



ET/SRB Processing Flow

KSC Ground Operations

Tom Schaefer



ET/SRB Flows

- **RPSF- 31-35 days to perform Aft Booster Build-up**
 - Need Aft Skirts from USA SRBE and Aft Motors from ATK
 - Center and Forward segments are off-loaded from railcars toward the end of Aft Build-up prior to Stacking
- **MLP- 7 days of preps once in VAB HB-1/3**
 - Launch damage turnaround is performed at the Pad, Park site or VAB HB-2 prior to roll-in to HB-1/3 (Welding, painting, mods, etc.)
- **SRB Stack- 19 days**
 - Worked on three shifts, 5/6 days a week
 - Joint Closeouts take 5 days after stacking is completed



ET/SRB Flows

- **Booster Integrated- 11 days**
 - This is the work on the Boosters that can be performed prior to ET Mate or after ET Mate (Tunnel cable routing, cover installation, HDP ordnance, BSM ordnance) Plan to work most of this prior to ET Mate
 - Any Booster Integrated work carried after ET Mate becomes a resource/access problem
- **ET Standalone- 26 days from ET on dock to SRB Mate**
 - Can/have accelerated to 19 days
 - Work is carried over to Integration cell
 - This is done when ET is Critical Path



ET/SRB Flows

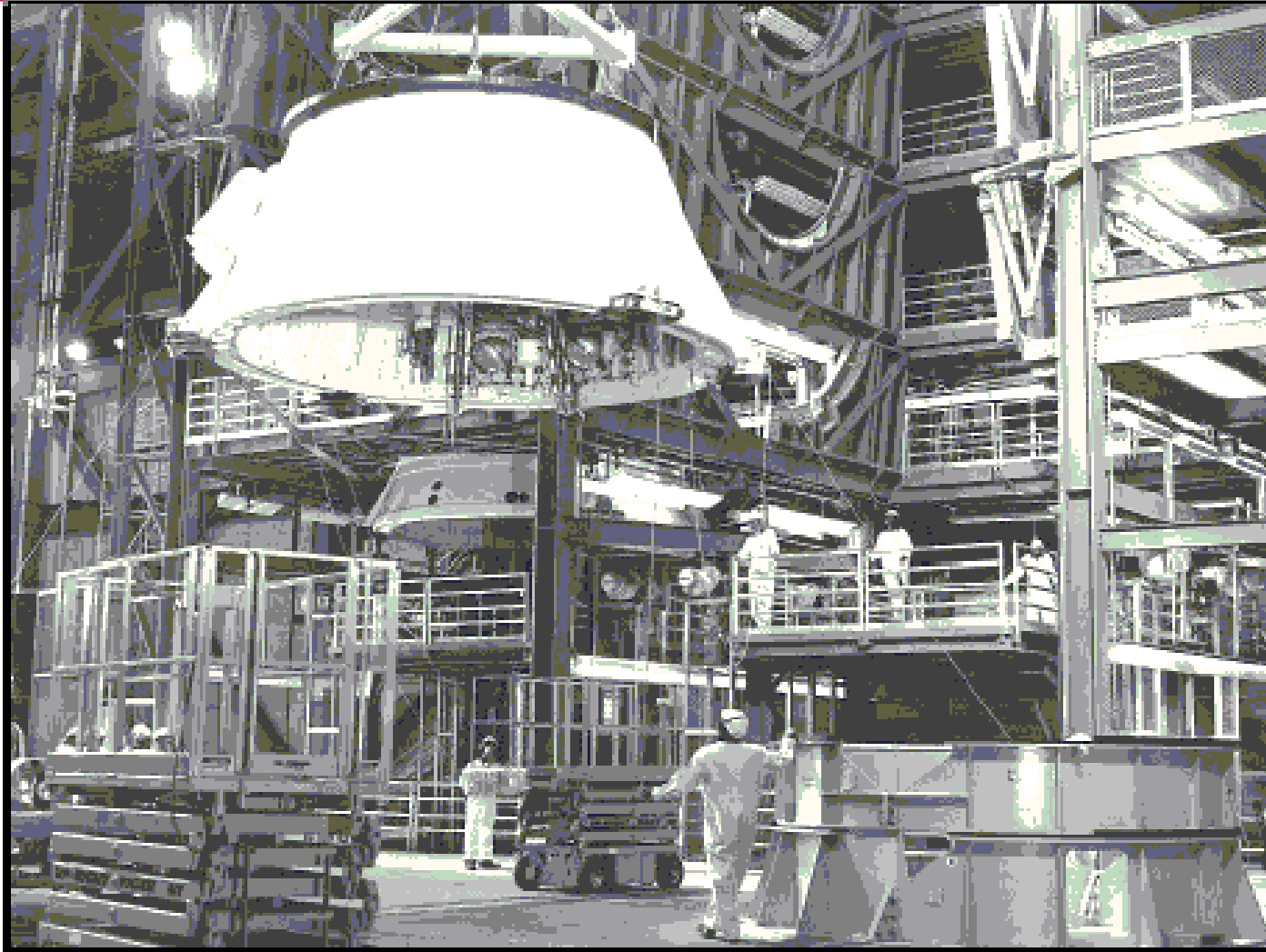
- **ET/SRB Mate & Closeouts- 18 days**
 - Can take up to 24 days if Booster Integrated work is carried over to after ET Mate
- **Orbiter Mate- 7 days from Mate to Rollout**



ET/SRB Flows

- Would like more than 84 days from ET on-dock to launch
- Will process in 60 days for LON



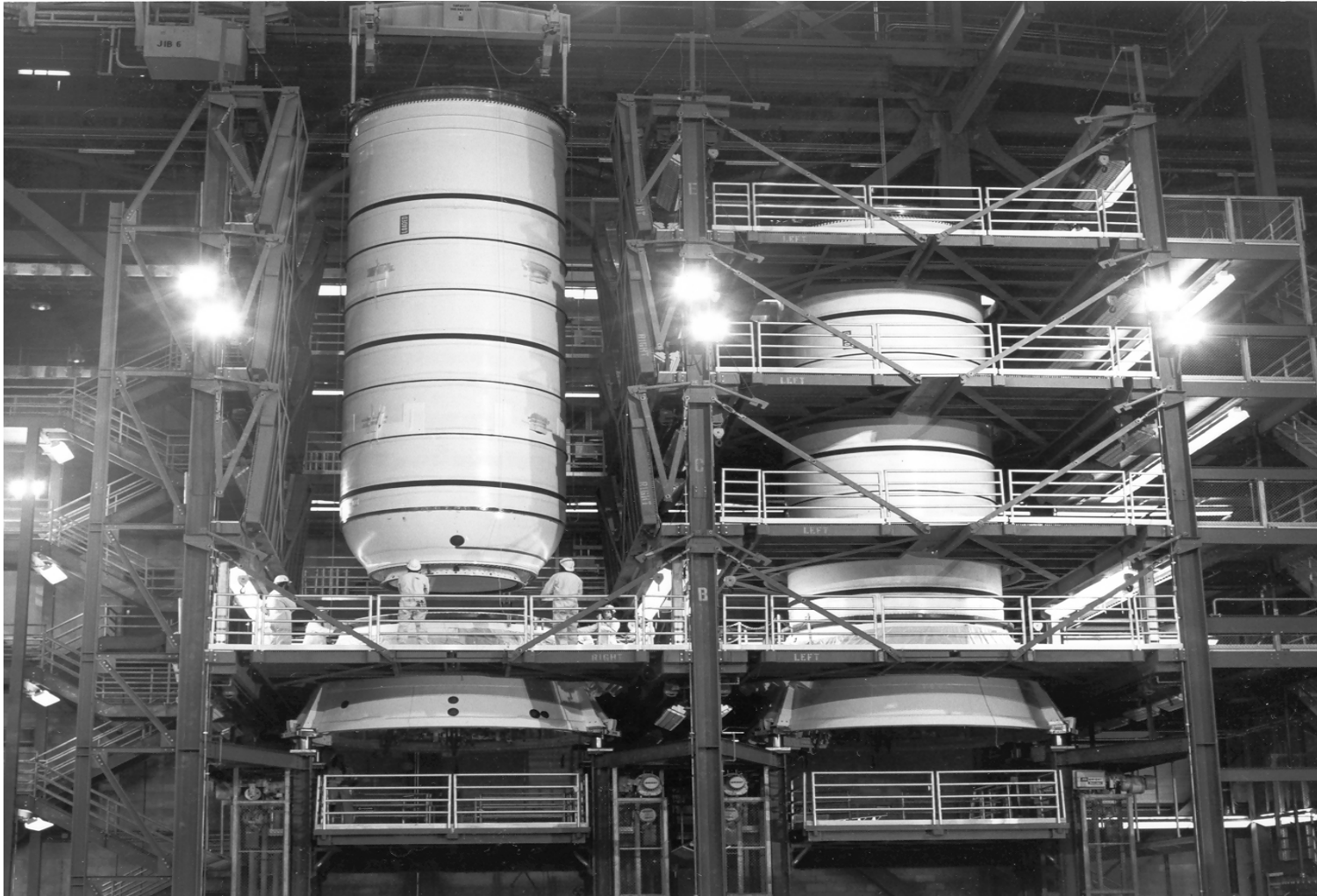


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SRB Aft Skirt

6



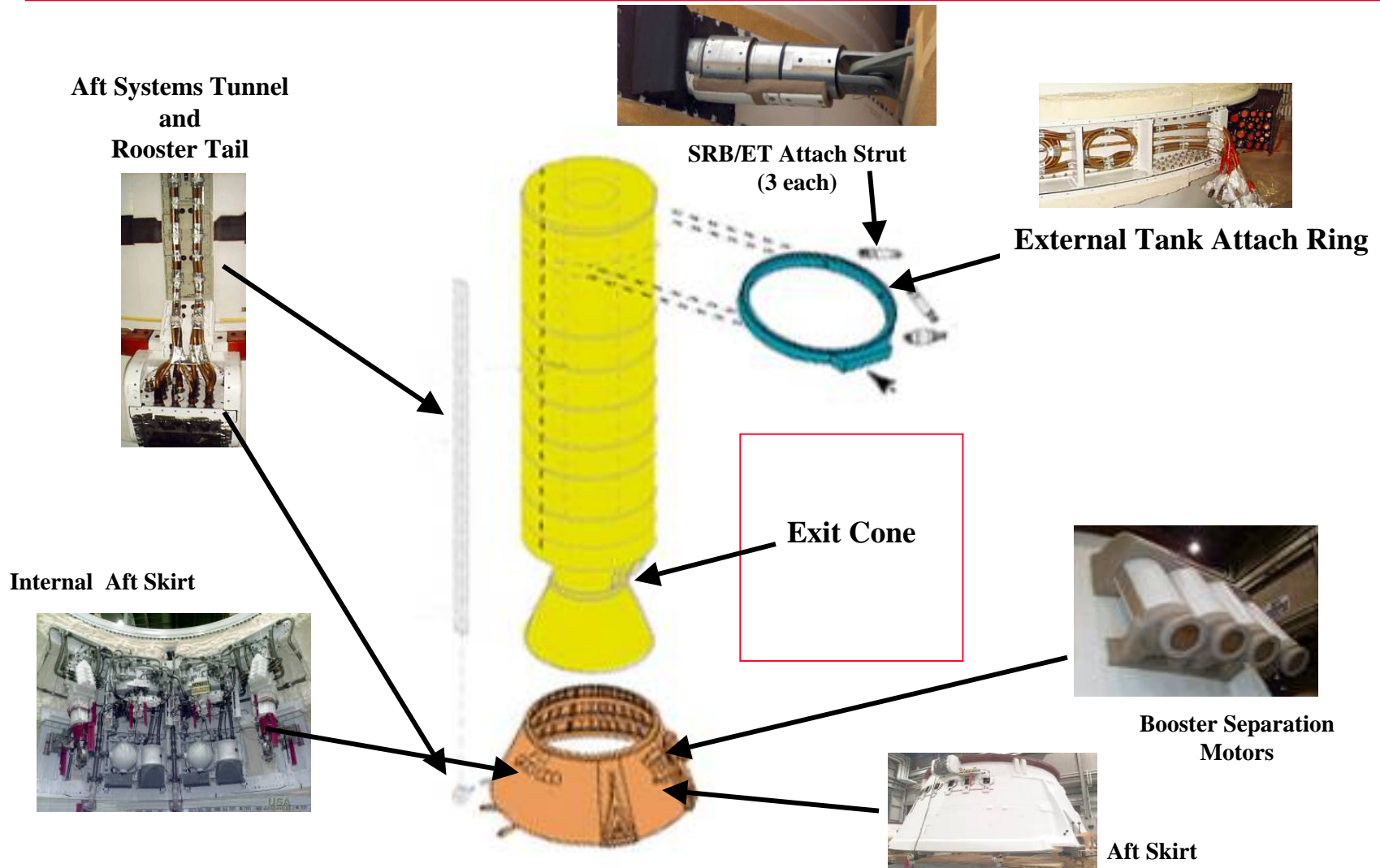


Aft Segment mate to Aft Skirt

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Aft Booster Assembly





Mobile Launch Platform (MLP)



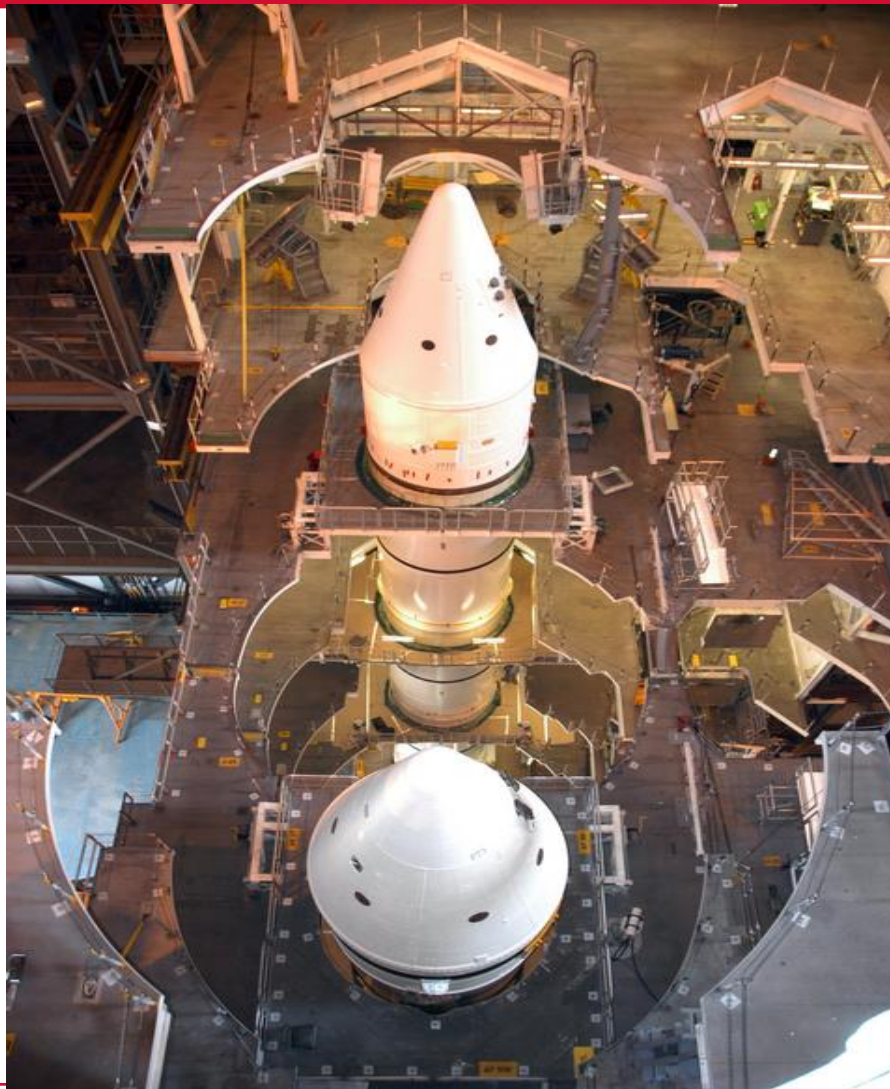
Center Segment enroute from RPSF to VAB



Segments in VAB

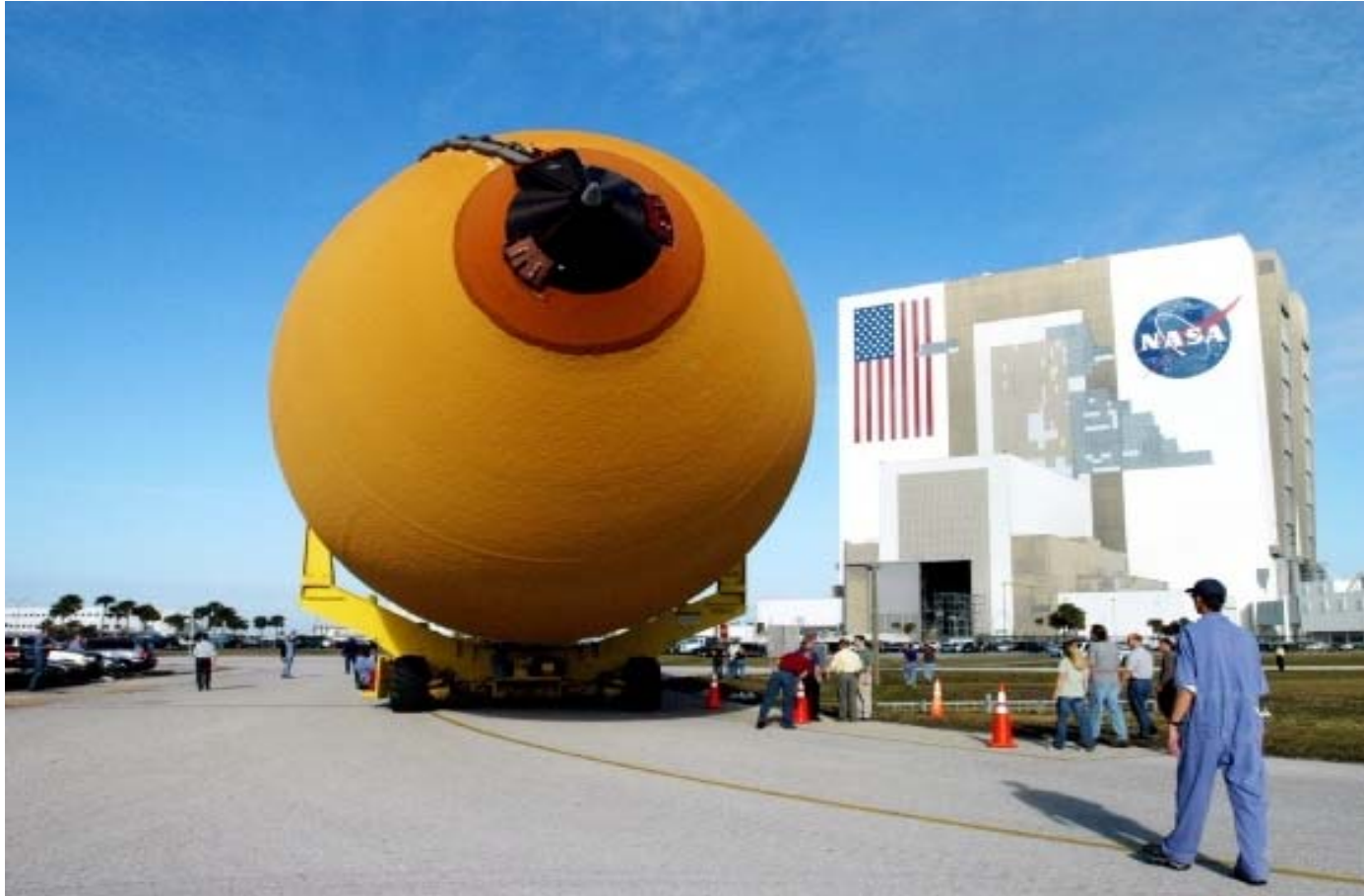


Boosters After Stacking



Prior to ET Mate





ET “On-Dock”. Move from Turn Basin to VAB

Lift to ET Cell (HB-2/4)



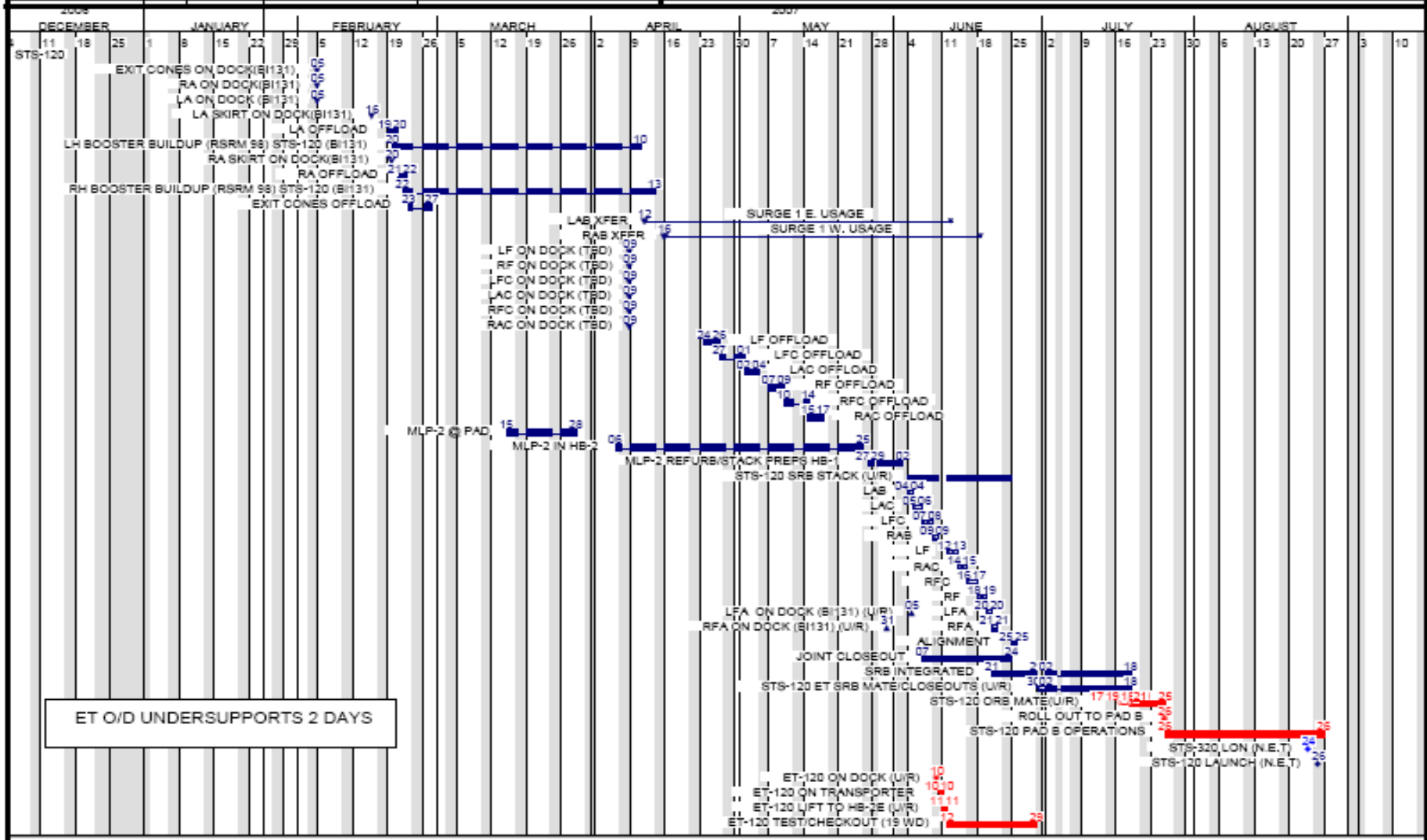
ET Mate



Orbiter Mate



STATUS		OPR: USA - G. CRAWFORD, MASTER PLANNING NASA - ROY WORTHY, PH-Q		STS-120 ET/SRB OVERVIEW (STUDY) LAUNCH PULLED IN TO 8/26	
USA	NASA	Creation Date: N/A			
C=Concur NC=Non-Concur		Revision Date: 01/25/07			
		Revision:		Page 1 of 1	



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United Space Alliance

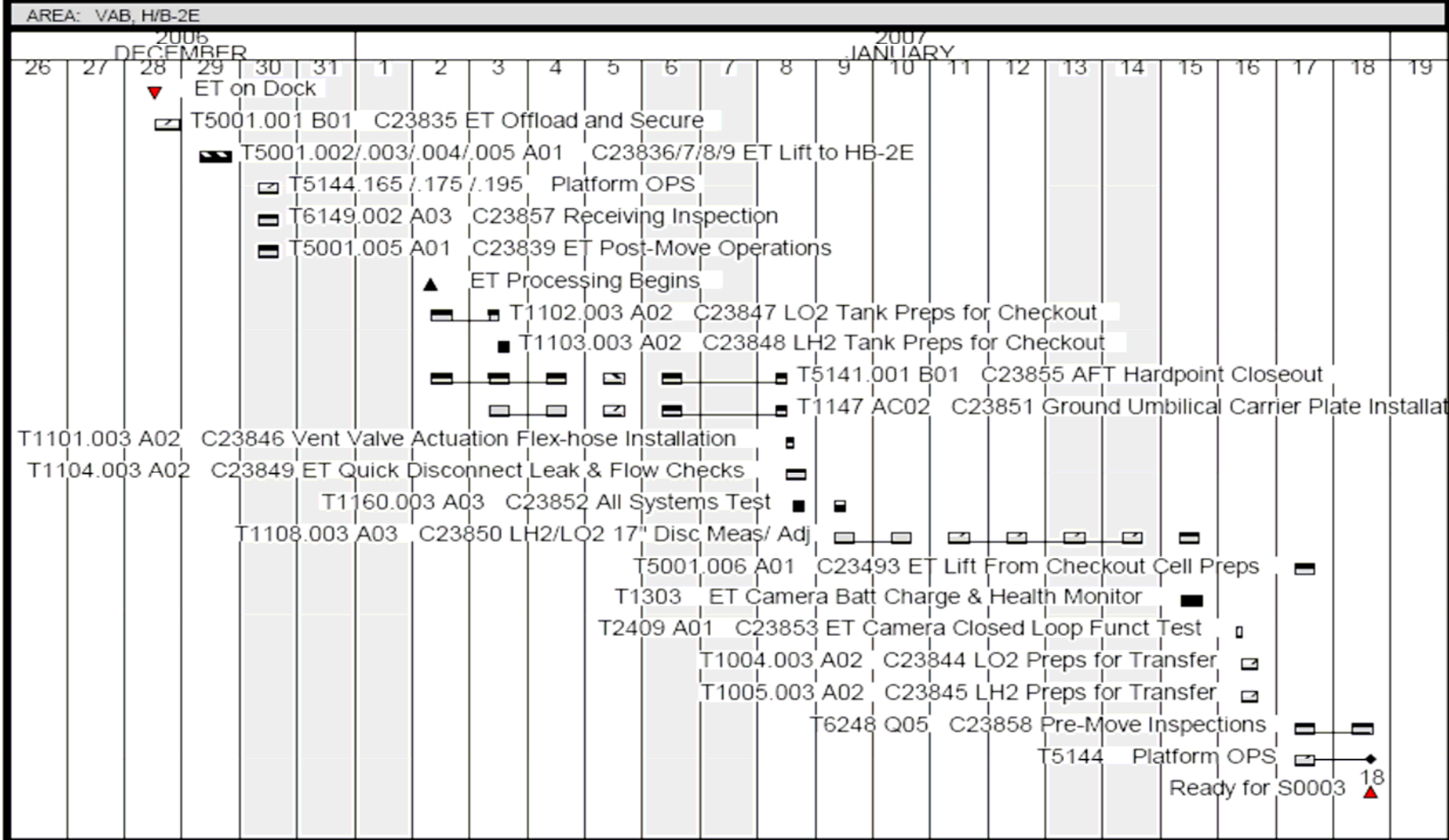
Contact: AMY MCQUOWN, 1-8098

Printed: 01/25/07 07:48

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ET-124 ET PROCESSING FLOW Overview Schedule (As Run)



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ORIGINAL SIGNATURES ON FILE

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DATE: 01/19/07

TIME: 08:30

<u>BEFORE RTF</u>	<u>NOW</u>
ET PROCESSING	
35-40 DAYS	26 DAYS 19 DAYS IF WORK IS DEFERRED
STACKING	
19 DAYS	19 DAYS (5 MORE DAYS ADDED FOR JOINT CLOSEOUTS)
ET/SRB MATE AND CLOSEOUTS	
13 DAYS (2 WEEKS OF CONTINGENCY BUILT IN)	18 DAYS 11 DAYS OF BOOSTER INTEGRATED WORK AFTER JOINT CLOSEOUTS PRIOR TO ORBITER MATE. WILL IMPACT 18 DAY SCHEDULE IF MORE THAN 1/2 OF THIS WORK IS CARRIED TO AFTER ET MATE



Challenges

- **Have been working out of one VAB Integration cell because of door work**
 - HB-1 finishing up
 - HB-3 just starting. ECD 11/07
- **Have been using only two (out of three) MLP's because of INCS and low voltage mods**
- **Each ET/SRB flow is custom built**
 - Based on ET delivery
 - Rollout of previous Stack. Need usually one week prior to MLP roll-in for HB facility maintenance
 - Try to Stack early, take stacking out of the critical path. Also can work Booster Integrated tasks prior to ET Mate



Future

- **Will have two VAB Integration cells after 11/07**
 - Will turn HB-3 over to Constellation after STS-126
- **STS-122, STS-123, STS-124 & STS-119**
 - MLP is critical path. STS-122, STS-124 and STS-119 use the same MLP (MLP-1). MLP-1 will be turned over to Constellation after STS-119 for use on Aries I-1



Questions?

