Update Flight Program Definition
And Planning for YERO

MO/D. May
Background

- 02/15/07 PRCB - S063515: “Develop Plan and Cost Estimate for Implementing Solution for YERO (Year End Roll Over)” presented an overall integrated solution for the Program to be able to fly over the year’s end

  - PRCB accepted the recommended approach which required a minimal FSW change along with corresponding operational procedures for the real-time execution

  - In addition, PRCB acknowledged the operational constraints that would be required for an actual Flight execution of YERO

  - Recommendation to document the operational constraints in NSTS 07700, Vol III, Flight Definition and Requirements Directive (FDRD) was accepted and assigned as forward work
Discussion

- This proposed update to the FDRD establishes several YERO guidelines necessary for planning a mission that would fly over the year’s end

- Both Ground processing and Flight operational constraints have been identified for properly defining the necessary Launch Cutouts
  
  - Launch Cutouts ensures the execution of the YERO procedures during non-critical timeframes of ground processing or flight operations

- Definition of additional guidelines that may be required due to any flight specific mission operations will be the responsibility of the Flight’s IPT
  
  - Based on the criticality and complexity of the Mission objective

- Implementation of these guidelines will follow the established processes of and protocol between the Flight’s IPT and JOP
Incorporate the following paragraph in NSTS 07700, Volume III, Section 3.1:

x. To allow for STS missions to extend over the end of a calendar year, Flight Planning must adhere to several ground and flight operational constraints. These operational constraints must allow for STS missions to extend over the end of a calendar year, flight planning.

Additional guidelines may be required due to specific mission requirements. Definition of these periods will be based on the criticality and complexity of the specific mission.

Specifications, and will be determined by the specific shuttle's Integration Product Team.
Evaluations

- Approve: EA, MK-SIO, MV, MX

- Approve w) mod: DM, KSC-PH, USA

  - KSC-PH & USA – correct L- and T- references in constraint x.1 as follows: ‘YERO will be avoided during the Ground processing timeframe of T-11 hour hold (L-18 hours) to T+24 hours.’

  - USA – insert ‘PRSD’ in constraint x.2 as follows: ‘No Yero will be planned during 24 hour Launch scrubs or 48 hour Launch scrubs with PRSD single commodity topoff.’

  - DM & USA – insert ‘YERO on’ in constraint x.3 as follows: ‘To protect for ascent phase operations plus the contingency of a First Primary Landing Site (PLS) scenario, YERO on Flight Day 1 (Launch day) will be avoided.’
Evaluations (cont’)

- No Impact: None
- Disapprove: None

Recommendation

- Concur with Evaluation comments
- Approve with recommended modifications and request OSB processing