

Section 8

ARC Hardware Status

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ARC Hardware Status



Payload Requirements Summary

AEM

SPACEHAB Volume Required

Allocated

6 MLE

5.25 MLE

3 AEM + 3 Stowage (MLE)
Middeck Locker Equivalents

The deficit of .75 MLE is being negotiated through MMO.

Biopack

(The Biopack experiment, integration and requirements will be managed by ESA)



ARC Hardware Status



Hardware Item Status

AEM

- **All components needed for standard AEM refurbishment and flight preparations are available.**
- **Foodbars and filters will be procured to support mission requirements.**
- **The AEM will be modified to include the AEM CO₂ System, currently at the PDR level.**
- **The IRU will be modified for use with the AEM and to meet STS-107 requirements.**
- **Planning is based on accommodating up to 30 days of launch scrubs.**

Biopack

- **Biopack Phorbol Cassettes will be provided and refurbished by ESA.**



ARC Hardware Status



Hardware Item Status

AEM

- **10 Flight AEMs will be sent to KSC for use as flight and ground habitats.**
- **3 AEMs will fly in the SPACEHAB.**
- **This inventory supports the current project scrub scenario.**



Resource Summary

- **Power Profiles**

- **The standard AEM power profiles will be used.**

- **Thermal**

- **The previously flown AEM thermal loads will be modified to include the FRESH 02 animal thermal loads.**

- **Mass Properties**

- **The AEM mass properties have been calculated and will be transmitted to SPACEHAB.**
- **The stowage mass properties will be calculated when the layout has been determined.**



Hardware Support

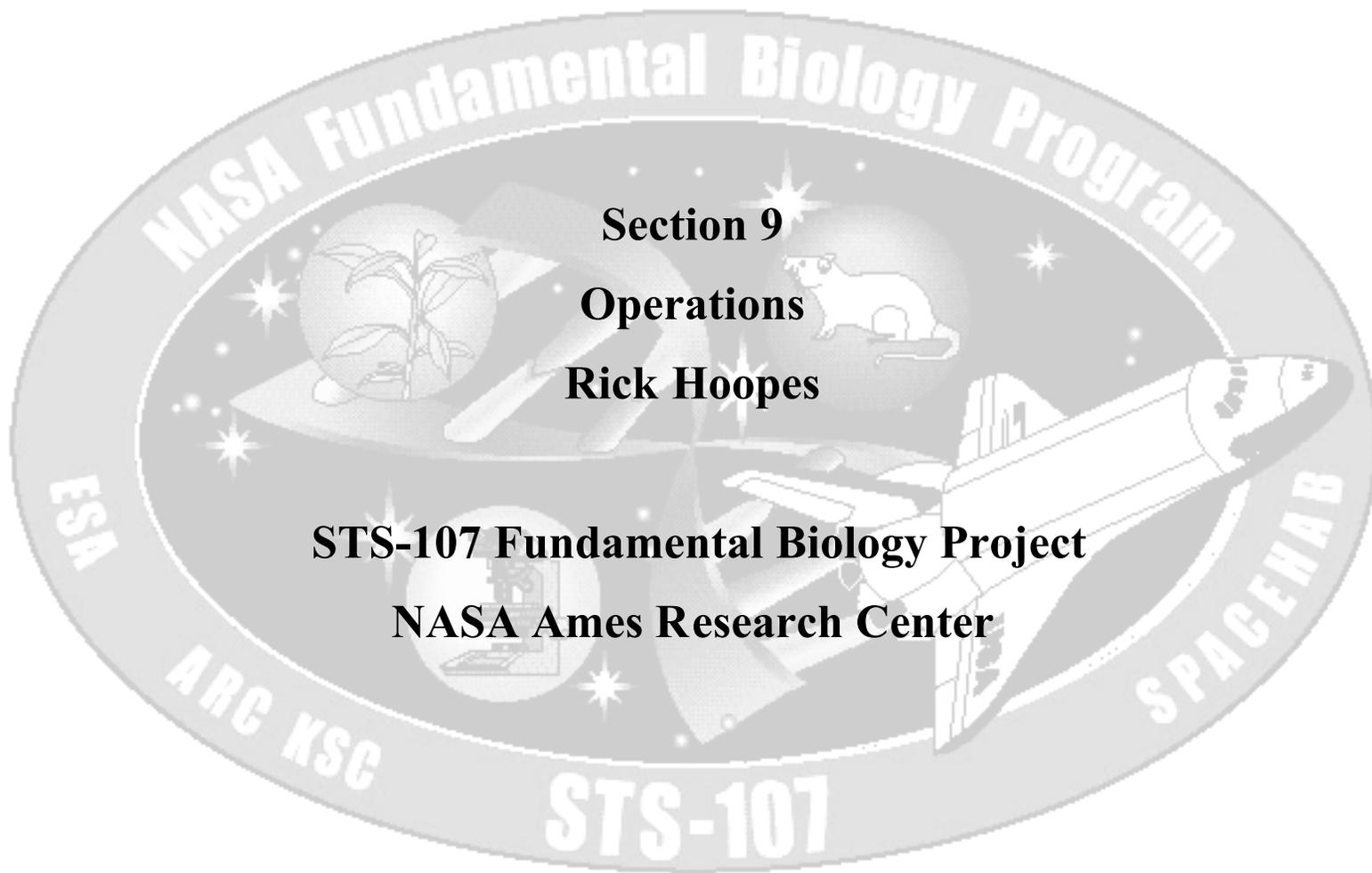
- **Flight Equipment List as provided in the initial questionnaire**

AEMs	ARC
Mufflers	ARC
IRU	ARC
ACOS/CO₂	ARC
Biopack	ESA

- **Ground Support Equipment List**

The preliminary list of KSC requirements has been submitted.

ARC supplied equipment exists, no new equipment has been identified.



Section 9
Operations
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OPERATIONS

Hangar L Requirements

- All AEM operations will be performed at Hangar L.
- Preliminary Hangar L facility requirements have been submitted. (4/22/00)

Flight Operations Requirements

- Flight hardware integration into SPACEHAB will be monitored at KSC.
- During flight ARC personnel will staff the POCC at JSC and support the mission at KSC and Dryden.

Late Access Requirements

AEMs

- SPACEHAB late access window is L-43 to L-31.5 hours.
- ARC has requested to be integrated as late in the window as possible.

Biopack (ESA)

- The requirement of L-19 hours turnover has been submitted.



OPERATIONS

Early Recovery Requirements

AEMs

- **R+6 hrs**

Biopack (ESA)

- **R+3 hrs**

Alternate Landing Sites

KSC will be the primary landing site

Dryden will be the first alternate landing site

The PRF will be prepared for animal dissections