

YERO Concerns

	Concern	Possible Resolution/Ops Workaround	116?
1.	Crew and flight controllers are not familiar with the procedure	Schedule training sims. (11/16 Orbit 1 YERO sim) Orbit 3 sim not necessary; ground recycle is straight forward.	
2.	ODRC Data must be pulled differently post-YERO (cannot use MET)	Include instructions for pulling ODRC data in Flight Note or FCOH procedure	
3.	Failures which impact completion of procedure: <ul style="list-style-type: none"> • prior to YERO • during "mixed config" (crew sleep) • while performing YERO procedure 	<p>We need to develop a failure matrix that spells out changes due to YERO. May not need new mal procedures, just list of which procedure to perform under which circumstances.</p> <p>Need credible failure analysis and failure response. Need to check all systems (not just Avionics) for firmware impacts due to YERO or GPC down time during IPL.</p> <p>Need to address onboard capabilities, failure detection, and data monitoring from start to finish.</p>	
4.	Capabilities lost if YERO not performed	Should include this in failure matrix mentioned above. What do we do if onboard IPL cannot be performed?	
5.	Rigor of flight software certification <ul style="list-style-type: none"> • Has O/B software been tested sufficiently to ensure there will be no timing issues following the rollover 	This may be a communication issue. FSW will present info on IPLs and why this leaves us in a trusted configuration.	
6.	No room in Timeline to perform YERO procedure	For future December flights, include YERO in timeline during early planning stages.	No

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7.	Extended period in mixed configuration (Ground: Day 1; Onboard: Day 366) <ul style="list-style-type: none"> • Onboard clock drift • Degradation of onboard Nav state (due to clock drift) 	<ul style="list-style-type: none"> • Ground recycle can be streamlined, onboard steps can be performed without delay • BFS Engage until crew wake; then PASS recovery from BFS Engage • Need a list of what to do in case of extended period in mixed config (longer than 8-10 hours). Must address TDRS scheduling and antenna management. • Workaround: Onboard state can be maintained using a GPS update, a Delta-time correction, or a SV uplink. (SV uplink would have to be from a 2nd “non-recycled” activity.) 	No (Yes?) (Yes?)
8.	Confusion over MET (reset to zero at rollover)	FAO will have two timelines, one pre- and one post-YERO	
9.	Lack of SM data for 45 min. during onboard IPL	Need list of what OI data will be available.	
10.	General concern over IPLing all the GPCs	FSW change required Cannot be addressed exclusively by onboard procedure. 1989 solution of making MCC count up is not sustainable for more than a day or two due to network. Other non-IPL solution risks error due to residual data. (IPL is clean.)	No
11.	Non-critical hardware that becomes critical for YERO	Upgrade criticality of 11 FEMAs identified by Safety	