE 26:69			
10.1	*Schedule Requests*	Select any BatchStored scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
10.2	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, and the request does fit within the TSWs. Use a batch period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 11:50:00	(ID of any batchstored SAR)	Y	SMAF	00:00:00	00:01:00	Chained

10.3	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: Alternate SAR is stored as Chained.
10.4	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request fits in the available TSWs (26:69).
10.5	*Schedule Requests*	Select any declined batch scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.

Step	Location	Action	Result
10.6	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, and the request does fit. Use a batch period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 10:45:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

10.7	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
10.8	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request fits in the available TSWs (26:69).
10.9	*Schedule Requests*	Select any declined batch scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
10.10	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, and the request does fit. Use an automatic period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	A + 10:45:00	(any Declined batch period SAR)	Y	SMAF	00:00:00	00:01:00	Activated as a SAR

Step	Location	Action	Result
10.11	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Activated.
10.12	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request fits in the available TSWs (26:69).
10.13	*Schedule Requests*	Select any declined automatic scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
10.14	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, and the request does fit. Use an automatic period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	A + 11:15:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	Activated as a SAR

10.15	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is Activated.
10.16	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request fits in the available TSWs (26:69).

Step	Location	Action	Result
10.17	*Schedule Requests*	Select any declined automatic scheduling SAR. Click **Generate Alternate...**	*Create Alternate SAR* appears.
10.18	*Create Alternate SAR*	Submit an Alternate SAR that requests use of TSWs, and they are available. Use a batch period start time in the AltSAR.	No SRM is sent.

Req	TDRS	Event Start	Reference Request ID	TSW flag	Services	Service Start	Nom Service Duration	Verify
AltSAR	TDE	B + 11:15:00	(any Declined Auto period SAR)	Y	SMAF	00:00:00	00:01:00	BatchStored as a SAR

10.19	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: The AltSAR referencing a declined request is processed as a SAR. Status of the SAR is BatchStored.
10.20	*View Alternate SAR*	Review the explanation field in the *View Alternate SAR* window.	Verify: Explanation indicates request fits in the available TSWs (26:69).
		LOCKOUT (AUTOQUEUED) REQUESTS	
11.1	*Create SAR*	Submit request as follows, where T is equal to the batch boundary.	The request is received.

Req	TDRS	Event Start	Reference Request ID	Services	Service Start	Nom Service Duration	Results after activation
SAR1	046	T + 00:00:00		MAF	00:00:00	01:00:00	BatchStored

11.2	*Batch Scheduling*	Generate a batch schedule containing SAR1 (do not activate).	The batch schedule is generated. New requests will be locked out.

Step	Location	Action	Result
11.3	*Create SAR/ Create Alternate SAR/ Create Replace Request*	Submit requests as follows, where T is equal to the batch boundary.	The requests are submitted.

Req	TDRS	Event Start	Reference Request ID	Services	Service Start	Nom Service Duration	Results after activation
SAR2	046	T - 00:30:00		MAF	00:00:00	01:00:00	Autoqueued
RR1	046	T - 00:10:00	SAR2	MAF	00:00:00	01:00:00	Autoqueued
AltSAR1	046	T - 02:00:00	RR1	MAF	00:00:00	01:00:00	Autoqueued
AltSAR2	046	T - 02:00:00	AltSAR1	MAF	00:00:00	01:00:00	Autoqueued
AltSAR3	046	T - 04:00:00	SAR2	MAF	00:00:00	01:00:00	Autoqueued

11.4	*Schedule Requests*	Review the *Schedule Requests* window.	Verify: AltSAR1 is placed on the autoqueue because it references an autoqueued RR. AltSAR2 is placed on the autoqueue because it references an autoqueued AltSAR. AltSAR3 is placed on the autoqueue because it references an autoqueued SAR. Even though the start times of the AltSARs are not in a lockout period, they are autoqueued because they reference autoqueued requests.
11.5	*Batch Scheduling*	Activate the batch schedule that was generated in step 11.2.	The batch schedule is activated. The lockout is released. All requests are processed off the autoqueue.

7.5 Detailed Test Procedure for 99.1-7.05 CHAIN MANAGEMENT - EDITING REQUESTS 5.5.7.i, 5.5.8.a, 5.5.8.b, 5.5.8.d, 5.5.8.e, 5.5.8.f

OBJECTIVES: This test item will verify the following.

- The operator is provided the capability to edit the content of any Alternate SAR. [5.5.7.i]
- Whenever the operator edits a schedule request, the NCCDS retains the original version of the request. [5.5.8.a]
- The NCCDS provides the operator with the capability to perform additional editing upon a previously edited request. [5.5.8.b]
- The NCCDS provides the operator with the capability to delete the edited version of a request without deleting the original version. [5.5.8.d]
- Prior to activation of an event based on an edited version of a request, the NCCDS interprets any customer schedule request that references another schedule request as applying to the original version of the referenced request. [5.5.8.e]
- In response to any request that involves deletion of the original version of a request, the NCCDS also deletes any edited versions of the request. [5.5.8.f]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	*Schedule Control Database*	Note the current batch boundary. Make a **hardcopy**.	Batch boundary is noted. Window is printed.
1.3	NTS	Create NTS blocks for requests needed in this test item.	Block file: _____
1.4	*Customer SIC Entry*	Need 2 SICs, one Normal SIC and one Shuttle SIC. Both SICs should have valid services.	SICs are setup correctly.
		EDITING ORIGINAL VERSION OF ALT SAR FROM MOC	
2.1	NTS	Submit a SAR (99/10) using MAF in the batch scheduling period. Use a Normal SIC.	SAR is accepted.

Step	Location	Action	Result
2.2	*Schedule Requests*	Review the SAR from step 2.1. Note the Request ID.	SAR is listed as BatchStored.
2.3	NTS	Submit an Alternate SAR (99/21) using MAF in the batch scheduling period that references the SAR from step 2.1. Schedule the Alternate SAR with both plus and minus event tolerances of 5 minutes. Do not use service tolerances and minimum duration. Use a Normal SIC.	Alternate SAR is accepted.
2.4	*Schedule Requests*	Review the Alternate SAR from step 2.3. Note the Request ID. Select the Alternate SAR and click **Edit...**	Alternate SAR is listed as chained and references the SAR from step 2.1. Alternate SAR has a version number of 1. *Edit Alternate SAR* appears.
2.5	*Edit Alternate SAR*	Change the TDRS, the priority, the nominal event start time, set the plus and minus tolerances to 0 and change the freeze interval.	The various fields can be edited.
2.6	*Edit Alternate SAR*	Select the MAF SSC and click **Modify Service...**	*Edit Service* appears.
2.7	*Edit Service*	Change the nominal start, nominal duration, plus tolerance, minus tolerance and minimum duration. Click **Update**.	The changes are saved.
2.8	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
2.9	*MAF/SMAF Schedulable Parameters*	Change the current values or enter valid values for the Respecifiable Parameters. Click **Save**.	The changes are saved.

Step	Location	Action	Result
2.10	*Edit Alternate SAR*	Review the changes made and click **Save**.	Verify: The content of a MOC generated Alternate SAR can be edited and the changes are saved.
2.11	*Schedule Requests*	Select the edited Alternate SAR (version 2) saved in the previous step and click **View...**	Verify: The request ID of the edited Alternate SAR is the same as the request ID of the original Alternate SAR. The version number of the edited Alternate SAR is 2. The edited Alternate SAR is listed as Secondary and references the original Alternate SAR.
2.12	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
2.13	*MAF/SMAF Schedulable Parameters*	Review the changes made in step 2.9.	The changes are saved and displayed correctly.
2.14	*Schedule Requests*	Select the original version of the Alternate SAR from step 2.3 and click **View...**	Verify: The original version of the Alternate SAR is retained. The changes made to the edited version of the Alternate SAR did not affect the original version.
2.15	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
2.16	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
2.17	*Schedule Requests*	Select the original version of the Alternate SAR and click **Edit...**	*Edit Alternate SAR* appears.

Step	Location	Action	Result
2.18	*Edit Alternate SAR*	Select the SSC that is there (MAF) and click **Remove**. Add a different type SSC (MAR) and click **Add**. Select the SSC and click **Modify Service...**	*Edit Service* appears.
2.19	*Edit Service*	Change the nominal start, nominal duration, plus tolerance, minus tolerance and minimum duration. Click **Update**.	The changes are saved.
2.20	*Edit Alternate SAR*	Select the SSC that has been added and click **Parameters...**	*<Service> Schedulable Parameters* appears.
2.21	*<Service> Schedulable Parameters*	Change the current values or enter valid values for the Respecifiable Parameters. Click **Save**.	The changes are saved.
2.22	Workstation	Repeat steps 2.17 - 2.21 for each type of service which are SSAF, SSAR, SMAF, SMAR, KuSAF, KuSAR, KaSAF, KaSAR, EET, TRK and Playback (use combinations of SSCs where applicable). Note1: Make sure the original version is being edited. Note2: MAF and MAR should have already been tested from the previous steps.	Verify: Same results.
2.23	Workstation	Repeat steps 2.1 - 2.22 for a shuttle SIC.	Verify: Same results.
EDITING ORIGINAL VERSION OF ALT SAR FROM OPERATOR			
3.1	*Schedule Requests*	Select the Alternate SAR submitted in step 2.3 and click **Generate Alternate...**	*Create Alternate SAR* appears.

Step	Location	Action	Result
3.2	*Create Alternate SAR*	Change the TDRS and click **Save**.	Alternate SAR is saved.
3.3	*Schedule Requests*	Review the Alternate SAR from step 3.2.	Alternate SAR is listed as chained and references the Alternate SAR from step 2.3.
		Note the Request ID.	Alternate SAR has a version number of 1.
		Select the Alternate SAR and click **Edit...**	*Edit Alternate SAR* appears.
3.4	*Edit Alternate SAR*	Change the TDRS, the priority, the nominal event start time, set the plus and minus tolerances to 0 and change the freeze interval.	The various fields can be edited.
3.5	*Edit Alternate SAR*	Select the MAF SSC and click **Modify Service...**	*Edit Service* appears.
3.6	*Edit Service*	Change the nominal start, nominal duration, plus tolerance, minus tolerance and minimum duration. Click **Update**.	The changes are saved.
3.7	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
3.8	*MAF/SMAF Schedulable Parameters*	Change the current values or enter valid values for the Respecifiable Parameters. Click **Save**.	The changes are saved.
3.9	*Edit Alternate SAR*	Review the changes made and click **Save**.	Verify: The content of an operator generated Alternate SAR can be edited and the changes are saved.

Step	Location	Action	Result
3.10	*Schedule Requests*	Select the edited Alternate SAR (version 2) saved in the previous step and click **View...**	Verify: The request ID of the edited Alternate SAR is the same as the request ID of the original Alternate SAR. The version number of the edited Alternate SAR is 2. The edited Alternate SAR is listed as Secondary and references the original Alternate SAR.
3.11	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
3.12	*MAF/SMAF Schedulable Parameters*	Review the changes made in step 3.8.	The changes are saved and displayed correctly.
3.13	*Schedule Requests*	Select the original version of the Alternate SAR from step 3.2 and click **View...**	Verify: The original version of the Alternate SAR is retained. The changes made to the edited version of the Alternate SAR did not affect the original version.
3.14	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
3.15	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
EDITING AN EDITED VERSION OF AN ALTERNATE SAR			
4.1	*Schedule Requests*	Select the Alternate SAR (version 2) saved in step 3.9 and click **Edit...**	*Edit Alternate SAR* appears.
4.2	*Edit Alternate SAR*	Change the TDRS. Select the MAF SSC and click **Modify Service...**	The TDRS can be edited. *Edit Service* appears.

Step	Location	Action	Result
4.3	*Edit Service*	Change the nominal start. Click **Update**.	The nominal start is saved.
4.4	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
4.5	*MAF/SMAF Schedulable Parameters*	Change a Respecifiable Parameter. Click **Save**.	The respecifiable parameter is saved.
4.6	*Edit Alternate SAR*	Review the changes made and click **Save**.	The changes are saved.
4.7	*Schedule Requests*	Select the Alternate SAR (version 3) saved in the previous step and click **View...**	The edited Alternate SAR is listed as Secondary. Verify: Additional editing can be performed on an edited version of an Alternate SAR and the changes are saved. The version number of the edited Alternate SAR is 3.
4.8	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
4.9	*MAF/SMAF Schedulable Parameters*	Review the changes made in step 4.5.	The changes are saved and displayed correctly.
4.10	*Schedule Requests*	Select the original version of the Alternate SAR from step 3.2 and click **View...**	Verify: The original version of the Alternate SAR is retained. The changes made to an edited version of the Alternate SAR did not affect the original version.
4.11	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.

Step	Location	Action	Result
4.12	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
4.13	*Schedule Requests*	Select the edited Alternate SAR (version 2) saved in step 3.9 and click **View...**	Verify: The contents of this edited version have not been affected by the changes made to another edited version.
4.14	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
4.15	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
DELETION OF EDITED VERSION OF ALT SAR FROM OPERATOR			
5.1	*Schedule Requests*	Select the Alternate SAR (version 2) saved in step 3.9 and click **Delete...**	Delete Request is listed as Completed with the reference ID of the correct version of the Alternate SAR. Verify: The edited version (2) of an Alternate SAR can be deleted without the original and any of its edited versions being deleted.

Step	Location	Action	Result
DELETION OF ORIGINAL VERSION OF ALT SAR FROM OPERATOR			
6.1	*Schedule Requests*	Select the original Alternate SAR (version 1) saved in step 3.2 and click **Delete...**	Delete Request is listed as Completed with the reference ID of the original version of the Alternate SAR. The original version and the edited version (3) of the Alternate SAR are listed as Deleted. Verify: When the original version of the Alternate SAR is deleted then any of its edited versions are also deleted.
DELETION OF ORIGINAL VERSION OF ALT SAR FROM MOC			
7.1	NTS	Submit a Delete Request (99/11) referencing the original Alternate SAR (version 1) saved in step 2.3. Note Request ID.	Delete Request is accepted.
7.2	*Schedule Requests*	Review the original Alternate SAR (version 1)from step 2.3.	Delete Request is listed as Completed with the reference ID of the original version of the Alternate SAR. When the original version of the Alternate SAR is deleted then any of its edited versions are also deleted. Verify: The original version and the edited versions of the Alternate SAR are listed as Deleted.

Step	Location	Action	Result
EDITING ALT SARS IN A BATCH - BEFORE GENERATION			
8.1	NTS	Submit SAR A, SAR B and SAR C as blocking events. Submit a SAR (SAR1), an Alternate SAR (Alt SAR1) that references SAR1 and another Alternate SAR (Alt SAR2) that references Alt SAR1. All 3 requests should be sent in for the batch period. Note: T is a time in the batch period.	SAR A, SAR B and SAR C are accepted. SAR1, Alt SAR1 and Alt SAR2 are accepted.

Step	Location	Action	Result

Request ID	TDRS	Service	Event Start Time	Service Start	Service Duration	Reference Request ID	Priority	Result before Generation
SAR A	041	MAF	T + 01:00:00	00:00:00	00:30:00		1	BatchStored
SAR B	041	SSAF01	T + 01:00:00	00:00:00	00:30:00		1	BatchStored
SAR C	041	SSAF02	T + 01:00:00	00:00:00	00:30:00		1	BatchStored
SAR1	041	MAF	T + 01:15:00	00:00:00	00:30:00		2	BatchStored
ALT SAR1	041	SSAF01	T + 01:20:00	00:00:00	00:30:00	SAR1	2	Chained
ALT SAR2	041	SSAF02	T + 01:25:00	00:00:00	00:30:00	Alt SAR1	2	Chained

8.2	*Schedule Requests*	Review the requests submitted in the previous step.	SAR A, SAR B, SAR C and SAR1 are listed as BatchStored. Alt SAR1 and Alt SAR2 are listed as Chained. Alt SAR1 references SAR1 and Alt SAR2 references Alt SAR1.
8.3	*Batch Scheduling*	Click **Add...**	*Schedule Editor* appears.
8.4	*Schedule Editor*	Create a batch called Batch1 and click **Import Requests...**	*Import Requests* appears.
8.5	*Import Requests*	Import SAR1, Alt SAR1 and Alt SAR2. Click **Import**.	Requests are imported into Batch1.
8.6	*Schedule Editor*	Select Alt SAR1 and click **Edit Request...**	*Edit Alternate SAR* appears.

Step	Location	Action	Result
8.7	*Edit Alternate SAR*	Change the nominal event start time to T + 01:15:00. Select the SSC and click **Modify Service...**	The nominal event start time can be edited. *Edit Service* appears.
8.8	*Edit Service*	Change the nominal start to 00:05:00. Click **Update**.	The nominal start is saved.
8.9	*Edit Alternate SAR*	Select the SSC and click **Parameters...**	*<Service> Schedulable Parameters* appears.
8.10	*<Service> Schedulable Parameters*	Change a Respecifiable Parameter. Click **Save**.	The respecifiable parameter is saved.
8.11	*Edit Alternate SAR*	Review the changes made and click **Save**.	The changes are saved.
8.12	*Schedule Requests*	Select Alt SAR1 version 2 (Alt SAR1 V2) and click **View...**	Alt SAR1 V2 is listed as Secondary. Alt SAR1 V2 has the same request ID as Alt SAR1 and references SAR1. The version number of Alt SAR1 V2 is 2. Verify: When Alternate SARs are to be included in a batch, they can be edited before batch generation.
8.13	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
8.14	*MAF/SMAF Schedulable Parameters*	Review the changes made in step 8.10.	The changes are saved and displayed correctly.

Step	Location	Action	Result
8.15	*Schedule Requests*	Select the original version (Alt SAR1) and click **View...**	Verify: The original version of the Alternate SAR is retained. The changes made to an edited version of the Alternate SAR did not affect the original version.
8.16	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
8.17	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
8.18	*Schedule Editor*	Review the contents of Batch1. Click **Close**.	SAR1 and Alt SAR2 are still listed as requests in Batch1. Verify: Alt SAR1 is removed from Batch1. Alt SAR1 V2 is added to Batch1.
8.19	*Batch Scheduling*	Click **Add...**	*Schedule Editor* appears.
8.20	*Schedule Editor*	Create a batch called Batch2 and click **Import Requests...**	*Import Requests* appears.
8.21	*Import Requests*	Import SAR A, SAR B, SAR C, SAR1, Alt SAR1 V2 and Alt SAR2. Click **Import**.	Requests are imported into Batch2.
8.22	*Schedule Editor*	Select Alt SAR1 V2 and click **Edit Request...**	*Edit Alternate SAR* appears.
8.23	*Edit Alternate SAR*	Change the nominal event start time to T + 01:20:00. Select the SSC and click **Modify Service...**	The nominal event start time can be edited. *Edit Service* appears.

Step	Location	Action	Result
8.24	*Edit Service*	Change the nominal start to 00:10:00. Click **Update**.	The nominal start is saved.
8.25	*Edit Alternate SAR*	Select the SSC and click **Parameters...**	*<Service> Schedulable Parameters* appears.
8.26	*<Service> Schedulable Parameters*	Change a Respecifiable Parameter. Click **Save**.	The respecifiable parameter is saved.
8.27	*Edit Alternate SAR*	Review the changes made and click **Save**.	The changes are saved.
8.28	*Schedule Requests*	Select Alt SAR1 version 3 (Alt SAR1 V3) and click **View...**	Alt SAR1 V3 is listed as Secondary. Alt SAR1 V3 has the same request ID as Alt SAR1 and references SAR1. The version number of Alt SAR1 V3 is 3. Verify: When Alternate SARs are to be included in a batch, edited versions can be edited before batch generation.
8.29	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
8.30	*MAF/SMAF Schedulable Parameters*	Review the changes made in step 8.26.	The changes are saved and displayed correctly.
8.31	*Schedule Requests*	Select the original version (Alt SAR1) and click **View...**	Verify: The original version of the Alternate SAR is retained. The changes made to an edited version of the Alternate SAR did not affect the original version.

Step	Location	Action	Result
8.32	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
8.33	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
8.34	*Schedule Requests*	Select the Alt SAR1 V2 and click **View...**	Verify: The contents of this edited version have not been affected by the changes made to another edited version.
8.35	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
8.36	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
8.37	*Schedule Editor*	Review the contents of Batch2.	SAR1 and Alt SAR2 are still listed as requests in Batch2. Verify: Alt SAR1 V2 is removed from Batch2. Alt SAR1 V3 is added to Batch2.
EDITING ALT SARS IN A BATCH - AFTER GENERATION			
9.1	*Schedule Editor*	Generate Batch2. Click **Declined Requests...**	Batch2 is generated. *Declined List* appears.
9.2	*Declined List*	Select SAR1, Alt SAR1 V3 and Alt SAR2 and click **Add to Batch**.	Requests are added to Batch2.
9.3	*Schedule Editor*	Select Alt SAR2 and click **Edit Request...**	*Edit Alternate SAR* appears.
9.4	*Edit Alternate SAR*	Change the nominal event start time to T + 01:05:00. Select the SSC and click **Modify Service...**	The nominal event start time can be edited. *Edit Service* appears.

Step	Location	Action	Result
9.5	*Edit Service*	Change the nominal start to 00:01:00. Click **Update**.	The nominal start is saved.
9.6	*Edit Alternate SAR*	Select the SSC and click **Parameters...**	*<Service> Schedulable Parameters* appears.
9.7	*<Service> Schedulable Parameters*	Change a Respecifiable Parameter. Click **Save**.	The respecifiable parameter is saved.
9.8	*Edit Alternate SAR*	Review the changes made and click **Save**.	The changes are saved.
9.9	*Schedule Requests*	Select Alt SAR2 version 2 (Alt SAR2 V2) and click **View...**	Alt SAR2 V2 is listed as Secondary. Alt SAR2 V2 has the same request ID as Alt SAR2 and references Alt SAR1. The version number of Alt SAR2 V2 is 2. Verify: Alternate SARs can be edited after batch generation.
9.10	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
9.11	*MAF/SMAF Schedulable Parameters*	Review the changes made in step 9.7.	The changes are saved and displayed correctly.
9.12	*Schedule Requests*	Select the original version (Alt SAR2) and click **View...**	Verify: The original version of the Alternate SAR is retained. The changes made to an edited version of the Alternate SAR did not affect the original version.
9.13	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.

Step	Location	Action	Result
9.14	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
9.15	*Schedule Editor*	Review the contents of Batch2.	SAR1 and Alt SAR1 V3 are still listed as requests in Batch2. Verify: Alt SAR2 is still listed in Batch2.
9.16	*Schedule Editor*	Select Alt SAR1 V3 and click **Edit Request...**	*Edit Alternate SAR* appears.
9.17	*Edit Alternate SAR*	Change the nominal event start time to T + 01:00:01. Select the SSC and click **Modify Service...**	The nominal event start time can be edited. *Edit Service* appears.
9.18	*Edit Service*	Change the nominal start to 00:07:00. Click **Update**.	The nominal start is saved.
9.19	*Edit Alternate SAR*	Select the SSC and click **Parameters...**	*<Service> Schedulable Parameters* appears.
9.20	*<Service> Schedulable Parameters*	Change a Respecifiable Parameter. Click **Save**.	The respecifiable parameter is saved.
9.21	*Edit Alternate SAR*	Review the changes made and click **Save**.	The changes are saved.

Step	Location	Action	Result
9.22	*Schedule Requests*	Review Alt SAR1 version 4 (Alt SAR1 V4).	Alt SAR1 V4 is listed as Secondary. Alt SAR1 V4 has the same request ID as Alt SAR1 and references SAR1. The version number of Alt SAR1 V4 is 4. Verify: Edited versions of Alternate SARs can be edited after batch generation.
9.23	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
9.24	*MAF/SMAF Schedulable Parameters*	Review the changes made in step 9.20.	The changes are saved and displayed correctly.
9.25	*Schedule Requests*	Select the original version (Alt SAR1) and click **View...**	Verify: The original version of the Alternate SAR is retained. The changes made to an edited version of the Alternate SAR did not affect the original version.
9.26	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
9.27	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
9.28	*Schedule Requests*	Select the Alt SAR1 V2 and click **View...**	Verify: The contents of this edited version have not been affected by the changes made to another edited version.

Step	Location	Action	Result
9.29	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
9.30	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
9.31	Workstation	Repeat steps 9.28 - 9.30 for Alt SAR1 V3.	Verify: Same results.
9.32	*Schedule Editor*	Review the contents of Batch2.	SAR1 and Alt SAR2 are still listed as requests in Batch2. SAR A, SAR B and SAR C are still listed as requests in Batch2. Verify: Alt SAR1 V3 is still listed in Batch2.
9.33	*Schedule Editor*	Click **Import Requests...**	*Import Requests* appears.
9.34	*Import Requests*	Import Alt SAR1 V4 and Alt SAR2 V2 and click **Import**.	Requests are imported into Batch2.
9.35	*Schedule Editor*	Review Batch2.	Verify: Alt SAR1 V3 and Alt SAR2 are removed from the batch. Alt SAR1 V4 and Alt SAR2 V2 are added to the batch.
9.36	*Schedule Editor*	Generate and activate Batch2.	Batch2 is generated and activated. SAR A, SAR B and SAR C schedule. SAR1, Alt SAR1 V4 and Alt SAR2 V2 are declined.

Step	Location	Action	Result
9.37	*Schedule Requests*	Review Alt SAR1 version 4 (Alt SAR1 V4).	Alt SAR1 V4 is listed as Declined. Verify: The edited version was not affected after it was imported and generated in a batch.
9.38	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
9.39	*MAF/SMAF Schedulable Parameters*	Review the changes made in step 9.20.	The changes are saved and displayed correctly.
9.40	*Schedule Requests*	Select the original version (Alt SAR1) and click **View...**	Verify: The original version is now listed as Secondary. The original version was not affected by the edited version being generated in a batch.
9.41	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
9.42	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
9.43	*Schedule Requests*	Select Alt SAR2 version 2 (Alt SAR2 V2) and click **View...**	Alt SAR2 V2 is listed as Declined. Verify: The edited version was not affected after it was imported and generated in a batch.
9.44	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
9.45	*MAF/SMAF Schedulable Parameters*	Review the changes made in step 9.7.	The changes are saved and displayed correctly.

Step	Location	Action	Result
9.46	*Schedule Requests*	Select the original version (Alt SAR2) and click **View...**	Verify: The original version is now listed as Secondary. The original version was not affected by the edited version being generated in a batch.
9.47	*Edit Alternate SAR*	Select the MAF SSC and click **Parameters...**	*MAF/SMAF Schedulable Parameters* appears.
9.48	*MAF/SMAF Schedulable Parameters*	Review the fields.	The original contents of the Alternate SAR have not been changed.
		DOCUMENTATION	
10.1	*User's Guide*	Review the documentation.	Verify: The editing requests section is documented correctly.

7.6 Detailed Test Procedure for 99.1-7.06 SCHEDULING USING CHAINS - PRIMARY REQUESTS 5.3.2.2.5.1, 5.3.2.2.5.4.c, 5.3.2.2.5.4.c.1, 5.3.2.2.5.4.c.2, 5.3.2.2.5.4.c.3, 5.3.3.1, 5.3.2.2.6.4.c.2, 5.3.2.2.6.4.c.4, 5.3.2.2.8.4.b, 5.3.2.2.8.4.b.1, 5.3.2.2.8.4.b.2

OBJECTIVES: This test item will verify the following:

- Upon receipt of a customer Alternate SAR, the NCCDS determines whether the Alternate SAR is valid. [5.3.2.2.5.1]
- The NCCDS stores the Alternate SAR such that it is logically linked to its referenced request. [5.3.2.2.5.4.c]
- If the process of linking a new Alternate SAR breaks an existing chain, the NCCDS deletes each request in the broken segment of the chain. [5.3.2.2.5.4.c.1]
- If the process of linking a new Alternate SAR breaks an existing chain, for each deleted request, the NCCDS transmits an SRM to the customer's primary logical destination or provides an equivalent alert to the NCC operator if the operator originated the request. [5.3.2.2.5.4.c.2]
- If the process of linking a new Alternate SAR breaks an existing chain, for any deleted request that has resulted in event(s) being placed in batch schedule(s) that have not been activated, remove the event(s) from the batch schedule(s) and alert the operator. [5.3.2.2.5.4.c.3]
- The SRM is used by the NCCDS to report to the customer actions taken by the NCCDS and the NCC operators in response to customer requests and on scheduled events. [5.3.3.1]
- If the Replace Request applies to a request currently stored for batch scheduling, and the replaced request was a member of a chain of schedule requests, the NCCDS stores the new Replace Request such that all logical linkages to or from the replaced request now apply to the new Replace Request. [5.3.2.2.6.4.c.2]
- If the referenced request has been declined and all other requests in an associated chain of request (if any) have also been declined, the NCCDS processes the Replace Request as if it were a SAR. [5.3.2.2.6.4.c.4]
- If the Delete Request applies to a request currently stored for batch scheduling, and the deleted request was a member of a chain of prime/alternate schedule requests and was not the last request in the chain, the chain is broken. [5.3.2.2.8.4.b]
- If the process of deleting a batched request breaks an existing chain, the NCCDS deletes each request in the broken segment of the chain. [5.3.2.2.8.4.b.1]

- If the process of deleting a batched request breaks an existing chain, the NCCDS transmits an SRM to the customer's primary logical destination for each deleted request, or provides an equivalent alert to the NCC operator if the operator originated the request. [5.3.2.2.8.4.b.2]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	*Schedule Control Database*	Determine the Current Batch Boundary. Set the Active Period End such that it is after the Current Batch Boundary.	Boundary is noted. EOAP > Current Batch Boundary.
1.3	*Scheduling Priority List*	Choose full-support SICs for this test such that A has a higher priority than B. SIC A _____ SIC B _____	SICs are chosen.
1.4	*Schedulable Parameters*	Create SSCs needed for requests in this test.	SSCs are ready.
1.5	NTS	Create NTS blocks needed for this test.	NTS blocks are ready. _____ _____
		REPLACE MEMBER OF CHAIN	
2.1	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A1	041	T + 00:00:00	MAF	00:00:00	00:30:00	-	Batchstored
B1	041	T + 00:00:00	MAF	00:00:00	00:15:00	-	Batchstored
ALT1	041	T + 00:10:00	MAF	00:00:00	00:10:00	B1	Chained
ALT2	041	T + 00:20:00	MAF	00:00:00	00:20:00	ALT1	Chained

Step	Location	Action	Result
2.2	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A1 and B1 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
2.3	NTS	Submit a Replace Request (B1A) referencing B1, changing the Event Start to T + 00:05:00.	Verify: Replace Request is batchstored and all logical linkages to or from B1 now apply to the new Replace Request. (i.e. the Replace Request takes the place of a SAR so it acts like a SAR)
2.4	*Schedule Requests*	Generate a Replace Request (ALT1A) referencing ALT1, changing the Service Duration to 00:15:00.	Verify: Replace Request is chained and all logical linkages to or from ALT1 now apply to the new Replace Request. (i.e. the Replace Request takes the place of an Alternate SAR so it acts like an Alternate SAR)
2.5	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: B1A is batchstored. ALT1A is chained. B1 and ALT1 are deleted.
2.6	*Batch Scheduling*	Create and generate 'batch1' with requests A1, B1A, ALT1A and ALT2.	Verify: A1 schedules. B1A, ALT1A and ALT2 decline.
2.7	*Batch Scheduling*	Activate 'batch1'.	Batch is activated.

Step	Location	Action	Result
2.8	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: A1 activates. B1A, ALT1A and ALT2 decline. SRMs are sent for the declined SARs.
2.9	NTS	Submit a Replace Request (B1B) referencing B1A, changing the Service Duration to 00:20:00.	Verify: Replace Request is batchstored and all logical linkages to or from B1A now apply to the new Replace Request. (i.e. the Replace Request is referencing a declined member of a chain so it gets processed as a SAR)
2.10	*Schedule Requests*	Generate a Replace Request (ALT1B) referencing ALT1A, changing the Event Start to T + 00:35:00.	Verify: Replace Request is chained and all logical linkages to or from ALT1A now apply to the new Replace Request. (i.e. the Replace Request is referencing a declined member of a chain so it gets processed as a SAR)
2.11	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: B1B and ALT1B are batchstored. B1A and ALT1A are deleted.
2.12	*Batch Scheduling*	Create and generate 'batch2' by importing B1B, ALT1B, and ALT2.	Verify: ALT1B schedules. B1B and ALT2 decline.
2.13	*Batch Scheduling*	Activate 'batch2'.	Batch is activated.

Step	Location	Action	Result
2.14	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1B activates. B1B and ALT2 are declined. (they are not deleted because ALT1B is not a member of the chain)
2.15	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A2	041	T + 01:00:00	MAF	00:00:00	00:30:00	-	Batchstored
B2	041	T + 01:00:00	MAF	00:00:00	00:15:00	-	Batchstored
ALT1	041	T + 01:10:00	MAF	00:00:00	00:10:00	B2	Chained
ALT2	041	T + 01:20:00	MAF	00:00:00	00:20:00	ALT1	Chained

2.16	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A2 and B2 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
2.17	NTS	Submit Replace Request (ALT1A) referencing ALT1 with the same specifications as ALT1 except the Event Start is now an available time in the automatic scheduling period.	Verify: The chain is broken. SRM is sent for ALT1A. SRMs are sent to the customer's primary logical destination for deleted requests B2, ALT1 and ALT2.
2.18	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1A is processed as a SAR and is activated. B2, ALT1 and ALT2 are deleted.

Step	Location	Action	Result
2.19	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A3	041	T + 02:00:00	MAF	00:00:00	00:30:00	-	Batchstored
B3	041	T + 02:00:00	MAF	00:00:00	00:15:00	-	Batchstored
ALT1	041	T + 02:10:00	MAF	00:00:00	00:10:00	B3	Chained
ALT2	041	T + 02:20:00	MAF	00:00:00	00:20:00	ALT1	Chained

2.20	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A3 and B3 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
2.21	*Schedule Requests*	Generate a Replace Request (ALT1A) referencing ALT1 with the same specifications as ALT1 except the Event Start is now an available time in the automatic scheduling period.	Verify: The chain is broken. Operator is alerted. SRMs are sent to the customer's primary logical destination for deleted requests B3, ALT1 and ALT2.
2.22	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1A is processed as a SAR and is activated. B3, ALT1 and ALT2 are deleted.

REPLACE MEMBER OF CHAIN IN A BATCH

3.1	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results

Step	Location		Action				Result
A4	041	T + 03:00:00	MAF	00:00:00	00:30:00	-	Batchstored
B4	041	T + 03:00:00	MAF	00:00:00	00:15:00	-	Batchstored
ALT1	041	T + 03:35:00	MAF	00:00:00	00:10:00	B4	Chained
ALT2	041	T + 03:20:00	MAF	00:00:00	00:20:00	ALT1	Chained

3.2	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A4 and B4 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
3.3	*Batch Scheduling*	Create and generate 'batch3' by importing the above requests. Make a **hardcopy**.	Verify: A4 and ALT1 schedule. (i.e. become batch events) B4 and ALT2 decline.
3.4	NTS	Submit a Replace Request (ALT1A) referencing ALT1, changing the Service Duration to 00:15:00.	Verify: A Replace Request can reference a batch event from a batch that has not been activated yet. SRM is sent to the customer's primary logical destination for deleted request ALT1.
3.5	NTS	Submit a Replace Request (ALT2A) referencing ALT2, changing the Service Duration to 00:25:00.	Verify: A Replace Request can reference a declined request from a batch that has not been activated yet. SRM is sent to the customer's primary logical destination for deleted request ALT2.

Step	Location	Action	Result
3.6	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1A and ALT2A are batchstored. ALT1 and ALT2 are deleted.
3.7	*Batch Scheduling*	Review batch3. Make a **hardcopy**.	Verify: ALT1 and ALT2 are no longer in the batch.
3.8	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A5	041	T + 04:00:00	MAF	00:00:00	00:30:00	-	Batchstored
B5	041	T + 04:00:00	MAF	00:00:00	00:15:00	-	Batchstored
ALT1	041	T + 04:35:00	MAF	00:00:00	00:10:00	B5	Chained
ALT2	041	T + 04:20:00	MAF	00:00:00	00:20:00	ALT1	Chained

3.9	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A1 and B1 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
3.10	*Batch Scheduling*	Create and generate 'batch4' by importing the above requests. Make a **hardcopy**.	Verify: A5 and ALT1 schedule. (i.e. become batch events) B5 and ALT2 decline.

Step	Location	Action	Result
3.11	*Schedule Requests*	Generate a Replace Request (ALT1A) referencing ALT1, changing the Service Duration to 00:15:00.	Verify: A Replace Request can reference a batch event from a batch that has not been activated yet. Operator is alerted. SRM is sent to the customer's primary logical destination for deleted request ALT1.
3.12	*Schedule Requests*	Generate a Replace Request (ALT2A) referencing ALT2, changing the Service Duration to 00:25:00.	Verify: A Replace Request can reference a declined request from a batch that has not been activated yet. Operator is alerted. SRM is sent to the customer's primary logical destination for deleted request ALT2.
3.13	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1A and ALT2A are batchstored. ALT1 and ALT2 are deleted.
3.14	*Batch Scheduling*	Review batch4. Make a **hardcopy**.	Verify: ALT1 and ALT2 are no longer in the batch.
3.15	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A6	041	T + 05:00:00	MAF	00:00:00	00:30:00	-	Batchstored
B6	041	T + 05:00:00	MAF	00:00:00	00:15:00	-	Batchstored

Step	Location		Action			Result	
ALT1	041	T + 05:35:00	MAF	00:00:00	00:10:00	B6	Chained
ALT2	041	T + 05:20:00	MAF	00:00:00	00:20:00	ALT1	Chained
3.16	*Schedule Requests*		Review the window. Make a **hardcopy**.			Verify: Requests A6 and B6 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.	
3.17	*Batch Scheduling*		Create and generate 'batch5' by importing the above requests. Make a **hardcopy**.			Verify: A6 and ALT1 schedule. (i.e. become batch events) B6 and ALT2 decline.	
3.18	NTS		Submit a Replace Request (ALT1A) referencing ALT1, except the Event Start is now an available time in the automatic scheduling period.			Verify: The chain is broken. SRM is sent for ALT1A. SRMs are sent to the customer's primary logical destination for deleted requests B6, ALT1 and ALT2.	
3.19	*Schedule Requests*		Review the window. Make a **hardcopy**.			Verify: ALT1A is activated. B6, ALT1 and ALT2 are deleted.	
3.20	*Batch Scheduling*		Review batch5. Make a **hardcopy**.			Verify: B6, ALT1 and ALT2 are no longer in the batch.	
3.21	NTS		Submit the following requests for the batch scheduling period.			Results below.	
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Ref. Req.**	**Results**
A7	041	T + 06:00:00	MAF	00:00:00	00:30:00	-	Batchstored

Step	Location		Action				Result
B7	041	T + 06:00:00	MAF	00:00:00	00:15:00	-	Batchstored
ALT1	041	T + 06:35:00	MAF	00:00:00	00:10:00	B7	Chained
ALT2	041	T + 06:20:00	MAF	00:00:00	00:20:00	ALT1	Chained

3.22	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A7 and B7 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
3.23	*Batch Scheduling*	Create and generate 'batch6' by importing the above requests. Make a **hardcopy**.	Verify: A7 and ALT1 schedule. (i.e. become batch events) B7 and ALT2 decline.
3.24	*Schedule Requests*	Generate a Replace Request (ALT1A) referencing ALT1, except the Event Start is now an available time in the automatic scheduling period.	Verify: The chain is broken. Operator is alerted. SRMs are sent to the customer's primary logical destination for deleted requests B7, ALT1 and ALT2.
3.25	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1A is activated. B7, ALT1 and ALT2 are deleted.
3.26	*Batch Scheduling*	Review batch6. Make a **hardcopy**.	Verify: B7, ALT1 and ALT2 are no longer in the batch.
		DELETE MEMBER OF CHAIN	
4.1	NTS	Submit the following requests for the batch scheduling period.	Results below.

Step	Location		Action				Result
Req	**TDRS**	**Event Start**	**Service**	**Service Start**	**Service Duration**	**Ref. Req.**	**Results**
A8	046	T + 07:00:00	SSAF01	00:00:00	00:30:00	-	Batchstored
B8	046	T + 07:00:00	SSAF01	00:00:00	00:15:00	-	Batchstored
ALT1	046	T + 07:00:00	SSAF01	00:00:00	00:10:00	B8	Chained
ALT2	046	T + 07:20:00	SSAF01	00:00:00	00:20:00	ALT1	Chained
ALT3	046	T + 07:30:00	SSAF01	00:00:00	00:10:00	ALT2	Chained
ALT4	046	T + 07:30:00	SSAF01	00:00:00	00:15:00	ALT3	Chained

4.2	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A8 and B8 are batchstored. Alternate Requests ALT1, ALT2, ALT3 and ALT4 are chained and contain the correct reference ID.
4.3	NTS	Submit a Delete Request for ALT4.	Verify: SRM is sent to the customer's primary logical destination for deleted request ALT4.
4.4	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT4 is deleted.
4.5	*Schedule Requests*	Generate a Delete Request for ALT2.	Verify: Operator is alerted. SRMs are sent to the customer's primary logical destination for deleted requests ALT2 and ALT3.
4.6	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2 and ALT3 are deleted.

Step	Location	Action	Result
4.7	NTS	Submit a Delete Request for B8.	Verify: SRMs are sent to the customer's primary logical destination for deleted requests B8 and ALT1.
4.8	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: B8 and ALT1 are deleted.
		DELETE MEMBER OF CHAIN IN A BATCH	
5.1	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A9	046	T + 08:00:00	SSAF01	00:00:00	00:30:00	-	Batchstored
B9	046	T + 08:00:00	SSAF01	00:00:00	00:15:00	-	Batchstored
ALT1	046	T + 08:10:00	SSAF01	00:00:00	00:10:00	B9	Chained
ALT2	046	T + 08:20:00	SSAF01	00:00:00	00:20:00	ALT1	Chained
ALT3	046	T + 08:30:00	SSAF01	00:00:00	00:10:00	ALT2	Chained

5.2	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A9 and B9 are batchstored. Alternate Requests ALT1, ALT2 and ALT3 are chained and contain the correct reference ID.
5.3	*Batch Scheduling*	Create and generate 'batch7' by importing the above requests. Make a **hardcopy**.	Verify: A9 and ALT2 schedule. (i.e. become batch events) B9, ALT1 and ALT3 decline.

Step	Location	Action	Result
5.4	NTS	Submit a Delete Request for ALT2.	Verify: A Delete Request can reference a batch event from a batch that has not been activated yet. SRMs are sent to the customer's primary logical destination for deleted requests ALT2 and ALT3.
5.5	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2 and ALT3 are deleted.
5.6	*Batch Scheduling*	Review batch7. Make a **hardcopy**.	Verify: ALT2 and ALT3 are no longer in the batch.
5.7	NTS	Submit a Delete Request for B9.	Verify: A Delete Request can reference a declined request from a batch that has not been activated yet. SRMs are sent to the customer's primary logical destination for deleted requests B9 and ALT1.
5.8	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: B9 and ALT1 are deleted.
5.9	*Batch Scheduling*	Review batch7. Make a **hardcopy**.	Verify: B9 and ALT1 are no longer in the batch.
5.10	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A10	046	T + 09:00:00	SSAF01	00:00:00	00:30:00	-	Batchstored

Step	Location		Action				Result
B10	046	T + 09:00:00	SSAF01	00:00:00	00:15:00	-	Batchstored
ALT1	046	T + 09:10:00	SSAF01	00:00:00	00:10:00	B10	Chained
ALT2	046	T + 09:20:00	SSAF01	00:00:00	00:20:00	ALT1	Chained
ALT3	046	T + 09:30:00	SSAF01	00:00:00	00:10:00	ALT2	Chained

5.11	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A10 and B10 are batchstored. Alternate Requests ALT1, ALT2 and ALT3 are chained and contain the correct reference ID.
5.12	*Batch Scheduling*	Create and generate 'batch8'. Make a **hardcopy**.	Verify: A10 and ALT2 schedule. (i.e. become batch events) B10, ALT1 and ALT3 decline.
5.13	*Schedule Requests*	Generate a Delete Request for ALT2.	Verify: A Delete Request can reference a batch event from a batch that has not been activated yet. Operator is alerted. SRMs are sent to the customer's primary logical destination for deleted requests ALT2 and ALT3.
5.14	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2 and ALT3 are deleted.
5.15	*Batch Scheduling*	Review batch8. Make a **hardcopy**.	Verify: ALT2 and ALT3 are no longer in the batch.

Step	Location	Action	Result
5.16	*Schedule Requests*	Generate a Delete Request for B10.	Verify: A Delete Request can reference a declined request from a batch that has not been activated yet. Operator is alerted. SRMs are sent to the customer's primary logical destination for deleted requests B10 and ALT1.
5.17	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: B10 and ALT1 are deleted.
5.18	*Batch Scheduling*	Review batch8. Make a **hardcopy**.	Verify: B10 and ALT1 are no longer in the batch.
ALTERNATE FOR MEMBER OF CHAIN - BATCH SCHEDULING			
6.1	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A11	192	T + 10:00:00	SMAF	00:00:00	00:30:00	-	Batchstored
B11	192	T + 10:00:00	SMAF	00:00:00	00:15:00	-	Batchstored
ALT1	192	T + 10:10:00	SMAF	00:00:00	00:10:00	B11	Chained
ALT2	192	T + 10:20:00	SMAF	00:00:00	00:20:00	ALT1	Chained
ALT3	192	T + 10:20:00	SMAF	00:00:00	00:10:00	ALT2	Chained

6.2	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A11 and B11 are batchstored. Alternate Requests ALT1, ALT2 and ALT3 are chained and contain the correct reference ID.

Step	Location	Action	Result
6.3	NTS	Submit an Alternate SAR (ALT2A) referencing ALT1 with the same specifications as ALT1 except the Event Start is now T + 10:15:00.	Verify: The chain is broken. SRM is sent for ALT2A. SRMs are sent to the customer's primary logical destination for deleted requests ALT2 and ALT3.
6.4	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2A is chained and shown referencing ALT1. ALT2 and ALT3 are deleted.
6.5	*Schedule Requests*	Generate an Alternate SAR (ALT2B) referencing ALT1 with the same specifications as ALT1 except the Event Start is now T + 10:25:00.	Verify: The chain is broken. Operator is alerted. SRM is sent to the customer's primary logical destination for deleted request ALT2A.
6.6	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2B is chained and shown referencing ALT1. ALT2A is deleted.
6.7	*Batch Scheduling*	Create and generate 'batch9' by importing the above requests.	Verify: A11 schedules. B11, ALT1 and ALT2B decline.
6.8	*Batch Scheduling*	Activate 'batch9'.	Batch is activated.
6.9	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: A11 activates. B11, ALT1 and ALT2B decline.

Step	Location	Action	Result
6.10	NTS	Submit an Alternate SAR (ALT2C) referencing ALT1 with the same specifications as ALT1 except the Event Start is now T + 10:35:00.	Verify: The chain is broken. SRM is sent for ALT2C. SRM is sent to the customer's primary logical destination for deleted request ALT2B.
6.11	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2C is chained and shown referencing ALT1. ALT2B is deleted.
6.12	*Schedule Requests*	Generate an Alternate SAR (ALT2D) referencing ALT1 with the same specifications as ALT1 except the Event Start is now T + 10:35:00.	Verify: The chain is broken. Operator is alerted. SRM is sent to the customer's primary logical destination for deleted request ALT2C.
6.13	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2D is chained and shown referencing ALT1. ALT2C is deleted.
6.14	*Batch Scheduling*	Create 'batch10' by importing B11.	Verify: ALT1 and ALT2D get imported automatically.
6.15	*Batch Scheduling*	Generate 'batch10'.	Verify: ALT2D schedules. B11 and ALT1 decline.
6.16	*Batch Scheduling*	Activate 'batch10'.	Batch is activated.

Step	Location	Action	Result
6.17	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2D activates. B11 and ALT1 are deleted. SRMs are sent to the customer's primary logical destination for deleted requests B11 and ALT1.

ALTERNATE FOR MEMBER OF CHAIN IN A BATCH - BATCH SCHEDULING

Step	Location	Action	Result
7.1	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A12	192	T + 11:00:00	SMAF	00:00:00	00:30:00	-	Batchstored
B12	192	T + 11:00:00	SMAF	00:00:00	00:15:00	-	Batchstored
ALT1	192	T + 11:35:00	SMAF	00:00:00	00:10:00	B12	Chained
ALT2	192	T + 11:20:00	SMAF	00:00:00	00:20:00	ALT1	Chained

Step	Location	Action	Result
7.2	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A12 and B12 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
7.3	*Batch Scheduling*	Create and generate 'batch11' by importing the above requests.	Verify: A12 and ALT1 schedule. (i.e. become batch events) B12 and ALT2 decline.
7.4	NTS	Submit an Alternate SAR (ALT3) referencing ALT2, changing the Event Start to be T + 11:15:00.	Verify: An Alternate SAR can reference a declined request from a batch that has not been activated yet.

Step	Location	Action	Result
7.5	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT3 is batchstored.
7.6	*Batch Scheduling*	Review batch11. Make a **hardcopy**.	Verify: ALT3 is automatically included in the batch.
7.7	NTS	Submit an Alternate SAR (ALT2A) referencing ALT1, changing the Event Start to be T + 11:25:00.	Verify: An Alternate SAR can reference a batch event from a batch that has not been activated yet. SRMs are sent to the customer's primary logical destination for deleted requests ALT2 and ALT3.
7.8	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2A is batchstored. ALT2 and ALT3 are deleted.
7.9	*Batch Scheduling*	Review batch11. Make a **hardcopy**.	Verify: ALT2A is automatically included in the batch. ALT2 is no longer in the batch.
7.10	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A13	192	T + 12:00:00	SMAF	00:00:00	00:30:00	-	Batchstored
B13	192	T + 12:00:00	SMAF	00:00:00	00:15:00	-	Batchstored
ALT1	192	T + 12:35:00	SMAF	00:00:00	00:10:00	B13	Chained
ALT2	192	T + 12:20:00	SMAF	00:00:00	00:20:00	ALT1	Chained

Step	Location	Action	Result
7.11	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A13 and B13 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
7.12	*Batch Scheduling*	Create and generate 'batch12' by importing the above requests. Make a **hardcopy**.	Verify: A13 and ALT1 schedule. (i.e. become batch events) B13 and ALT2 decline.
7.13	*Schedule Requests*	Generate an Alternate SAR (ALT3) referencing ALT2, changing the Event Start to be T + 12:15:00.	Verify: An Alternate SAR can reference a declined request from a batch that has not been activated yet.
7.14	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT3 is batchstored.
7.15	*Batch Scheduling*	Review batch12. Make a **hardcopy**.	Verify: ALT3 is automatically included in the batch.
7.16	NTS	Submit an Alternate SAR (ALT2A) referencing ALT1, changing the Event Start to be T + 12:25:00.	Verify: An Alternate SAR can reference a batch event from a batch that has not been activated yet. Operator is alerted. SRMs are sent to the customer's primary logical destination for deleted requests ALT2 and ALT3.

Step	Location	Action	Result
7.17	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT2A is batchstored. ALT2 and ALT3 are deleted.
7.18	*Batch Scheduling*	Review batch12. Make a **hardcopy**.	Verify: ALT2A is automatically included in the batch. ALT2 is no longer in the batch.
ALTERNATE FOR MEMBER OF CHAIN - AUTOMATIC SCHEDULING			
8.1	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A14	171	T + 13:00:00	MAF	00:00:00	00:30:00	-	Batchstored
B14	171	T + 13:00:00	MAF	00:00:00	00:15:00	-	Batchstored
ALT1	171	T + 13:10:00	MAF	00:00:00	00:10:00	B14	Chained
ALT2	171	T + 13:20:00	MAF	00:00:00	00:20:00	ALT1	Chained

8.2	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A14 and B14 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
8.3	NTS	Submit an Alternate SAR (ALT1A) referencing B14 with the same specifications as B14 except the Event Start is now an available time in the automatic scheduling period.	Verify: The chain is broken. SRM is sent for ALT1A. SRMs are sent to the customer's primary logical destination for deleted requests ALT1 and ALT2.

Step	Location	Action	Result
8.4	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1A is processed as a SAR and is activated. B14, ALT1 and ALT2 are deleted.
8.5	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A15	171	T + 14:00:00	MAF	00:00:00	00:30:00	-	Batchstored
B15	171	T + 14:00:00	MAF	00:00:00	00:15:00	-	Batchstored
ALT1	171	T + 14:10:00	MAF	00:00:00	00:10:00	B15	Chained
ALT2	171	T + 14:20:00	MAF	00:00:00	00:20:00	ALT1	Chained

8.6	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A15 and B15 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
8.7	*Schedule Requests*	Generate an Alternate SAR (ALT1A) referencing B15 with the same specifications as B15 except the Event Start is now an available time in the automatic scheduling period.	Verify: The chain is broken. Operator is alerted. SRMs are sent to the customer's primary logical destination for deleted requests ALT1 and ALT2.
8.8	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1A is processed as a SAR and is activated. B15, ALT1 and ALT2 are deleted.
ALTERNATE FOR MEMBER OF CHAIN IN A BATCH - AUTOMATIC SCHEDULING			

Step	Location	Action	Result
9.1	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A16	192	T + 15:00:00	SMAF	00:00:00	00:30:00	-	Batchstored
B16	192	T + 15:00:00	SMAF	00:00:00	00:15:00	-	Batchstored
ALT1	192	T + 15:35:00	SMAF	00:00:00	00:10:00	B16	Chained
ALT2	192	T + 15:20:00	SMAF	00:00:00	00:20:00	ALT1	Chained

9.2	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A16 and B16 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
9.3	*Batch Scheduling*	Create and generate 'batch13' by importing the above requests.	Verify: A16 and ALT1 schedule. (i.e. become batch events) B16 and ALT2 decline.
9.4	NTS	Submit an Alternate SAR (ALT1A) referencing ALT1, except the Event Start is now an available time in the automatic scheduling period.	Verify: The chain is broken. SRM is sent for ALT1A. SRMs are sent to the customer's primary logical destination for deleted requests B16, ALT1 and ALT2.
9.5	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1A is activated. B16, ALT1 and ALT2 are deleted.

Step	Location	Action	Result
9.6	*Batch Scheduling*	Review batch13. Make a **hardcopy**.	Verify: B16, ALT1 and ALT2 are no longer in the batch.
9.7	NTS	Submit the following requests for the batch scheduling period.	Results below.

Req	TDRS	Event Start	Service	Service Start	Service Duration	Ref. Req.	Results
A17	192	T + 16:00:00	SMAF	00:00:00	00:30:00	-	Batchstored
B17	192	T + 16:00:00	SMAF	00:00:00	00:15:00	-	Batchstored
ALT1	192	T + 16:35:00	SMAF	00:00:00	00:10:00	B17	Chained
ALT2	192	T + 16:20:00	SMAF	00:00:00	00:20:00	ALT1	Chained

9.8	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Requests A17 and B17 are batchstored. Alternate Requests ALT1 and ALT2 are chained and contain the correct reference ID.
9.9	*Batch Scheduling*	Create and generate 'batch14' by importing the above requests.	Verify: A17 and ALT1 schedule. (i.e. become batch events) B17 and ALT2 decline.
9.10	*Schedule Requests*	Generate an Alternate SAR (ALT1A) referencing ALT1, except the Event Start is now an available time in the automatic scheduling period.	Verify: The chain is broken. Operator is alerted. SRMs are sent to the customer's primary logical destination for deleted requests B16, ALT1 and ALT2.

Step	Location	Action	Result
9.11	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: ALT1A is activated. B17, ALT1 and ALT2 are deleted.
9.12	*Batch Scheduling*	Review batch14. Make a **hardcopy**.	Verify: B17, ALT1 and ALT2 are no longer in the batch.
		DOCUMENTATION	
10.1	User's Guide	Review the documentation.	Verify: Documentation is correct and complete.

7.7 Detailed Test Procedure for 99.1-7.07 SCHEDULING USING CHAINS - SECONDARY REQUESTS 5.3.2.2.5.4.c.1, 5.3.2.2.5.4.c.2, 5.3.2.2.5.4.c.3, 5.3.2.2.8.4.b, 5.3.2.2.8.4.b.1, 5.5.8.c, 5.5.8.d, 5.5.8.e, 5.5.8.f

OBJECTIVES: This test item will verify the following.

- If the process of linking a new Alternate SAR breaks an existing chain, the NCCDS deletes each request in the broken segment of the chain. [5.3.2.2.5.4.c.1]
- If the process of linking a new Alternate SAR breaks an existing chain, for each deleted request, the NCCDS transmits an SRM to the customer's primary logical destination or provides an equivalent alert to the NCC operator if the operator originated the request. [5.3.2.2.5.4.c.2]
- If the process of linking a new Alternate SAR breaks an existing chain, the NCCDS for any deleted request that has resulted in event(s) being placed in batch schedule(s) that have not been activated, remove the event(s) from the batch schedule(s) and alert the operator. [5.3.2.2.5.4.c.3]
- If the deleted request was a member of a chain of prime/alternate schedule requests and was not the last request in the chain, the chain is broken. [5.3.2.2.8.4.b]
- If the process of deleting a batched request breaks an existing chain, the NCCDS deletes each request in the broken segment of the chain. [5.3.2.2.8.4.b.1]
- Whenever an edited version of a schedule request exists and the operator is performing any action involving the selection of requests (e.g., selecting requests to be included in a batch scheduling run), the NCCDS provides the operator with the option to select either the original version or the edited version of the request. [5.5.8.c]
- If the request appears anywhere within a chain of requests, the NCCDS provides the operator with the capability to select either a version of the chain containing the original version of the request or a version of the chain containing the edited version of the request. [5.5.8.c]
- The NCCDS provides the operator with the capability to delete the edited version of a request without deleting the original version. [5.5.8.d]
- Prior to activation of an event based on an edited version of a request, the NCCDS interprets any customer schedule request that references another schedule request as applying to the original version of the referenced request. [5.5.8.e]
- In response to any request that involves deletion of the original version of a request, the NCCDS also deletes any edited versions of the request. [5.5.8.f]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	*Schedule Control Database*	Note the current batch boundary. Make a **hardcopy**.	Batch boundary is noted. Window is printed.
1.3	*Scheduling Priority List*	Choose 2 full-support SICs for this test item such that A has a higher priority than B. SIC A_____ SIC B_____	SICs are chosen.
1.4	*Schedulable Parameters*	Create SSCs needed for this test item.	SSCs are created.
1.5	NTS	Create NTS blocks for requests needed in this test item.	NTS blocks are created. Block file: _____
1.6	NTS	Submit the following requests in the batch period. Note: T is a time in the batch period.	SARs are accepted.

Step	Location	Action	Result

Request ID	TDRS	Service	Event Start Time	Service Start	Service Duration	Reference Request ID	Priority	Result before Generation
SARA1	041	MAF	T + 01:00:00	00:00:00	00:30:00		1	BatchStored
SARA2	041	SSAF01	T + 01:00:00	00:00:00	00:30:00		1	BatchStored
SARA3	041	SSAF02	T + 01:00:00	00:00:00	00:30:00		1	BatchStored
SARB1	041	MAF	T + 01:05:00	00:00:00	00:30:00		2	BatchStored
ALT SAR1	041	SSAF01	T + 01:05:00	00:00:00	00:30:00	SAR B1	2	Chained
ALT SAR2	041	SSAF02	T + 01:05:00	00:00:00	00:30:00	Alt SAR1	2	Chained

Step	Location	Action	Result
1.7	*Schedule Requests*	Review requests from step 1.6.	SARA1, SARA2, and SARA3 are listed as BatchStored. SARB1 is listed as BatchStored. Alt SAR1 and Alt SAR2 are listed as Chained. Alt SAR1 references SARB1 and Alt SAR2 references Alt SAR1.
1.8	*Edit Alternate SAR*	Create 2 edited versions of SARB1, Alt SAR1 and Alt SAR2 according to the table below. Note: The changes are in bold.	SARB1 V2 and SARB1 V3 are created from SARB1. Alt SAR1 V2 and Alt SAR1 V3 are created from Alt SAR1. Alt SAR2 V2 and Alt SAR2 V3 are created from Alt SAR2.

Step	Location	Action	Result
1.9	*Schedule Requests*	Review the edited versions from the table above.	SARB1 V2, SARB1 V3, Alt SAR1 V2, Alt SAR1 V3, Alt SAR2 V2 and Alt SAR2 V3 are listed as Secondary. SARB1 V2, Alt SAR1 V2 and Alt SAR2 V2 are listed with a version number of 2. SARB1 V3, Alt SAR1 V3 and Alt SAR2 V3 are listed with a version number of 3.

Request ID	Version	TDRS	Service	Event Start Time	Service Start	Service Duration	Priority	Result before Generation
SARB1 V2	2	041	MAF	**T + 01:00:01**	00:00:00	00:30:00	2	Secondary
SARB1 V3	3	041	MAF	T + 01:00:00	**00:01:00**	00:30:00	2	Secondary
ALT SAR1 V2	2	041	SSAF01	**T + 01:10:00**	00:00:00	00:30:00	2	Secondary
ALT SAR1 V3	3	041	SSAF01	T + 01:00:00	**00:05:00**	00:30:00	2	Secondary
ALT SAR2 V2	2	041	SSAF02	T + 01:00:00	**00:10:00**	00:30:00	2	Secondary
ALT SAR2 V3	3	041	SSAF02	**T + 01:10:00**	00:00:00	00:30:00	2	Secondary

INVALID REQUESTS REFERENCING A SECONDARY REQUEST

2.1	*Schedule Requests*	Select Alt SAR1 V2 and click **Generate Replace...**	Verify: *Error Dialog box* appears stating that a Replace Request can not be generated for a Secondary request.

Step	Location	Action	Result
2.2	*Schedule Requests*	Select Alt SAR2 V3 and click **Generate Alternate...**	Verify: *Error Dialog box* appears stating that a Alternate SAR can not be generated for a Secondary request.
IMPORTING SECONDARY VERSIONS OF A CHAIN INTO A BATCH			
3.1	*Batch Scheduling*	Click **Add...**	*Schedule Editor* appears.
3.2	*Schedule Editor*	Create a batch called Batch1 and click **Import Requests...**	*Import Requests* appears.
3.3	*Import Requests*	Select SARA1, SARA2, SARA3 and SARB1. Click **Import**.	Verify: SARA1, SARA2, SARA3 and SARB1 are imported into Batch1. Alt SAR1 and Alt SAR2 are automatically imported into Batch1. The edited versions of SARB1, Alt SAR1 and Alt SAR2 are not imported into the batch.
3.4	*Schedule Editor*	Review the requests in Batch1.	SARA1, SARA2, SARA3, SARB1, Alt SAR1 and Alt SAR2 are listed in the batch.
		Select SARB1 and click **Remove**.	SARB1 is removed from Batch1.
		Click **Import Requests...**	*Import Requests* appears.
3.5	*Import Requests*	Select SARB1, SARB1 V2 and SARB1 V3. Click **Import**.	Verify: *Error Dialog box* appears stating that the operator can not select more than one version of a request in the same batch.

Step	Location	Action	Result
3.6	*Import Requests*	Select SARB1 V2 and click **Import**.	Verify: SARB1 V2 gets imported into Batch1. SARB1 and SARB1 V3 can not be selected. SARB1 and SARB1 V3 are not included in Batch1 because if an edited version is selected to be in the batch, the original and any other edited versions can not be included.
3.7	*Schedule Editor*	Review the requests in Batch1.	Verify: SARA1, SARA2, SARA3, SARB1 V2, Alt SAR1 and Alt SAR2 are listed in the batch.
3.8	*Schedule Editor*	Select SARB1 V2 and Alt SAR1. Click **Remove**. Click **Import Requests...**	SARB1 V2 and Alt SAR1 are removed from Batch1. *Import Requests* appears.
3.9	*Import Requests*	Select Alt SAR1, Alt SAR1 V2 and Alt SAR1 V3. Click **Import**.	Verify: *Error Dialog box* appears stating that the operator can not select more than one version of a request in the same batch.

Step	Location	Action	Result
3.10	*Import Requests*	Select Alt SAR1 and click **Import**.	Verify: Alt SAR1 gets imported into Batch1. SARB1 gets imported automatically. Alt SAR1 V2 and Alt SAR1 V3 can not be selected. Alt SAR1 V2and Alt SAR1 V3 are not included in Batch1 because if an edited version is selected to be in the batch, the original and any other edited versions can not be included.
3.11	*Schedule Editor*	Review the requests in Batch1.	Verify: SARA1, SARA2, SARA3, SARB1, Alt SAR1 and Alt SAR2 are listed in the batch.
3.12	*Schedule Editor*	Select Alt SAR1 and Alt SAR2. Click **Remove**. Click **Import Requests...**	Alt SAR1 and Alt SAR2 are removed from Batch1. *Import Requests* appears.

Step	Location	Action	Result
3.13	*Import Requests*	Select Alt SAR1 V3 and click **Import**.	Verify: Alt SAR1 V3 gets imported into Batch1. Alt SAR2 gets imported automatically. Alt SAR1 and Alt SAR1 V2 can not be selected. Alt SAR1 and Alt SAR1 V2 are not included in Batch1 because if an edited version is selected to be in the batch, the original and any other edited versions can not be included.
3.14	*Schedule Editor*	Review the requests in Batch1.	Verify: SARA1, SARA2, SARA3, SARB1, Alt SAR1 V3 and Alt SAR2 are listed in the batch.
3.15	*Schedule Editor*	Select Alt SAR1 V3 and Alt SAR2. Click **Remove**. Click **Import Requests...**	Alt SAR1 V3 and Alt SAR2 are removed from Batch1. *Import Requests* appears.

Step	Location	Action	Result
3.16	*Import Requests*	Select Alt SAR1 V2 and Alt SAR2. Click **Import**.	Verify: Alt SAR1 V2 and Alt SAR2 get imported into Batch1. Alt SAR1 and Alt SAR1 V3 can not be selected. Alt SAR2 V2 and Alt SAR2 V3 can not be selected. Alt SAR1, Alt SAR1 V3, Alt SAR2 V2 and Alt SAR2 V3 are not included in Batch1 because if an edited version is selected to be in the batch, the original and any other edited versions can not be included.
3.17	*Schedule Editor*	Review the requests in Batch1.	Verify: SARA1, SARA2, SARA3, SARB1, Alt SAR1 V2 and Alt SAR2 are listed in the batch.
3.18	*Schedule Editor*	Select SARB1, Alt SAR1 V2 and Alt SAR2. Click **Remove**. Click **Import Requests...**	SARB1, Alt SAR1 V2 and Alt SAR2 are removed from Batch1. *Import Requests* appears.

Step	Location	Action	Result
3.19	*Import Requests*	Select SARB1 V3, Alt SAR1 V3 and Alt SAR2 V3. Click **Import**.	Verify: SARB1 V3, Alt SAR1 V3 and Alt SAR2 V3 get imported into Batch1. SARB1 and SARB1 V2 can not be selected. Alt SAR1 and Alt SAR1 V2 can not be selected. Alt SAR2 and Alt SAR2 V2 can not be selected. SARB1, SARB1 V2, Alt SAR1, Alt SAR1 V2, Alt SAR2 and Alt SAR2 V2 are not included in Batch1 because if an edited version is selected to be in the batch, the original and any other edited versions can not be included.
3.20	*Schedule Editor*	Review the requests in Batch1.	Verify: SARA1, SARA2, SARA3, SARB1 V3, Alt SAR1 V3 and Alt SAR2 V3 are listed in the batch.
3.21	*Schedule Editor*	Generate Batch1.	Batch1 is generated.
3.22	*Batch Scheduling*	Select Batch1 and click **Activate...**	Batch1 is activated. Verify: SARA1, SARA2 and SARA3 activate. SARB1 V3, Alt SAR1 V3 and Alt SAR2 V3 decline.

Step	Location	Action	Result
3.23	*Schedule Requests*	Review SARA1, SARA2, SARA3, SARB1 V3, Alt SAR1 V3 and Alt SAR2 V3.	Verify: SARA1, SARA2 and SARA3 are listed as Activated. SARB1 V3, Alt SAR1 V3 and Alt SAR2 V3 are listed as Declined. The version numbers of SARB1 V3, Alt SAR1 V3 and Alt SAR2 V3 are now 1. SARB1, Alt SAR1 and Alt SAR2 are now listed as Secondary. The version numbers of the original versions (SARB1, Alt SAR1 and Alt SAR2) are now 3.
MOC REQUESTS REFERENCING ORIGINAL VERSION OF AN ALT SAR			
4.1	NTS	Submit a Replace Request (99/12) referencing the new original version of Alt SAR2 (which now should be Alt SAR2 V3) and that has a time in the batch period.	Replace request is accepted.

Step	Location	Action	Result
4.2	*Schedule Requests*	Review the Replace request from the previous step.	Verify: The Replace request references the new original version (Alt SAR2 V3) of the request and none of the edited versions. The Replace request is processed like a SAR and is listed as BatchStored. Alt SAR2 V3 is listed as Deleted. Alt SAR2 V2 and Alt SAR2 are also listed as Deleted because the original version was deleted.
4.3	NTS	Submit an Alternate SAR(99/21) referencing the new original version of Alt SAR1 (which now should be Alt SAR1 V3) and that has a time in the batch period.	Alternate SAR is accepted.
4.4	*Schedule Requests*	Review the Alternate SAR from the previous step.	Verify: The Alternate SAR references the new original version (Alt SAR1 V3) of the request and none of the edited versions. The Alternate SAR is processed like a SAR and is listed as BatchStored.
4.5	NTS	Submit a Delete Request (99/11) referencing the new original version of Alt SAR1 (Alt SAR1 V3).	Delete request is accepted.

Step	Location	Action	Result
4.6	*Schedule Requests*	Review the Alt SAR1 V3, Alt SAR1 V2 and Alt SAR1.	Delete Request is listed as Completed with the reference ID of the Alt SAR1 V3. When the original version of the Alternate SAR is deleted then any of its edited versions are also deleted. Verify: Alt SAR1 V3, Alt SAR1 V2 and Alt SAR1 are listed as Deleted.
ORIGINAL AND SECONDARY VERSIONS OF ALT SAR IN DIFFERENT BATCHES			
5.1	NTS	Submit the following requests in the batch period. Note: T is a time in the batch period.	SARs are accepted.

Step	Location	Action	Result

Request ID	TDRS	Service	Event Start Time	Service Start	Service Duration	Reference Request ID	Priority	Result before Generation
SARA4	046	MAF	T + 00:00:00	00:00:00	02:00:00		1	BatchStored
SARB2	046	MAF	T + 02:00:00	00:00:00	00:30:00		2	BatchStored
Alt SAR3	046	MAF	T + 01:15:00	00:00:00	00:30:00	SARB2	2	Chained
Alt SAR4	046	MAF	T + 01:25:00	00:00:00	00:30:00	Alt SAR3	2	Chained

5.2	*Schedule Requests*	Review requests from step 5.1.	SARA4 and SARB2 are listed as BatchStored. Alt SAR3 and Alt SAR4 are listed as Chained. Alt SAR3 references SARB2 and Alt SAR4 references Alt SAR3.
5.3	*Edit Alternate SAR*	Create 1 edited version of SARB2, Alt SAR3 and Alt SAR4 according to the table below. Note: The changes are in bold.	SARB2 V2 is created from SARB2. Alt SAR3 V2 is created from Alt SAR3. Alt SAR4 V2 is created from Alt SAR4.

Step	Location	Action	Result

Request ID	Version	TDRS	Service	Event Start Time	Service Start	Service Duration	Priority	Result before Generation
SARB2 V2	2	046	MAF	**T + 01:05:00**	00:00:00	00:30:00	2	Secondary
ALT SAR3 V2	2	046	MAF	**T + 03:00:00**	**00:15:00**	00:30:00	2	Secondary
ALT SAR4 V2	2	046	MAF	**T + 02:00:00**	**00:10:00**	00:30:00	2	Secondary

5.4	*Schedule Requests*	Review the edited versions from the table above.	SARB2 V2, Alt SAR3 V2 and Alt SAR4 V2 are listed as Secondary. SARB2 V2, Alt SAR3 V2 and Alt SAR4 V2 are listed with a version number of 2.
5.5	*Batch Scheduling*	Click **Add...**	*Schedule Editor* appears.
5.6	*Schedule Editor*	Create a batch called BatchA and click **Import Requests...**	*Import Requests* appears.
5.7	*Import Requests*	Select SARB2 V2, Alt SAR3 and Alt SAR4. Click **Import**.	Verify: SARB2 V2, Alt SAR3 and Alt SAR4 are imported into BatchA.
5.8	*Schedule Editor*	Generate BatchA.	BatchA is generated.
5.9	*Batch Scheduling*	Click **Add...**	*Schedule Editor* appears.
5.10	*Schedule Editor*	Create a batch called BatchB and click **Import Requests...**	*Import Requests* appears.

Step	Location	Action	Result
5.11	*Import Requests*	Select SARA4, SARB2, Alt SAR3 V2 and Alt SAR4 V2. Click **Import**.	Verify: SARA4, SARB2, Alt SAR3 V2 and Alt SAR4 V2 are imported into BatchB.
5.12	*Schedule Editor*	Generate BatchB.	BatchB is generated. SARA4 and Alt SAR3 V2 become batch events. SARB2 and Alt SAR4 V2 are declined.
5.13	*Batch Scheduling*	Select BatchB and click **Activate...**	BatchB is activated.
5.14	*Schedule Requests*	Review SARA4, SARB2, Alt SAR3 V2 and Alt SAR4 V2.	Verify: SARA4 and Alt SAR3 V2 are listed as Activated. SARB2 and Alt SAR4 V2 are listed as Deleted. The chain is broken and SARB2 and Alt SAR4 V2 are deleted because Alt SAR3 V2 scheduled. SARB2 V2 and Alt SAR4 are listed as Deleted because the original versions got deleted. Alt SAR3 is listed as Secondary with a version number of 2.
5.15	*Operator Alerts*	Review the alerts.	Verify: Operator is alerted that SARB2 V2 and Alt SAR4 from BatchA have been deleted.

Step	Location	Action	Result
OPERATOR REFERENCING VERSIONS OF AN ALT SAR			
6.1	NTS	Submit the following requests in the batch period. Note: T is a time in the batch period.	SARs are accepted.

Request ID	TDRS	Service	Event Start Time	Service Start	Service Duration	Reference Request ID	Priority	Result before Generation
SARA5	171	MAF	T + 00:00:00	00:00:00	02:00:00		1	BatchStored
SARB3	171	MAF	T + 00:00:00	00:00:00	00:30:00		2	BatchStored
Alt SAR5	171	MAF	T + 01:00:00	00:00:00	00:30:00	SARB3	2	Chained
Alt SAR6	171	MAF	T + 01:05:00	00:00:00	00:30:00	Alt SAR5	2	Chained

6.2	*Schedule Requests*	Review requests from step 6.1.	SARA5 and SARB3 are listed as BatchStored. Alt SAR5 and Alt SAR6 are listed as Chained. Alt SAR5 references SARB3 and Alt SAR6 references Alt SAR5.
6.3	*Edit Alternate SAR*	Create 1 edited version of SARB3, Alt SAR5 and Alt SAR6 according to the table below. Note: The changes are in bold.	SARB3 V2 is created from SARB3. Alt SAR5 V2 is created from Alt SAR5. Alt SAR6 V2 is created from Alt SAR6.

Step	Location	Action	Result
6.4	*Schedule Requests*	Review the edited versions from the table above.	SARB3 V2, Alt SAR5 V2 and Alt SAR6 V2 are listed as Secondary. SARB3 V2, Alt SAR5 V2 and Alt SAR6 V2 are listed with a version number of 2.
6.5	*Batch Scheduling*	Click **Add...**	*Schedule Editor* appears.
6.6	*Schedule Editor*	Create a batch called BatchC and click **Import Requests...**	*Import Requests* appears.
6.7	*Import Requests*	Select SARA5, SARB3 V2, Alt SAR5 V2 and Alt SAR6 V2. Click **Import**.	Verify: SARB3 V2, Alt SAR5 V2 and Alt SAR6 V2 are imported into BatchC.
6.8	*Schedule Editor*	Generate BatchC.	BatchC is generated. SARA5 becomes a batch event. SARB3 V2, Alt SAR5 V2 and Alt SAR6 V2 are declined.
6.9	*Batch Scheduling*	Select BatchC and click **Activate...**	BatchC is activated.

Request ID	Version	TDRS	Service	Event Start Time	Service Start	Service Duration	Priority	Result before Generation
SARB3 V2	2	171	MAF	**T + 01:05:00**	00:00:00	00:30:00	2	Secondary
ALT SAR5 V2	2	171	MAF	**T + 01:30:00**	**00:15:00**	00:30:00	2	Secondary
ALT SAR6 V2	2	171	MAF	**T + 01:45:00**	**00:10:00**	00:30:00	2	Secondary

Step	Location	Action	Result
6.10	*Schedule Requests*	Review SARA5, SARB3 V2, Alt SAR5 V2 and Alt SAR6 V2.	Verify: SARA5 is listed as Activated. SARB3 V2, Alt SAR5 V2 and Alt SAR6 V2 are listed as Declined and now have a version number of 1. SARB3, Alt SAR5 and Alt SAR6 are listed as Secondary and now have a version number of 2.
6.11	*Schedule Requests*	Select Alt SAR6 V2 and click **Generate Replace...**	*Create Replace Request* appears.
6.12	*Create Replace Request*	Change the time to be T + 01:55:00 and click **Save**.	Replace Request is saved.
6.13	*Schedule Requests*	Review the Replace Request created in the previous step.	Verify: Replace Request is processed as a SAR and is listed as a BatchStored. The SAR is listed with a version number of 1. Alt SAR6 V2 is listed as Deleted. Alt SAR6 is listed as Deleted because its new original version (Alt SAR6 V2) was deleted.
6.14	*Schedule Requests*	Select Alt SAR5 V2 and click **Generate Alternate...**	*Create Alternate SAR* appears.
6.15	*Create Alternate SAR*	Change the time to be T + 02:00:00 and click **Save**.	Alternate SAR is saved.

Step	Location	Action	Result
6.16	*Schedule Requests*	Review the Alternate SAR created in the previous step.	Verify: Alternate SAR is processed as a SAR and is listed as a BatchStored. The SAR is listed with a version number of 1.
6.17	*Schedule Requests*	Select Alt SAR5 V2 and click **Edit...**	*Edit Alternate SAR* appears.
6.18	*Edit Alternate SAR*	Change the time to be T + 01:56:00 and click **Save**.	The edited version of the Alternate SAR is saved.
6.19	*Schedule Requests*	Review the edited version of AltSAR5 V2 (Alt SAR5 V3).	Verify: Alt SAR5 V3 is listed as Secondary with a version number of 3.
6.20	*Schedule Requests*	Select Alt SAR5 V3 and click **Delete...**	Delete Request is listed as Completed with the reference ID of the correct version of the Alternate SAR. Verify: The edited version (3) of an Alternate SAR can be deleted without the original and any of its edited versions being deleted. Alt SAR5 is listed as Secondary. Alt SAR5 V2 is listed as Declined.

Step	Location	Action	Result
6.21	*Schedule Requests*	Select Alt SAR5 V2 and click **Delete...**	Delete Request is listed as Completed with the reference ID of the new original version of the Alternate SAR. Alt SAR5 V2 and Alt SAR5 are listed as Deleted. Verify: When the original version of the Alternate SAR is deleted then any of its edited versions are also deleted.
6.22	*Schedule Requests*	Select SARB3 and click **Generate Replace...**	*Error Dialog box* appears stating that a Replace Request can not be generated for a Secondary request. Verify: SARB3 was the original version and is no longer recognized as the original after SARB3 V2 was processed in a batch.
6.23	*Schedule Requests*	Select SARB3 and click **Generate Alternate...**	*Error Dialog box* appears stating that a Alternate SAR can not be generated for a Secondary request. Verify: SARB3 was the original version and is no longer recognized as the original after SARB3 V2 was processed in a batch.
IMPACT OF SECONDARY VERSIONS OF ALT SAR WITH A REPLACE REQUEST			
7.1	NTS	Submit the following requests in the batch period. Note: T is a time in the batch period.	SARs are accepted.

Step	Location	Action	Result
7.2	*Schedule Requests*	Review requests from step 7.1.	SARB4 is listed as BatchStored. Alt SAR7 and Alt SAR8 are listed as Chained. Alt SAR7 references SARB4 and Alt SAR8 references Alt SAR7.
7.3	*Edit Alternate SAR*	Create 2 edited versions of SARB4, Alt SAR7 and Alt SAR8 according to the table below. Note: The changes are in bold.	SARB4 V2 and SARB4 V3 are created from SARB4. Alt SAR7 V2 and Alt SAR7 V3 are created from Alt SAR7. Alt SAR8 V2 and Alt SAR8 V3 are created from Alt SAR8.

Request ID	TDRS	Service	Event Start Time	Service Start	Service Duration	Reference Request ID	Priority	Result before Generation
SARB4	174	MAF	T + 00:00:00	00:00:00	00:30:00		2	BatchStored
Alt SAR7	174	MAF	T + 01:00:00	00:00:00	00:30:00	SARB4	2	Chained
Alt SAR8	174	MAF	T + 01:05:00	00:00:00	00:30:00	Alt SAR7	2	Chained

Step	Location	Action	Result
7.4	*Schedule Requests*	Review the edited versions from the table above.	SARB4 V2, SARB4 V3, Alt SAR7 V2, Alt SAR7 V3, Alt SAR8 V2 and Alt SAR8 V3 are listed as Secondary. SARB4 V2, Alt SAR7 V2 and Alt SAR8 V2 are listed with a version number of 2. SARB4 V3, Alt SAR7 V3 and Alt SAR8 V3 are listed with a version number of 3.
7.5	NTS	Submit a Replace Request (99/12) that references Alt SAR7 and that has a time in the batch period.	Replace request is accepted.

Request ID	Version	TDRS	Service	Event Start Time	Service Start	Service Duration	Priority	Result before Generation
SARB4 V2	2	174	MAF	**T + 01:05:00**	00:00:00	00:30:00	2	Secondary
SARB4 V3	3	174	MAF	**T + 01:10:00**	00:00:00	00:30:00	2	Secondary
ALT SAR7 V2	2	174	MAF	**T + 01:30:00**	**00:15:00**	00:30:00	2	Secondary
ALT SAR7 V3	3	174	MAF	**T + 01:35:00**	**00:15:00**	00:30:00	2	Secondary
ALT SAR8 V2	2	174	MAF	**T + 01:45:00**	**00:10:00**	00:30:00	2	Secondary
ALT SAR8 V3	3	174	MAF	**T + 01:55:00**	**00:10:00**	00:30:00	2	Secondary

Step	Location	Action	Result
7.6	*Schedule Requests*	Review the Replace request from the previous step.	Verify: Replace request is handled as an Alt SAR. Replace request is listed as Chained with reference ID of SARB4. SARB4 is still listed as BatchStored. SARB4 V2 and SARB4 V3 are still listed as Secondary. Alt SAR8 is listed as Chained but now has a reference ID of the Replace request. Alt SAR8 V2 and Alt SAR8 V3 are still listed as Secondary. Alt SAR7 is listed as Deleted. Alt SAR7 V2 and Alt SAR7 V3 are listed as Deleted because Alt SAR7 was deleted.
IMPACT OF SECONDARY VERSIONS OF ALT SAR WITH ANOTHER ALT SAR			
8.1	NTS	Submit the following requests in the batch period. Note: T is a time in the batch period.	SARs are accepted.

Step	Location	Action	Result
8.2	*Schedule Requests*	Review requests from step 8.1.	SARB5 is listed as BatchStored. Alt SAR9 and Alt SAR10 are listed as Chained. Alt SAR9 references SARB5 and Alt SAR10 references Alt SAR9.
8.3	*Edit Alternate SAR*	Create 2 edited versions of SARB5, Alt SAR9 and Alt SAR10 according to the table below. Note: The changes are in bold.	SARB5 V2 and SARB5 V3 are created from SARB5. Alt SAR9 V2 and Alt SAR9 V3 are created from Alt SAR9. Alt SAR10 V2 and Alt SAR10 V3 are created from Alt SAR10.

Request ID	TDRS	Service	Event Start Time	Service Start	Service Duration	Reference Request ID	Priority	Result before Generation
SARB5	174	MAF	T + 03:00:00	00:00:00	00:30:00		2	BatchStored
Alt SAR9	174	MAF	T + 04:00:00	00:00:00	00:30:00	SARB5	2	Chained
Alt SAR10	174	MAF	T + 04:05:00	00:00:00	00:30:00	Alt SAR9	2	Chained

Step	**Location**	**Action**	**Result**

Request ID	**Version**	**TDRS**	**Service**	**Event Start Time**	**Service Start**	**Service Duration**	**Priority**	**Result before Generation**
SARB5 V2	2	174	MAF	**T + 04:05:00**	00:00:00	00:30:00	2	Secondary
SARB5 V3	3	174	MAF	**T + 04:10:00**	00:00:00	00:30:00	2	Secondary
ALT SAR9 V2	2	174	MAF	**T + 04:30:00**	**00:15:00**	00:30:00	2	Secondary
ALT SAR9 V3	3	174	MAF	**T + 04:35:00**	**00:15:00**	00:30:00	2	Secondary
ALT SAR10 V2	2	174	MAF	**T + 04:45:00**	**00:10:00**	00:30:00	2	Secondary
ALT SAR10 V3	3	174	MAF	**T + 04:55:00**	**00:10:00**	00:30:00	2	Secondary

8.4	*Schedule Requests*	Review the edited versions from the table above.	SARB5 V2, SARB5 V3, Alt SAR9 V2, Alt SAR9 V3, Alt SAR10 V2 and Alt SAR10 V3 are listed as Secondary. SARB5 V2, Alt SAR9 V2 and Alt SAR10 V2 are listed with a version number of 2. SARB5 V3, Alt SAR9 V3 and Alt SAR10 V3 are listed with a version number of 3.
8.5	NTS	Submit an Alternate SAR (99/21) that references Alt SAR9 and that has a time in the batch period. Note: This Alternate SAR will be called Alt SAR A.	Alt SAR A is accepted.

Step	Location	Action	Result
8.6	*Schedule Requests*	Review Alt SAR A from the previous step.	Verify: Alt SAR A is listed as Chained with reference ID of Alt SAR9. Alt SAR9 is still listed as Chained and references SARB5. SARB5 is still listed as BatchStored. SARB5 V2 and SARB5 V3 are still listed as Secondary. Alt SAR9 V2 and Alt SAR9 V3 are still listed as Secondary. The chain is broken and Alt SAR10 is listed as Deleted. Alt SAR10 V2 and Alt SAR10 V3 are listed as Deleted because Alt SAR10 was deleted.
IMPACT OF SECONDARY VERSIONS OF ALT SAR WITH DELETE REQUEST			
9.1	NTS	Submit the following requests in the batch period. Note: T is a time in the batch period.	SARs are accepted.

Step	Location	Action	Result					
Request ID	**TDRS**	**Service**	**Event Start Time**	**Service Start**	**Service Duration**	**Reference Request ID**	**Priority**	**Result before Generation**
SARB6	174	MAF	T + 05:00:00	00:00:00	00:30:00		2	BatchStored
Alt SAR11	174	MAF	T + 06:00:00	00:00:00	00:30:00	SARB6	2	Chained
Alt SAR12	174	MAF	T + 06:05:00	00:00:00	00:30:00	Alt SAR11	2	Chained
9.2	*Schedule Requests*	Review requests from step 9.1.	SARB6 is listed as BatchStored. Alt SAR11 and Alt SAR12 are listed as Chained. Alt SAR11 references SARB6 and Alt SAR12 references Alt SAR11.					
9.3	*Edit Alternate SAR*	Create 2 edited versions of SARB6, Alt SAR11 and Alt SAR12 according to the table below. Note: The changes are in bold.	SARB6 V2 and SARB6 V3 are created from SARB6. Alt SAR11 V2 and Alt SAR11 V3 are created from Alt SAR11. Alt SAR12 V2 and Alt SAR12 V3 are created from Alt SAR12.					

Step	Location	Action	Result

Request ID	Version	TDRS	Service	Event Start Time	Service Start	Service Duration	Priority	Result before Generation
SARB6 V2	2	174	MAF	**T + 06:05:00**	00:00:00	00:30:00	2	Secondary
SARB6 V3	3	174	MAF	**T + 06:10:00**	00:00:00	00:30:00	2	Secondary
ALT SAR11 V2	2	174	MAF	**T + 06:30:00**	**00:15:00**	00:30:00	2	Secondary
ALT SAR11 V3	3	174	MAF	**T + 06:35:00**	**00:15:00**	00:30:00	2	Secondary
ALT SAR12 V2	2	174	MAF	**T + 06:45:00**	**00:10:00**	00:30:00	2	Secondary
ALT SAR12 V3	3	174	MAF	**T + 06:55:00**	**00:10:00**	00:30:00	2	Secondary

Step	Location	Action	Result
9.4	*Schedule Requests*	Review the edited versions from the table above.	SARB6 V2, SARB6 V3, Alt SAR11 V2, Alt SAR11 V3, Alt SAR12 V2 and Alt SAR12 V3 are listed as Secondary. SARB6 V2, Alt SAR11 V2 and Alt SAR12 V2 are listed with a version number of 2. SARB6 V3, Alt SAR11 V3 and Alt SAR12 V3 are listed with a version number of 3.
9.5	NTS	Submit a Delete request (99/11) that references Alt SAR11 and that has a time in the batch period.	Delete request is accepted.

Step	Location	Action	Result
9.6	*Schedule Requests*	Review the Delete request from the previous step.	Verify: Delete request is listed as Completed and references Alt SAR11. The chain is broken and Alt SAR11 is listed as Deleted. Alt SAR11 V2 and Alt SAR11 V3 are listed as Deleted because Alt SAR11 was deleted. Alt SAR12 is listed as Deleted. Alt SAR12 V2 and Alt SAR12 V3 are listed as Deleted because Alt SAR12 was deleted. SARB6 is still listed as BatchStored. SARB6 V2 and SARB6 V3 are still listed as Secondary.
SECONDARY VERSIONS OF ALT SAR ON THE WAIT LIST			
10.1	NTS	Submit the following requests in the batch period and have SARB7 requesting wait listing. Note: T is a time in the batch period.	SARs are accepted.

Step	Location	Action	Result

Request ID	TDRS	Service	Event Start Time	Service Start	Service Duration	Reference Request ID	Priority	Result before Generation
SARA6	285	MAF	T + 05:00:00	00:00:00	02:00:00		1	BatchStored
SARB7	285	MAF	T + 05:00:00	00:00:00	00:30:00		2	BatchStored
Alt SAR13	285	MAF	T + 06:00:00	00:00:00	00:30:00	SARB7	2	Chained
Alt SAR14	285	MAF	T + 06:05:00	00:00:00	00:30:00	Alt SAR13	2	Chained

10.2	*Schedule Requests*	Review requests from step 10.1.	SARA6 and SARB7 are listed as BatchStored. Alt SAR13 and Alt SAR14 are listed as Chained. Alt SAR13 references SARB7 and Alt SAR14 references Alt SAR13.
10.3	*Edit Alternate SAR*	Create 1 edited version of SARB7, Alt SAR13 and Alt SAR14 according to the table below. Note: The changes are in bold.	SARB7 V2 is created from SARB7. Alt SAR13 V2 is created from Alt SAR13. Alt SAR14 V2 is created from Alt SAR14.

Step	Location	Action	Result

Request ID	Version	TDRS	Service	Event Start Time	Service Start	Service Duration	Priority	Result before Generation
SARB7 V2	2	285	MAF	**T + 06:05:00**	00:00:00	00:30:00	2	Secondary
ALT SAR13 V2	2	285	MAF	**T + 06:30:00**	**00:15:00**	00:30:00	2	Secondary
ALT SAR14 V2	2	285	MAF	**T + 06:45:00**	**00:10:00**	00:30:00	2	Secondary

10.4	*Schedule Requests*	Review the edited versions from the table above.	SARB7 V2, Alt SAR13 V2, and Alt SAR14 V2 are listed as Secondary. SARB7 V2, Alt SAR13 V2 and Alt SAR14 V2 are listed with a version number of 2.
10.5	*Batch Scheduling*	Click **Add...**	*Schedule Editor* appears.
10.6	*Schedule Editor*	Create a batch called BatchD and click **Import Requests...**	*Import Requests* appears.
10.7	*Import Requests*	Select SARA6, SARB7 V2, Alt SAR13 V2 and Alt SAR14 V2. Click **Import**.	Verify: SARA6, SARB7 V2, Alt SAR13 V2 and Alt SAR14 V2 are imported into BatchD.
10.8	*Schedule Editor*	Generate BatchD.	BatchD is generated. SARA6 becomes a batch event. SARB7 V2, Alt SAR13 V2 and Alt SAR14 V2 are declined.
10.9	*Batch Scheduling*	Select BatchD and click **Activate...**	BatchD is activated.

Step	Location	Action	Result
10.10	*Schedule Requests*	Review SARA6, SARB7 V2, Alt SAR13 V2 and Alt SAR14 V2.	Verify: SARA6 is listed as Activated. SARB7 V2, Alt SAR13 V2 and Alt SAR14 V2 are listed as WaitListed and now have a version number of 1. SARB7, Alt SAR13 and Alt SAR14 are listed as Secondary and now have a version number of 2.
10.11	*Batch Scheduling*	Click **Add...**	*Schedule Editor* appears.
10.12	*Schedule Editor*	Create a batch called BatchE and click **Import Requests...**	*Import Requests* appears.
10.13	*Import Requests*	Select SARB7, Alt SAR13 and Alt SAR14. Click **Import**.	Verify: SARB7, Alt SAR13 and Alt SAR14 are imported into BatchE.
10.14	*Schedule Editor*	Generate BatchE.	BatchE is generated. SARB7, Alt SAR13 and Alt SAR14 are declined.
10.15	*Batch Scheduling*	Select BatchE and click **Activate...**	BatchE is activated.
10.16	*Schedule Requests*	Review SARB7, Alt SAR13 and Alt SAR14.	Verify: SARB7, Alt SAR13 and Alt SAR14 are listed as WaitListed and now have a version number of 1. SARB7 V2, Alt SAR13 V2 and Alt SAR14 V2 are listed as Secondary and now have a version number of 2.

Step	Location	Action	Result
		DOCUMENTATION	
11.1	*User's Guide*	Review the documentation for Secondary requests.	Verify: Secondary requests are documented correctly.

Section 8. Year 2000 Validation

8.1 Detailed Test Procedure for 99.1-8.01 YEAR 2000 – TSW RETENTION 5.2.4.7.2f

OBJECTIVE: This test item will verify the following regardless of the Y2k rollover:

- The NCCDS provides the operator with the capability to specify the retention criteria for TSWs. (Nominally, the NCCDS retains TSWs for at least 24 hours after the window closing time of the TSW.) [5.2.4.7.2f]

Step	Location	Action	Result
		SETUP	
1.1	SPSR server	Have the system administrator enter "date 1231220099" to reset the time and date.	The SPSR system time is December 31, 1999 at 22:00:00.
1.2	NPG workstation	Have the system administrator enter "date 123122xx99" to reset the time and date to agree with the SPSR system time.	The NPG system time is set correctly.
1.3	NSM workstation	Have the system administrator enter "date 123122xx99" to reset the time and date to agree with the SPSR system time.	The NSM system time is set correctly.
1.4	Firewall workstation	Have the system administrator enter "date 123122xx99" to reset the time and date to agree with the SPSR system time.	The Firewall system time is set correctly.
1.5	CCS terminal	Logon to CCS with a **FIELD** account. From the menu, exit to DCL. Enter "STOP CCSUTC" to stop the CCS time clock, "set TIME=31-DEC-1999:22:xx:xx" to reset the time and date, and "SHOW TIME" to verify the new time and date. Cold start CCS.	CCS cannot access the GMT clock.

Step	Location	Action	Result
1.6	Workstation	Have the system administrator set the central UTC clock to December 31, 1999 at 22:xx:xx.	Central UTC is changed to the end of 1999. Except the NTS, all systems are in synchronization with this time.
1.7	NTS	Enter “setgmt 99 365 22 xx xx” to set the NTS time to the exact minute and second of the UTC time of the NCCDS.	The NTS time agrees with other segments.
1.8	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.9	NTS	Generate a TSW Set containing the following TSWs. Block File:_____	TSWs are accepted and stored.

TSW Set

TSW #	Open Time	Close Time	TDRS Op Name
1	1999/365/23:45:00	1999/365/23:50:00	041
2	1999/365/23:55:00	2000/001/00:10:00	046
3	2000/001/00:15:00	2000/001/00:30:00	171

1.10	*TDRS Scheduling Window Sets*	Select the TSW Set generated above. Make a **hardcopy**. Click **View…**	Verify: The TSW Set generated above has been stored with the Start Time and End Time being the earliest Open Time (1999/365/23:45:00) and the Latest Close Time (2000/001/00:30:00) in the set. The *TDRS Scheduling Window Set Details* window appears.
1.11	*TDRS Scheduling Window Set Details*	Review the window. Make a **hardcopy**.	Verify: The TSW Set contains each TSW specified above.

Step	Location	Action	Result
		SPECIFY RETENTION CRITERIA	
2.1	*Schedule Control Database*	Select **Retention Control Parameters…** from the **Edit** menu. Make a **hardcopy**.	The *Retention Control Parameters* window appears and contains the service planning data retention parameters. The **Opened** time reflects the time the window was opened.
2.2	*Retention Control Parameters*	Click the **Enable Editing** toggle button. Enter the following retention control parameter: TDRS Scheduling Windows with closing time **000 01:00:00** in the past. Click the **Save** button. Make a **hardcopy**.	The **Save** button becomes selectable. Verify: The retention control modification appears in the window and the **Last Update** information is updated.
		MANUAL PURGES	
3.1	Workstation	Before year 2000, using the 'OPSDBA' purge utility, run the purge script selecting the menu option to purge TSWs. Accept the default purge time given by the script; this time is the result of subtracting the delta times on the *Retention Control Parameters* window from the current UTC. Note current UTC.	Verify: Purge script completes successfully.
3.2	*TDRS Scheduling Window Sets*	Review the window. Make a **hardcopy**. Select the TSW Set created in step 1.9. Click **View…**	Verify: The Timespan for the TSW Set created in step 1.9 is still 1999/365/23:45:00 to 2000/001/00:30:00. The *TDRS Scheduling Window Set Details* window appears.

Step	Location	Action	Result
3.3	*TDRS Scheduling Window Set Details*	Review the window. Make a **hardcopy.**	Verify: The TSW Set created in step 1.9 contains the same TSWs as in step 1.11.
3.4	Workstation	Between 2000/001/00:30:00 and 2000/001/00:50:00, repeat steps 3.1 through 3.3.	Verify same results.
3.5	Workstation	Between 2000/001/00:50:00 and 2000/001/01:10:00, repeat step 3.1.	Verify same results.
3.6	*TDRS Scheduling Window Sets*	Review the window. Make a **hardcopy**. Select the TSW Set created in step 1.9. Click **View…**	Verify: The timespan for the TSW Set created in step 1.9 is now 1999/365/23:55:00 to 2000/001/00:30:00. The *TDRS Scheduling Window Set Details* window appears.
3.7	*TDRS Scheduling Window Set Details*	Review the window. Make a **hardcopy**.	Verify: The TSW Set created in step 1.9 contains TSWs 2 & 3 only. The Timespan Start and End reflects the Open and Close times of the remaining TSWs.
3.8	Workstation	After 2000/001/01:30:00, repeat step 3.1.	Verify same results.
3.9	*TDRS Scheduling Window Sets*	Review the window. Make a **hardcopy**. Select the TSW Set created in step 1.9. Click **View…**	Verify: The Open & Close times for the TSW Set created in step 1.9 are not applicable (N/A). The *TDRS Scheduling Window Set Details* window appears.

Step	Location	Action	Result
3.10	*TDRS Scheduling Window Set Details*	Review the window. Make a **hardcopy**.	Verify: The TSW Set created in step 1.9 contains no TSWs.
		CLEANUP	
4.1	SPSR server	Have the system administrator use the "date" command to reset the time and date to the GMT time and date.	The SPSR system time agrees with GMT.
4.2	NPG workstation	Have the system administrator use the "date" command to reset the time and date to the GMT time and date.	The NPG system time is set correctly.
4.3	NSM workstation	Have the system administrator use the "date" command to reset the time and date to the GMT time and date.	The NSM system time is set correctly.
4.4	Firewall workstation	Have the system administrator use the "date" command to reset the time and date to the GMT time and date.	The Firewall system time is set correctly.
4.5	CCS terminal	From the **FIELD** account on the CCS, enter "**stop ccsutc"** to stop the CCS time clock, "SET TIME=dd-mmm-yyyy:hh:mm:ss" to reset the time and date to the GMT time, and "SHOW TIME**"** to verify the new time and date. Cold start CCS.	The CCS system time is set correctly.
4.6	Workstation	Have the system administrator set the central UTC clock to the GMT time and date.	Central UTC is changed to current GMT time. Except the NTS, all systems are in synchronization with this time.
4.7	NTS	Use the "setgmt" command to reset the time and date to the GMT time and date.	The NTS time agrees with other segments.

8.2 Detailed Test Procedure for 99.1- 8.02
YEAR 2000 - SCHEDULING WITH TSWs, SERVICE FLEXIBILITY – AUTO

OBJECTIVES: This test item will verify the following:

- Scheduling using TSWs is not affected by the Y2K rollover.
- Scheduling using service level keyword flexibilities (STPT, STMT, CSN, SBSN, and MIND) are not affected by the Y2K rollover.
- Flexible events are frozen at specified or default intervals and these are not affected by the Y2K rollover.
- Scheduling using TSWs, keyword flexibilities, and freezing events are not affected by Leap day February 29 rollover.
- Scheduling using TSWs, keyword flexibilities, and freezing events are not affected by day 365 to 366 rollover.
- Scheduling using TSWs, keyword flexibilities, and freezing events are not affected by day 366 to day 1 of 2001 rollover.

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	All subsystems	Change the system time to be near the Y2K rollover (within 3 days).	Time has been changed.
1.3	*Schedule Control Database*	Change the batch boundary to a time after January 1st, 2000.	The Y2K rollover is in the automatic scheduling period.

Step	Location	Action	Result
1.4	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the automatic scheduling subphase are as follows:	TDRS Assignments are correct.

Name	ID	SGLT
041	D	SGT1
171	G	SGT2
TDW	K	SGT3
TDE	I	SGT4
192	H	SGT5
046	F	WSC1
174	E	WSC2
TDZ	Z	WSC3
TDS	J	WSC4
285	A	WSC5

SCHEDULING USING TSWs

2.1	NTS	Submit a TSW messages for TSW Set "00YEAR2000" with the following TSWs for the specified TDRS:	4 TSWs for Set 00YEAR2000 are stored.

TDRS	Opening Time	Closing Time
041	365/230000	001/030000
046	001/000000	001/020000
171	365/220000	001/000000
174	001/020000	001/040000

2.2	NTS	Submit the following SARs for the automatic scheduling subphase requesting TDRS set **ALL** and specifying TSWs are to be used:	Requests are received and scheduled.

Request	Event Start Time	Duration	Service	Result
SAR1	99/365/23:00:00	04:00:00	MAF	Schedules on TDRS 041
SAR2	00/001/00:00:00	02:00:00	MAF	Schedules on TDRS 046
SAR3	99/365/22:00:00	02:00:00	MAF	Schedules on TDRS 171
SAR4	00/001/02:00:00	02:00:00	MAF	Schedules on TDRS 174

Step	Location	Action	Result
2.3	*Active Schedule*	Review events. Make a hardcopy.	Verify: Results as specified in the table. TSW availability can be determined across the Y2K rollover.
2.4	*Active Schedule*	Delete the events scheduled in step 2.2.	Events are deleted.
STPT AND STMT ACROSS THE YEAR 2000 ROLLOVER			
3.1	NTS	Submit the following SARs for the automatic scheduling subphase:	Requests are received and scheduled.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A1	041	99/365/ 23:45:00	MAF	00:00:00	00:10:00	blank	blank	blocking event	23:45:00
B1	041	99/365/ 23:45:00	MAF	00:00:00	00:10:00	blank	00:30:00	Activated	23:55:30
A2	046	99/365/ 23:45:00	MAF	00:00:00	00:14:30	blank	blank	blocking event	23:45:00
B2	046	99/365/ 23:45:00	MAF	00:00:00	00:10:00	blank	00:30:00	Activated	00:00:00
A3	171	99/365/ 23:45:00	MAF	00:00:00	00:20:00	blank	blank	blocking event	23:45:00
B3	171	99/365/ 23:45:00	MAF	00:00:00	00:10:00	blank	00:30:00	Activated	00:05:30
A4	174	00/001/ 00:10:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	00:10:30
B4	174	00/001/ 00:10:00	MAF	00:00:00	00:10:00	00:30:00	blank	Activated	00:00:00
A5	TDE	99/365/ 23:55:30	SMAF	00:00:00	01:00:00	blank	blank	blocking event	23:55:30
B5	TDE	00/001/ 00:10:00	SMAF	00:00:00	00:10:00	00:30:00	blank	Activated	23:45:00

Step	Location	Action	Result

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A6	192	00/001/ 00:05:30	SMAF	00:00:00	01:00:00	blank	blank	blocking event	00:05:30
B6	192	00/001/ 00:10:00	SMAF	00:00:00	00:10:00	00:30:00	blank	Activated	23:55:00

3.2	*Active Schedule*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Service plus and minus tolerance can be used across the Y2K rollover.
3.3	*Active Schedule*	Delete the events scheduled in step 3.1.	Events are deleted.
		CSN ACROSS THE YEAR 2000 ROLLOVER	
4.1	NTS	Submit the following SARs for the automatic scheduling subphase:	Requests are received and scheduled.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Plus Tolerance (STPT)	Coupled Service Number	Verify	Actual service start
A7	041	99/365/ 23:40:00	MAF	00:00:00	00:10:00	blank	blank	blocking event	23:40:00
B7	041	99/365/ 23:40:00	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	+ 00:30:00 blank	blank 01	Activated	23:50:30 23:55:30
A8	046	99/365/ 23:44:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	23:54:30
B8	046	99/365/ 23:44:30	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	+ 00:30:00 blank	blank 01	Activated	23:55:00 00:00:00
A9	171	99/365/ 23:45:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	23:45:30
B9	171	99/365/ 23:45:30	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	+ 00:30:00 blank	blank 01	Activated	00:00:00 00:05:00

Step	Location	Action	Result
4.2	*Active Schedule*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Coupled services will move forward across the Y2K rollover.
4.3	*Active Schedule*	Delete the events scheduled in step 4.1.	Events are deleted.
4.4	NTS	Submit the following SARs for the automatic scheduling subphase:	Requests are received and scheduled.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Tol (STMT)	Coupled Service Number	Verify	Actual service start
A10	041	00/001/ 00:10:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	00:10:30
B10	041	00/001/ 00:10:30	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	- 00:30:00 blank	blank 01	Activated	00:00:00 00:05:00
A11	046	00/001/ 00:05:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	00:05:30
B11	046	00/001/ 00:05:30	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	- 00:30:00 blank	blank 01	Activated	23:55:00 00:00:00
A12	171	00/001/ 00:01:00	MAF	00:00:00	00:10:00	blank	blank	blocking event	00:01:00
B12	171	00/001/ 00:01:00	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	- 00:30:00 blank	blank 01	Activated	23:50:30 23:55:30

4.5	*Active Schedule*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Coupled services will move backward across the Y2K rollover.
4.6	*Active Schedule*	Delete the events scheduled in step 4.4.	Events are deleted.

Step	Location	Action	Result
SBSN ACROSS THE YEAR 2000 ROLLOVER			
5.1	NTS	Submit the following SARs for the automatic scheduling subphase:	Requests are received and scheduled.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Plus Tolerance (STPT)	Bounded Service Number	Verify	Actual service start
A13	041	99/365/ 23:50:00	MAF	00:00:00	00:07:00	blank	blank	blocking event	23:50:00
B13	041	99/365/ 23:50:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:20:00	blank blank	02 blank	Activated	23:57:30 23:50:00
A14	046	99/365/ 23:50:00	MAF	00:00:00	00:09:30	blank	blank	blocking event	23:50:00
B14	046	99/365/ 23:50:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:20:00	blank blank	02 blank	Activated	00:00:00 23:50:00
A15	171	99/365/ 23:50:00	MAF	00:00:00	00:14:30	blank	blank	blocking event	23:50:00
B15	171	99/365/ 23:50:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:20:00	blank blank	02 blank	Activated	00:05:00 23:50:00

5.2	*Active Schedule*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Bounded services will move forward across the Y2K rollover.
5.3	*Active Schedule*	Delete the events scheduled in step 5.1.	Events are deleted.
MIND ACROSS THE YEAR 2000 ROLLOVER			
6.1	NTS	Submit the following SARs for the automatic scheduling subphase:	Requests are received and scheduled.

Step	Location	Action	Result

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	MIND	Verify	Actual service start	Actual service stop
A16	041	00/001/ 00:00:30	MAF	00:00:00	00:10:00	blank	blocking event	00:00:30	00:10:30
B16	041	99/365/ 23:50:00	MAF	00:00:00	00:15:00	00:01:00	Activated	23:50:00	00:00:00
A17	046	00/001/ 00:00:29	MAF	00:00:00	00:10:00	blank	blocking event	00:00:29	00:10:29
B17	046	99/365/ 23:50:00	MAF	00:00:00	00:15:00	00:01:00	Activated	23:50:00	23:59:59

6.2	*Active Schedule*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Service duration will shrink (using MIND) backwards across the Y2K rollover.
6.3	*Active Schedule*	Delete the events scheduled in step 6.1.	Events are deleted.
		FREEZE TIME	
7.1	*SIC Entry*	For a full-support SIC, set the default freeze interval to 1 hour.	Default freeze interval is set.
7.2	*Schedule Distribution List*	For the same SIC, define its MOC destination as flexible.	Flexible message types can be sent to a valid destination for this SIC.
7.3	NTS	Transmit SARs as follows:	Events schedule.

Request	Start Time	Duration	Service	TDRS	Result
SAR1	00/001/00:00:00	00:01:00	MAF	041	Freezes at 365/23:00:00
SAR2	00/001/00:30:00	00:01:00	MAF	046	Freezes at 365/23:30:00
SAR3	00/001/01:00:00	00:01:00	MAF	171	Freezes at 001/00:00:00

7.4	NTS	Transmit SARs as follows, specifying freeze intervals in the 99/10s:	Events schedule.

Step	Location	Action	Result
7.5	*Schedule Transmission*	At times before and after each of the above events freeze, manually transmit the events to the flexible MOC site:	Verify: Flexible USMs are transmitted before the freeze times are reached. Fixed USMs are transmitted after the freeze times are reached.

Request	Start Time	Duration	Svcs	TDRS	Freeze Interval	Result: Freezes at:
SAR4	00/001/01:59:59	00:01:00	SMAF	TDE	02:00:00	365/23:59:59
SAR5	00/001/02:00:00	00:01:00	SMAF	TDS	02:00:00	001/00:00:00

Request	1st transmission time	USM class	2nd transmission time	USM class	Actual Freeze Time
SAR1	99/365/22:55:00	94/04	99/365/23:02:00	94/01	99/365/23:00:00
SAR2	99/365/23:25:00	94/04	99/365/23:32:00	94/01	99/365/23:30:00
SAR3	99/365/23:55:00	94/04	00/001/00:02:00	94/01	00/001/00:00:00
SAR4	99/365/23:55:00	94/04	00/001/00:02:00	94/01	99/365/23:59:59
SAR5	99/365/23:55:00	94/04	00/001/00:02:00	94/01	00/001/00:00:00

LEAP DAY FEBRUARY 29 ROLLOVER			
8.1	NTS	Repeat all previous steps using the February 29 (day 059) rollover.	Same results.
DAY 365 TO 366 (2000) ROLLOVER			
9.1	NTS	Repeat all previous steps using the day 365 to 366 (December 30th to 31st, 2000) rollover.	Same results.
DAY 366 (2000) TO 001 (2001) ROLLOVER			
10.1	NTS	Repeat all previous steps using the day 366 to 001 (December 31st, 2000 to January 1st, 2001) rollover.	Same results.

8.3 Detailed Test Procedure for 99.1-8.03
YEAR 2000 - SCHEDULING WITH TSWs, SERVICE FLEXIBILITY – BATCH

OBJECTIVES: This test item will verify the following:

- Scheduling using TSWs is not affected by the Y2K rollover.
- Scheduling using service level keyword flexibilities (STPT, STMT, CSN, SBSN, and MIND) are not affected by the Y2K rollover.
- Scheduling using TSWs and keyword flexibilities are not affected by Leap day February 29 rollover.
- Scheduling using TSWs and keyword flexibilities are not affected by day 365 to 366 rollover.
- Scheduling using TSWs and keyword flexibilities are not affected by day 366 (2000) to day 1 (2001) rollover.

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	All subsystems	Change the system time to be near the Y2K rollover (within 28 days).	Time has been changed.
1.3	*Schedule Control Database*	Change the batch boundary to a time before December 31st, 1999.	The Y2K rollover is in the batch scheduling period.

Step	Location	Action	Result
1.4	*TDRS Operational Names & Mappings*	Ensure that the TDRS/ID/SGLT assignments for the batch scheduling subphase are as follows:	TDRS Assignments are correct.

Name	ID	SGLT
041	D	SGT1
171	G	SGT2
TDW	K	SGT3
TDE	I	SGT4
192	H	SGT5
046	F	WSC1
174	E	WSC2
TDZ	Z	WSC3
TDS	J	WSC4
285	A	WSC5

SCHEDULING USING TSWs

2.1	NTS	Submit a TSW messages for TSW Set "00YEAR2000" with the following TSWs for the specified TDRS:	4 TSWs for Set 00YEAR2000 are stored.

TDRS	Opening Time	Closing Time
041	365/230000	001/030000
046	001/000000	001/020000
171	365/220000	001/000000
174	001/020000	001/040000

2.2	NTS	Submit the following SARs for the batch scheduling subphase requesting TDRS set **ALL** and specifying TSWs are to be used:	Requests are received and scheduled.

Request	Event Start Time	Duration	Service	Result
SAR1	99/365/23:00:00	04:00:00	MAF	Schedules on TDRS 041
SAR2	00/001/00:00:00	02:00:00	MAF	Schedules on TDRS 046
SAR3	99/365/22:00:00	02:00:00	MAF	Schedules on TDRS 171
SAR4	00/001/02:00:00	02:00:00	MAF	Schedules on TDRS 174

2.3	*Batch Scheduling*	Generate batch schedule containing the above requests.	Batch schedule is generated.

Step	Location	Action	Result
2.4	*Schedule Editor*	Review events. Make a hardcopy.	Verify: Results as specified in the table. TSW availability can be determined across the Y2K rollover.
2.5	*Batch Scheduling*	Delete the batch schedule from step 2.3.	Batch schedule is deleted.
STPT AND STMT ACROSS THE YEAR 2000 ROLLOVER			
3.1	NTS	Submit the following SARs for the batch scheduling subphase:	Requests are received and scheduled.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Toleran	Service Plus Tol	Verify	Actual service start
A1	041	99/365/ 23:45:00	MAF	00:00:00	00:10:00	blank	blank	blocking event	23:45:00
B1	041	99/365/ 23:45:00	MAF	00:00:00	00:10:00	blank	00:30:00	Activated	23:55:30
A2	046	99/365/ 23:45:00	MAF	00:00:00	00:14:30	blank	blank	blocking event	23:45:00
B2	046	99/365/ 23:45:00	MAF	00:00:00	00:10:00	blank	00:30:00	Activated	00:00:00
A3	171	99/365/ 23:45:00	MAF	00:00:00	00:20:00	blank	blank	blocking event	23:45:00
B3	171	99/365/ 23:45:00	MAF	00:00:00	00:10:00	blank	00:30:00	Activated	00:05:30
A4	174	00/001/ 00:10:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	00:10:30
B4	174	00/001/ 00:10:00	MAF	00:00:00	00:10:00	00:30:00	blank	Activated	00:00:00
A5	TDE	99/365/ 23:55:30	SMAF	00:00:00	01:00:00	blank	blank	blocking event	23:55:30
B5	TDE	00/001/ 00:10:00	SMAF	00:00:00	00:10:00	00:30:00	blank	Activated	23:45:00

Step	Location	Action	Result

A6	192	00/001/ 00:05:30	SMAF	00:00:00	01:00:00	blank	blank	blocking event	00:05:30
B6	192	00/001/ 00:10:00	SMAF	00:00:00	00:10:00	00:30:00	blank	Activated	23:55:00

3.2	*Batch Scheduling*	Generate batch schedule containing the above requests.	Batch schedule is generated.
3.3	*Schedule Editor*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Service plus and minus tolerance can be used across the Y2K rollover.
3.4	*Batch Scheduling*	Delete the batch schedule from step 3.2.	Batch schedule is deleted.
		CSN ACROSS THE YEAR 2000 ROLLOVER	
4.1	NTS	Submit the following SARs for the batch scheduling subphase:	Requests are received and scheduled.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Plus Tolerance (STPT)	Coupled Service Number	Verify	Actual service start
A7	041	99/365/ 23:40:00	MAF	00:00:00	00:10:00	blank	blank	blocking event	23:40:00
B7	041	99/365/ 23:40:00	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	+ 00:30:00 blank	blank 01	Activated	23:50:30 23:55:30
A8	046	99/365/ 23:44:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	23:54:30
B8	046	99/365/ 23:44:30	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	+ 00:30:00 blank	blank 01	Activated	23:55:00 00:00:00
A9	171	99/365/ 23:45:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	23:45:30
B9	171	99/365/ 23:45:30	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	+ 00:30:00 blank	blank 01	Activated	00:00:00 00:05:00

4.2	*Batch Scheduling*	Generate batch schedule containing the above requests.	Batch schedule is generated.

Step	Location	Action	Result
4.3	*Schedule Editor*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Coupled services will move forward across the Y2K rollover.
4.4	*Batch Scheduling*	Delete the batch schedule from step 4.2.	Batch schedule is deleted.
4.5	NTS	Submit the following SARs for the batch scheduling subphase:	Requests are received and scheduled.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Minus Tol (STMT)	Coupled Service Number	Verify	Actual service start
A10	041	00/001/ 00:10:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	00:10:30
B10	041	00/001/ 00:10:30	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	- 00:30:00 blank	blank 01	Activated	00:00:00 00:05:00
A11	046	00/001/ 00:05:30	MAF	00:00:00	00:10:00	blank	blank	blocking event	00:05:30
B11	046	00/001/ 00:05:30	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	- 00:30:00 blank	blank 01	Activated	23:55:00 00:00:00
A12	171	00/001/ 00:01:00	MAF	00:00:00	00:10:00	blank	blank	blocking event	00:01:00
B12	171	00/001/ 00:01:00	MAF MAR	00:00:00 00:05:00	00:10:00 00:10:00	- 00:30:00 blank	blank 01	Activated	23:50:30 23:55:30

4.6	*Batch Scheduling*	Generate batch schedule containing the above requests.	Batch schedule is generated.
4.7	*Schedule Editor*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Coupled services will move backward across the Y2K rollover.
4.8	*Batch Scheduling*	Delete the batch schedule from step 4.6.	Batch schedule is deleted.

Step	Location	Action	Result
SBSN ACROSS THE YEAR 2000 ROLLOVER			
5.1	NTS	Submit the following SARs for the batch scheduling subphase:	Requests are received and scheduled.

Req	tdrs	Event Start	Svcs	Service Start	Nom Service Duratio	Service Plus Tolerance (STPT)	Bounded Service Number	Verify	Actual service start
A13	041	99/365/ 23:50:00	MAF	00:00:00	00:07:00	blank	blank	blocking event	23:50:00
B13	041	99/365/ 23:50:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:20:00	blank blank	02 blank	Activated	23:57:30 23:50:00
A14	046	99/365/ 23:50:00	MAF	00:00:00	00:09:30	blank	blank	blocking event	23:50:00
B14	046	99/365/ 23:50:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:20:00	blank blank	02 blank	Activated	00:00:00 23:50:00
A15	171	99/365/ 23:50:00	MAF	00:00:00	00:14:30	blank	blank	blocking event	23:50:00
B15	171	99/365/ 23:50:00	MAF MAR	00:00:00 00:00:00	00:05:00 00:20:00	blank blank	02 blank	Activated	00:05:00 23:50:00

5.2	*Batch Scheduling*	Generate batch schedule containing the above requests.	Batch schedule is generated.
5.3	*Schedule Editor*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Bounded services will move forward across the Y2K rollover.
5.4	*Batch Scheduling*	Delete the batch schedule from step 5.2.	Batch schedule is deleted.
MIND ACROSS THE YEAR 2000 ROLLOVER			
6.1	NTS	Submit the following SARs for the batch scheduling subphase:	Requests are received and scheduled.

Step	Location			Action			Result		
Req	**tdrs**	**Event Start**	**Svcs**	**Service Start**	**Nom Service Duratio**	**MIND**	**Verify**	**Actual service start**	**Actual service stop**
A16	041	00/001/ 00:00:30	MAF	00:00:00	00:10:00	blank	blocking event	00:00:30	00:10:30
B16	041	99/365/ 23:50:00	MAF	00:00:00	00:15:00	00:01:00	Activated	23:50:00	00:00:00
A17	046	00/001/ 00:00:29	MAF	00:00:00	00:10:00	blank	blocking event	00:00:29	00:10:29
B17	046	99/365/ 23:50:00	MAF	00:00:00	00:15:00	00:01:00	Activated	23:50:00	23:59:59

6.2	*Batch Scheduling*	Generate batch schedule containing the above requests.	Batch schedule is generated.
6.3	*Schedule Editor*	Review events. Make a hardcopy.	Verify: Results as specified in the table. Service duration will shrink (using MIND) backwards across the Y2K rollover.
6.4	*Batch Scheduling*	Delete the batch schedule from step 6.2.	Batch schedule is deleted.
		LEAP DAY FEBRUARY 29 ROLLOVER	
8.1	NTS	Repeat all previous steps using the February 29 (day 059) rollover.	Same results.
		DAY 365 TO 366 (2000) ROLLOVER	
9.1	NTS	Repeat all previous steps using the day 365 to 366 (December 30th to 31st, 2000) rollover.	Same results.
		DAY 366 (2000) TO 001 (2001) ROLLOVER	
10.1	NTS	Repeat all previous steps using the day 366 to 001 (December 31st, 2000 to January 1st, 2001) rollover.	Same results.

8.4 Detailed Test Procedure 99.1-8.04
YEAR 2000 WAIT LIST REQUESTS
5.3.2.2.7.2, 5.3.2.2.7.3, 5.3.3.1.a, 5.3.2.4, 5.3.2.2.6.1, 5.3.2.2.7.4.c, 5.3.2.2.7.4.d, 5.3.3.1.e, 5.5.3.3.a, 5.5.4.4.a-d, 5.5.6.7.a-c

OBJECTIVES: This test item will verify the following for the year 2000:

- The NCCDS reports in the SRMs when the Wait-List Request fails validation. [5.3.3.1.A]
- The NCCDS rejects any Wait-List Request that references a request that has not been reported to the customer as declined via an SRM. [5.3.2.2.7.2]
- For invalid wait-list requests from the MOC, the NCCDS transmits an SRM to the customer's primary logical destination containing the reason and alerts the operator. [5.3.2.2.7.3]
- For all types of schedule requests that may be received via formatted messages, the NCCDS provides the operator with an equivalent capability. [5.3.2.4]
- The NCCDS will validate that a replace request provides the customer the capability to specify that it is to be placed on the wait list if its initial processing is unsuccessful, the replace request applies to the active period, and it references either an active event, the first member of a chain of requests, or a request that is not a member of a chain. [5.3.2.2.6.1]
- The NCCDS includes the individual request in future wait list processing if the Wait List Request refers to a request that is not a member of a chain of requests. [5.3.2.2.7.4.c]
- In all cases, whenever a declined request is to be included in future wait list processing, the NCCDS reports this to the customer with an SRM. [5.3.2.2.7.4.d]
- The NCCDS sends an SRM when a customer request is placed on the wait list. [5.3.3.1.e]
- The NCCDS does not allow the operator to include waitlisted requests in a batch scheduling process. [5.5.3.3.a]
- After a schedule is activated, the NCCDS places all requests within the activated batch on the wait list that meet the following criteria:
  - The request was declined. [5.5.4.4.a]
  - The request specifies that it is to be placed on the wait list if it is declined. [5.5.4.4.b]
  - The request applied to the active period when it was received. [5.5.4.4.c]

- An attempt to place the request on the wait list in response to a Wait List Request would be valid according to the rules for valid Wait List Requests. [5.5.4.4.d]

- Whenever an event is deleted from the active schedule, the NCCDS attempts to use the relinquished resources to place events on the schedule in response to requests on the wait-list. [5.5.6.7.a]
- Whenever an event is deleted, if wait-list processing is enabled in fully automatic mode, the NCCDS adds events resulting from successfully processed requests to the active schedule. [5.5.6.7.a]
- Whenever an event is deleted, if wait-list processing is enabled in semiautomatic mode, and any requests were successfully processed, the NCCDS notifies the operator that the process is complete and provides the operator with all of the capabilities available at the completion of an operator-initiated batch scheduling run. [5.5.6.7.a]
- Whenever an event is deleted, the NCCDS does not remove unsuccessfully processed requests from the wait-list and does not report such unsuccessful processing via SRMs. [5.5.6.7.a]
- Whenever TSW updates are received, if wait-list processing is enabled in fully automatic mode, the NCCDS adds events resulting from successfully processed requests to the active schedule. [5.5.6.7.b]
- Whenever TSW updates are received, the NCCDS does not remove unsuccessfully processed requests from the wait-list and does not report such unsuccessful processing via SRMs. [5.5.6.7.b]
- When the expiration time for a wait-listed request is reached, the NCCDS makes a final attempt to schedule the associated request on the wait-list. If unsuccessful, the NCCDS removes the request from the wait-list. [5.5.6.7.c]
- When the expiration time for a wait-listed request is reached), if the request was wait listed in response to a wait list request, the expiration time is explicitly specified by the wait list request. Otherwise, the expiration time is based on the customer's default wait listed request expiration interval. [5.5.6.7.c]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling capabilities.	Toolbar appears.
1.2	NTS	Prepare NTS blocks.	Test data is ready.

Step	Location	Action	Result
1.3	Workstation	Create/identify SICs and SSC's needed for this test item. Use full support SICs. With Priorities as follows, from highest to lowest. A _____ B _____ C _____ D _____	SICs and SSC's are ready.
1.4	*Schedule Control Database*	Enable Wait list processing in Automatic Mode.	Wait list processing is enabled.
WAIT LISTING AUTOMATIC-MODE FUNCTIONALITY			
2.1	NTS	Submit the following requests for automatic scheduling from a full support customer:	See table for results.

Req ID	TDRS	Service	Wait List Flag on SAR	Event Start	Event Duration	Result
A1	TDE	SMAF	No	365:23:30:00	01:00:00	Activated
B1	TDE	SMAF	No	365:23:45:00	00:30:00	Declined
C1	TDE	SMAF	No	365:23:45:00	00:30:00	Declined

2.2	NTS	Submit a Wait-List Request (99/24) that references A1. Note UTC.	Verify: Wait-List Request is rejected because A1 has Activated. SRM is sent to the customer with result explanation code 10:74.
2.3	*Operator Alert*	Review Alerts. Make **Hardcopy**.	Verify: Operator is alerted.
2.4	*Schedule Requests*	Review request summary. Select A1. Make **Hardcopy**.	Verify: A1 is not marked Waitlisted and remain activated. The **Generate Wait List** button is grayed out.

Step	Location	Action	Result
2.5	NTS	Submit a Wait-List Request (99/24) that references B1. Note UTC.	B1 Waitlists.
2.6	*Schedule Requests*	Select C1 and click **Generate Wait List. . .**	C1 Waitlists.
2.7	*Schedule Requests*	Select A1 and click **Delete.** Note UTC.	Verify: A1 is deleted. B1 Activates.
2.8	*Schedule Requests*	Select B1 and click **Delete.**	Verify: B1 is deleted. C1 activates.
2.9	*Schedule Requests*	Select C1 and click **Delete.**	C1 is deleted. Note: Cleanup step.
WAIT LISTING AUTOMATIC-MODE TSW UPDATES			
3.1	NTS	Send in TSWs for SIC D as follows:	TSW set is stored.

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
WEKNOWALL	TDS	99:365:22:00:00	00:001:02:00:00	99:365:22:00:00	00:001:02:00:00

3.2	*TDRS Scheduling Window Sets*	Click **View...** Make a **Hardcopy.**	TDRS Scheduling Window Set Details appears. The TSW Set contains the TSWs transmitted above.
3.3	NTS	Send in the Following SARs:	

Req ID	TDRS	Svc	W/L	Event Start	Event Duration	TSWS	Result
D1	TDS	SSAR 1	No	99:365:23:30:00	01:00:00	none specified	Activates
D2	TDS	SSAR 1	Yes	99:365:23:30:00	01:00:00	WEKNOWALL	Waitlists

Step	Location	Action	Result
3.4	NTS	Send in TSWs for SIC D as follows:	TSW set is stored.

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
WEKNOWALLL	TDS	99:365:22:00:00	00:001:02:00:00	99:365:23:45:00	00:001:00:15:00

3.5	*Schedule Requests*	View the request D2. Make a **Hardcopy**.	Verify: The TSW update does not remove the request from the wait-list because the request still conflicts with D2 and also doesn't fit within available TSW WEKNOWALLL.
3.6	*Schedule Requests*	Select D1 and click **Delete**.	Event is deleted. Verify: The request D3 no longer conflicts with event D2, but remains wait-listed due to still not fitting within available TSWs. No SRMs are sent to report the unsuccessful removal of the request from the wait-list.
3.7	NTS	Send in TSW's for SIC D as follows:	TSW set is stored.

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
WEKNOWALLL	TDS	99:365:22:00:00	00:001:02:00:00	99:365:22:00:00	00:001:02:00:00

3.8	*Schedule Requests*	View request D3. Make a **Hardcopy**.	Verify: Request is removed from the wait-list and is Activated.

Step	Location	Action	Result
3.9	*Schedule Request*	Delete A2 and A4.	A2 & A4 are deleted. Note: Cleanup Step.

WAIT LISTING AUTOMATIC MODE REPLACE REQUESTS

4.1	NTS	Submit the following requests for automatic scheduling:	See table for results.

Req ID	TDRS	Service	W/L	Event Start	Event Duration	Result
A2	141	SMAF	No	00:001:01:00:00	01:00:00	Activates
A3	141	SMAF	No	99:365:23:00:00	01:00:01	Activates
A4	141	SMAF	No	00:001:01:15:00	00:30:00	Declines
A5	141	SMAF	No	00:001:00:00:00	01:20:00	Declines

4.2	NTS	Submit the following Requests:	See table for results.

Request	Service	TDRS	Event Start	Event Duration	Ref Req	W/L	Result
RepReqA	SMAF	141	99:365:23:15:00	00:30:00	A4	Yes	Waitlists

4.3	NTS	Submit a Wait-List Request (99/24) that references A5.	A5 is wait-listed.
4.4	*Schedule Requests*	Review request summary. Make **Hardcopy.**	Verify: RepReqA Wait-lists.
4.5	*Schedule Requests*	Select A3 and click **Delete.**	RepReqA Activates. A4 is Deleted.
4.6	NTS	Submit the following Requests:	See table for results.

Request	Service	TDRS	Event Start	Event Duration	Ref Req	W/L	Result
RepReqB	SMAF	141	99:365:23:10:00	00:50:01	A2	No	Declines

Step	Location	Action	Result
4.7	*Schedule Requests*	Review request summary. Make **Hardcopy.**	Verify: RepReqB Declines.
4.8	NTS	Submit a Wait-List request (99/24) that references the replace request that references event A2 (RepReq B).	Replace Request referencing event A2 wait-lists.
4.9	*Schedule Requests*	Review request summary. Make **Hardcopy.**	Verify: WaitLReqB Waitlists the event.
4.10	*Schedule Requests*	Delete RepReqA. Make **Hardcopy**.	Verify: WaitList RepReqB schedules.
4.11	Schedule Requests	Delete events A2, A4, A5, Replace Request referencing A2(RepRefB) and Replace Request referencing A4 (RepRefA).	Events are Deleted. Note: Cleanup Step.
WAIT LISTING SEMI-AUTOMATIC MODE FUNCTIONALITY			
5.1	Schedule Control Database	Select Semi-Automatic mode in the Wait-list Processing Parameters section of the display. Note the active period end. Click **Save**. Click **Close**.	Semi-Automatic mode is enabled.

Step	Location	Action	Result
5.2	NTS	Send in the following SAR's:	Results are as specified in the Table.

Req ID	TDRS	Svc	Wait List	Event Start	Event Duration	Event Plus Tolerance	Result
B2	TDE	SSAR 1	Yes	99:365:23:00:00	02:00:00	00:00:00	Activated
B3	TDE	SSAR 1	Yes	99:365:23:30:00	01:00:00	00:00:00	Waitlisted
C2	TDE	SSAR 1	Yes	99:365:23:45:00	00:30:00	00:46:40	Waitlisted

5.4	*Schedule Requests*	Delete event B2.	B2 is deleted.
5.5	*Operator Alerts*	Review the operator alerts.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.
5.5	*Batch Scheduling*	Review the window. Make a **hardcopy**.	The operator is provided with the capability to delete, activate, or modify the schedule. Verify: Batch schedule called WAITLIST is Activated
5.6	*Active Schedule*	Review the Window Make a **hardcopy.**	Verify: SAR B3 schedules at 99:365:23:30:00 and SAR C2 schedules at 00:001:00:31:30
5.7	*Schedule Transmission*	Execute the Initial Activation mode transmission created as a result of activating batch schedule WAITLIST. Note UTC.	An initial activation mode transmission was created when batch schedule WAITLIST was activated.

Step	Location	Action	Result
WAIT LISTING SEMI-AUTOMATIC MODE TSW UPDATES			
6.1	NTS	Send in TSWs for SIC C as follows	TSW set is stored

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
WEKNEWALL	TDS	99:365:22:00:00	00:001:02:00:00	99:365:22:00:00	00:001:02:00:00

6.2	*TDRS Scheduling Window Sets*	Click **View...** Make a **hardcopy**.	TDRS Scheduling Window Set Details appears The TSW Set contains the TSWs transmitted above.
6.3	NTS	Send in the Following SAR's:	

Req ID	TDRS	Svc	W/L	Event Start	Event Duration	TSWS	Result
C3	TDS	SSAR 1	No	99:365:23:30:00	01:00:00	none specified	Activates
C4	TDS	SSAR 1	Yes	99:365:23:30:00	01:00:00	WEKNEWALL	Waitlists

6.4	NTS	Send in TSW's for SIC C s follows	TSW set is stored.

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
WEKNEWALL	SSAR 1	99:365:22:00:00	00:001:02:00:00	99:365:23:45:00	00:001:00:15:00

6.5	*Batch Scheduling*	Review the window. Make a **hardcopy.**	Verify: A batch schedule called WAITLIST is not created because the wait-list processing triggered by the above TSW update would not result in the scheduling of a wait-listed request

Step	Location	Action	Result
6.6	*Schedule Requests*	View the request C4. Make a hardcopy.	Verify: The above TSW update does not remove the request from the wait-list because the request still conflicts with event C3 and doesn't fit within the available TSW.
6.7	*Schedule Requests*	Delete event C3.	Event is deleted.
6.8	*Batch Scheduling*	Review the window. Make a hardcopy	Verify: A batch schedule called WAITLIST is not created because the wait-list processing triggered by the deletion of C3 would not result in the scheduling of a wait listed request.
6.9	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: Request C4 no longer conflicts with the C3 but remains on the Waitlisted due to still not fitting within available TSWs
6.10	NTS	Send in TSW for SIC C as follows	TSW set is stored.

TSW Set ID	TDRS	Timespan Start	Timespan Stop	Open	Close
WEKNEWALL	TDS	99:365:22:00:00	00:001:02:00:00	99:365:23:30:00	00:001:01:30:00

6.11	*Operator Alerts*	Review operator alerts. Make a **hardcopy**.	Verify: The operator is alerted that batch schedule WAITLIST is ready for review.

Step	Location	Action	Result
6.12	*Batch Scheduling*	Activate batch schedule WAITLIST that was Generated above in semi-automatic mode.	The operator is provided with the capability to delete, activate, or modify the schedule. Verify: Batch schedule WAITLIST is Activated.
6.13	Schedule Requests	View the request C4. Make a **hardcopy.**	Verify: Request is removed from the Waitlist and is Activated.
6.14	Schedule Transmission	Execute the Initial Activation mode transmission created as a result of activating batch schedule WAITLIST	An initial activation mode transmission was created when batch schedule WAITLIST was activated. Verify: SRM are sent to report successful removal of the request from the wait-list.
ALTERNATE SARs SEMI-AUTOMATIC MODE			

Step	Location	Action	Result
7.1	*Schedule Control Database*	Note the Current Batch Boundary. Ensure the End of the Active Period extends at least 1 day beyond the Current Batch Boundary. The Y2K rollover must occur within the time the EOAP overlaps the Current Batch Boundary Click **Close.**	Batch and Active schedule periods are determined |----------|----------| Auto Batch |----------|Forecast Active |----------|----------| Y2K
7.1	NTS	Submit the following SARs and ALT SARs for the batch scheduling period.	See table for results.

Req ID	Svc	TDRS	Event Start	Event Duration	Ref. Request	W/L	Result
B4	MAF	O41	99:365:22:00:00	00:45:00		No	Activated
B5	MAF	041	99:365:23:00:00	00:30:00		No	Activated
B6	MAF	041	00:001:01:30:00	00:45:00		No	Activated
B7	MAF	041	00:001:00:00:00	01:00:00		No	Declined
Alt A	MAF	041	99:365:22:15:00	00:45:00	B7	No	Declined
AltB	MAF	041	00:001:01:45:00	00:45:00	AltA	No	Declined
AltC	MAF	041	99:365:23:00:00	00:30:00	AltB	No	Declined
Alt D	MAF	041	99:365:22:00:00	03:00:00	AltC	No	Declined

7.2	*Schedule Requests*	Review Request Summary.	SARs and Alt SARs listed.

Step	Location	Action	Result
7.3	NTS	Submit a Wait List Request (99/24) that references B7. Note UTC.	Verify: B7 is wait listed. Wait List Request is completed. Alt SARs A-C are placed on the wait list. SRM is sent to the customer with result code 12.
7.4	*Schedule Requests*	Review Request Summary.	Requests have wait-Listed Status.
7.5	*Schedule Requests*	Select B4. Click Delete.	B4 is deleted Operator receives alert that batch schedule WAITLIST is ready for review.
7.6	*Batch Scheduling*	View WAITLIST batch.	Verify: B7 and ALT SARs a,b,C are included in the WAITLIST batch.
7.7	*Batch Scheduling*	Activate WAITLIST batch.	Batch activated.
7.8	*Schedule Requests*	Review Request Summary	Alt SAR C activates and all other members of the chain are deleted.
7.9	*Schedule Transmission*	Execute the Initial Activation Mode transmission created above. Note UTC.	Verify: SRMs are sent for activated events.
WAIT-LISTING INHIBITED EXPIRATION TIMES			
8.1	Schedule Control Database	Inhibit wait-list processing. Click Save.	Wait-listing is inhibited
8.2	*Customer (SIC) Entry*	Set SIC A's Default Wait List Expiration Interval to 30 minutes. Click **Save**	SIC A's waitlisted requests will expire 30 minutes before their start times (unless they specify a different interval with a wait List Request).

Step	Location	Action	Result
8.3	NTS	Send in the following SARs:	Results are as specified in the Table.

Req ID	TDRS	Req Priority	Svc	W/L	Event Start	Event Duration	Result
A6	041	1	MAF	Yes	365:23:50:00	01:00:00	Activated
A7	041	2	MAF	Yes	365:23:50:00	01:00:00	Waitlisted
A8	041	3	MAF	Yes	365:23:55:00	01:00:00	Waitlisted
A9	041	4	MAF	Yes	000:00:00:00	01:00:00	Waitlisted
A10	041	5	MAF	Yes	000:00:10:00	01:00:00	Waitlisted
A11	041	6	MAF	Yes	000:00:10:00	01:00:00	Waitlisted

8.4	*Schedule Requests*	Delete event A6.	The status of A6 changes to deleted.
8.5	*Schedule Requests*	While current time is still more than 30 minutes (365:23:20:00) before the start times of requests A7 - A11, review the status of the requests.	A7 - A11 are still waitlisted.
8.6	*Schedule Requests*	When current time is exactly 99:365:23:20:00, reload the window and review the status of the requests. Make a **Hardcopy**	Verify: A7 status changes to Activated. A8- A11 remain Waitlisted.
8.7	*Customer (SIC) Entry*	Change SIC A's Default Wait- List Expiration Interval to 1 minute. Click **Save**.	SIC A's wait-listed requests will expire 5 minutes before their start times because the default expiration is now smaller than the time necessary to send events to the GT.

Step	Location	Action	Result
8.8	NTS	Submit Wait-List Requests (99/24) that reference A8 and A9.	See table for results.

Reference Request	Wait-List Expiration Interval	Result
A8	00:20:00	waitlist expiration set to 365:23:35:00
A9	00:10:00	waitlist expiration set to 365:23:50:00

8.9	*Schedule Requests*	Click on **Edit Wait List...** and fill in the operator wait list requests as follows	See table for results.

Reference Request	Wait-List Expiration Interval	Result
A10	00:20:00	waitlist expiration set to 365:23:50:00
A11	00:20:00	waitlist expiration set to 365:23:50:00

8.10	*Schedule Requests*	Delete event A7.	Verify: A8 - A11 remain Waitlisted.
8.11	*Schedule Requests*	When current time is exactly 20 minutes before the start time of request A8 (365:23:35:00), reload the window and review the status. Make a **Hardcopy**.	Verify: A8 status changes to Activated at the expiration time specified in the MOC-generated Wait List Request (00:20:00)
8.12	*Schedule Requests*	Delete Event A8.	The status of A8 changes to deleted.
8.13	*Schedule Requests*	When current time is exactly 10 minutes before the start time of request A9 (365:23:50:00), reload the window and review the status. Make a **Hardcopy**.	The status of A9 changes to activated at the expiration time specified in the MOC-generated wait list Request. The status A10 and A11 change to declined. SRM is sent out with result code 13.

Step	Location	Action	Result
8.14	*Schedule Requests*	Delete Event A9.	The status of A9 changes to deleted.
8.15	*Schedule Requests*	Click on **Edit Wait List...** and fill in the operator wait list requests as follows :	See table for results.

Reference Request	Wait-List Expiration Interval	Result
A10	00:06:00	A10 status changes to Wait-listed
A11	00:06:00	A11 status changes to Wait-listed

8.16	*Schedule Requests*	When current time is exactly 5 minutes before the start time of request A10 (000:00:05:00), reload the window and review the status. Make a **Hardcopy**.	The status of A10 changes to activated at the expiration time specified in the Operator-generated wait list Request. The status A11 changes to declined. SRM is sent out with result code 13.
		DELOG ANALYSIS	
9.1	NTS	Get delogs for 99/02s.	SRMs with the appropriate problem code were sent to the customer.

Section 9. Database

9.1 Detailed Test Procedure for 99.1-9.01 DATABASE PURGING 5.2.4.7.1, 5.2.4.7.2b, 5.2.4.7.2f

OBJECTIVES: This test item will verify the following:

- The NCCDS retains time-dependent service planning data at least until it is too old for operational use. [5.2.4.7.1]
- The NCCDS provides the operator with the capability to specify the retention criteria for schedule requests. (Nominally, the NCCDS retains schedule requests for at least 72 hours after the requested event start time of the request.) [5.2.4.7.2b]
- The NCCDS provides the operator with the capability to specify the retention criteria for TSW's. (Nominally, the NCCDS retains TSW's for at least 24 hours after the window closing time of the TSW.) [5.2.4.7.2f]

Step	Location	Action	Result
		SETUP	
1.1	Workstation	Logon with Scheduling and Database capabilities.	Toolbar appears.
1.2	NTS	Prepare NTS blocks.	Test data is ready.
1.3	*Schedule Control Database*	Enable Wait Listing in Automatic Mode.	Wait Listing is in Automatic Mode.

Step	Location	Action	Result
1.4	*Schedule Control Database*	Note the Current Batch Boundary. **Ensure** that the Batch Active Period (time between the Current Batch Boundary and Active Period End) is set such that the start time of the earliest ASAR and the end time of the latest ASAR falls between the Current Batch Boundary and the Active Period End. **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. Make a **hardcopy**.	Active and Batch scheduling periods are determined. |----------|----------| Auto Batch |----------| Forecast Active EOAP
1.5	*Schedule Control Database*	Select **Retention Control Parameters...** from the **Edit** menu.	*Retention Control Parameters* window appears.

Step	Location	Action	Result
1.6	*Retention Control Parameters*	Click the **Enable Editing** toggle button. Enter the following retention control parameters: Schedule Requests with start time **003/00:00:00** in the past. TDRS Scheduling Windows with window closing time **001/00:00:00** in the past. Click the **Save** button. Make a **hardcopy**. **<u>Note:</u> The times noted below for all requests/TSWs and purges are stated in absolute terms, i.e. exact days are given instead of delta times such as 'T + 19:00:00', etc... in order to simplify the calculation of which requests/TSWs are purged. Do not take them literally, but rather adjust them accordingly by adding the proper number of days depending on the julian day that the test is performed.**	The **Save** button becomes selectable. Verify: The retention control modifications appear in the window.
		PURGE SARs AND WAIT LIST REQUESTS	
2.1	NTS	Submit the following requests for the Automatic Scheduling period. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Ref Req	W/L Flag	Result (after WL Request)
SAR 1	MAF	041	000/23:00:00	02:00:00	-	N	Activated
SAR 2	MAF	041	000/22:30:00	01:00:00	-	N	Waitlisted

Step	Location	Action	Result
SAR 3	MAF	041 000/23:00:00 01:00:00 - N Waitlisted	
SAR 4	MAF	041 000/23:30:00 01:00:00 - N Waitlisted	
SAR 5	MAF	041 001/00:30:00 01:00:00 - N Waitlisted	
2.2	NTS	Submit Wait List Requests (99/24) that reference SAR 1 - SAR 5. Note **UTC**.	Wait List Requests are stored.
2.3	*Schedule Requests*	Review the window. Make a **hardcopy**.	SAR 1 is Activated, all other requests are Waitlisted.
2.4	*Schedule Requests*	When the current UTC is 004/00:00:00, **prior to the purge**, review the above requests. Make a **hardcopy**.	All of the above requests have Expired.
2.5	Workstation	When the current UTC is 004/00:00:00, using the 'OPSDBA' purge utility, run the purge script selecting the menu option to purge schedule requests. Accept the default purge time given by the script, this time is the result of subtracting the delta times on the *Retention Control Parameters* window from the current UTC. Note **UTC**.	Verify: Purge script completes successfully.

Step	Location	Action	Result
2.6	*Schedule Requests*	Review the window. Make a **hardcopy**.	Verify: SAR 1 - SAR 4 in the table above have been purged from the database and no longer appear on the window. SAR 5 has a start time in the past, but it does not meet the retention criteria of 72 hours in the past and is **not** purged. Wait List Requests for SAR 1 - SAR 4 **are** purged. The Wait List Request for SAR 5 is **not** purged.
		SUBMIT WAITLISTED ASARs	
3.1	*Scheduling Priority List*	Choose different SICs such that the SICs used for the blocking SARs have a higher scheduling priority than the SICs used for the requests they are blocking. Make a **hardcopy**.	SICs are correctly ordered in the priority list.
3.2	NTS	Submit the following requests for the Batch Active period (between the Current Batch Boundary and the Active Period End). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Step	Location	Action	Result

Request	Service	TDRS	Event Start	Event Duration	Ref Req	W/L Flag	Result (after activation)
Blocking *SAR* for SAR 1	SMAF	TDE	011/00:00:00	00:10:00	-	N	Activated
SAR 1	SMAF	TDE	011/00:00:00	00:10:00	-	N	Declined
Blocking *SAR* for Alt SAR A	SMAF	TDE	005/00:00:00	00:10:00	-	N	Activated
Alt SAR A	SMAF	TDE	005/00:00:00	00:10:00	SAR 1	N	Declined
Blocking *SAR* for Alt SAR B	SMAF	TDE	007/00:00:00	00:10:00	-	N	Activated
Alt SAR B	SMAF	TDE	007/00:00:00	00:10:00	Alt SAR A	N	Declined
Blocking *SAR* for Alt SAR C	SMAF	TDE	010/00:00:00	00:10:00	-	N	Activated
Alt SAR C	SMAF	TDE	010/00:00:00	00:10:00	Alt SAR B	N	Declined

3.3	*Schedule Requests*	Create edited (Secondary) requests for Alt SAR A - C. Make a **hardcopy**.	Edited requests are stored.
3.4	*Batch Scheduling*	Create 'BatchA' importing the requests in the table above (excluding Secondary requests). **Generate** and **Activate** 'BatchA'. Make a **hardcopy**.	Results are as specified in the table. The blocking SARs schedule.
3.5	NTS	Submit a Wait List Request (99/24) that references SAR 1. Note **UTC**.	Wait List Request is stored.
3.6	*Schedule Requests*	Review the window. Make a **hardcopy**.	SAR 1 and Alt SARs A-C are Declined and Waitlisted.

Step	Location	Action	Result
3.7	NTS	Submit the following requests for the Batch Active period (between the Current Batch Boundary and the Active Period End). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Ref Req	W/L Flag	Result (after activation)
Blocking *SAR* for SAR 2	SSAF	046	011/00:00:00	00:10:00	-	N	Activated
SAR 2	SSAF	046	011/00:00:00	00:10:00	-	N	Declined
Blocking *SAR* for Alt SAR D	SSAF	046	007/00:00:00	00:10:00	-	N	Activated
Alt SAR D	SSAF	046	007/00:00:00	00:10:00	SAR 2	N	Declined
Blocking *SAR* for Alt SAR E	SSAF	046	005/00:00:00	00:10:00	-	N	Activated
Alt SAR E	SSAF	046	005/00:00:00	00:10:00	Alt SAR D	N	Declined
Blocking *SAR* for Alt SAR F	SSAF	046	010/00:00:00	00:10:00	-	N	Activated
Alt SAR F	SSAF	046	010/00:00:00	00:10:00	Alt SAR E	N	Declined

3.8	*Schedule Requests*	Create edited (Secondary) requests for Alt SAR D - F. Make a **hardcopy**.	Edited requests are stored.

Step	Location	Action	Result
3.9	*Batch Scheduling*	Create 'BatchB' importing the requests in the table above (excluding Secondary requests). **Generate** and **Activate** 'BatchB'. Make a **hardcopy**.	Results are as specified in the table. The blocking SARs schedule.
3.10	NTS	Submit a Wait List Request (99/24) that references SAR 2. Note **UTC**.	Wait List Request is stored.
3.11	*Schedule Requests*	Review the window. Make a **hardcopy**.	SAR 2 and Alt SARs D-F are Declined and Waitlisted.
3.12	NTS	Submit the following requests for the Batch Active period (between the Current Batch Boundary and the Active Period End). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Request	Service	TDRS	Event Start	Event Duration	Ref Req	W/L Flag	Result (after activation)
Blocking *SAR* for SAR 3	KuSAF	171	011/00:00:00	00:10:00	-	N	Activated
SAR 3	KuSAF	171	011/00:00:00	00:10:00	-	N	Declined
Blocking *SAR* for Alt SAR G	KuSAF	171	007/00:00:00	00:10:00	-	N	Activated
Alt SAR G	KuSAF	171	007/00:00:00	00:10:00	SAR 3	N	Declined
Blocking *SAR* for	KuSAF	171	010/00:00:00	00:10:00	-	N	Activated

Step	Location	Action			Result		
Alt SAR H							
Alt SAR H	KuSAF	171	010/00:00:00	00:10:00	Alt SAR G	N	Declined
Blocking *SAR* for Alt SAR I	KuSAF	171	005/00:00:00	00:10:00	-	N	Activated
Alt SAR I	KuSAF	171	005/00:00:00	00:10:00	Alt SAR H	N	Declined

3.13	*Schedule Requests*	Create edited (Secondary) requests for Alt SAR G - I. Make a **hardcopy**.	Edited requests are stored.
3.14	*Batch Scheduling*	Create 'BatchC' importing the requests in the table above (excluding Secondary requests). **Generate** and **Activate** 'BatchC'. Make a **hardcopy**.	Results are as specified in the table. The blocking SARs schedule.
3.15	NTS	Submit a Wait List Request (99/24) that references SAR 3. Note **UTC**.	Wait List Request is stored.
3.16	*Schedule Requests*	Review the window. Make a **hardcopy**.	SAR 3 and Alt SARs G-I are Declined and Waitlisted.
3.17	NTS	Submit the following requests for the Batch Active period (between the Current Batch Boundary and the Active Period End). **Note:** ASARs **must** fall between these times in order to be Declined as ASARs rather than processed as SARs. **Note:** Full Support Customers Only. Note **UTC**.	Results are specified in last column.

Step	Location	Action	Result
3.18	*Schedule Requests*	Create edited (Secondary) requests for Alt SAR J - L. Make a **hardcopy**.	Edited requests are stored.
3.19	*Batch Scheduling*	Create 'BatchD' importing the requests in the table above (excluding Secondary requests). **Generate** and **Activate** 'BatchD'. Make a **hardcopy**.	Results are as specified in the table. The blocking SARs schedule.
3.20	NTS	Submit a Wait List Request (99/24) that references SAR 4. Note **UTC**.	Wait List Request is stored.
3.21	*Schedule Requests*	Review the window. Make a **hardcopy**.	SAR 4 and Alt SARs J-L are Declined and Waitlisted.

Request	Service	TDRS	Event Start	Event Duration	Ref Req	W/L Flag	Result (after activation)
Blocking *SAR* for SAR 4	MAR	174	005/00:00:00	00:10:00	-	N	Activated
SAR 4	MAR	174	005/00:00:00	00:10:00	-	N	Declined
Blocking *SAR* for Alt SAR J	MAR	174	007/00:00:00	00:10:00	-	N	Activated
Alt SAR J	MAR	174	007/00:00:00	00:10:00	SAR 1	N	Declined
Blocking *SAR* for Alt SAR K	MAR	174	010/00:00:00	00:10:00	-	N	Activated
Alt SAR K	MAR	174	010/00:00:00	00:10:00	Alt SAR J	N	Declined
Blocking *SAR* for Alt SAR L	MAR	174	011/00:00:00	00:10:00	-	N	Activated
Alt SAR L	MAR	174	011/00:00:00	00:10:00	Alt SAR J	N	Declined

Step	Location	Action	Result
		PURGE WAITLISTED ASARs	
4.1	*Schedule Requests*	When the current UTC is 009/00:00:00, **prior to the purge**, review the requests in Chain 1 (step 3.2). Make a **hardcopy**.	SAR 1 (head of the chain) is in the future and is Waitlisted. Alt SAR A is in the past, but is Waitlisted because no member of a chain is Expired until the head is Expired. Alt SARs B is in the past and is Waitlisted. Alt SAR C is in the future and is Waitlisted.
4.2	*Schedule Requests*	When the current UTC is 009/00:00:00, **prior to the purge**, review the requests in Chain 2 (step 3.7). Make a **hardcopy**.	SAR 2 (head of the chain) is in the future and is Waitlisted. Alt SAR D is in the past, but is Waitlisted because no member of a chain is Expired until the head is Expired. Alt SARs E is in the past and is Waitlisted. Alt SAR F is in the future and is Waitlisted.
4.3	*Schedule Requests*	When the current UTC is 009/00:00:00, **prior to the purge**, review the requests in Chain 3 (step 3.12). Make a **hardcopy**.	SAR 3 (head of the chain) is in the future and is Waitlisted. Alt SAR G is in the past, but is Waitlisted because no member of a chain is Expired until the head is Expired. Alt SARs H is in the future and is Waitlisted. Alt SAR I is in the past and is Waitlisted.

Step	Location	Action	Result
4.4	*Schedule Requests*	When the current UTC is 009/00:00:00, **prior to the purge**, review the requests in Chain 4 (step 3.17). Make a **hardcopy**.	SAR 4 (head of the chain) is in the past and is Expired. Alt SAR J is Expired both because it is in the past and because the head of the chain has Expired. Alt SARs K is in the future, but is Expired because the head of the chain has Expired. Alt SAR L is in the future, but is Expired because the head of the chain has Expired.
4.5	Workstation	When the current UTC is 009/00:00:00, using the 'OPSDBA' purge utility, run the purge script selecting the menu option to purge schedule requests. Accept the default purge time given by the script, this time is the result of subtracting the delta times on the *Retention Control Parameters* window from the current UTC. Note **UTC**.	Verify: Purge script completes successfully.

Step	Location	Action	Result
4.6	*Schedule Requests*	Review the requests for Chain 1 (step 3.2). Make a **hardcopy**.	Verify: SAR 1 (head of the chain) does not meet the retention criteria and is **not** purged. Alt SAR A **is** purged because it meets the retention criteria. Alt SARs B is in the past (but not far enough) and Alt SAR C is in the future, but both **are** purged because the purge cascades down the chain. The Wait List Request that referenced SAR 1 is **not** purged because SAR 1 is **not** purged. Secondary requests for purged primary requests are also purged.

Step	Location	Action	Result
4.7	*Schedule Requests*	Review the requests for Chain 2 (step 3.7). Make a **hardcopy**.	Verify: SAR 2 (head of the chain) and Alt SAR D do not meet the retention criteria and are **not** purged. Alt SAR E **is** purged because it meets the retention criteria. Alt SAR F is in the future, but **is** purged because the purge cascades down the chain. The Wait List Request that referenced SAR 2 is **not** purged because SAR 2 is **not** purged. Secondary requests for purged primary requests are also purged.
4.8	*Schedule Requests*	Review the requests for Chain 3 (step 3.12). Make a **hardcopy**.	Verify: SAR 3 (head of the chain), Alt SARs G and H do not meet the retention criteria and are **not** purged. Alt SAR I **is** purged because it meets the retention criteria. The Wait List Request that referenced SAR 3 is **not** purged because SAR 3 is **not** purged. Secondary requests for purged primary requests are also purged.

Step	Location	Action	Result
4.9	*Schedule Requests*	Review the requests for Chain 4 (step 3.17). Make a **hardcopy**.	Verify: SAR 4 **is** purged because it meets the retention criteria. Alt SAR J is in the past (but not far enough), Alt SARs K and L are in the future, but all **are** purged because the purge cascades down the chain. The Wait List Request that referenced SAR 4 **is** purged because SAR 4 **is** purged. Secondary requests for purged primary requests are also purged.
		PURGE TSWs	
5.1	NTS	Generate TSW Set 'Set A' by submitting two TSW messages (99/25) containing three TSWs each according to the table below.	TSWs are stored.

Set A for a Given SIC

TSW #	Open Time	Close Time	TDRS Op Name
1	1999/010/15:00:00	1999/010/23:00:00	041
2	1999/010/23:01:00	1999/011/07:00:00	041
3	1999/011/07:01:00	1999/012/01:00:00	041
4	1999/010/15:00:00	1999/010/23:00:00	TDE
5	1999/010/23:01:00	1999/011/07:00:00	TDE
6	1999/011/07:01:00	1999/012/01:00:00	TDE

5.2	*TDRS Scheduling Window Sets*	Select the TSW Set generated above. Click **View...** Make a **hardcopy**.	The *TDRS Scheduling Window Set Details* window appears and contains the TSWs generated above.

Step	Location	Action	Result
5.3	NTS	Repeat steps 5.1 and 5.2 generating TSW Set ‘Set B’ (for a different SIC) by submitting two more TSW messages (three TSWs in each) containing the same Open and Close Times as ‘Set A’, but using different TDRSs (ex: 046 and 171). Make a **hardcopy**.	Same results.
5.4	NTS	Submit the following requests that request the use of TSWs (Set ID ‘Set B’). **Note:** Full Support Customers Only. Note **UTC**.	Results specified in last column are prior to the purge. Requests will have Activated and then Completed since they will be in the past.

Request	Service	TDRS	Event Start	Event Duration	Ref TSW Set	W/L Flag	Result (prior to purge)
SAR 5	MAF	046	011/08:00:00	00:10:00	Set B	N	Completed
SAR 6	MAF	171	011/08:00:00	00:10:00	Set B	N	Completed

5.5	Workstation	When the current UTC is 012/00:00:00, using the ‘OPSDBA’ purge utility, run the purge script selecting the menu option to purge TSWs. Accept the default purge time given by the script, this time is the result of subtracting the delta times on the *Retention Control Parameters* window from the current UTC. Note current UTC.	Verify: Purge script completes successfully.

Step	Location	Action	Result
5.6	*TDRS Scheduling Window Sets*	Review the window. Make a **hardcopy**.	Verify: The TSW Set created in step 5.1 (‘Set A’) remains with Start and End Times updated to reflect that TSW # 1 and 4 have been purged from the set.
5.7	*TDRS Scheduling Window Sets*	Select the TSW Set created in step 5.1 (‘Set A’). Click **View...** Make a **hardcopy**.	Verify: The *TDRS Scheduling Window Set Details* window appears and no longer contains TSW # 1 and 4, whose Close Times are more than 1 day in the past. TSW # 2 and 5 have Close Times in the past, but not far enough to meet the retention criteria. TSW # 3 and 6 have Close Times in the future. The Timespan Start and End reflects the Open and Close times of the remaining TSWs.
5.8	*TDRS Scheduling Window Sets*	Repeat steps 5.6 and 5.7 for TSW Set ‘Set B’. Make a **hardcopy**.	Verify: Same results.

Step	Location	Action	Result
5.9	Workstation	When the current UTC is 013/02:00:00, using the 'OPSDBA' purge utility, run the purge script selecting the menu option to purge TSWs. Accept the default purge time given by the script, this time is the result of subtracting the delta times on the *Retention Control Parameters* window from the current UTC. Note current UTC.	Verify: Purge script completes successfully.

Step	Location	Action	Result
5.10	*TDRS Scheduling Window Sets*	Review the window. Make a **hardcopy**.	Verify: The TSW Set created in step 5.1 (‘Set A’) remains with Start and End Times updated (most likely to N/A) to reflect that the remaining TSWs (TSW # 2, 3, 5, and 6) contained in the set have been purged. The TSW Set created in step 5.3 (‘Set B’) also remains. Start and End Times are updated (most likely to N/A) to reflect that the remaining TSWs (TSW # 2, 3, 5, and 6) contained in the set have been purged. TSW # 3 and 6 **are** purged from ‘Set B’ even though use of them had been previously requested by SAR 5 and SAR 6. There is no database blocker on TSWs only on TSW Sets. **If** (not necessary to do) an attempt was made to delete TSW ‘Set B’ (from SQL since it can no longer be done from the GUI), it could not be deleted until SAR 5 and SAR 6 were purged **and** the reference to ‘Set B’ was removed from the corresponding SSCs. TSWs Sets are **not** removed even when the set is empty.

Step	Location	Action	Result
5.11	*TDRS Scheduling Window Sets*	Select the TSW Set created in step 5.1 (‘Set A’). Click **View...** Make a **hardcopy**.	Verify: The *TDRS Scheduling Window Set Details* window appears, but does not contain any TSWs since all TSWs contained in the set have been purged. TSWs Sets are **not** removed even when the set is empty. Timespan Start and End are updated (most likely to N/A) to reflect that no TSWs remain in the set.
5.12	*TDRS Scheduling Window Sets*	Select the TSW Set created in step 5.3 (‘Set B’). Click **View...** Make a **hardcopy**.	Verify: The *TDRS Scheduling Window Set Details* window appears, but does not contain any TSWs since all TSWs contained in the set have been purged. TSWs Sets are **not** removed even when the set is empty. Timespan Start and End are updated (most likely to N/A) to reflect that no TSWs remain in the set.