ENGINEERING CHANGE ORDER	ECO No.		COS-062	
Center for Astrophysics & Space Astronomy	Date		2 May 2001	
University of Colorado, Boulder	Sheet	1	of	2

Drawing/Document Title	Drwg/Doc No.	Revision Letter		Special Distribution
		Current	New	
OP-01	COS-01-0001	13	14	
				Stop Production Now
				❑ Yes
				❑ No

Description of Change:

1. Section 2.1.2, p. 36 of Rev 13: Add a new Section 2.1.2.4 that contains the following:

2.1.2.4   ApM Home Commanding

The PSA is the operational home position of the ApM. If the last exposure of a visit uses the BOA, the ApM will be moved back to the PSA position at the end of the visit. This is independent of whether the home position option described in section 2.1.2.3.1 is used for motor initialization.

2. Section 2.1.5, p. 43 of Rev 13: Add a new Section 2.1.5.3 that contains the following:

2.1.5.3   OSM Home Commanding

The operational home position of OSM1 is the 1309 Å central wavelength position of G130M. The operational home position of OSM2 is the 1820 Å central wavelength position of G185M. The OSMs are commanded to these positions at the end of a COS visit. This is done because the STScI ground system does not keep track of the state of the OSMs between visits, so an operational home position is necessary to ensure the OSMs are in a known state at the start of a visit, which saves time when commanding the initial motions. Another reason is to leave the OSMs in the most scientifically useful state should a mechanism fail

Reason for Change:	Disposition/Effectivity			
Updates to COS operations in OP-01.	To Comply With ECO			
	Use As Is			
	Rework To ECO			
	Scrap And Rebuild			
	Record change Only			
	Other (See Above)			

Prepared By:	Jon Morse	Date	2 May 2001	CCB Required	❑Approved
Approved By:		Date		❑Yes ❑No	❑NotApproved
Approved By:		Date			Immediate
Approved By:		Date		❑Class I	Incorporation
Approved By:		Date		❑Class II	❑Yes ❑No
Approved By:		Date		Completion	
Project Mgr:		Date		Date	

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Center for Astrophysics & Space Astronomy				Date	2 May 2001
University of Colorado, Boulder				Sheet	2 of 2

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between observations. This procedure is independent of whether the home position option described in section 2.1.5.2.1 is used for motor initialization.

3. Section 5.2.1, p. 113 of Rev 13: Revise the paragraph at the top of the page into several paragraphs as follows:

…the largest dwell point offset which leaves no interior sky positions unsampled.

The choice of the number of dwell points on a side (2, 3, 4, or 5) should be left to the observer and generally should be made based upon their assessment of the quality of the target coordinates. TAACOS simulations suggest that performing a 2×2 spiral search on a typical (faint) COS target should be <u>avoided</u> for *dispersed light* target searches with the NUV channel.

The flight software algorithm for commanding the search pattern will be adapted from STIS. Note that including even numbered spiral searches requires an offset from the nominal target coordinates to the first dwell point.

4. Section 5.2.1.1, p. 115 of Rev 13: Under *Phase 4*, replace step *4b.* with the following:

4b.   Compute the location of the spectrum in the cross-dispersion direction. TAACOS simulations suggest that calculating the mean position of the events should suffice for the FUV channel. But for the NUV channel, a median algorithm should be used, due to the higher detector background rate. Here, too, the units are detector pixels.