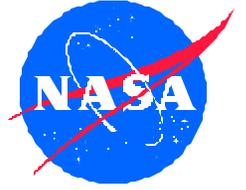




*EVA  
PROJECT  
OFFICE*



---

# **STS-108/UF-1 FRR**

**EVA Project Office  
Johnson Space Center**

**Ed Mohr**

**November 15, 2001**



*EVA  
PROJECT  
OFFICE*

# UF-1 EVA Mission Overview

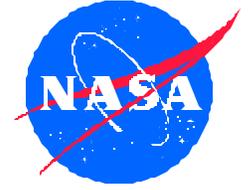


- **EVA Capability**
  - Consumables to support one 10.2 psi scheduled and one unscheduled EVA out of Shuttle Airlock
  - Two contingency EVA's for Orbiter, RMS, and ODS contingencies
  
- **EVA Training**
  - Crew to be fully trained on all EVA tasks by November 15, 2001
    - EVA Training ratio 10:1
    - One Remaining NBL Run: November 15, 2001



*EVA  
PROJECT  
OFFICE*

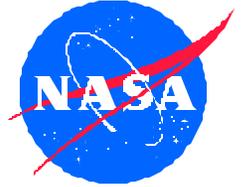
# UF-1 EVA Mission Overview



- **EVA 1 (Flight Day 6) – 4:00 hrs**
  - BGA Blanket Installation
  - Get Aheads:
    - SASA Shroud Retrieval
    - Stbd 4-Bar Latch Repair
    - 8A get-ahead task
      - CIDS 7 & 8 Preposition
      - Tool Positioning
    - Photo Documentation
      - Z1 BSP Heat Pipe Radiator
      - Z1 DDCU Heat Pipe Radiator



# EMU and SAFER Logistics



- **Three EMU's Manifested/Two EMU's On-orbit**
  - Two medium and one large launched on UF-1
    - One large and one extra large on-orbit post 7A.1
    - Two medium used for UF-1 operations
    - STS-108/UF-1 to return from ISS with one medium (EV1) and one large (EV2) from STS-105/7A.1
    - One extra large, one large and one medium left on ISS post UF-1
- **One SAFER Manifested/Three SAFER's On-orbit**
  - Three SAFER's on orbit
  - One SAFER launched in MPLM for rotation with one unit on-orbit
- **SAFER Anomalies**
  - None
- **SAFER Waivers or Open Certification**
  - None



# Display and Control Module (DCM) Anomaly during Processing



- **Background**
  - During a routine DCM Display and Current Limiter test the technicians noted an electrical burning smell and subsequently observed a slight puff of smoke emanating from the top of the DCM
  
- **Failure Investigation**
  - This investigation has revealed that a zener diode used in a current limiting circuit within the DCM shorted
  - The direct short was a result of re-flow of the solder within the component causing a metalization path. This was determined to be an over-voltage, high current input from the GSE power supply in a single catastrophic event.
  - The GSE has been found to operate nominally, however the equipment used to perform this test did not have any over-voltage protection
  - The most probable cause for the anomaly has been deemed to be an erroneous setting or accidental overshoot on the input voltage caused by technician error
  - An interim failure closure requiring over-voltage protection and procedural changes has been approved, TRR's/URR's have been conducted, and DCM processing at USA has resumed.
  - There are no flight issues associated with this failure.
  
- **There was no delay in EMU processing for STS-108 (UF-1)**



*EVA  
PROJECT  
OFFICE*

# EVA Tools and Crew Aids Manifest Summary



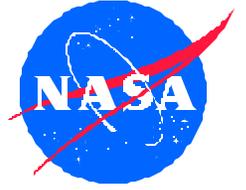
- **EVA Tools and Crew Aids First Flight Items**
  - ORU Transfer Bags (1 Large/1 Medium), in MPLM
  - SAFER On-Orbit Trainer
  - Modified Disposable In-suit Drink Bag (DIDB)
  
- **Non-GFE EVA Hardware First Flight Items**
  - None
  
- **EVA Tools and Crew Aids Swapped On-Orbit**
  - EVA Helmet Interchangeable Portable (EHIP) Lights (2)
  - SAFER
  
- **EVA Tools and Crew Aids Returned**
  - None



**EVA  
PROJECT  
OFFICE**

# **EVA Tools and Crew Aids Manifest Summary**

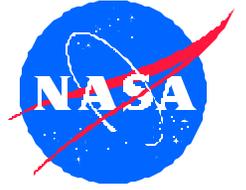
---



- **Standard contingency tools only in Port TSA**
- **Sill-Mounted PFR Configuration-Bay 2 Port**
- **Standard complement of slidewires, safety tethers, crew hook locks, and winches in PLB**
- **All EVA hardware delivered**
- **EVA Tools and Crew Aids FIAR's, Waivers or Open Certification**
  - None



# UF-1 Fit Check Status



- **Tool-to-Tool Fit Checks:**

- Total Complete (50 of 50)=100%

- 5/5 Payload Bay = 100%

- 10/10 Middeck = 100%

- 14/14 LWTSA = 100%

- 21/21 MPLM = 100%

- **Tools-to-Interface Fitechecks - 100% Complete:**

- BGA Blanket completed with Class III Blanket and Hi-Fi BMRRM trainer:

- Prototype blanket made to same drawings as flight shrouds

- Hi-Fi BMRRM trainer dimensionally identical to flight BMRRM

- No flight BMRRM housings are installed with required connectors and handrails

- Short schedule for Flight blanket delivery requires delivery directly to KSC

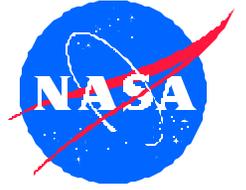
- Do not want to fit check Class I blankets to unclean Hi-Fi Trainer

- This Non flight-to-flight hardware fit check was deemed adequate by the EVA Project Office



*EVA  
PROJECT  
OFFICE*

# Sharp Edge Inspections



- **Sharp Edge Inspections**
  - 100 percent complete for all elements
  - Final PLB walk down on 11/25/01



**EVA  
PROJECT  
OFFICE**

# Forward Work

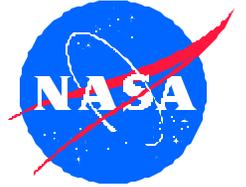


	<b>Title</b>	<b>Definition</b>	<b>Org</b>	<b>Due Date</b>	<b>Risk</b>
PFW	BGA Blanket Incorporation	Incorporation of BGA Blanket procedures and Training	XA, DX, CB	11/15/01	Low
SOW	V1103	V1103	EC/USA FCE	11/18/01	Low
SOW	PLB Walk down	Payload Bay Walk down	VITT	11/25/01	Low



**EVA  
PROJECT  
OFFICE**

## **STS-108/UF-1 FRR**



- 
- **There are no EVA exceptions for STS-108/UF-1 FRR**
  - **The EVA Project Office is ready to proceed with the launch of STS-108/UF-1 and on-orbit operations**
  - **All STS-108/UF-1 open work will be closed or dispositioned by L-2**

*Original signed by*

---

**G. Allen Flynt**  
**Manager, EVA Project Office**