

# 14944 - COS FUV Detector Recovery after Anomalous Shutdown

Cycle: 25, Proposal Category: CAL/COS (Availability Mode: RESTRICTED)

#### INVESTIGATORS

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#### VISITS

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	<b>OP</b> Current with Visit?
01	DARK	S/C	1	14-Aug-2017 17:07:19.0	yes
02	DARK	S/C	1	14-Aug-2017 17:07:19.0	yes
03	DARK	COS/FUV S/C	1	14-Aug-2017 17:07:20.0	yes
04	DARK	S/C	1	14-Aug-2017 17:07:20.0	yes
05	DARK	S/C	1	14-Aug-2017 17:07:21.0	yes
06	DARK	COS/FUV S/C	1	14-Aug-2017 17:07:21.0	yes
07	DARK	S/C	1	14-Aug-2017 17:07:22.0	yes

Visit	Targets used in Visit	Configurations used in Visit	Orbits Used	Last Orbit Planner Run	OP Current with Visit?
08	DARK WAVE	COS/FUV S/C	1	14-Aug-2017 17:07:22.0	yes
09	DARK	S/C	1	14-Aug-2017 17:07:23.0	yes
10	DARK WAVE	COS/FUV S/C	1	14-Aug-2017 17:07:23.0	yes
11	DARK	S/C	1	14-Aug-2017 17:07:24.0	yes
12	DARK WAVE	COS/FUV S/C	1	14-Aug-2017 17:07:24.0	yes
13	DARK	S/C	1	14-Aug-2017 17:07:25.0	yes
14	DARK WAVE	COS/FUV S/C	1	14-Aug-2017 17:07:25.0	yes
15	DARK	S/C	1	14-Aug-2017 17:07:26.0	yes
16	DARK WAVE	COS/FUV S/C	1	14-Aug-2017 17:07:26.0	yes
17	DARK	S/C	1	14-Aug-2017 17:07:27.0	yes

Proposal 14944 (STScI Edit Number: 2, Created: Monday, August 14, 2017 4:07:28 PM EST) - Overview

17 Total Orbits Used

#### ABSTRACT

This proposal consists of the steps for turning on and ramping up the COS FUV high voltage in a safe and conservative manner after a HV anomalous shutdown by executing a "reduced set" of visits from Cycle 24 Proposal 14522. The nature of the shutdown, i.e., over-light, HV current transient ("crackle"), ion feedback (induced by a high energy particle), or field emission (possibly caused by dust or other particulate on the QE grid or other close-by structure or hardware), and the value of the commanded HV at the time of the shutdown will determine what visits are executed. Because of gain sag and the selected Lifetime Position, commanded HV settings updates may be required.

First, prior to execution of this proposal or selected visits from this proposal, all preliminary steps should be exercised to gather the necessary diagnostic data, e.g., science data evaluation (if a science exposure was in progress and the science data is available), memory dumps (DCE, EXEC RAM, and possibly the CS BUFFER), engineering telemetry, or other information that might provide insight as to the nature of the shutdown and

Proposal 14944 (STScI Edit Number: 2, Created: Monday, August 14, 2017 4:07:28 PM EST) - Overview estimated count rate.

The complete step-by-step procedure is detailed in the Observing Description, but in summary, the following is done:

Day 01 activities, visits 01-07, contain both QE grid off and on HV ramping to HVLow (100/100) with diagnostics (DCE dumps) and darks to exclude QE grid involvement in the shutdown. Subsequent to day 01, all HV ramping will be with the QE grid on with the same diagnostics and exposures. All days end with the setting of COS event flag 3 to prevent any FUV HV commanding.

Time is allotted for COS instrument scientist and engineers to examine data dumps, science exposures, and engineering telemetry. If all is well, the go-ahead will be given to clear flag 3 for the next day's visits.

This proposal is modeled after the Cycle 24, Proposal 14522.

#### **OBSERVING DESCRIPTION**

This proposal consists of necessary steps for turning on and ramping up the COS FUV high voltage in a conservative manner after an anomalous shutdown. It is intended to be used for the on-orbit turn-on of the detector after such a shutdown.

Prior to execution of this proposal or selected visits from this proposal, all preliminary steps to collect diagnostic data should be exercised.

- 1. Gather the needed data
  - Do DCE dump as soon as possible
- 2. Circular buffer with 10 s of events and histograms of currents and voltages
  - Dump EXEC RAM for CVT (Current Value Table) telemetry and error logs
  - Examine exposure (if any) occurring during the anomaly
- 3. If instrument not suspended, normal readout of exposure in CS BUFFER should occur
  - CS BUFFER memory dump as may be appropriate
  - Examine engineering telemetry (including snapshots)

4. If event is determined to be similar to a previous event that did not damage the detector, and there does not appear to be evidence for more extended damage, we may decide on an accelerated recovery, e.g.,

- Will first go to HVLOW both without and then with the QE grid on

- If HVLOW data look normal, will consider proceeding directly to HVNOM and QE grid on

- Under some circumstances (i.e., a well understood event with essentially no risk of damage), we may consider returning directly to operations without additional testing

5. If event shows new or poorly understood behavior, will consult with appropriate experts prior to deciding which visits in the anomalous recovery proposal are required.

6. Primary criteria for deciding if event is the "same" as the 30 April event will be the temporal and spatial structure of the counts and gain

- Sudden drop in gain followed by extended field emission
- Primary emission localized to regions previously seen to have slightly enhanced dark rate
- May have less information than before if shutdown occurs outside a time-tag exposure
- 7. Event will also be compared to FUSE like "crackles" that produced current transients

8. Shutdowns due to external or internal lamp over-light will be evaluated based on estimated level of violation to decide if damage is a concern

The sequence day, visits numbers, exposures, and rough "after by" times (end to start) are listed. Number listed in parentheses, e.g., (100/100), or 154/151 are the HV command counts for Segment A and B, respectively.

Throughout the proposal, different "after by" times, sequence containers, and new alignments are used to optimize flow, schedulability, telemetry and science data analyses, and the clearing of flag 3. When "after by" times are listed as 0.0 to 1.0 hr., this means that this step should be scheduled and executed as soon as possible after the previous visit. If scheduling determines that a longer time is required for the sequence to schedule properly, then scheduling has the right to adjust this time as they deem appropriate. The proposal is designed such that the selected visits and exposures MUST be executed in order. The proposal is designed such that the selected visits and exposures MUST be executed in order.

Additionally, all visits are compliant with CARD 3.4.12.8 - COS FUV Mandatory Dwell Time at HVLow (1 hour dwell at HVLow before ramping to a more negative voltage) and CARD 3.4.12.9 -- COS FUV High Voltage QE Grid Operation (HV must be less negative or equal to the HVLow to switch grid on or off).

All dark exposures will be 3600 sec. with STIMS set to 30. All wave exposures will be 60 sec. with STIMs set to 2000.

#### Day 1

V01 Uninhibit the DCE - Flag 3 must be clear to execute.

- 1. FUV Inhibit to Boot
- 2. DCE RAM Dump to capture the cause of the shutdown
- 3. FUV Boot to Operate
- V02 QE off Turn HV on After Visit 01 by 0.0 to 1.0hr
  - 1. QE off Turn HV on (0/0 do not ramp)
  - 2. DCE RAM dump
- V03 QE off Ramp to HVLow After V02 by 0.0 to 1.0hr
  - 1. Ramp to HVLow (100/100)
  - 2. DCE RAM dump
  - 3. Dark exposure
- V04 Return to Operate After V03 by 0.0 to 1.0hr
  - 1. Return to Operate (HV off)
  - 2. DCE RAM dump
- V05 QE on Turn HV on After V04 by 0.0 to 1.0hr
  - 1. QE on Turn HV on (0/0 do not ramp)
  - 2. DCE RAM dump
- V06 QE on Ramp to HVLow (100/100) After V05 by 0.0 to 1.0hr
  - 1. Ramp to HVLow (100/100)
  - 2. DCE RAM Dump
  - 3. Dark exposure
- V07 Return to Operate After V06 by 0.0 to 1.0hr
  - 1. Return to Operate (HV off)
  - 2. DCE RAM dump
  - 3. Set flag 3

# Day 2

V08 QE on - Ramp to 154/151 - After V01 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi\_States will auto-schedule the normal Operate to HVLow transition

- Install memory monitors
  Ramp HV to 154/151
- 3. DCE RAM dump
- 4. Dark exposure
- 5. Wave exposure
- V09 Return to Operate After V08 by 0.0 to 1.0hr
  - 1. Return to HVLow (100/100)
  - 2. DCE RAM dump
  - 3. Set flag 3

# Day 3

V10 QE on - Ramp to 160/157 - After V08 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi\_States will auto-schedule the normal Operate to HVLow transition

- 1. Ramp HV to 160/157
- 2. DCE RAM dump
- 3. Dark exposure
- 4. Wave exposure

V11 Return to Operate - After V10 by 0.0 to 1.0hr

- 1. Return to HVLow
- 2. DCE RAM dump
- 3. Set flag 3

# Day 4

V12 QE on - Ramp to 167/163 - After V10 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi\_States will auto-schedule the normal Operate to HVLow transition

- 1. Ramp to HV to 167/163
- 2. DCE RAM dump
- 3. Dark exposure
- 4. Wave exposure

V13 Return to Operate - After by V12 by 0.0 to 1.0hr

- 1. Return to HVLow (100/100)
- 2. DCE RAM dump
- 3. Set flag 3

# Day 5

V14 QE on - Ramp to 172/169 - After V12 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi\_States will auto-schedule the normal Operate to HVLow transition

- 1. Ramp to HV to 172/169
- 2. DCE RAM dump
- 3. Dark exposure
- 4. Wave exposure
- V15 Return to Operate After V14 by 0.0 to 1.0hr
  - 1. Return to HVLow (100/100)
  - 2. DCE RAM dump
  - 3. Set flag 3

# Day 06

V16 QE on - Ramp to HVNom (178/175) - After V14 by 1D to 2D for analysis. Flag 3 must be clear to execute.

Qasi\_States will auto-schedule the normal Operate to HVLow transition

- 1. Ramp to HV to HVNom (178/175)
- 2. DCE RAM dump
- 3. Dark exposure
- 4. Wave exposure

V17 Return to HVOperate -- After V26 by 1.5hr to 2.1

- 1. Return to HVLow (100/100)
- 2. DCE RAM dump
- 3. Set flag 3

Clear flag 3 (Real-time) - After V16 1D for analysis. Flag 3 must be clear to continue science operations.

----- Realtime Justification ------

Real-time commanding is required to clear NSSC-1 COS event flag 3 prior to visit 01 and to go ahead with the selected visits. Flag 3 must also be cleared to go ahead with science observations after the last selected visit.

----- Additional Comments ------

This is a recovery from a HV anomalous shutdown. No regular or calibration FUV science exposures are allowed during recovery.

This is not a requirement but it is desirable to have real-time engineering telemetry (MA return) during the execution of this proposal.

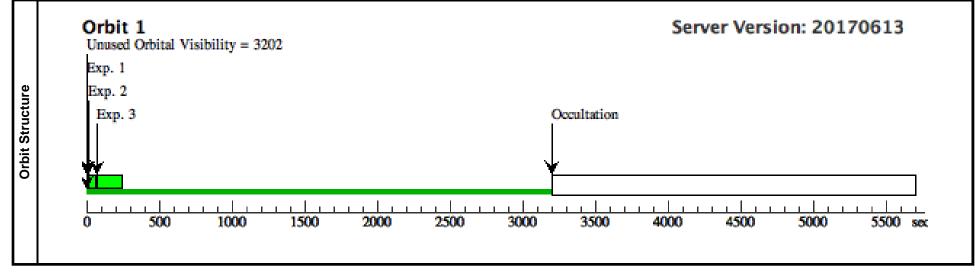
A contingency Operations Request to place to command the FUV detector into its Inhibit mode must be in place in case a significant anomaly occurs.

ISQL is required to Id S/C exposures as COS, to set the SI interleave flag properly, to adjust SI states on DUMP and HOME alignments, and to model readouts for the DCE dump exposures . See visits/exposures for detail.

This proposal requires Special Commanding.

#### Proposal 14944 - Uninhibit DCE (01) - COS FUV Detector Recovery after Anomalous Shutdown

	Proposal 14944, Uninhibit DCE (01), impleme	entation			• • • • •	Mon Aug 14 21:07:28 0	GMT 2017
	Diagnostic Status: No Diagnostics						2017
	Scientific Instruments: S/C						
	Special Requirements: ON HOLD ; PARALLEI	L					
sit	Comments: Uninhibit the DCE	_					
Visit	This visit uninhibits the DCE (sets dce_FUVInhi	ibitMode == FALSE and does other CS cleanup, the discussion of the					FUV
	recovery.	be cleared by the ground via real-time commanding	g. This can be done as s	oon as the anomalous I	HV shutdown is unders	tood an the go-ahead is given to procee	ed with the
	On Hold Comments: To be used only after an an # Label Target Confi	nomalous shutdown of the FUV high voltage. fig,Mode,Aperture Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		DATA, NONE		SPEC COM INSTR	Sequence 1-3 Non-In	· · · · · · · · · · · · · · · · · · ·	
	to Boot			ELRECOVERF;	t in Uninhibit DCE ( 01)	[==>]	
				QASISTATES COS SI OBSERVE OBSE	01)		
				RVE;			[1]
				QASISTATES COS FUV HVLOW OPE RATE			
	Comments: Unhibit the DCE for commanding by	py setting dce_FUVInhibitMode == FALSE in the C	S FSW. Several other h	ouskeeping tasks are a	so cleaned up.		
	It is assumed that this will be the first FUV activ	vity on an SMS and that the CS is in Operate state.	Therefore, the starting I	FUV state is set to HVL	OW. which is the nomi	nal SMS boundary state.	
	SQL: tag as COS (si_used and si_intrlv)	5	<i>,</i> , , , , , , , , , , , , , , , , , ,		,	2	
		DATA, NONE		SPEC COM INSTR	Sequence 1-3 Non-In	60.0 Sacs ( $60$ Sacs)	
	dump	DATA, NONE		ELCOPYDCE;	t in Uninhibit DCE (	[==>]	
				NEW ALIGNMENT	01)	1	
				;			
Exposures				QASISTATES COS SI OBSERVE OBSE RVE;			[1]
ISO				QASISTATES COS FUV OPERATE OP			
тхр				ERATE			
ш	Comments: Copy and dump DCE RAM.						
	From Jason McPhate (Berkeley FUV detector e:	expert, who defined the FUV initial turn-on procedu	re):				
		np of the FUV HV and AUX power current monitors t is 1 second old), and a cumulative histogram of the					
		alignment, qexposure, qreadout), tag as COS (si_us	,			,	
		DATA, NONE	ea ana si_iniriv)	SPEC COM INSTR	Sequence 1-3 Non-In	180 Secs. (180 Secs)	
	o Operate	DATA, NORE		RLBTTOPF;	t in Uninhibit DCE (	[==>]	
				NEW ALIGNMENT	01)		
				, QASISTATES COS			
				SI OBSERVE OBSE			[1]
				RVE;			
				QASISTATES COS FUV OPERATE OP			
				ERATE			
	Comments: Transition the DCE from Boot to Op	perate. Use standard recon.					
	SQL: tag as COS (si_used and si_intrlv)						



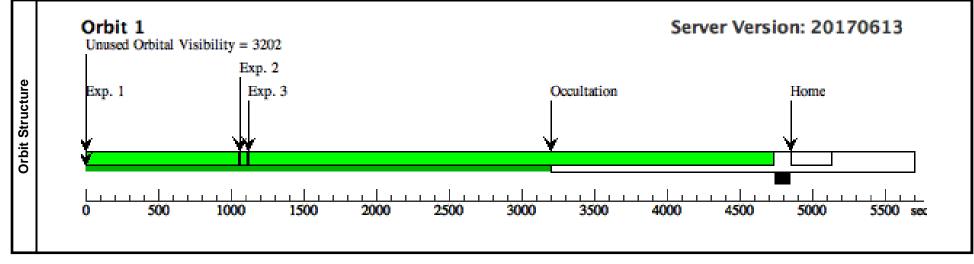
#### Proposal 14944 - QE off - Turn HV on (02) - COS FUV Detector Recovery after Anomalous Shutdown

<u>P10</u>	Jpos	sai 1494		- Turn HV on (02) - COS	S FUV Delecio	r Recovery a	nei Anomaious	Shuldown		
	1 1	· ,	-	V on (02), implementation					Mon Aug 14 21:07:28	GMT 2017
	Diag	gnostic Status	s: No Diagnostic	s						
Visit	Scie	ntific Instrume	ents: S/C							
Ë	Spec	cial Requireme	ents: AFTER 01	BY 0.1 H TO 1.5 H; PARALLEL						
	Com	ments: QE gr	id off, Turn-on H	IV						
	Spec	cial commandi	ing will be used t	o execute the FUV Operate to HV On (0	)/0 or approximately ~ ·	-2500V) reconfigurat	on and will stop there. Di	agnostics are taken (D	CE RAM dumps) after each transition.	
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	QE off - Tur		S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-2 Non-In	50 Secs (50 Secs)	
		n HV on (0/ 0)					SPEC COM INSTR ELOPTNQF;	t in QE off - Turn H V on (02)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV OPERATE HV LOW			
Exposures	Com	ments: Turn o	on the FUV HV w	vithout the QE grid. Do not ramp up.						
sul	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-2 Non-In	60.0 Secs (60 Secs)	
6		dump					SPEC COM INSTR	t in QE off - Turn H V on (02)	[==>]	
Ш							ELCOPYDCE;	· · · · · · · · · · · · · · · · · · ·		
							NEW ALIGNMENT			
							, QASISTATES COS			[1]
							SI OBSERVE OBSE			[1]
							RVE;			
							QASISTATES COS FUV HVLOW HVL OW			
	Com	ments: DCE F	RAM copy and di	ump. See Visit 1, Exposure 2 for a comp	lete description of the d	lump.				
	SQL	: setup readou	ut entry for the D	CE dump (qalignment, qexposure, qrea	dout), tag as COS (si_u	sed and si_intrlv)				
		Orbi Exp.						Server Ve	rsion: 20170613	
				isibility = 3202						
Le l				1810111ty = 5262			A 1			
Orbit Structure		Exp	. 2			Ň	Occultation			
٩ ١		¥1								
		0	500	1000 1500	2000 250	0 3000	3500 4	000 4500	5000 5500 st	x

# Proposal 14944 - QE off - Ramp to HVLow (03) - COS FUV Detector Recovery after Anomalous Shutdown

	1			$\frac{\text{Camp to } \Pi \vee \text{Low } (03) - C}{(03)}$						CMT 2017
				VLow (03), implementation					Mon Aug 14 21:07:28	GMT 2017
		gnostic Status	8							
Visit			nts: S/C, COS/FUV							
I	Spec	cial Requireme	nts: AFTER 02 BY	0.1 H TO 1.5 H; PARALLEL						
	Com	nments: Follow	ing visit 02, continue	e with the FUV ramp-up with the QE $lpha$	off to HVLow value (1	00/100).				
	The	HOME alignm	ent is not needed an	d may be deleted via SQL.						
ŝ				ing (Orbit Planner): MAXIMUM DUF	RATION EXCEEDEI	O FOR INTERNAL OR	EARTH CALIB SU			
Diagnostics		ľ								
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Ramp to HV		S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	1060 Secs (1060 Secs)	
		Low (100/10 0)					SPEC COM INSTR ELHOTHLF;	t in QE off - Ramp to HVLow (03)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Con	iments: Ramp i	he FUV HV to HVL	ow. The commanding assumes the HV	is already on.					
6	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
ures		dump					SPEC COM INSTR ELCOPYDCE;	t in QE off - Ramp to HVLow (03)	[==>]	
Exposures							NEW ALIGNMENT			
Ĩ							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Con	nments: DCE R	AM copy and dump.	See Visit 1, Exposure 2 for a complete	e description of the di	ump.				
	SQL	.: setup readou	t entry for the DCE a	dump (qalignment, qexposure, qreadou	ut), tag as COS (si_us	sed and si_intrlv)				
	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF		NEW ALIGNMENT	Sequence 1-3 Non-In	3600.0 Secs (3600 Secs)	
						00;	;	t in QE off - Ramp to	[==>]	
						STIM-RATE=30	QASISTATES COS FUV HVLOW HVL OW	HVLow (03)		[1]

Proposal 14944 - QE off - Ramp to HVLow (03) - COS FUV Detector Recovery after Anomalous Shutdown



#### Proposal 14944 - Return to Operate (04) - COS FUV Detector Recovery after Anomalous Shutdown

				10 Operate (04) - COS r		Necovery and	el Anomalous o			
			-	te (04), implementation					Mon Aug 14 21:07:28	GMT 2017
			: No Diagnostics							
Visit		ntific Instrume								
ΪŻ	Spec	cial Requireme	ents: AFTER 03 l	BY 1.4 H TO 3.5 H; PARALLEL						
	Com	iments: Return	a to Operate							
	Retu	ern to Operate,	and dump DCE							
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Return to O	DARK	S/C, DATA, NONE				Sequence 1-2 Non-In		
		perate (HV off)					SPEC COM INSTR RLHLTOPF;	t in Return to Operat e (04)	[==>]	
							QASISTATES COS SI OBSERVE OBSE			
							RVE;			[1]
							QASISTATES COS FUV HVLOW OPE RATE			
Exposures	Com	ments: Turn o	off the FUV high v	voltage					-	
ns	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-2 Non-In		
8		dump					SPEC COM INSTR ELCOPYDCE;	t in Return to Operat e (04)	[==>]	
Шŭ										
							NEW ALIGNMENT			
							, OASISTATES COS			[1]
							QASISTATES COS SI OBSERVE OBSE			[1]
							RVE;			
							QASISTATES COS FUV OPERATE OP ERATE			
	Con	ments: DCE R	RAM copy and du	mp. See Visit 1, Exposure 2 for a comp	lete description of the d	lump.				
	SQL	: setup readou	it entry for the DC	CE dump (qalignment, qexposure, qrea	dout), tag as COS (si_u	sed and si_intrlv)				
		~ • •						~		
		Orbi Exp.						Server Ve	rsion: 20170613	
				sibility = 3202						
Le l				sionity = 5262			6 h			
Orbit Structure		Exp.	. 2			,	Occultation			
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	1	0	500	1000 1500	2000 250	0 3000	3500 4	000 4500	5000 5500 s	- *
		<b>.</b>	AL MARKED	***** *****						

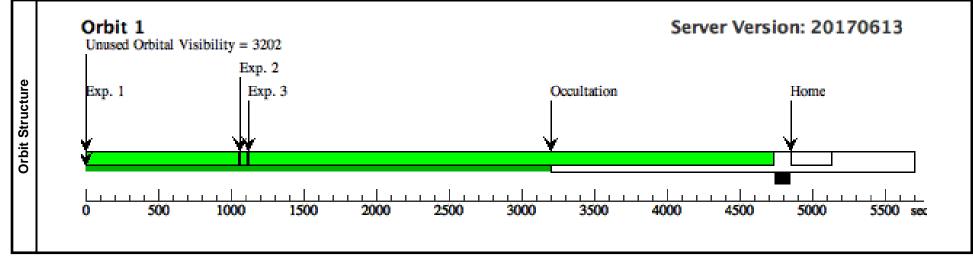
#### Proposal 14944 - QE on - Turn HV on (05) - COS FUV Detector Recovery after Anomalous Shutdown

PIC	pos	sai 14944		- Turn HV on (05) - COS		Recovery a	inter Anomaious	Shuldown		
	Prop	oosal 14944, (	QE on - Turn H	V on (05), implementation					Mon Aug 14 21:07:28	GMT 2017
1	Diag	nostic Status	: No Diagnostics	S						
Visit	Scie	ntific Instrume	ents: S/C							
Ë	Spec	ial Requireme	ents: AFTER 04	BY 0.1 H TO 1.5 H; PARALLEL						
	Com	ments: QE gri	id on, HV on							
	Spec	ial commandi	ng will be used to	o execute the FUV Operate to HV On ((	)/0 or approximately ~	-2500V) reconfigurat	ion and will stop there.			
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	QE on - Tur	DARK	S/C, DATA, NONE			SAA CONTOUR 31	; Sequence 1-2 Non-Ir		
		n HV on (0/ 0)					SPEC COM INSTR ELOPTHOF;	t in QE on - Turn HV on (05)	[==>]	
							QASISTATES COS			
							SI OBSERVE OBSE RVE;			[1]
<b>"</b>							QASISTATES COS FUV OPERATE HV LOW			
Exposures	Com	ments: Turn o	on the FUV HV, it	ncluding the QE grid. Do not ramp up.					1	1
su	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31	; Sequence 1-2 Non-Ir	60.0 Secs (60 Secs)	
l g		dump					SPEC COM INSTR	t in QE on - Turn HV on (05)	[==>]	
Ш							ELCOPYDCE; NEW ALIGNMENT			
							;			
							QASISTATES COS			[1]
							SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS			
							FUV HVLOW HVL OW			
				mp. See Visit 1, Exposure 2 for a comp	* *	•				
	SQL	: setup readou	it entry for the D	CE dump (qalignment, qexposure, qrea	dout), tag as COS (si_u	sed and si_intrlv)				
		Orbi	it 1					Server Ve	rsion: 20170613	
		Exp.						501101 10		
				isibility = 3202						
nre		Exp.	2	-			Occultation			
l⊈		Exp	. 4				Occurtation			
Ę										
t s										
<b>Orbit Structure</b>		<b></b>					Υ			
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1	1									
1	1	0	500	1000 1500	2000 250	0 3000	3500 4	000 4500	5000 5500 s	ex.
1	1									
L										

#### Proposal 14944 - QE on - Ramp to HVLow (06) - COS FUV Detector Recovery after Anomalous Shutdown

Ē	T			HVLow (06), implementation					Mon Aug 14 21:07:28	GMT 2017
	Dia	gnostic Status:	: Warning						C	
i:	Scie	entific Instrume	ents: S/C, COS/FU	JV						
Visit				BY 0.1 H TO 1.5 H; PARALLEL						
[	-	-		he FUV high voltage up to HVLow.						
	The	HOME alignm	ent is not needed	and may be deleted via SQL.						
Diagnostics				rning (Orbit Planner): MAXIMUM DU	RATION EXCEEDE	D FOR INTERNAL OR	EARTH CALIB SU			
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	QE on - Ra		S/C, DATA, NONE			SAA CONTOUR 31;		1060 Secs (1060 Secs)	
		mp to HVLo w (100/100)					SPEC COM INSTR RLOPTHLF;	t in QE on - Ramp to HVLow (06)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV OPERATE HV LOW			
	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
Ires		dump					SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to HVLow (06)	[==>]	
Exposures							NEW ALIGNMENT ;			
Ц× Ш							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Con	nments: DCE R	AM copy and dur	np. See Visit 1, Exposure 2 for a comple	te description of the d	lump.				
	SQI	L: setup readou	t entry for the DC	E dump (qalignment, qexposure, qread	out), tag as COS (si_1	used and si_intrlv)_				
	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36	NEW ALIGNMENT		3600.0 Secs (3600 Secs)	
1						00;	;	t in QE on - Ramp to HVLow (06)	[==>]	
						STIM-RATE=30	QASISTATES COS FUV HVLOW HVL OW			[1]

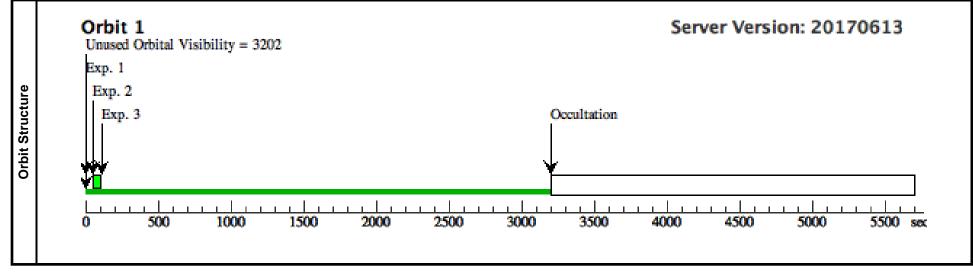
Proposal 14944 - QE on - Ramp to HVLow (06) - COS FUV Detector Recovery after Anomalous Shutdown



#### Proposal 14944 - Return to Operate (07) - COS FUV Detector Recovery after Anomalous Shutdown

	poc			<u> Jperate (07) - COS FU</u>		vecovery alle		lucuowii		
	Prop	osal 14944, F	Return to Operate (07	7), implementation					Mon Aug 14 21:07:28	GMT 2017
<u>=:</u>	Diag	nostic Status	: No Diagnostics							
Visit	Scier	ntific Instrume	ents: S/C							
1	Spec	ial Requireme	ents: AFTER 06 BY 1	.4 H TO 3.5 H; PARALLEL						
	Com	ments: Return	to Operate, dump DC	CE memory, and set flag 3.						
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Return to O	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	50 Secs (50 Secs)	
		perate (HV off)					SPEC COM INSTR RLHLTOPF;	t in Return to Operat e (07)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW OPE RATE			
	Com	ments: Turn o	ff the FUV high voltag	ge						
6	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
Exposures		dump					SPEC COM INSTR ELCOPYDCE;	t in Return to Operat e (07)	[==>]	
ödx							NEW ALIGNMENT ;			
Ш							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV OPERATE OP ERATE			
	Com	ments: DCE R	RAM copy and dump. S	See Visit 1, Exposure 2 for a complet	e description of the d	ump.				
	SOL	: setup readou	t entry for the DCE di	ump (qalignment, qexposure, qreado	ut), tag as COS (si u	sed and si intrlv)				
		Set flag 3	DARK	S/C, DATA, NONE	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)	
		C					ELFLAG3;	t in Return to Operat	[==>]	[1]
							NEW ALIGNMENT	e (07)		[1]
	Com	ments: Set NS	SC-1 COS event flag 3	3. This will prevent subsequent FUV	commanding unless i	t is cleared first.				

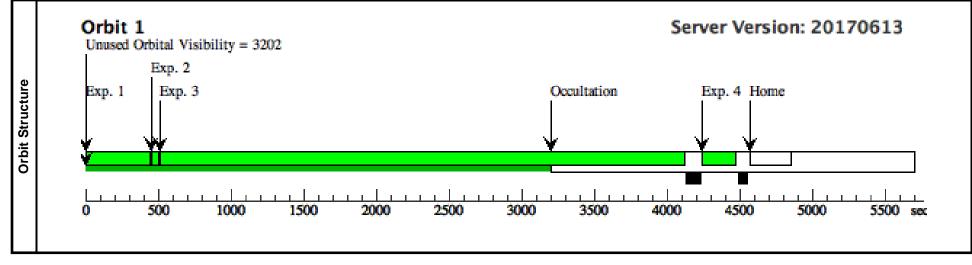
Proposal 14944 - Return to Operate (07) - COS FUV Detector Recovery after Anomalous Shutdown



# Proposal 14944 - QE on - Ramp to 154/151 (08) - COS FUV Detector Recovery after Anomalous Shutdown

				- Ramp 10 154/151 (08) - 5154/151 (08), implementation	000.015		,		Mon Aug 14 21:07:28	GMT 2017
	-	nostic Status								
2	-		ents: S/C, COS/F	UV						
VISIT				BY 1.0 D TO 2.0 D; PARALLEL						
	-	-		ltage up to a specified value (well below )	HVNom).					
	No S.	AA Passage b	between Visits 08	and 09.						
ŝ				arning (Orbit Planner): MAXIMUM DU	RATION EXCEEDE	D FOR INTERNAL OR	EARTH CALIB SU			
Diagnostics										
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Ramp to 154	4 DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	451 Secs (451 Secs)	
		/151					SPEC COM INSTR ELHLTHVF;	t in QE on - Ramp to 154/151 (08)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			
							QASISTATES COS FUV HVLOW HVN OM;			[1]
							QESIPARM ENDC TSA 154;			
							QESIPARM SECPE RCT 3;			
							QESIPARM ENDC TSB 151			
Exposures				54/151 counts (A/B).			CAA CONTOUR 21.	Company 1 4 Nove In	(0,0,0,0,0,0,0)	
Sur Sur	2	DCE RAM dump	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR	Sequence 1-4 Non-In t in QE on - Ramp to	[==>]	
ğ							ELCOPYDCE;	154/151 (08)	[==>]	
й							NEW ALIGNMENT			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVN OM			
	Com	ments: DCE I	RAM copy and du	mp. See Visit 1, Exposure 2 for a comple	te description of the a	lump.				
				CE dump (qalignment, qexposure, qreado		-				
		Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF		NEW ALIGNMENT	Sequence 1-4 Non-In	3600.0 Secs (3600 Secs)	
	ľ		2		224	00;		t in QE on - Ramp to	[==>]	
						STIM-RATE=30		15 (/ 151 (00)		[1]
	4	Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU M;		Sequence 1-4 Non-In t in OE on - Ramp to		
					1600 A	FP-POS=3;		t in QE on - Ramp to 154/151 (08)	[==>]	
	1									[1]

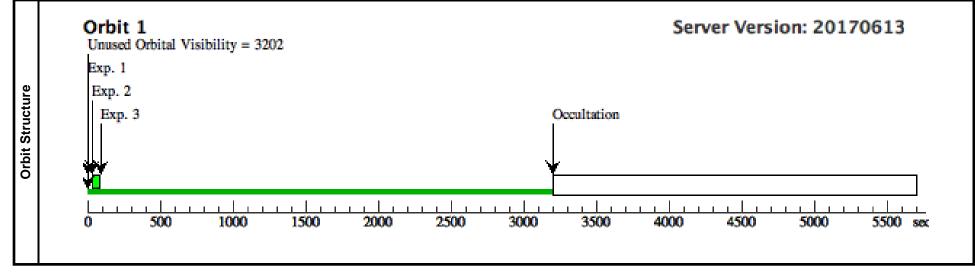
Proposal 14944 - QE on - Ramp to 154/151 (08) - COS FUV Detector Recovery after Anomalous Shutdown



#### Proposal 14944 - Return to HVLow (09) - COS FUV Detector Recovery after Anomalous Shutdown

Pro	oposal 14944, 1	Return to HVLo	w (09), implementation					Mon Aug 14 21:07:28	GMT 2017
Dia	agnostic Statu	s: No Diagnostic	s						
Dia Sci	ientific Instrum	ents: S/C							
Spe	ecial Requirem	ents: AFTER 08	BY 1.2 H TO 3.5 H; PARALLEL						
Co	mments: Retur	n to HVLow, dum	p DCE memory, and set flag 3.						
#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
1	Return to H VLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR RLHNTHLF;	Sequence 1-3 Non-In t in Return to HVLo w (09)	35 Secs (35 Secs) [==>]	
						NEW OBSET;			
						QASISTATES COS SI OBSERVE OBSE RVE;			[1]
						QASISTATES COS FUV HVNOM HVL OW			
Co	mments: SQL:	Enforce the seq n	non-int across the obsets						
3 2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
2	dump					SPEC COM INSTR ELCOPYDCE;	t in Return to HVLo w (09)	[==>]	
•						NEW ALIGNMENT			
						; QASISTATES COS SI OBSERVE OBSE RVE;			[1]
						QASISTATES COS FUV HVLOW HVL OW			
Co	mments: DCE	RAM copy and di	ump. See Visit 1, Exposure 2 for a comp	lete description of the d	lump.				
so	L: setup reado	ut entry for the D	CE dump (qalignment, qexposure, qrea	dout), tag as COS (si u	used and si intrlv)				
3	Set flag 3	DARK	S/C, DATA, NONE	// ···· 8		SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)	
	0		· ·			ELFLAG3;	t in Return to HVLo	[==>]	[1]
						NEW ALIGNMENT	w (09)		[1]
Co	mments: Set NS	SSC-1 COS event	flag 3. This will prevent subsequent FU	V commanding unless	it is cleared first.				

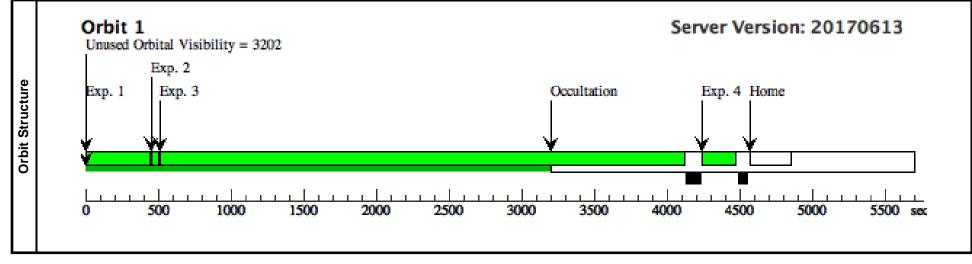
Proposal 14944 - Return to HVLow (09) - COS FUV Detector Recovery after Anomalous Shutdown



# Proposal 14944 - QE on - Ramp to 160/157 (10) - COS FUV Detector Recovery after Anomalous Shutdown

	Prop			Kallip to 100/157 (10) -	0001010				Mon Aug 14 21:07:28	GMT 2017
	-	nostic Status								
ij	0		ents: S/C, COS/FU	V						
Visit				Y 1.0 D TO 2.0 D; PARALLEL						
-	-	-		age up to a specified value (higher than	V08, lower than HVN	lom).				
	No S	AA Passage h	etween Visits 10 a	nd 11.		,				
ŝ				ning (Orbit Planner): MAXIMUM DUI	RATION EXCEEDEI	D FOR INTERNAL OR	EARTH CALIB SU			
Diagnostics		1								
ö										
ag										
Ō										
		Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Ramp to 160	DARK	S/C, DATA, NONE					451 Secs (451 Secs)	
		/157					SPEC COM INSTR ELHLTHVF;	t in QE on - Ramp to 160/157 (10)	[==>]	
							QASISTATES COS			
							SI OBSERVE OBSE RVE;			
							QASISTATES COS			
							FUV HVLOW HVN OM;			[1]
							QESIPARM ENDC			
							TSA 160;			
							QESIPARM SECPE RCT 3;			
							QESIPARM ENDC			
	C		1 FIN IN 16	$0/157 \dots (A/\mathbf{P})$			TSB 157			
Exposures		DCE RAM	the FUV HV to 160	S/C, DATA, NONE			SAA CONTOUR 31:	Sequence 1-4 Non-In	60.0 Secs (60 Secs)	
sul	2	dump	Drikk	S/C, DATA, NORL			SPEC COM INSTR	t in QE on - Ramp to	[==>]	
bq							ELCOPYDCE;	160/157 (10)		
ш							NEW ALIGNMENT			
							, QASISTATES COS			[1]
							SI OBSERVE OBSE			[1]
							RVE; QASISTATES COS			
							FUV HVNOM HVN			
	Com	monts: DCF 4	AM come and dum	p. See Visit 1, Exposure 2 for a complet	te description of the d	umn	OM			
					· ·	•				
				E dump (qalignment, qexposure, qreado			NEW ALLONDAENT	Companya 1 4 Mars T	2600 0 5000 (2600 5)	
	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME= $36$ 00;	NEW ALIGNMENT	t in QE on - Ramp to	3600.0 Secs (3600 Secs) [==>]	
						STIM-RATE=30		160/157 (10)	1/1	[1]
	4	Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU		Sequence 1-4 Non-In		
				1600 A M;	IVI,	t in QE on - Ramp to 160/157 (10)		[==>]		
						FP-POS=3;		100/15/(10)		[1]

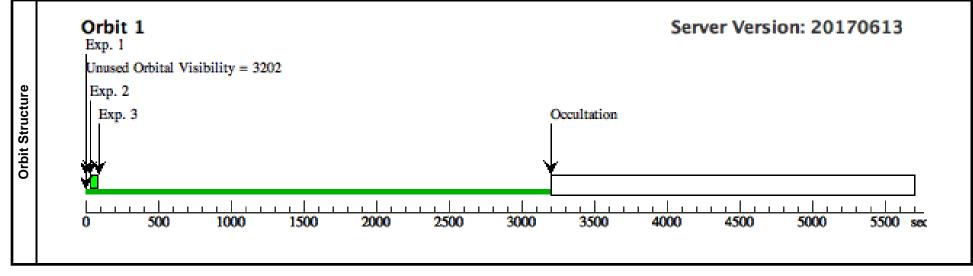
Proposal 14944 - QE on - Ramp to 160/157 (10) - COS FUV Detector Recovery after Anomalous Shutdown



#### Proposal 14944 - Return to HVLow (11) - COS FUV Detector Recovery after Anomalous Shutdown

	T			V (11), implementation					Mon Aug 14 21:07:28	GMT 2017		
÷	Dia	Diagnostic Status: No Diagnostics										
Visit	Scie	entific Instrume	ents: S/C									
>	Spe	cial Requireme	ents: AFTER 10 E	BY 1.2 H TO 3.5 H; PARALLEL								
	-	-		DCE memory, and set flag 3.								
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit		
	1	Return to H VLow	DARK	S/C, DATA, NONE			SAA CONTOUR 31; SPEC COM INSTR RLHNTHLF:	Sequence 1-3 Non-In t in Return to HVLo w (11)	35 Secs (35 Secs) [==>]			
							NEW OBSET;					
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVNOM HVL OW					
	Con	nments: SQL:	Enforce the seq no	on-int across the obsets								
es	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)			
Exposures		dump				SPEC COM INSTR ELCOPYDCE;	t in Return to HVLo w (11)	[==>]				
хp							NEW ALIGNMENT					
ш							, QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVLOW HVL OW					
	Con	iments: DCE I	RAM copy and dur	np. See Visit 1, Exposure 2 for a comp								
	SQL	.: setup readoi	ut entry for the DC	E dump (qalignment, qexposure, qrea	dout), tag as COS (si_u	used and si_intrlv)						
	3	Set flag 3	DARK	S/C, DATA, NONE				Sequence 1-3 Non-In	1.0 Secs (1 Secs)			
								t in Return to HVLo w (11)	[==>]	[1]		
	Con	uments: Set NS	SC-1 COS event f	lag 3. This will prevent subsequent FU	V commanding unless	it is cleared first.						

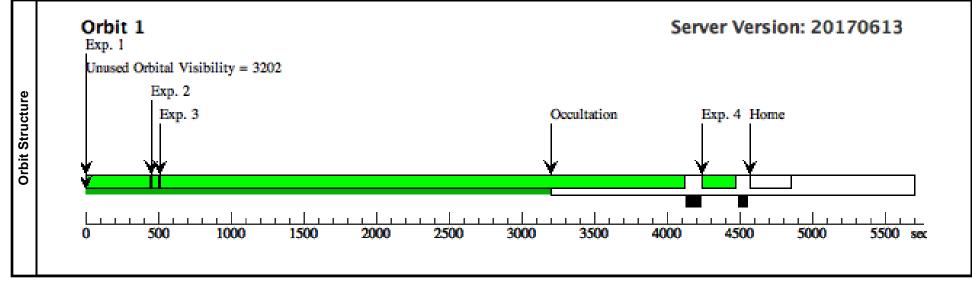
#### Proposal 14944 - Return to HVLow (11) - COS FUV Detector Recovery after Anomalous Shutdown



# Proposal 14944 - QE on - Ramp to 167/163 (12) - COS FUV Detector Recovery after Anomalous Shutdown

				- Ramp to 107/103 (12) - 167/163 (12), implementation	0001010				Mon Aug 14 21:07:28	3 GMT 2017
	-	nostic Status								
Ĕ	Scien	tific Instrume	ents: S/C, COS/F	UV						
VISIt	Speci	al Requireme	ents: AFTER 10	BY 1.0 D TO 2.0 D; PARALLEL						
	Comn	nents: Ramp	the FUV high vol	ltage up to a specified value (higher than	V10).					
	No SA	AA Passage b	etween Visits 12	and 13.						
Diagnostics	(QE o	on - Ramp to	167/163 (12)) W	arning (Orbit Planner): MAXIMUM DUF	RATION EXCEEDE	D FOR INTERNAL OR	EARTH CALIB SU			
-	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
		Ramp to 167	0	S/C, DATA, NONE	•	•		Sequence 1-4 Non-In		
		/163					SPEC COM INSTR ELHLTHVF;	t in QE on - Ramp to 167/163 (12)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			
							QASISTATES COS FUV HVLOW HVN OM;			[1]
							QESIPARM ENDC TSA 167;			
							QESIPARM SECPE RCT 3;			
	_						QESIPARM ENDC TSB 163			
res		nents: Ramp DCE RAM		67/163 counts (A/B). S/C, DATA, NONE			SAA CONTOUR 31	Sequence 1-4 Non-In	60.0 Secs. (60 Secs)	
Exposures		dump	2	<i>b, c, b</i> ,,			SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to 167/163 (12)	[==>]	
ЦХ С							NEW ALIGNMENT			
							, QASISTATES COS SI OPERATE OPER			[1]
							ATE;			
							QASISTATES COS FUV HVNOM HVN OM			
	Comn	nents: DCE H	RAM copy and du	mp. See Visit 1, Exposure 2 for a complet	e description of the a	lump.				
	SQL:	setup readou	it entry for the D	CE dump (qalignment, qexposure, qreado	ut), tag as COS (si_u	sed and si_intrlv)				
		Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF	BUFFER-TIME=36	NEW ALIGNMENT	Sequence 1-4 Non-In	3600.0 Secs (3600 Secs)	
						00;		t in QE on - Ramp to 167/163 (12)	[==>]	[1]
	4	Wava	WAVE	COS/ELIV TIME TAC WCA	C160M	STIM-RATE=30 CURRENT=MEDIU				,
	4	Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M 1600 A	M;		Sequence 1-4 Non-In t in QE on - Ramp to	$\frac{60 \text{ Secs } (60 \text{ Secs})}{[==>]}$	
					1000 A	FP-POS=3;		167/163 (12)	1~1	[1]
						STIM-RATE=2000				,

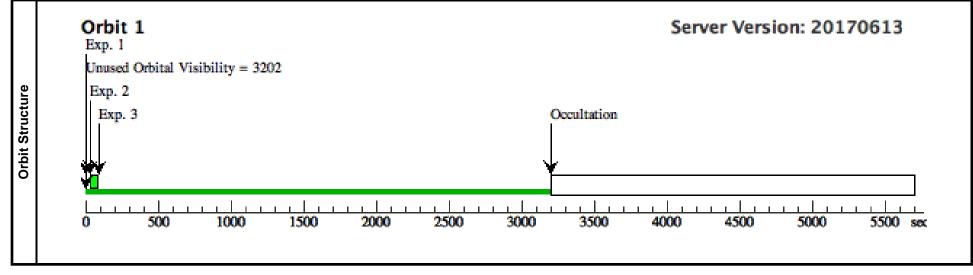
#### Proposal 14944 - QE on - Ramp to 167/163 (12) - COS FUV Detector Recovery after Anomalous Shutdown



#### Proposal 14944 - Return to HVLow (13) - COS FUV Detector Recovery after Anomalous Shutdown

	ρυς	bai 1434-		<u> 10 LOW (13) - COS FUV</u>	DELECTOR	ecovery aller	Anomalous Sh	uluown				
	Prop	osal 14944, R	eturn to HVLow (13	), implementation					Mon Aug 14 21:07:28	GMT 2017		
. <u></u>	Diag	Diagnostic Status: No Diagnostics										
Visit	Scie	Scientific Instruments: S/C										
	Spec	ial Requireme	nts: AFTER 12 BY 1	.2 H TO 3.5 H; PARALLEL								
	Com	ments: Return	to HVLow, dump DC.	E memory, and set flag 3.								
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit		
	1	Return to H	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	35 Secs (35 Secs)			
		VLow					SPEC COM INSTR RLHNTHLF;	t in Return to HVLo w (13)	[==>]			
							NEW OBSET;					
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVNOM HVL OW					
	Com	ments: SQL: E	Enforce the seq non-in	t across the obsets								
ŝ	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)			
Exposures		dump				SPEC COM INSTR t in Return to HVLo ELCOPYDCE; w (13)		[==>]				
ğ							NEW ALIGNMENT					
Ш												
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVLOW HVL OW					
1	Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.											
1	SOL	· setun readou	t entry for the DCF di	ump (qalignment, qexposure, qreadout	) tag as COS (si us	ed and si intrly)						
1	<u>302</u>	Set flag 3	DARK	S/C, DATA, NONE	<u>,,</u>	ca and st_mmer)	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)			
1	5	Set mug 5	Dinn	5, 0, 21111, 101112				t in Return to HVLo	[==>]			
1							NEW ALIGNMENT	w (13)		[1]		
	Com	ments: Set NS	SC-1 COS event flag 3	3. This will prevent subsequent FUV co	ommanding unless it	t is cleared first.						

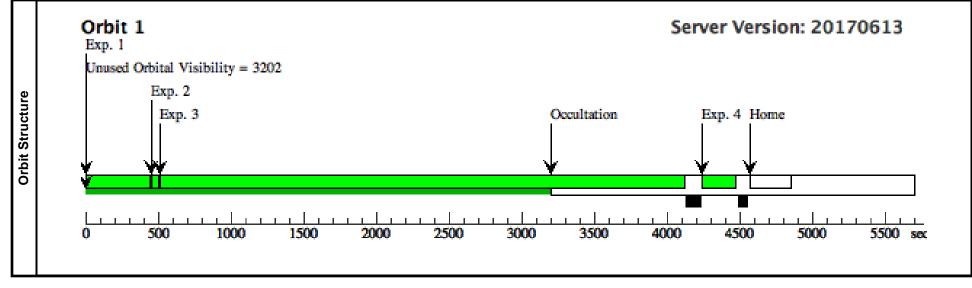
#### Proposal 14944 - Return to HVLow (13) - COS FUV Detector Recovery after Anomalous Shutdown



#### Proposal 14944 - QE on - Ramp to 172/169 (14) - COS FUV Detector Recovery after Anomalous Shutdown

				- <u>Ramp to 172/169 (14) -</u> 0 172/169 (14), implementation					Mon Aug 14 21:07:28	GMT 2017
	-	nostic Status		(172/109 (14), implementation					Woll Aug 14 21.07.28	0111 2017
			ents: S/C, COS/F	TIV						
VISIL				BY 1.0 D TO 2.0 D; PARALLEL						
	-	-		ltage up to a specified value (higher than	V12).					
		_	oetween Visits 14							
ú				arning (Orbit Planner): MAXIMUM DU	RATION EXCEEDE	D FOR INTERNAL OR	EARTH CALIB SU			
טווטטווטאווט		-								
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Ramp to 172	2 DARK	S/C, DATA, NONE	•	•		Sequence 1-4 Non-In		
		/169					SPEC COM INSTR ELHLTHVF;	t in QE on - Ramp to 172/169 (14)	[==>]	
							QASISTATES COS SI OBSERVE OBSE RVE;			
							QASISTATES COS FUV HVLOW HVN OM;			[1]
							QESIPARM ENDC TSA 172;			
							QESIPARM SECPE RCT 3;			
							QESIPARM ENDC TSB 169			
		<i>ments: Ramp</i> DCE RAM		72/169 counts (A/B). S/C, DATA, NONE			SAA CONTOUR 21:	Sequence 1-4 Non-In	60 0 Saas (60 Saas)	
	2	dump	DAKK	S/C, DATA, NONE			SPEC COM INSTR	t in QE on - Ramp to	[==>]	
							ELCOPYDCE;	172/169 (14)		
							NEW ALIGNMENT			
							, QASISTATES COS SI OBSERVE OBSE			[1]
							RVE;			
							QASISTATES COS FUV HVNOM HVN OM			
	Com	ments: DCE l	RAM copy and du	mp. See Visit 1, Exposure 2 for a comple	e description of the a	lump.				•
	SQL:	setup readou	ut entry for the D	CE dump (qalignment, qexposure, qreadd	ut), tag as COS (si_u	sed and si_intrlv)				
	3	Dark	DARK	COS/FUV, TIME-TAG, DEF	DEF		NEW ALIGNMENT		3600.0 Secs (3600 Secs)	
						00; STIM-RATE=30		t in QE on - Ramp to 172/169 (14)	[==>]	[1]
	4	Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU		Sequence 1-4 Non-In	60 Secs (60 Secs)	
				,,,,,,,	1600 A	М;		t in QE on - Ramp to 172/169 (14)	[==>]	
						FP-POS=3;		1/2/109 (14)		[1]
						STIM-RATE=2000				

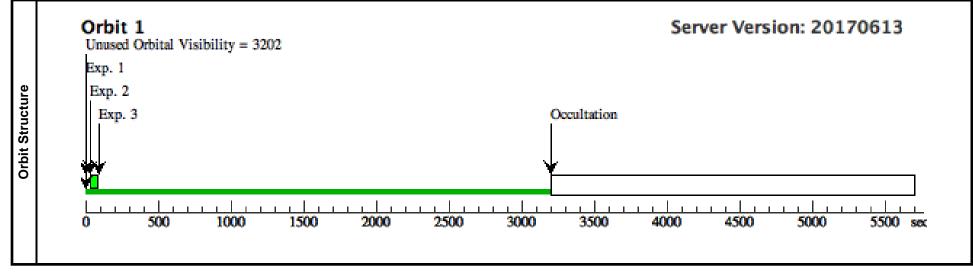
#### Proposal 14944 - QE on - Ramp to 172/169 (14) - COS FUV Detector Recovery after Anomalous Shutdown



# Proposal 14944 - Return to HVLow (15) - COS FUV Detector Recovery after Anomalous Shutdown

	pot			<u>HVLOW (15) - COS FU</u>			Anomalous on					
	Prop	osal 14944, R	eturn to HVLow (15	5), implementation					Mon Aug 14 21:07:28	GMT 2017		
±.	Diag	Diagnostic Status: No Diagnostics										
Visit	Scie	ntific Instrume	ents: S/C									
1	Spec	ial Requireme	nts: AFTER 14 BY 1	1.2 H TO 3.5 H; PARALLEL								
	Com	ments: Return	to HVLow, dump DC	CE memory, and set flag 3.								
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit		
	1	Return to H	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	35 Secs (35 Secs)			
		VLow					SPEC COM INSTR RLHNTHLF;	t in Return to HVLo w (15)	[==>]			
							NEW OBSET;					
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVNOM HVL OW					
	Com	ments: SQL:	Enforce the seq non-i	nt across the obsets								
S	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)			
Exposures		dump					t in Return to HVLo w (15)	[==>]				
ĬĂ							NEW ALIGNMENT					
Ш							;					
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]		
							QASISTATES COS FUV HVLOW HVL OW					
	Comments: DCE RAM copy and dump. See Visit 1, Exposure 2 for a complete description of the dump.											
	SOL	· setun readou	t entry for the DCF d	ump (qalignment, qexposure, qreado	nut) tao as COS (si u	sed and si intrly)						
	3	Set flag 3	DARK	S/C, DATA, NONE	<i>an, az us cos si_u</i>	sea and st_minv)	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)			
	5	Set mug 5	Dimix	5, C, Diriti, HONE			ELFLAG3; t in Return to HVLo	t in Return to HVLo	[==>]			
							NEW ALIGNMENT	w (15)		[1]		
	Com	ments: Set NS.	SC-1 COS event flag.	3. This will prevent subsequent FUV	commanding unless i	it is cleared first.						

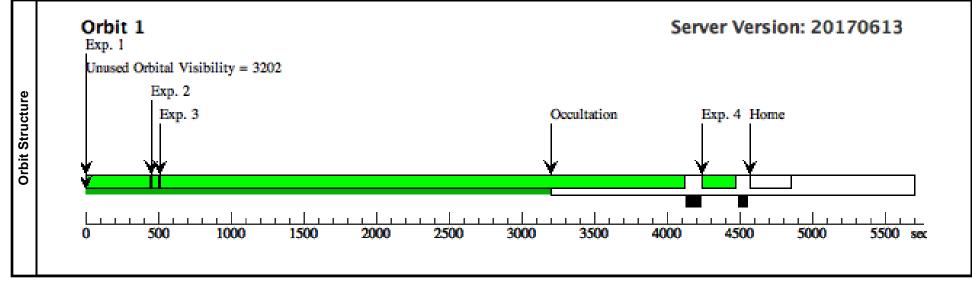
Proposal 14944 - Return to HVLow (15) - COS FUV Detector Recovery after Anomalous Shutdown



# Proposal 14944 - QE on - Ramp to 178/175 (16) - COS FUV Detector Recovery after Anomalous Shutdown

10				Ramp to 170/175 (10) -	0001010					
	· ·		с I	178/175 (16), implementation					Mon Aug 14 21:07:28	GMT 2017
	~	nostic Statu								
Visit			ents: S/C, COS/FU							
>	Spec	ial Requirem	ents: AFTER 14 H	BY 1.0 D TO 2.0 D; PARALLEL						
	Com	ments: Ramp	the FUV high volt	tage up to 178/175.						
	No S	AA Passage	between Visits 16 c	und 17.						
Diagnostics	(QE	on - Ramp to	178/175 (16)) Wa	rning (Orbit Planner): MAXIMUM DUF	RATION EXCEEDE	D FOR INTERNAL OR	EARTH CALIB SU			
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Ramp to 178	8 DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	451 Secs (451 Secs)	
		/175					SPEC COM INSTR RLHLTHNF;	t in QE on - Ramp to 178/175 (16)	[==>]	
							QASISTATES COS SI OBSERVE OBSE			[1]
							RVE;			[-]
							QASISTATES COS FUV HVLOW HVN OM			
	Com	ments: Ramp	the FUV HV to 17	8/175 counts (A/B, the nominal HVNom	values).					•
	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-4 Non-In	60.0 Secs (60 Secs)	
ŝ		dump					SPEC COM INSTR ELCOPYDCE;	t in QE on - Ramp to 178/175 (16)	[==>]	
Ĭ							NEW ALIGNMENT			
SO							;			
Exposures							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVN			
	Com	ments: DCF	RAM copy and due	np. See Visit 1, Exposure 2 for a complet	e description of the	dump	OM			
				E dump (qalignment, qexposure, qreado	1 0	*				
	SQL 3	Dark	DARK	<u>L aump (qalignment, qexposure, qreaao</u> COS/FUV, TIME-TAG, DEF	DEF		NEW ALIGNMENT	Sequence 1-4 Non-In	3600.0 Secs (3600 Secs)	
	5	Durk	Dimix	CODITION, THVIL-TAG, DEI		$\begin{array}{c} \text{BOTTER-TIME}=50\\ 00; \end{array}$		t in QE on - Ramp to	[==>]	
						STIM-RATE=30		178/175 (16)		[1]
	4	Wave	WAVE	COS/FUV, TIME-TAG, WCA	G160M	CURRENT=MEDIU		Sequence 1-4 Non-In	60 Secs (60 Secs)	
					1600 A	M;		t in QE on - Ramp to 178/175 (16)	[==>]	
						FP-POS=3;		170/175 (10)		[1]
						STIM-RATE=2000				1

#### Proposal 14944 - QE on - Ramp to 178/175 (16) - COS FUV Detector Recovery after Anomalous Shutdown



FIU	pus	bai 14344		<u>HVLOW (17) - COS FL</u>		ecovery aller	Anomalous Sn	uluown		
	Prop	osal 14944, R	Return to HVLow (1	7), implementation					Mon Aug 14 21:07:29	GMT 2017
L .:	Diag	nostic Status	: No Diagnostics							
Visit	Scier	ntific Instrume	ents: S/C							
1	Spec	ial Requireme	nts: AFTER 16 BY	1.2 H TO 3.5 H; PARALLEL						
	Com	ments: Return	to HVLow, dump DC	CE memory, and set flag 3.						
	#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time (Total)/[Actual Dur.]	Orbit
	1	Return to H	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	35 Secs (35 Secs)	
		VLow					SPEC COM INSTR RLHNTHLF;	t in Return to HVLo w (17)	[==>]	
							NEW OBSET;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVNOM HVL OW			
	Com	ments: SQL:	Enforce seq non-int a	cross the obsets						
SS	2	DCE RAM	DARK	S/C, DATA, NONE			SAA CONTOUR 31;	Sequence 1-3 Non-In	60.0 Secs (60 Secs)	
Exposures		dump			SPEC COM INSTR ELCOPYDCE; t in Return to HV w (17)		[==>]			
Expo							NEW ALIGNMENT ;			
							QASISTATES COS SI OBSERVE OBSE RVE;			[1]
							QASISTATES COS FUV HVLOW HVL OW			
	Com	ments: DCE R	AM copy and dump.	See Visit 1, Exposure 2 for a comple	te description of the d	ump.				
	SOL	· setun readou	t entry for the DCE d	lump (qalignment, qexposure, qreado	out) tag as COS (si u	sed and si intrly)				
		Set flag 3	DARK	S/C. DATA. NONE	,, iag us cos (si_i	sea and st_nnn)	SPEC COM INSTR	Sequence 1-3 Non-In	1.0 Secs (1 Secs)	
	-	v					ELFLAG3;	t in Return to HVLo	[==>]	
							NEW ALIGNMENT	w (17)	L - J	[1]
	Com	ments: Set NS	SC-1 COS event flag	3. This will prevent subsequent FUV	commanding unless i	t is cleared first.				

#### Proposal 14944 - Return to HVLow (17) - COS FUV Detector Recovery after Anomalous Shutdown

