

# **Shuttle Year End Rollover (YERO) STS-116 SAIL TEST Plan**

**October 25, 2006**

# YERO STS-116 SAIL Test

## 10-25-06

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### 1.0 TEST INFORMATION

#### 1.1 PURPOSE

STS-116 launch window may result in Shuttle operations over the year end. If so, at midnight GMT on Dec. 31 the MTUs will rollover to day 1 and PASS flight software, which increments to day 366, will declare them failed and fault down to internal GPC time. The purpose of this test is to verify that the YERO procedure successfully forces STS-116 PASS FSW to accept MTU time and correctly configures it for continued operations, through landing.

The test will be conducted in the MCC and Shuttle Avionics Integration Laboratory (SAIL) using hardware MTU, GPS, and COMSEC equipment in order to reflect actual onboard conditions as accurately as possible.

#### 1.2 MCC Facility

<b>FCR:</b>	<b>TBD</b>	<b>Test Time:</b>	0700 - 1930	
<b>MCC WS:</b>	Libra 1.0 (REF YEAR: blank)	<b>Go-To-Run Time:</b>	0900 CDT	
<b>Mode:</b>	<b>TEST, CERT</b>	<b>PSS Baseline:</b>	ws.d.lb31.01.14	
<b>Traj Svr:</b>	<b>Version 9.0</b>	<b>OI Config:</b>	OI30	
<b>Flt ID:</b>	116	<b>TSA Version:</b>	<b>6.0</b>	
<b>FSW:</b>	116 Base 5 OV103	<b>Ground Zone:</b>	1	
<b>RECON</b>	<b>116 LOAD</b>			
<b>SAIL Assets:</b>	Standard SAIL assets plus: Hardware GPS Thermally Stable MTU Fiberoptics link to MCC: 72KbsCmd., 128KbsTlm. COMSEC Box CB Crew Rep.	<b>MCC Assets:</b>	UDL (FEP) DUMP/PDI G/G CMD SERVERS VTS TRJ SERVER METRUM	OST SUPPORT: COMM CONTROL FSM CCRF (recorders) VOICE CMD DFE COMM TECH HOU TV ODRC

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### 1.3 Participating Disciplines

STS-116 Cmdr, FD, DPS, FDO, GC, GNC, GPO, INCO, PROP  
 Backroom: Dynamics, NAV, TAO  
 All other disciplines: Invited but not required.

### 1.4 Voice Loops

MCC DVIS Loop (Conference #)	From / To	Description
SAIL COORD (2384)	MCC/SAIL (SAIL TC: x42279)	Air-to-Gnd; Test Coord (This is the only voice loop with SAIL.)
AFD CONF 2 (3002)	MCC FCR/MPSR	MCC Test Coordination
FD2 (3001)	MCC FCR only	Test Execution
Standard "2" Loops	MCC	Test Execution

### 1.5 Time Line

Nominal Start (CDT)	Nominal End (CDT)	Activity
0700		MCC Facility Ready (Cmd. Server avail.)
0845	0900	MCC/SAIL Communications Interface Checkout (Command, Telemetry, Voice)
0900		Desired Go To Run SGMT: 365/23:00:00 (TIG - 7 hours)
0915	0945	YERO Procedure (Part 1) SGMT: 365/23:15:00 Begin MCC Ground Procedure (FCOH 2.13)
0945	1000	FCT Logoff; Deallocate FEP, Cmd, and Traj Servers
1000		Simulated YERO Event SGMT: 001/00:00:00
1001	1030	FCT Logon; Restore FEP, Cmd, Traj Servers
1030	1100	FCT Monitor Applications in "Mixed" Config
1100	1230	YERO Procedure (Part 2) SGMT: 001/01:00:00
1230		Begin DeOrbit Prep
1300		DeOrbit Prep - YERO Procedure (Part 3) at block 12 (7) SGMT: 001/03:00:00
1600		TIG (1st Opportunity) SGMT: 001/06:00:00

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Nominal Start (CDT)	Nominal End (CDT)	Activity
	1730	Landing SGMT: 001/07:30:00 (Nominal TEST STOP)
1730		TIG (2nd Opportunity) SGMT: 001/07:30:00
	1900	Landing SGMT: 001/09:00:00)
	1900	TEST STOP (Relinquish Facility)

### 1.6 Test Results

#### All Test Participants

Please send test results to:

Carolyn Jarrett/DV2  
carolyn.s.jarrett@nasa.gov  
(281) 483-7594

#### Post-Test Briefing

Date: Tuesday, Oct. 31  
Time: 8:30am - 10am CST  
Location: Bldg. 30A, Room 2090  
Meet-me number is: 1-866-650-9302 Pass code: 9932266 #

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## **2.0 YERO CONTACT LIST**

TBD

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Note: Page numbers on the electronic procedures below will not correspond to the Table of Contents.

### **3.0 MCC PROCEDURES**

(The following are attached as separate documents.)

#### **3.1 Ground YERO Procedure (FCOH)**

[YERO FCOH Ground Procedure](#)

#### **3.2 YEAR-END ROLL-OVER (YERO) PROCEDURE**

[Year End Rollover \(YERO\) Procedure](#)

#### **3.3 YERO DeOrbit Prep Procedures**

[YERO DEORBIT PREP Procedure](#)

[YERO DEORBIT PREP Pads](#)

[YERO Entry Check List](#)

[OV102 Entry Switch List and Panels](#)

#### **4.0 SAIL TEST AND CHECKOUT PROCEDURE (TCP)**

TBD