



## 11893 - COS FUV Recovery from Anomalous Shutdown

Cycle: 17, Proposal Category: CAL/COS

(Availability Mode: RESTRICTED)

### INVESTIGATORS

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### VISITS

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
01	DARK	S/C	1	13-Apr-2010 21:02:36.0	yes
02	DARK	S/C	1	13-Apr-2010 21:02:38.0	yes
03	DARK	COS/FUV S/C	1	13-Apr-2010 21:02:41.0	yes
04	DARK	COS/FUV S/C	1	13-Apr-2010 21:02:43.0	yes
05	DARK	COS/FUV S/C	1	13-Apr-2010 21:02:44.0	yes
06	DARK	S/C	1	13-Apr-2010 21:02:46.0	yes
11	DARK	S/C	1	13-Apr-2010 21:02:47.0	yes
12	DARK	S/C	1	13-Apr-2010 21:02:49.0	yes

<i>Visit</i>	<i>Targets used in Visit</i>	<i>Configurations used in Visit</i>	<i>Orbits Used</i>	<i>Last Orbit Planner Run</i>	<i>OP Current with Visit?</i>
13	DARK	COS/FUV S/C	1	13-Apr-2010 21:02:51.0	yes
14	DARK	COS/FUV S/C	1	13-Apr-2010 21:02:53.0	yes
15	DARK	COS/FUV S/C	1	13-Apr-2010 21:02:54.0	yes
16	DARK	S/C	1	13-Apr-2010 21:02:56.0	yes

12 Total Orbits Used

### **ABSTRACT**

This proposal contains the steps for turning on and ramping up the COS FUV high voltage in a conservative manner after a HV anomalous shutdown. It is loosely modeled on COS proposal 11356, SMOV4 FUV Detector Initial Turn-on. It is divided into two distinct parts with the first consisting of a slow ramp-up with diagnostics and darks, followed by a ramp-down, HV off, and setting Flag 3. Time is allotted for UC Berkeley, COS Instrument Scientist, and engineering to examine data dumps, science exposures, and housekeeping telemetry. If all is well, the go-ahead will be given to clear Flag 3 and proceed with the second HV ramp-up. The second part consists of a normal ramp-up with diagnostics and darks, followed by a ramp-down, HV off, and setting Flag 3. Again, UC Berkeley, COS Instrument Scientist, and engineering will examine data dumps, science exposures, and housekeeping telemetry. If all is well, this time the go-ahead will be given to clear Flag 3 and precede with normal FUV science programs.

Prior to the beginning of Visit 1, Flag 3 must be cleared by the ground via real-time commanding. This can be done as soon as the anomalous HV shutdown is understood and the go-ahead is given to proceed with the recovery.

An outline of the visits and activities of each is presented below:

1) Uninhibit the DCE. This visit uninhibits the DCE (sets `dce_FUVInhibitMode = FALSE` and does some other CS cleanup), takes diagnostic data

(DCE RAM dump), and transitions the FUV detector from Boot to Operate. (Boot will be the state of the detector after being Inhibited.) Special commanding is used to uninhibit the DCE and to dump the DCE RAM. Regular recon commanding is used for the Boot to Operate transition.

2) FUV HV turn-on and ramp to HVLOW. Special commanding will be used to execute the FUV Operate to HVLow reconfiguration. Diagnostics are taken (DCE RAM dumps) after each transition.

3) Dark exposure. A 1-hour dark exposure is taken followed by diagnostics (DCE RAM dump).

4) Ramp FUV HV from HVLOW to HVNOM. Ramp the HV to its nominal value for each segment (169,167) during a 1080.0 second DARK exposure. Diagnostics are taken (DCE RAM dumps) after.

5) Dark exposure. A 2nd 1-hour dark exposure is taken followed by diagnostics (DCE RAM dump).

6) Ramp the HV down and turn it off. Set Flag 3.

UC Berkeley, COS Instrument Scientist, and engineering will examine data dumps, science exposures, and housekeeping telemetry. If all is well, this time the go-ahead will be given to proceed with the 2nd part that starts with Visit 11. It is requested that diagnostic and science data be fast-tracked to the Science Team.

11) Diagnostics are taken (DCE RAM dumps). Flag 3 must be cleared by the ground via real-time commanding before the start of Visit 12.

12) FUV HV turn-on and ramp to HVLOW. Diagnostics are taken (DCE RAM dumps).

13) Dark exposure. A 1-hour dark exposure is taken followed by diagnostics (DCE RAM dump).

14) Ramp FUV HV from HVLOW to HVNOM. Ramp the HV to its nominal value for each segment (169,167) during a 1000.0 second DARK exposure. Diagnostics are taken (DCE RAM dumps) after.

15) Dark exposure. A 2nd 1-hour dark exposure is taken followed by diagnostics (DCE RAM dump).

16) Ramp the HV down and turn it off. Set Flag 3.

UC Berkeley, COS Instrument Scientist, and engineering will examine data dumps, science exposures, and housekeeping telemetry. If all is well, this time the go-ahead will be given to clear Flag 3 and proceed with normal FUV science. It is requested that diagnostic and science data be fast-tracked to the Science Team. No FUV activities be scheduled within 48 hours after the completion of Visit 16 to allow for data analysis.

### **OBSERVING DESCRIPTION**

This proposal consists of the steps for turning on and ramping up the COS FUV high voltage in a conservative manner after a HV anomalous shutdown. It is loosely modeled on COS proposal 11356, SMOV4 FUV Detector Initial Turn-on. It is divided into two distinct parts with the first consisting of a slow rampup with diagnostics and darks performed, followed by a ramp-down, HV off, and setting Flag 3. Time is allotted for UC Berkeley, COS Instrument Scientist, and engineering will examine data dumps, science exposures, and housekeeping telemetry. If all is well, the go-ahead will be given to proceed with the second HV rampup. The second part consists of a normal rampup with diagnostics and darks, followed by a ramp-down, HV off, and setting Flag 3. Again, UC Berkeley, COS Instrument Scientist, and engineering will examine data dumps, science exposures, and housekeeping telemetry. If all is well, this time the go-ahead will be given to clear Flag 3 and precede with normal FUV science programs.

### **REAL TIME JUSTIFICATION**

Real-time commanding is required to clear NSSC-1 COS event flag 3 prior to visit 01 to go ahead with visits 01-06, between visits 06 and 11 to go ahead with visits 11-16, and after visit 16 to allow subsequent FUV commanding. Visit 11 starts with a scheduled uplink opportunity.

**ADDITIONAL COMMENTS**

Prerequisites: Successful execution of proposals 11353 and 11354. The pressure must be lower than  $10e-5$  torr.

This proposal requires Special Commanding.

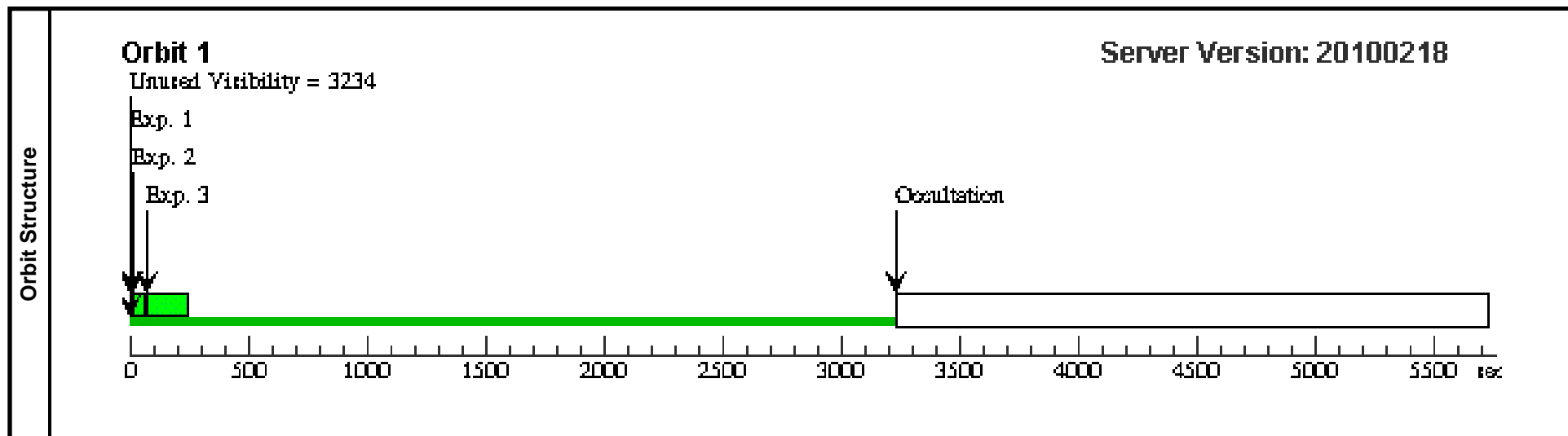
A contingency Operations Request to place to command the FUV detector into its Inhibit mode must be in place in case a significant anomaly occurs.

"ISQL and PMDB -DELETE (alignments) is required for some visits. See visits/exposures for detail."

Proposal 11893 - Visit 01 - COS FUV Recovery from Anomalous Shutdown

Wed Apr 14 01:03:00 GMT 2010

Visit	<p><b>Proposal 11893, Visit 01, implementation</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: S/C</p> <p>Special Requirements: PARALLEL</p> <p><i>Comments: Uninhibit the DCE.</i></p> <p><i>This visit uninhibits the DCE (sets dce_FUVInhibitMode == FALSE and does other CS cleanup, thus ensuring the DCE is in its nominal Boot state), takes diagnostics (DCE RAM dump), and transitions the FUV detector from Boot to Operate. Special commanding is used to uninhibit the DCE and to dump the DCE RAM. Regular recon commanding is used for the Boot to Operate transition.</i></p> <p><i>Prior to the beginning of this visit, Flag 3 must be cleared by the ground via real-time commanding. This can be done as soon as the anomalous HV shutdown is understood and the go-ahead is given to proceed with the recovery.</i></p>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	FUV Inhibit to Boot	DARK	S/C, DATA, NONE			SPEC COM INSTR ELRECOVERF; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW OPE RATE	Same Alignment	10 Secs [==>]	[1]
	<p><i>Comments: Unhibit the DCE for commanding by setting dce_FUVInhibitMode == FALSE in the CS FSW. Several other houskeeping tasks are also cleaned up.</i></p> <p><i>It is assumed that this will be the first FUV activity on an SMS and that the CS is in Operate state. Therefore, the starting FUV state is set to HVLOW, which is the nominal SMS boundary state.</i></p>									
	2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE	Same Alignment	60.0 Secs [==>]	[1]
	<p><i>Comments: Copy and dump DCE RAM. From Jason McPhate (Berkeley FUV detector expert, who defined the FUV initial turn-on procedure): "[I'm after] the procedure to get a memory dump of the FUV HV and AUX power current monitors (HVIA, HVIB, AUXI). Each of these has a 1000 (possibly 1024) sample buffer that monitors the current at 1ms sampling (looping through, overwriting the data that is 1 second old), and a cumulative histogram of the current values (this would be a buffer of 256 values for each monitor)." This information is in a DCE RAM dump.</i></p>									
	3	FUV Boot to Operate	DARK	S/C, DATA, NONE			SPEC COM INSTR RLBTTOPF	Same Alignment	180 Secs [==>]	[1]
	<p><i>Comments: Transition the DCE from Boot to Operate. Use standard recon.</i></p>									

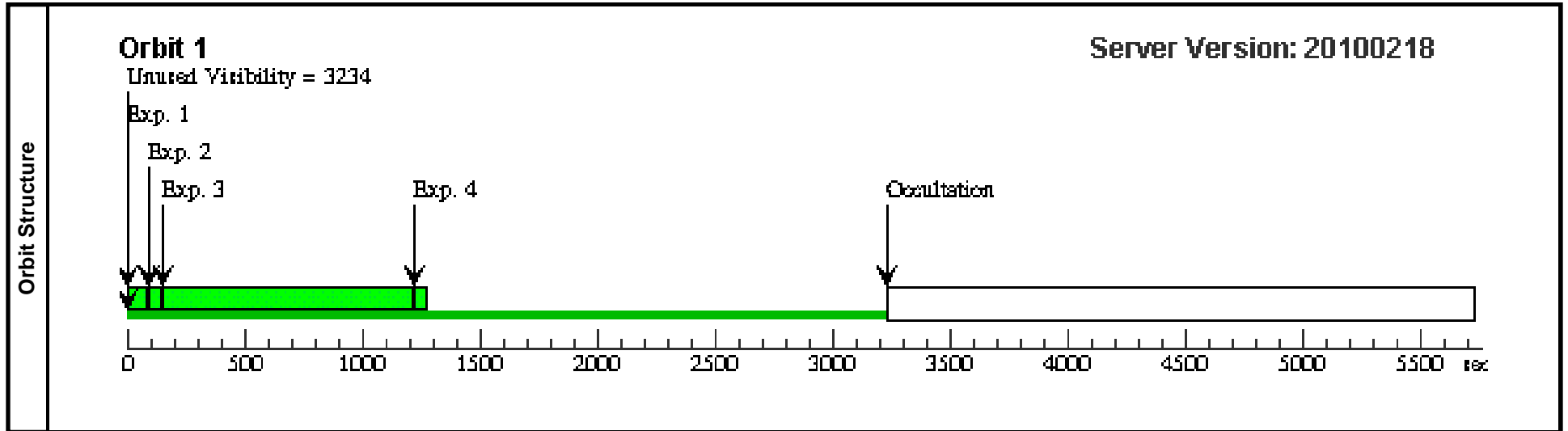


Proposal 11893 - Visit 02 - COS FUV Recovery from Anomalous Shutdown

Wed Apr 14 01:03:00 GMT 2010

Visit	Proposal 11893, Visit 02, implementation									
	Diagnostic Status: No Diagnostics									
Exposures	Scientific Instruments: S/C									
	Special Requirements: AFTER 01; PARALLEL									
<p>Comments: FUV HV turn-on and ramp to HVLOW.                      FUV Qasi_states will be set to start_state=OPERATE. From there, special commanding will be used to execute the FUV Operate to HVLow reconfiguration. Diagnostics are taken (DCE RAM dumps) after each transition.</p>										
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
1	Turn FUV H V on	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR ELOPHOF; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV OPERATE HV LOW		90.0 Secs [==>]	[1]	
<p>Comments: Turn on the FUV high voltage, but do not ramp it up. Exp time has 50s added to model AFTER BY on exp 2.</p>										
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR ELCOPYDCE		60.0 Secs [==>]	[1]	
<p>Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.</p>										
3	Ramp FUV HV to HVLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR ELHOTHLF		1070.0 Secs [==>]	[1]	
<p>Comments: Ramp the FUV high voltage to the HVLOW value at 10 sec/step. The end state is HVLOW to reflect this. Visit 03's start state is set to match this end state. Exp time has 45s added to simulate AFTER BY on exp 2.</p>										
4	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR ELCOPYDCE		60.0 Secs [==>]	[1]	
<p>Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.</p>										

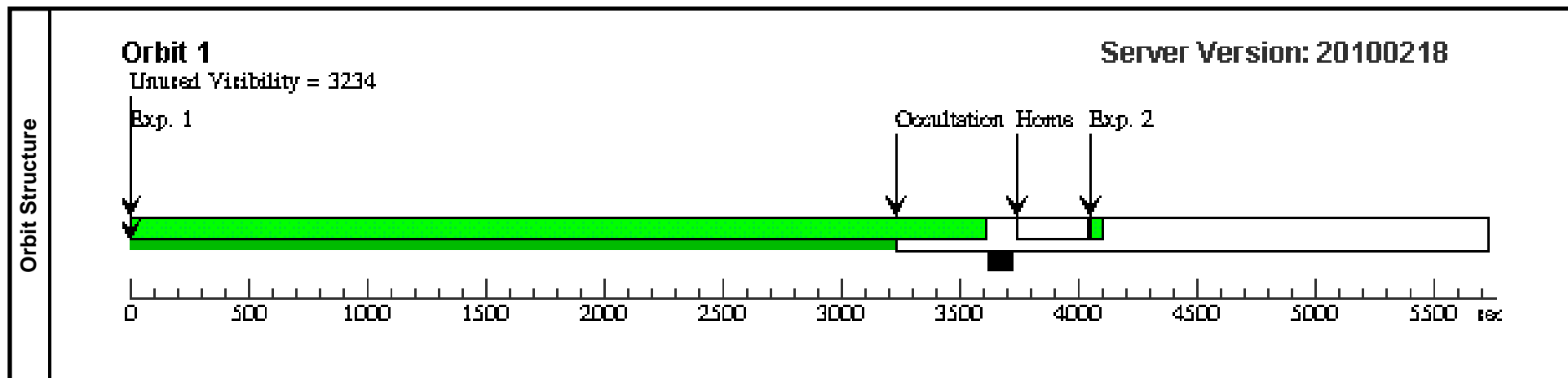




Proposal 11893 - Visit 03 - COS FUV Recovery from Anomalous Shutdown

Wed Apr 14 01:03:01 GMT 2010

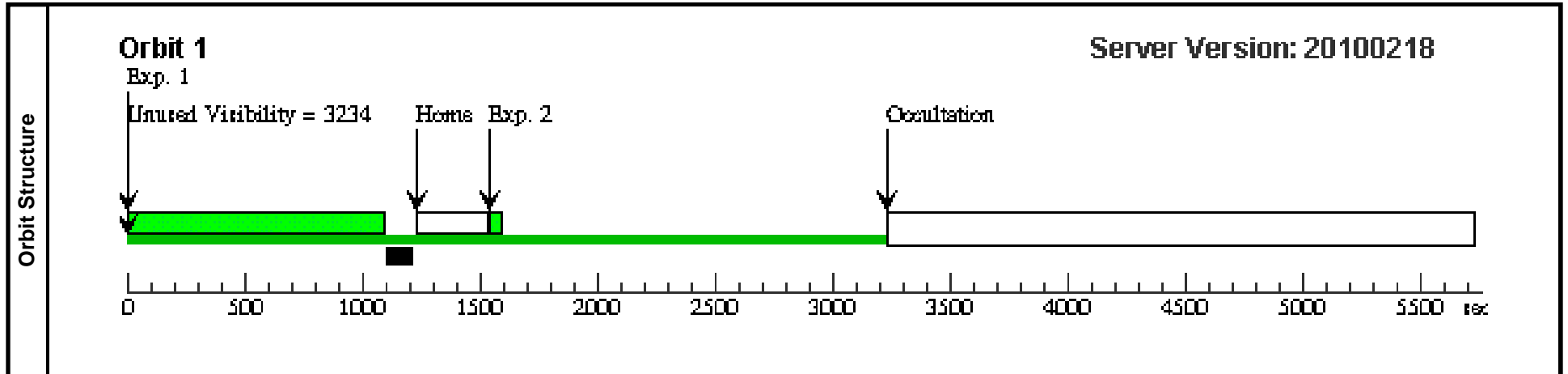
<b>Visit</b>	<p><b>Proposal 11893, Visit 03, implementation</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV, S/C</p> <p>Special Requirements: AFTER 02; PARALLEL</p> <p><i>Comments: Dark 3600.0 second exposure. Diagnostics are taken (DCE RAM dumps) after the exposure.</i></p> <p><i>"Requires ISQL and PMDB DELETION of some alignments."</i></p>									
	<p><b>Diagnostics</b></p> <p>(Visit 03) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p>									
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	FUV Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=3600	SAA CONTOUR 31; NEW ALIGNMENT ; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		3600.0 Secs [==>]	[1]
	<p><i>Comments: Take a 1-hour dark exposure with the HV at HVLOW.</i></p> <p><i>"Delete the HOME alignment created by this exposure via pmdb -delete. ISQL required for the DUMP created by this exposure...update QASISTATE: COS FUV HVLOW HVLOW."</i></p>									
2	DCE RAM dump	DARK	S/C, DATA, NONE				SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW OBSET; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		60.0 Secs [==>]	[1]
<p><i>Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.</i></p>										



Proposal 11893 - Visit 04 - COS FUV Recovery from Anomalous Shutdown

Wed Apr 14 01:03:01 GMT 2010

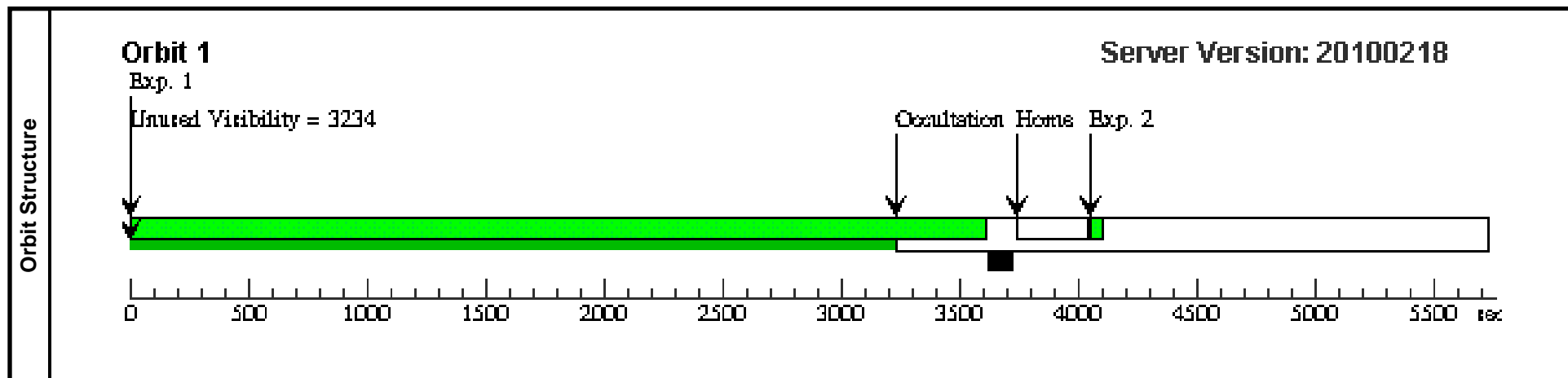
Visit	Proposal 11893, Visit 04, implementation Diagnostic Status: No Diagnostics Scientific Instruments: COS/FUV, S/C Special Requirements: AFTER 03; PARALLEL Comments: Ramp FUV HV from HVLOW to HVNOM. Ramp the HV to it nominal value for each segment (169,167) during a 1080.0 second DARK exposure. Diagnostics are taken (DCE RAM dumps) after. FUV Qasi_states will be set to start_state=HVLOW. From there, special commanding will be used to execute the FUV HVLOW to HVNOM reconfiguration, but we set end_state to HVLOW to prevent 10.2 from inserting unwanted recons between this and visit 05. "Requires ISQL and PMDB DELETION of some alignments."									
	Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]
1		FUV Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=10 00	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVFX; NEW ALIGNMENT ; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW; QESIPARM ENDC TSA 169; QESIPARM ENDC TSB 167; QESIPARM SECPE RCT 10		1080.0 Secs	
Comments: Ramp the FUV HV from HVLow to HVNom at 10 sec/step during this exposure. "Delete the HOME alignment created by this exposure via pmdb -delete. ISQL required for the DUMP created by this exposure...update QASISTATE: COS FUV HVLOW HVLOW."										
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW OBSET; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		60.0 Secs		
Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.										



Proposal 11893 - Visit 05 - COS FUV Recovery from Anomalous Shutdown

Wed Apr 14 01:03:01 GMT 2010

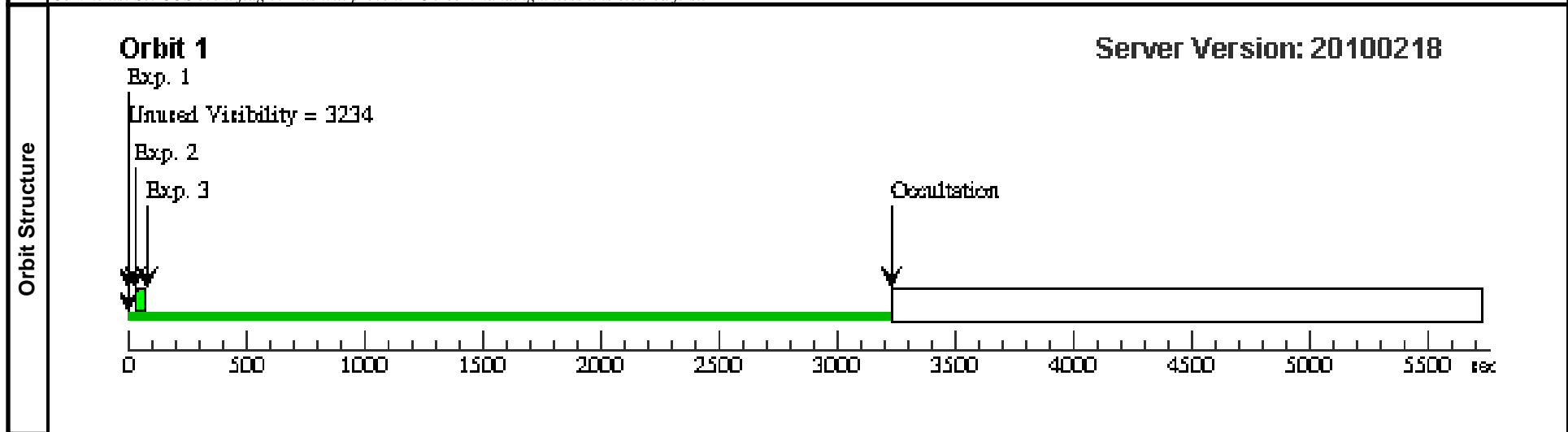
<b>Visit</b>	<p><b>Proposal 11893, Visit 05, implementation</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV, S/C</p> <p>Special Requirements: AFTER 04; PARALLEL</p> <p><i>Comments: Dark 3600.0 second exposure. Diagnostics are taken (DCE RAM dumps) after the exposure.</i></p> <p><i>"Requires ISQL and PMDB DELETION of some alignments."</i></p> <p><i>After the completion of Visit 5, all diagnostic and science data from Visits 1-5 should be fast-tracked to the COS Science Team.</i></p>									
	<p>(Visit 05) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p>									
<b>Diagnostics</b>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	FUV Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=3600	SAA CONTOUR 31; NEW ALIGNMENT ; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		3600.0 Secs [==>]	[1]
	<p><i>Comments: Take a 1-hour dark exposure with the HV at HVNOM.</i></p> <p><i>"Delete the HOME alignment created by this exposure via pmdb -delete. ISQL required for the DUMP created by this exposure...update QASISTATE: COS FUV HVLOW HVLOW."</i></p>									
2	DCE RAM dump	DARK	S/C, DATA, NONE				SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW OBSET; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		60.0 Secs [==>]	[1]
<p><i>Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.</i></p>										



<b>Visit</b>	<b>Proposal 11893, Visit 06, implementation</b>									
	<b>Diagnostic Status: No Diagnostics</b>									
	Scientific Instruments: S/C									
	Special Requirements: AFTER 05; PARALLEL									
<i>Comments: Ramp the HV down and turn it off; Set Flag 3.</i>										

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	FUV HVNom to HVLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR RLHNTHLF; QASISTATES COS FUV HVLOW OPERATE; QASISTATES COS SI OPERATE OPERATE		35 Secs [==>]	[1]
2	FUV HVLow to Operate	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR RLHLTOPF		50 Secs [==>]	[1]
3	Set COS Event Flag 3	DARK	S/C, DATA, NONE			SPEC COM INSTR ELFLAG3	Same Alignment	1.0 Secs [==>]	[1]

*Comments: Set COS event flag 3. This will prevent FUV commanding unless it is cleared first.*





Proposal 11893 - Visit 11 - COS FUV Recovery from Anomalous Shutdown

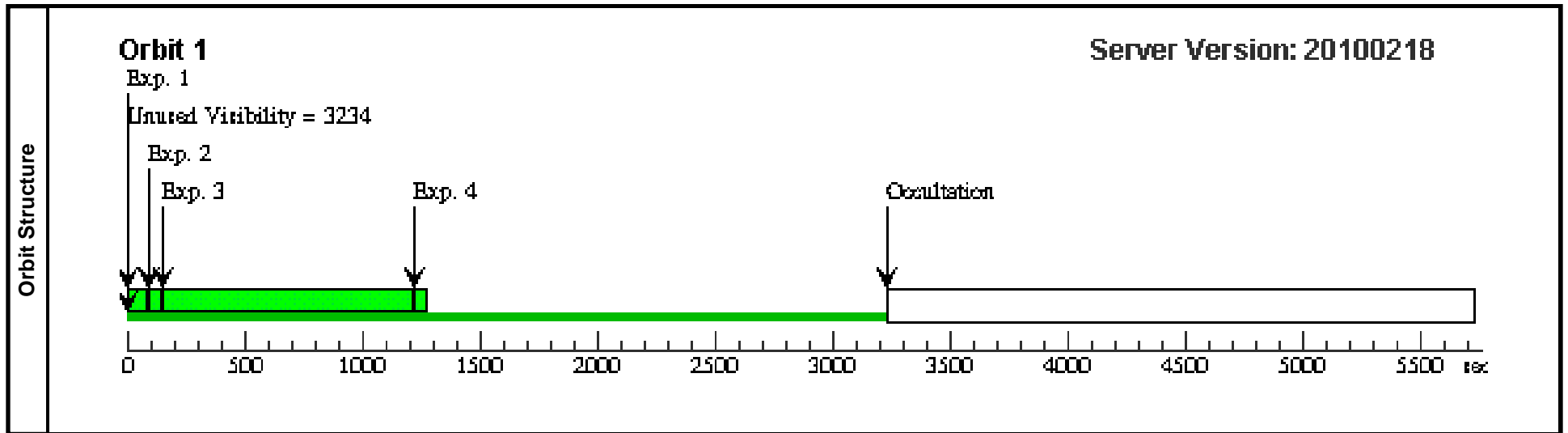
Wed Apr 14 01:03:02 GMT 2010

<b>Visit</b>	<p><b>Proposal 11893, Visit 11, implementation</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: S/C</p> <p>Special Requirements: AFTER 06 BY 48 H TO 56 H</p> <p>Comments: Diagnostics are taken (DCE RAM dumps).</p> <p>UC Berkeley, COS Instrument Scientist, and engineering will examine data dumps, science exposures, and housekeeping telemetry. If all is well, the go-ahead will be given to proceed with the second HV ramp-up. This time normal ramping parameters will be used. Flag 3 must be cleared by the ground via real-time commanding before the start of Visit 12.</p>									
	<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>
1		R/T Cmd - Clear Flag 3	DARK	S/C, DATA, NONE			REQ UPLINK; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV OPERATE OP ERATE	Same Alignment	1.0 Secs [==>]	[1]
<p>Comments: Provide a planned uplink opportunity to clear COS event flag 3 to allow FUV high voltage commanding. It is okay if the flag is cleared earlier and this uplink is not used.</p>										
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE	Same Alignment	60.0 Secs [==>]	[1]	
<p>Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.</p>										
<b>Orbit Structure</b>	<p><b>Orbit 1</b></p> <p>GS Acq</p> <p>Setup</p> <p>Unused Visibility = 3231</p> <p>Exp. 1</p> <p>Exp. 2</p> <p>Realtime Limit</p> <p>Occultation</p> <p>Server Version: 20100218</p> <p>The figure is a horizontal timeline for Orbit 1, starting at 0 seconds and ending at 5500 seconds. Key events are marked with vertical arrows: 'GS Acq' at 0s, 'Setup' at approximately 100s, 'Unused Visibility = 3231' from 0s to 500s, 'Exp. 1' at 500s, 'Exp. 2' at approximately 550s, 'Realtime Limit' at 2500s, and 'Occultation' at approximately 3250s. A green bar represents the active observation period from 0s to 3250s, with a small red bar at 2500s. A white bar represents the occultation period from 3250s to 5500s.</p>									
	<p>0 500 1000 1500 2000 2500 3000 3500 4000 4500 5000 5500 sec</p>									

Proposal 11893 - Visit 11 - COS FUV Recovery from Anomalous Shutdown

Wed Apr 14 01:03:03 GMT 2010

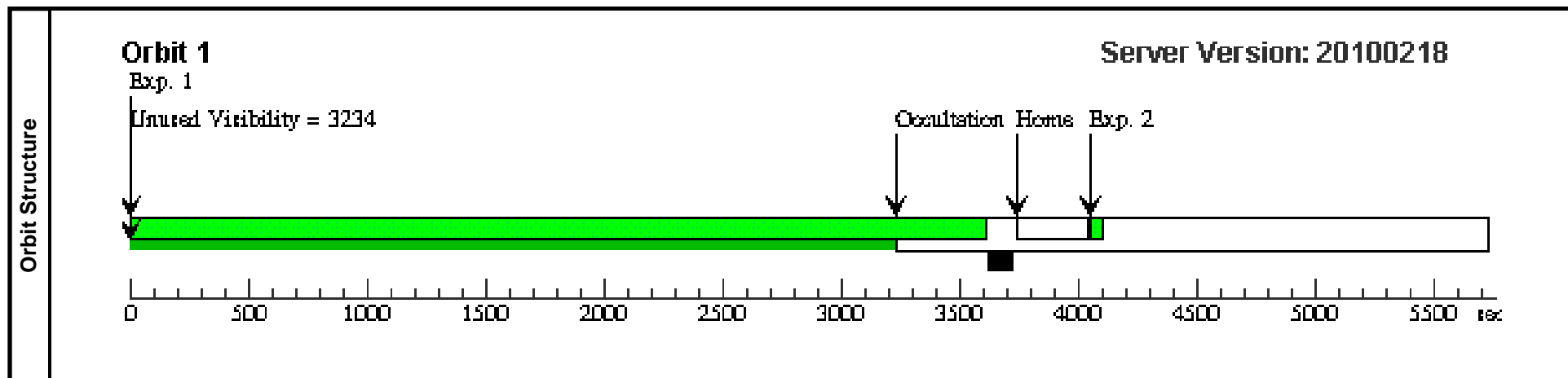
Visit	Proposal 11893, Visit 12, implementation									
	Diagnostic Status: No Diagnostics									
Exposures	Scientific Instruments: S/C									
	Special Requirements: AFTER 11; PARALLEL									
<p>Comments: FUV HV turn-on and ramp to HVLOW.                      FUV Qasi_states will be set to start_state=OPERATE. From there, special commanding will be used to execute the FUV Operate to HVLow reconfiguration. Diagnostics are taken (DCE RAM dumps) after each transition.</p>										
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit	
1	Turn FUV H V on	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR ELOPHOF; QASISTATES COS FUV OPERATE HV LOW; QASISTATES COS SI OBSERVE OBSE RVE		90.0 Secs [==>]	[1]	
<p>Comments: Turn on the FUV high voltage, but do not ramp it up. Exp time has 50s added to model AFTER BY on exp 2.</p>										
2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR ELCOPYDCE		60.0 Secs [==>]	[1]	
<p>Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.</p>										
3	Ramp FUV HV to HVLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR ELHOTHLF		1070.0 Secs [==>]	[1]	
<p>Comments: Ramp the FUV high voltage to the HVLOW value at 10 sec/step. The end state is HVLOW to reflect this. Visit 13's start state is set to match this end state. Exp time has 45s added to simulate AFTER BY on exp 2.</p>										
4	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR ELCOPYDCE		60.0 Secs [==>]	[1]	
<p>Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.</p>										



Proposal 11893 - Visit 13 - COS FUV Recovery from Anomalous Shutdown

Wed Apr 14 01:03:03 GMT 2010

<b>Visit</b>	<p><b>Proposal 11893, Visit 13, implementation</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV, S/C</p> <p>Special Requirements: AFTER 12; PARALLEL</p> <p>Comments: Dark 3600.0 second exposure. Diagnostics are taken (DCE RAM dumps) after the exposure.</p> <p>"Requires ISQL and PMDB DELETION of some alignments."</p>									
	<p>(Visit 13) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p>									
<b>Diagnostics</b>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	FUV Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=3600	SAA CONTOUR 31; NEW ALIGNMENT ; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		3600.0 Secs [==>]	[1]
	<p>Comments: Take a 1-hour dark exposure with the HV at HVLOW.</p> <p>"Delete the HOME alignment created by this exposure via pmdb -delete. ISQL required for the DUMP created by this exposure...update QASISTATE: COS FUV HVLOW HVLOW."</p>									
2	DCE RAM dump	DARK	S/C, DATA, NONE				SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW OBSET; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		60.0 Secs [==>]	[1]
<p>Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.</p>										



Proposal 11893 - Visit 14 - COS FUV Recovery from Anomalous Shutdown

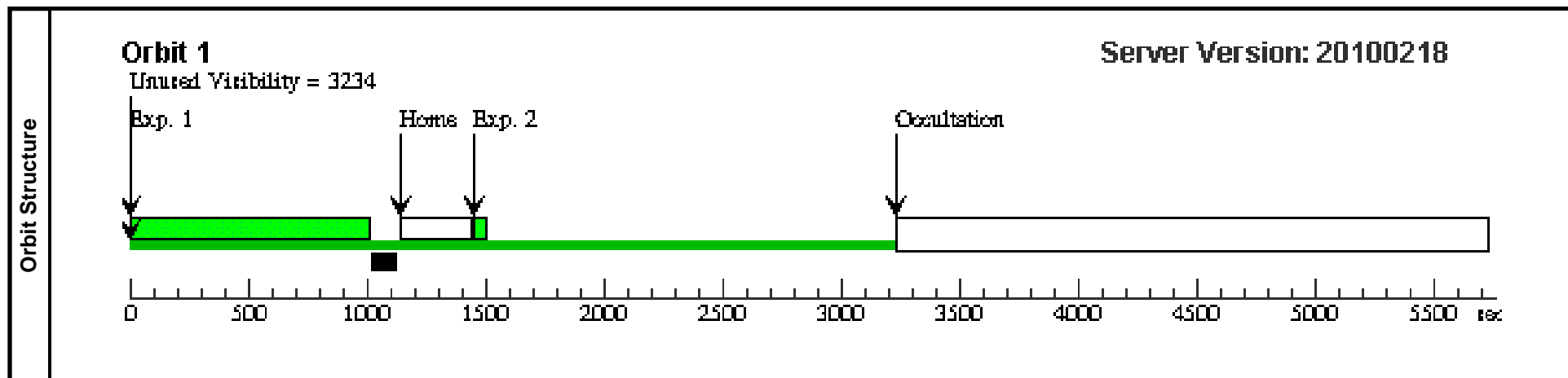
Wed Apr 14 01:03:03 GMT 2010

Visit	<p><b>Proposal 11893, Visit 14, implementation</b></p> <p><b>Diagnostic Status: No Diagnostics</b></p> <p>Scientific Instruments: COS/FUV, S/C</p> <p>Special Requirements: AFTER 13; PARALLEL</p> <p><i>Comments: Ramp FUV HV from HVLOW to HVNOM.</i></p> <p><i>Ramp the HV to it nominal value for each segment (169,167) during a 1000.0 second DARK exposure. Diagnostics are taken (DCE RAM dumps) after. FUV Qasi_states will be set to start_state=HVLOW. From there, special commanding will be used to execute the FUV HVLOW to HVNOM reconfiguration, but we set end_state to HVLOW to prevent 10.2 from inserting unwanted recons between this and visit 15.</i></p> <p><i>"Requires ISQL and PMDB DELETION of some alignments."</i></p>									
Exposures	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
	1	FUV Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=10 00	SAA CONTOUR 31; SPEC COM INSTR ELHLTHVFX; NEW ALIGNMENT ; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW; QESIPARM ENDC TSA 169; QESIPARM ENDC TSB 167; QESIPARM SECPE RCT 3		1000.0 Secs	
										[==>]
		2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW OBSET; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		60.0 Secs
										[==>]

*Comments: Ramp the FUV HV from HVLow to HVNom at 3 sec/step during this exposure.*

*"Delete the HOME alignment created by this exposure via pmdb -delete. ISQL required for the DUMP created by this exposure...update QASISTATE: COS FUV HVLOW HVLOW."*

*Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.*

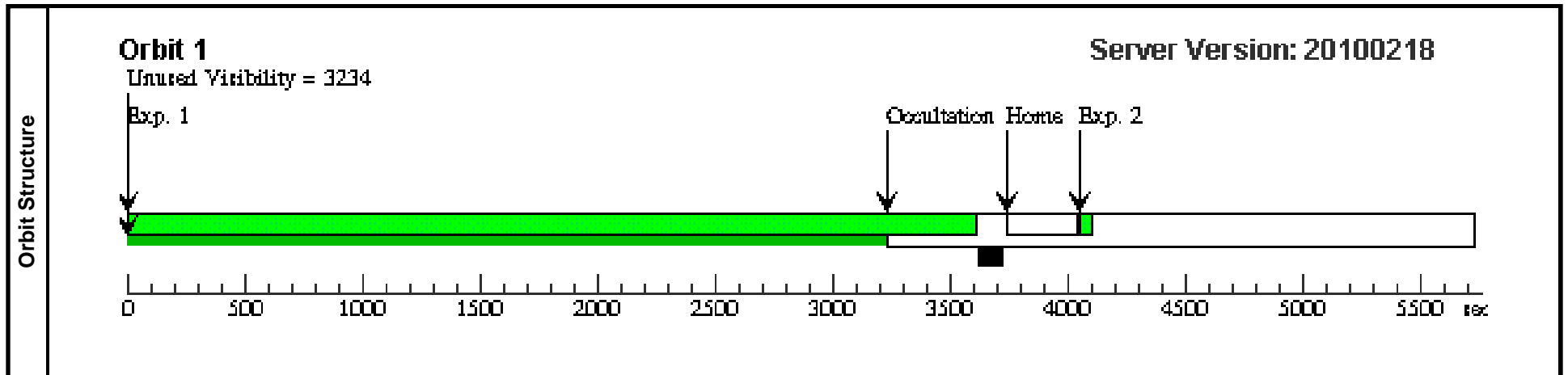


Proposal 11893 - Visit 15 - COS FUV Recovery from Anomalous Shutdown

Wed Apr 14 01:03:03 GMT 2010

<b>Visit</b>	<p><b>Proposal 11893, Visit 15, implementation</b></p> <p><b>Diagnostic Status: Warning</b></p> <p>Scientific Instruments: COS/FUV, S/C</p> <p>Special Requirements: AFTER 14; PARALLEL</p> <p>Comments: Dark 3600.0 second exposure. Diagnostics are taken (DCE RAM dumps) after the exposure.</p> <p>"Requires ISQL and PMDB DELETION of some alignments."</p> <p>After the completion of Visit 15, all diagnostic and science data from Visits 6-15 should be fast-tracked to the COS Science Team.</p>									
	<p>(Visit 15) Warning (Orbit Planner): MAXIMUM DURATION EXCEEDED FOR INTERNAL OR EARTH CALIB SU</p>									
<b>Diagnostics</b>										
<b>Exposures</b>	<b>#</b>	<b>Label</b>	<b>Target</b>	<b>Config,Mode,Aperture</b>	<b>Spectral Els.</b>	<b>Opt. Params.</b>	<b>Special Reqs.</b>	<b>Groups</b>	<b>Exp. Time/[Actual Dur.]</b>	<b>Orbit</b>
	1	FUV Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=3600	SAA CONTOUR 31; NEW ALIGNMENT ; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		3600.0 Secs [==>]	[1]
	<p>Comments: Take a 1-hour dark exposure with the HV at HVNOM.</p> <p>"Delete the HOME alignment created by this exposure via pmdb -delete. ISQL required for the DUMP created by this exposure...update QASISTATE: COS FUV HVLOW HVLOW."</p>									
2	DCE RAM dump	DARK	S/C, DATA, NONE				SAA CONTOUR 31; SPEC COM INSTR ELCOPYDCE; NEW OBSET; QASISTATES COS SI OBSERVE OBSE RVE; QASISTATES COS FUV HVLOW HVL OW		60.0 Secs [==>]	[1]
<p>Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.</p>										





<b>Visit</b>	<b>Proposal 11893, Visit 16, implementation</b> <b>Diagnostic Status: No Diagnostics</b> Scientific Instruments: S/C Special Requirements: AFTER 15; PARALLEL Comments: Ramp the HV down and turn it off. Set Flag 3. DO NOT schedule any COS FUV activities within 48 hours after this visit.									

<b>Exposures</b>	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
		1	FUV HVNom to HVLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR RLHNTHLF; QASISTATES COS FUV HVLOW OPERATE RATE; QASISTATES COS SI OPERATE OPERATE		35 Secs [==>]
	2	FUV HVLow to Operate	DARK	S/C, DATA, NONE			SAA CONTOUR 31; Same Alignment SPEC COM INSTR RLHLTOPF		50 Secs [==>]	[1]
	3	Set COS Event Flag 3	DARK	S/C, DATA, NONE			SPEC COM INSTR ELFLAG3	Same Alignment	1.0 Secs [==>]	[1]

Comments: Set COS event flag 3. This will prevent FUV commanding unless it is cleared first.

