12517 - COSMIC-LAB: Hunting for optical companions to binary MSPs in Globular Clusters

Cycle: 19, Proposal Category: GO

(Availability Mode: SUPPORTED)

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VISITS

Visit	*Targets used in Visit*	*Configurations used in Visit*	*Orbits Used*	*Last Orbit Planner Run*	*OP Current with Visit?*
01	(1) NGC6440 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:01:44.0	yes
02	(1) NGC6440 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:01:56.0	yes
03	(1) NGC6440 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:02:06.0	yes
04	(1) NGC6440 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:02:15.0	yes
05	(1) NGC6440 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:02:23.0	yes
06	(1) NGC6440 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:02:32.0	yes
07	(1) NGC6440 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:02:40.0	yes
08	(1) NGC6440 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:02:49.0	yes
09	(1) NGC6440 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:02:57.0	yes
10	(1) NGC6440	WFC3/IR	2	12-Jul-2012 21:03:16.0	yes
11	(2) M5 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:03:28.0	yes
12	(2) M5 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:03:37.0	yes
13	(2) M5 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:03:48.0	yes
14	(2) M5 ANY	ACS/WFC WFC3/UVIS	1	12-Jul-2012 21:03:56.0	yes

15 Total Orbits Used

ABSTRACT

As part of a project (Cosmic-Lab) aimed at using Globular Clusters (GCs) as natural laboratory to study dynamics and stellar evolution, here we present a proposal focussed on binary Millisecond Pulsars (MSPs).

We propose to search for the companion stars to binary MSPs in 4 GCs (namely NGC6440, M5, NGC6838 and NGC6544), where recent radio observations have found particularly interesting objects. To achieve this challenging goal, we intend to exploit the imaging capabilities of the WFC3 and a suitable observing strategy, thus to secure deep, multi-band, time-resolved datasets where even the faintest companions can be identified.

This program is the result of a large collaboration among the major groups (lead by Freire, Ransom, Stairs and Possenti) which are performing extensive MSP search in the radio bands, and our group which has a large experience in high-precision stellar photometry and astrometry in crowded stellar fields. This collaboration already produced a number of outstanding results: 4 of the 7 optical counterparts to binary MSP companions known to date in GCs have been discovered by our group.

The observations here proposed will (1) easily double the existing sample of known MSP companions, allowing the first meaningful approach to the study of the formation, evolution and recycling process of pulsars in GCs; (2) constrain the incidence of collisionally induced MSPs; (3) constrain the mass of the neutron star, thus opening the possibility (in the case of NGC6440 and M5) to identify the most massive NS ever measured, with a huge impact on the equation of state of the matter at nuclear equilibrium density.

OBSERVING DESCRIPTION

Observations are organized in 14 visits (10 for NGC6440 and 4 for M5 that are the only two clusters for which time has been assigned).

VISIT 1-9: target NGC6440 - 9 orbits - a total of 54 exposures in the selected optical filters (F606W,F814W) are planned. Dithering is performed by applying small offsets (via POS TARG keyword) to each exposure. A few (9) parallel exposures are planned at the end of each orbit in order to not affect the execution of the primary observations.

VISIT 10: target NGC6440 - 2 orbits - a total of 16 exposures in the selected IR filters (F110W,F160W). Dithering is performed with WFC3-IR_DITHERING-BOX-MIN pattern

VISIT 11-14: target M5 - 4 orbits - a total of 24 exposures in the selected optical filters (F390W,F606W,F814W) are planned. Dithering is

performed by applying small offsets (via POS TARG keyword) to each exposure. A few (4) parallel exposures are planned at the end of each orbit in order to not affect the execution of the primary observations.

Visit

Proposal 12517, Visit 01, scheduled Fri Jul 13 01:04:05 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: (none)

Diagnostics

(Visit 01) Warning (Orbit Planner): VISIBILITY OVERRUN

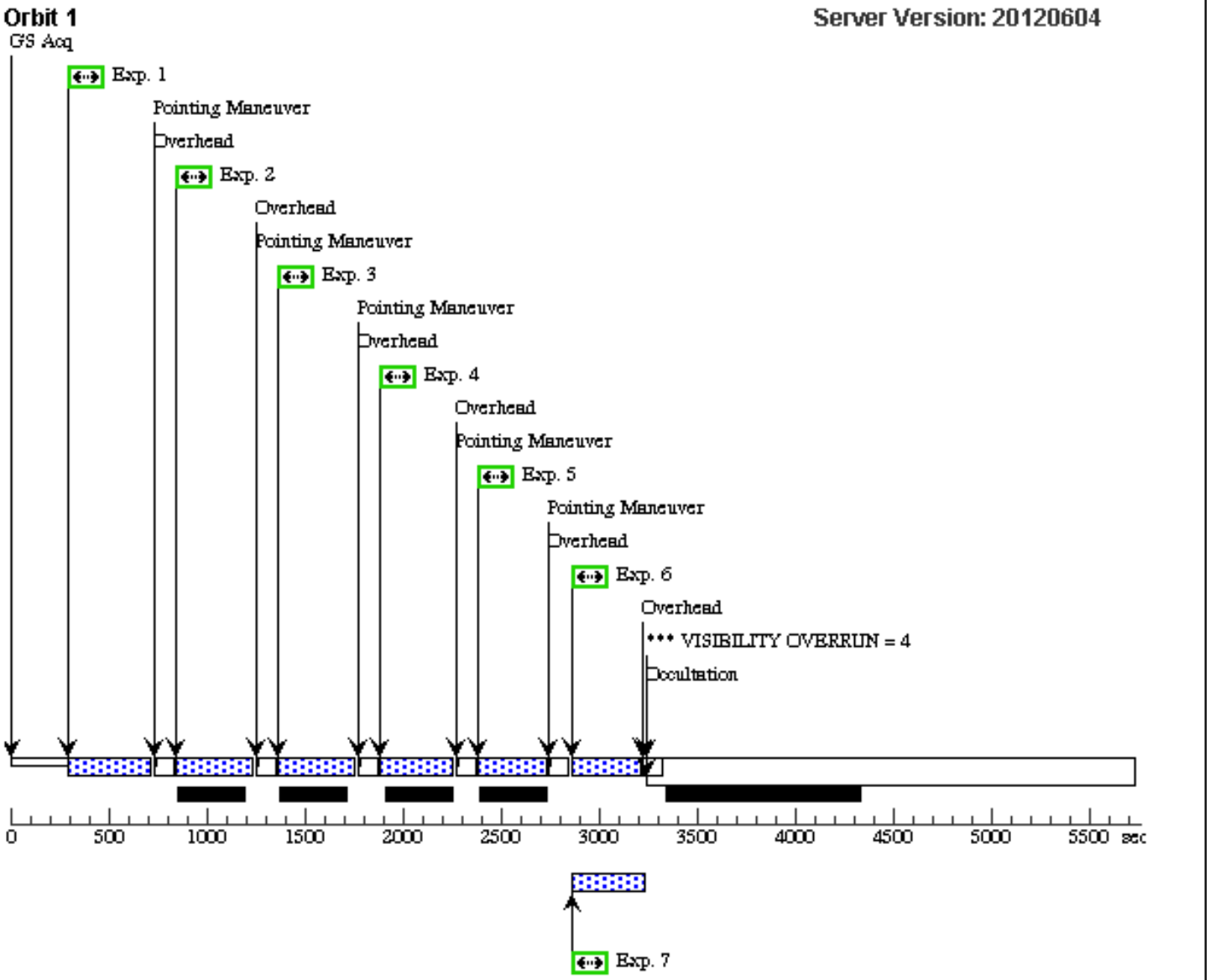
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	6440_v1	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W				392 Secs	
								[==>]	***[1]***
2	6440_v2	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.099,-0.165		392 Secs	
								[==>]	***[1]***
3	6440_v3	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.059,-0.095		392 Secs	
								[==>]	***[1]***
4	6440_i1	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W				348 Secs	
								[==>]	***[1]***
5	6440_i2	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.099,-0.165		348 Secs	
								[==>]	***[1]***
6	6440_i3	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.059,-0.095	Prime + Parallel Group 6-7 in Visit 01	348 Secs	
								[==>]	***[1]***
7	6440para_v160	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 6-7 in Visit 01	160 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12517, Visit 02, scheduled Fri Jul 13 01:04:07 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER_01 BY 2 D TO 2.5 D

Diagnostics

(Visit 02) Warning (Orbit Planner): VISIBILITY OVERRUN

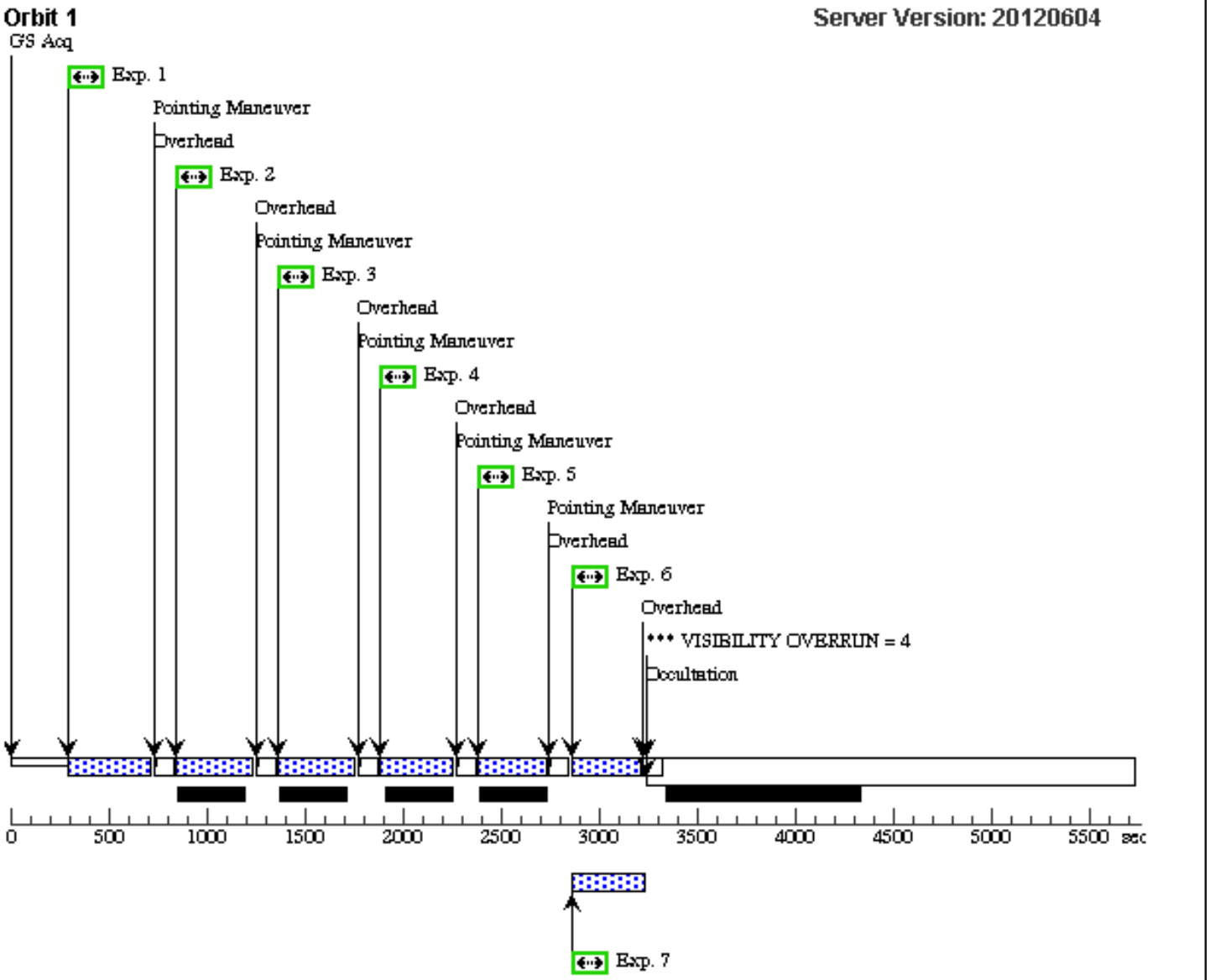
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	6440_v4	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.218,-0.024		392 Secs	
								[==>]	***[1]***
2	6440_v5	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.158,0.070		392 Secs	
								[==>]	***[1]***
3	6440_v6	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.099,0.165		392 Secs	
								[==>]	***[1]***
4	6440_i4	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.218,-0.024		348 Secs	
								[==>]	***[1]***
5	6440_i5	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.158,0.070		348 Secs	
								[==>]	***[1]***
6	6440_i6	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.099,0.165	Prime + Parallel Group 6-7 in Visit 02	348 Secs	
								[==>]	***[1]***
7	6440para_v160	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 6-7 in Visit 02	160 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12517, Visit 03, scheduling Fri Jul 13 01:04:08 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER_01 BY 4.3 D TO 4.8 D

Diagnostics

(Visit 03) Warning (Orbit Planner): VISIBILITY OVERRUN

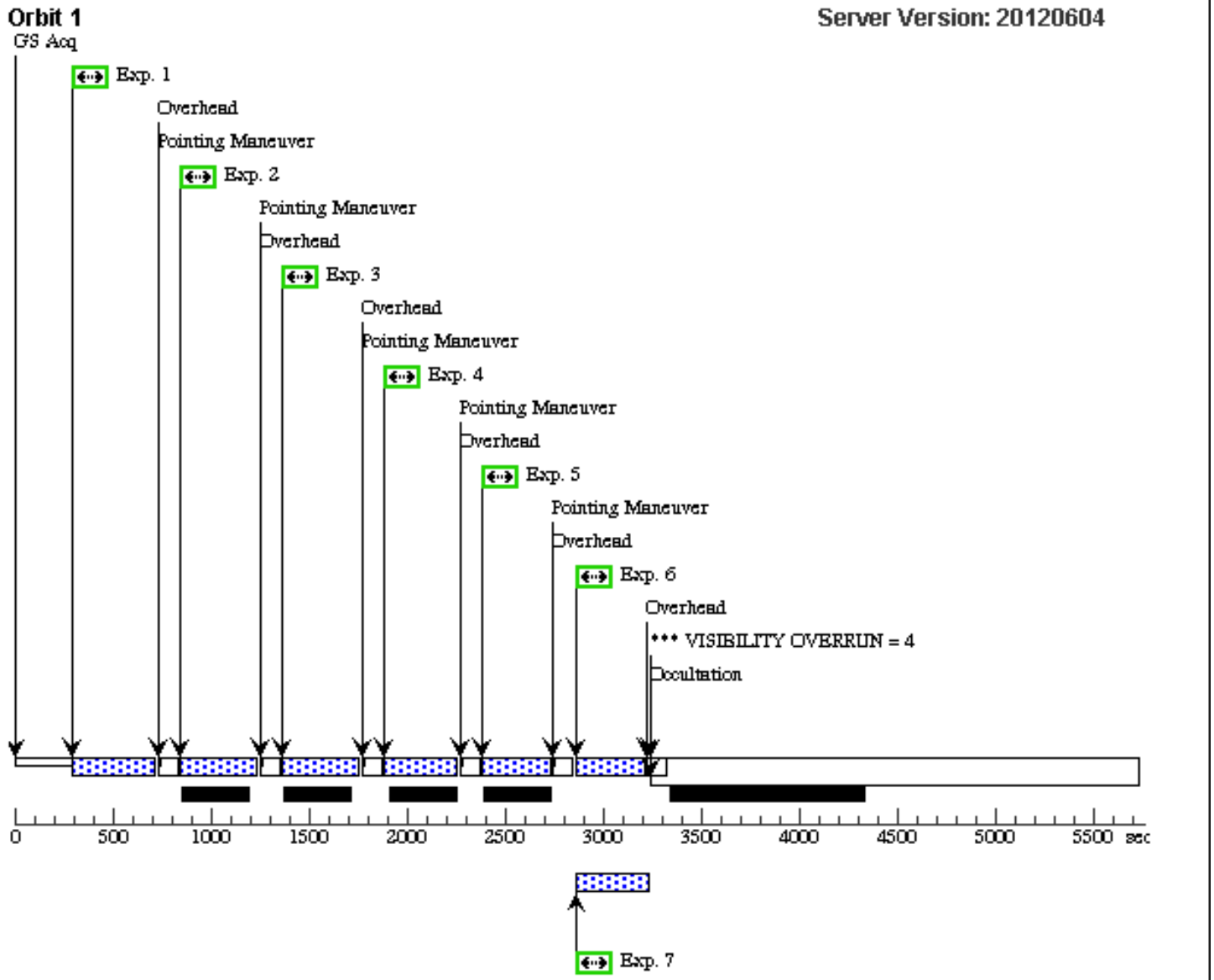
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	6440_v7	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.059,0.095		392 Secs	
								[==>]	***[1]***
2	6440_v8	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.218,0.024		392 Secs	
								[==>]	***[1]***
3	6440_v9	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.158,-0.070		392 Secs	
								[==>]	***[1]***
4	6440_i7	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.059,0.095		348 Secs	
								[==>]	***[1]***
5	6440_i8	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.218,0.024		348 Secs	
								[==>]	***[1]***
6	6440_i9	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.158,-0.070	Prime + Parallel Group 6-7 in Visit 03	348 Secs	
								[==>]	***[1]***
7	6440para_v160	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 6-7 in Visit 03	160 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12517, Visit 04, scheduling Fri Jul 13 01:04:09 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER_01 BY 6.6 D TO 7.1 D

Diagnostics

(Visit 04) Warning (Orbit Planner): VISIBILITY OVERRUN

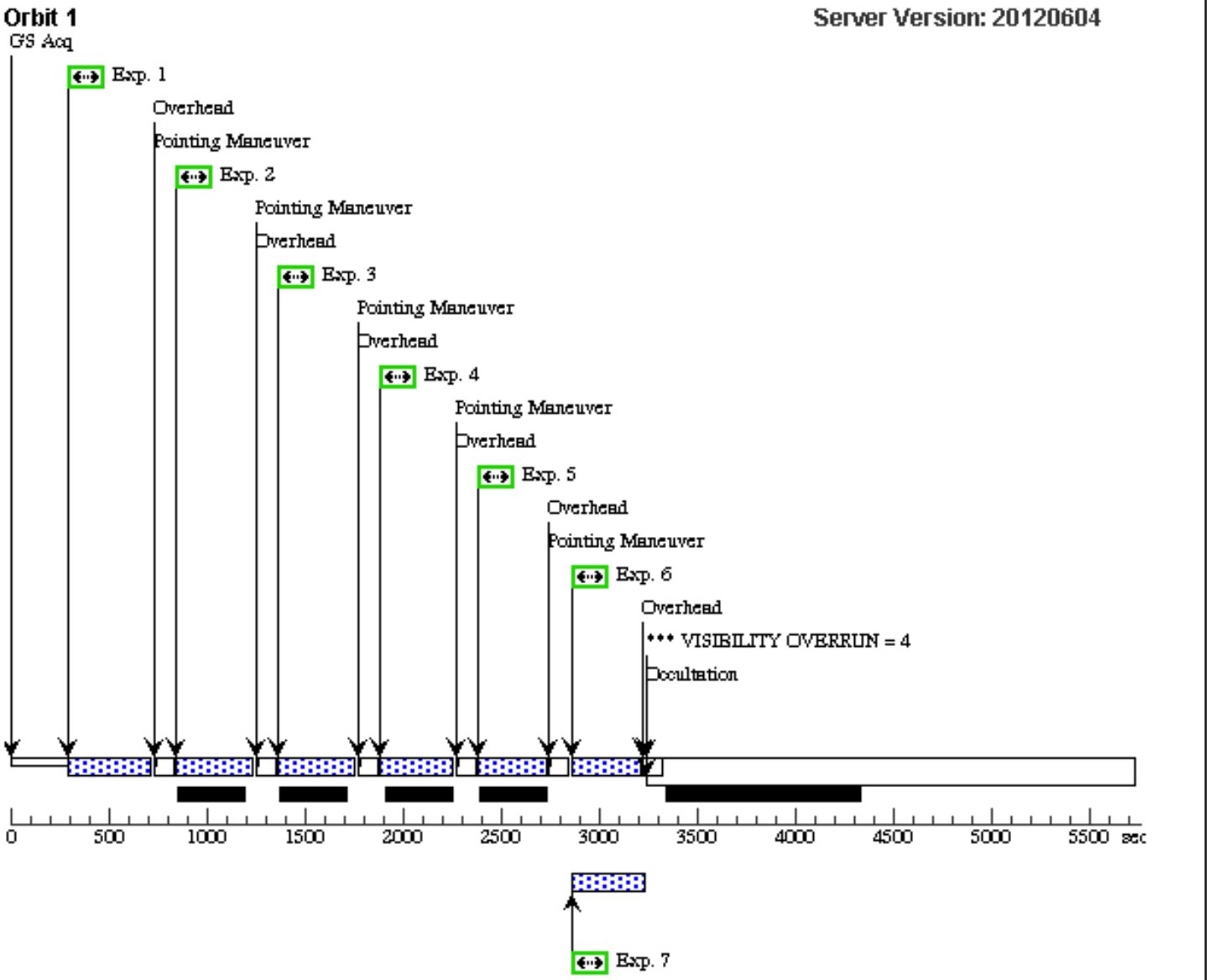
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	6440_v10	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.158,-0.110		392 Secs *[==>]*	 ***[1]***
2	6440_v11	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.099,0.052		392 Secs *[==>]*	 ***[1]***
3	6440_v12	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.040,0.214		392 Secs *[==>]*	 ***[1]***
4	6440_i10	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.158,-0.110		348 Secs *[==>]*	 ***[1]***
5	6440_i11	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.099,0.052		348 Secs *[==>]*	 ***[1]***
6	6440_i12	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.040,0.214	Prime + Parallel Group 6-7 in Visit 04	348 Secs *[==>]*	 ***[1]***
7	6440para_v160	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 6-7 in Visit 04	160 Secs *[==>]*	 ***[1]***

Orbit Structure



Visit

Proposal 12517, Visit 05, implementation Fri Jul 13 01:04:10 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER_01 BY 8.8 D TO 9.4 D

Diagnostics

(Visit 05) Warning (Orbit Planner): VISIBILITY OVERRUN

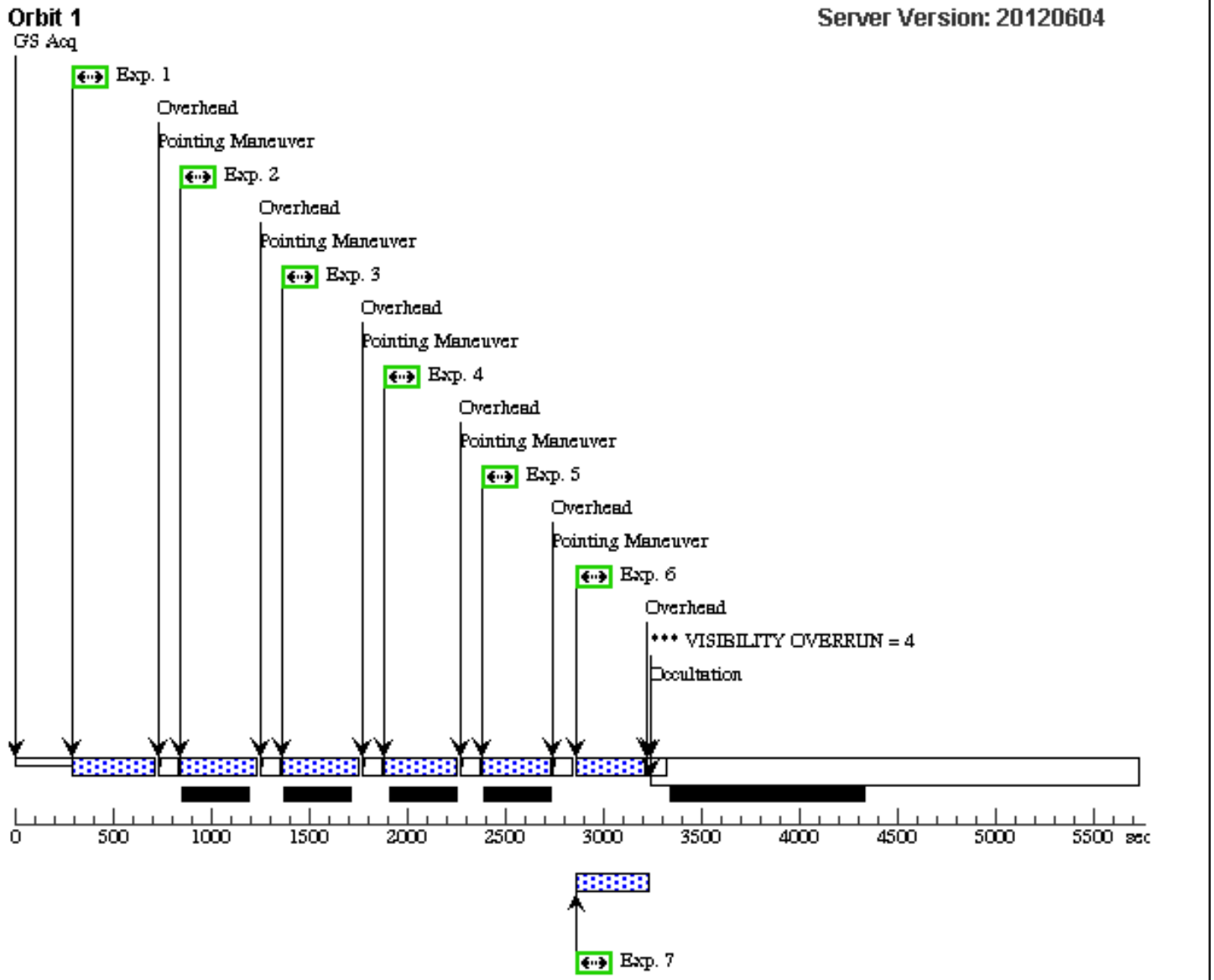
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	6440_v13	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.059,0.162		392 Secs	
								[==>]	***[1]***
2	6440_v14	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.158,0.110		392 Secs	
								[==>]	***[1]***
3	6440_v15	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.099,-0.052		392 Secs	
								[==>]	***[1]***
4	6440_i13	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.059,0.162		348 Secs	
								[==>]	***[1]***
5	6440_i14	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.158,0.110		348 Secs	
								[==>]	***[1]***
6	6440_i15	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.099,-0.052	Prime + Parallel Group 6-7 in Visit 05	348 Secs	
								[==>]	***[1]***
7	6440para_i160	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 6-7 in Visit 05	160 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12517, Visit 06, scheduling Fri Jul 13 01:04:12 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER_01 BY 11.2 D TO 11.7 D

Diagnostics

(Visit 06) Warning (Orbit Planner): VISIBILITY OVERRUN

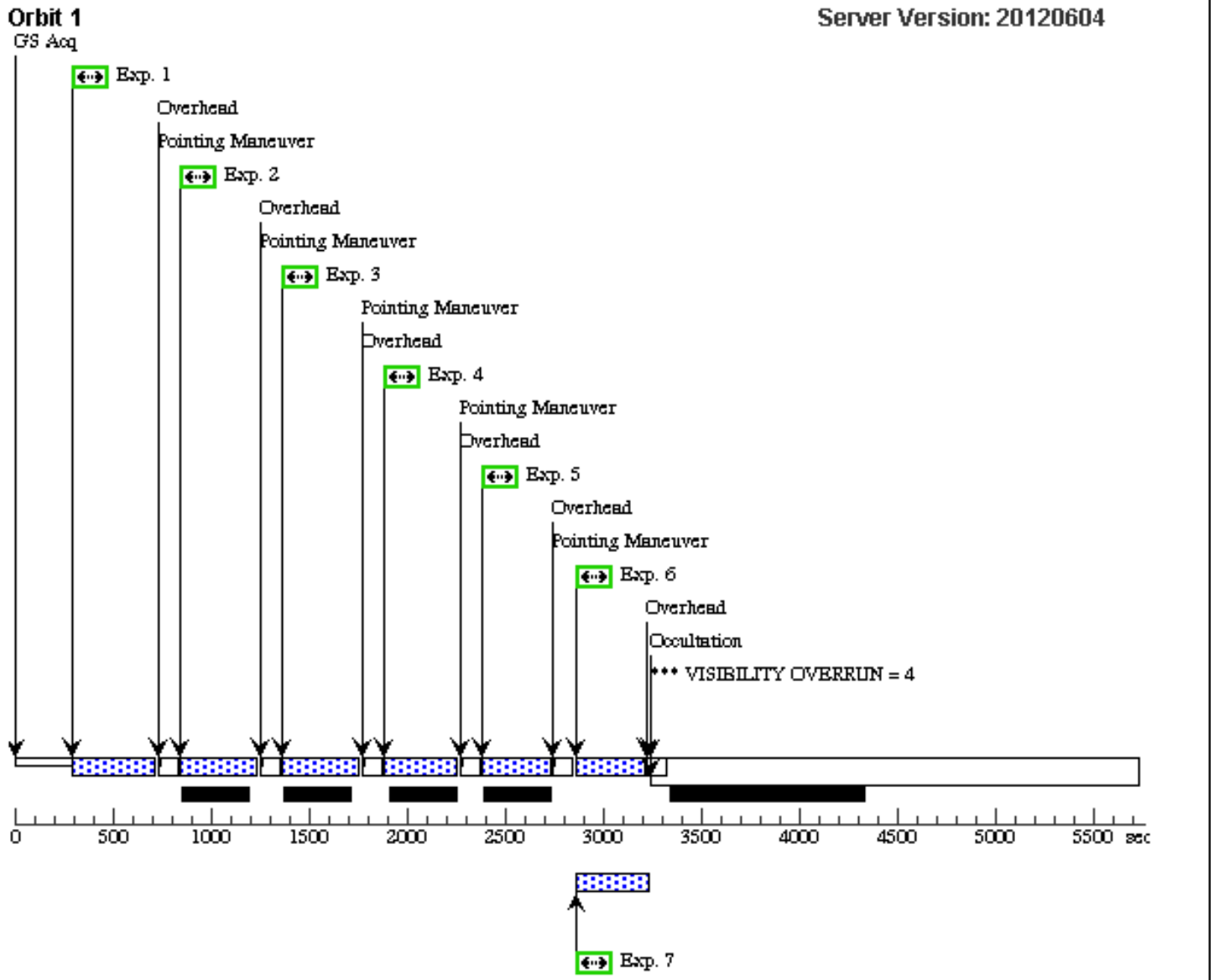
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	6440_v16	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.040,-0.214		392 Secs	
								[==>]	***[1]***
2	6440_v17	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.059,-0.162		392 Secs	
								[==>]	***[1]***
3	6440_v18	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.158,0.169		392 Secs	
								[==>]	***[1]***
4	6440_i16	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.040,-0.214		348 Secs	
								[==>]	***[1]***
5	6440_i17	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.059,-0.162		348 Secs	
								[==>]	***[1]***
6	6440_i18	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.158,0.169	Prime + Parallel Group 6-7 in Visit 06	348 Secs	
								[==>]	***[1]***
7	6440para_i160	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 6-7 in Visit 06	160 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12517, Visit 07, scheduling Fri Jul 13 01:04:13 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER_01 BY 13.5 D TO 14.0 D

Diagnostics

(Visit 07) Warning (Orbit Planner): VISIBILITY OVERRUN

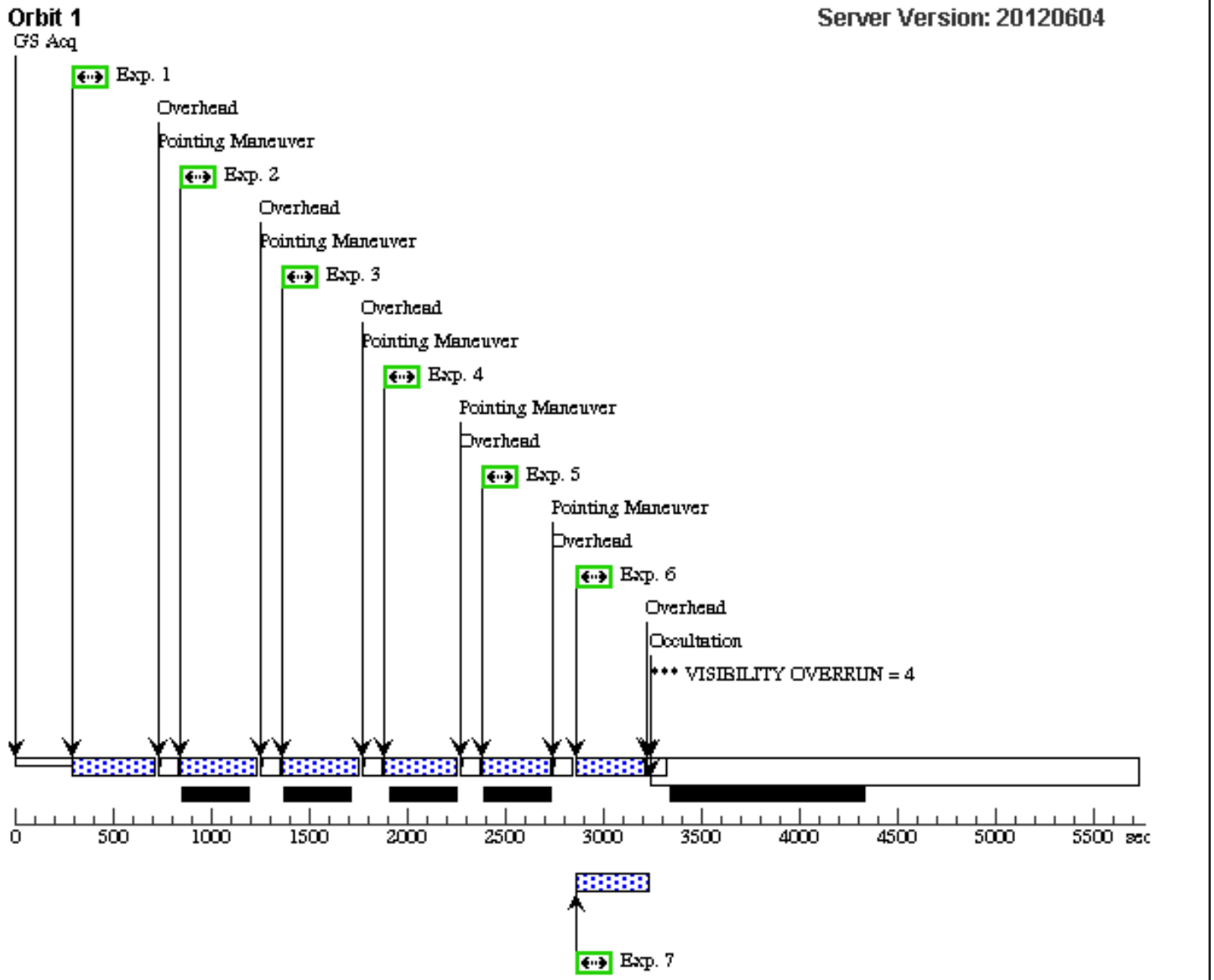
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	6440_v19	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.059,0.004		392 Secs	
								[==>]	***[1]***
2	6440_v20	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.218,0.074		392 Secs	
								[==>]	***[1]***
3	6440_v21	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.376,0.145		392 Secs	
								[==>]	***[1]***
4	6440_i19	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.059,0.004		348 Secs	
								[==>]	***[1]***
5	6440_i20	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.218,0.074		348 Secs	
								[==>]	***[1]***
6	6440_i21	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.376,0.145	Prime + Parallel Group 6-7 in Visit 07	348 Secs	
								[==>]	***[1]***
7	6440para_i160	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 6-7 in Visit 07	160 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12517, Visit 08, scheduling Fri Jul 13 01:04:14 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER_01 BY 15.7 D TO 16.2 D

Diagnostics

(Visit 08) Warning (Orbit Planner): VISIBILITY OVERRUN

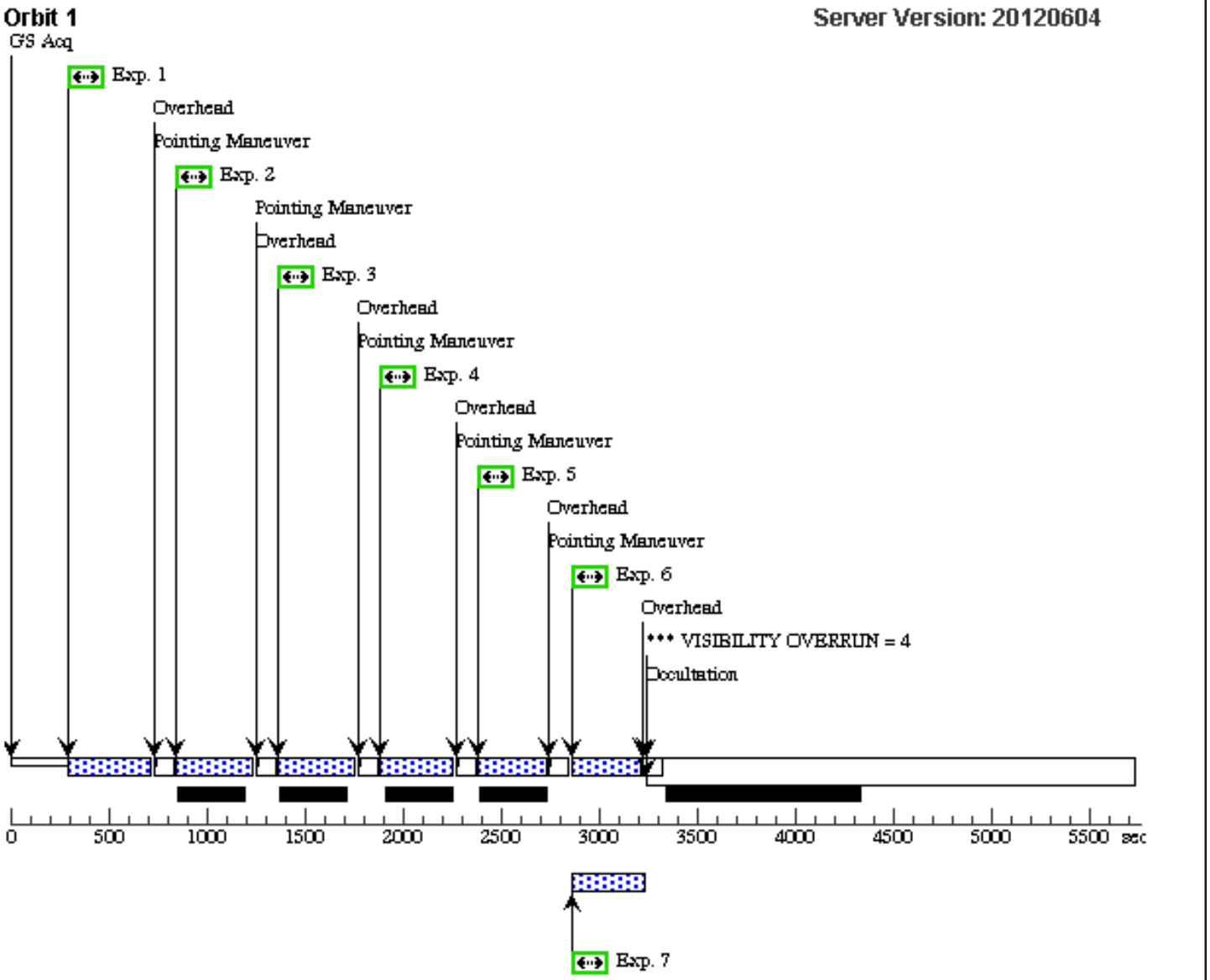
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	6440_v22	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.317,0.239		392 Secs	
								[==>]	***[1]***
2	6440_v23	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.257,0.334		392 Secs	
								[==>]	***[1]***
3	6440_v24	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.099,0.264		392 Secs	
								[==>]	***[1]***
4	6440_i22	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.317,0.239		348 Secs	
								[==>]	***[1]***
5	6440_i23	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.257,0.334		348 Secs	
								[==>]	***[1]***
6	6440_i24	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.099,0.264	Prime + Parallel Group 6-7 in Visit 08	348 Secs	
								[==>]	***[1]***
7	6440para_i160	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 6-7 in Visit 08	160 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12517, Visit 09, scheduling Fri Jul 13 01:04:15 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER_01 BY 18.0 D TO 18.5 D

Diagnostics

(Visit 09) Warning (Orbit Planner): VISIBILITY OVERRUN

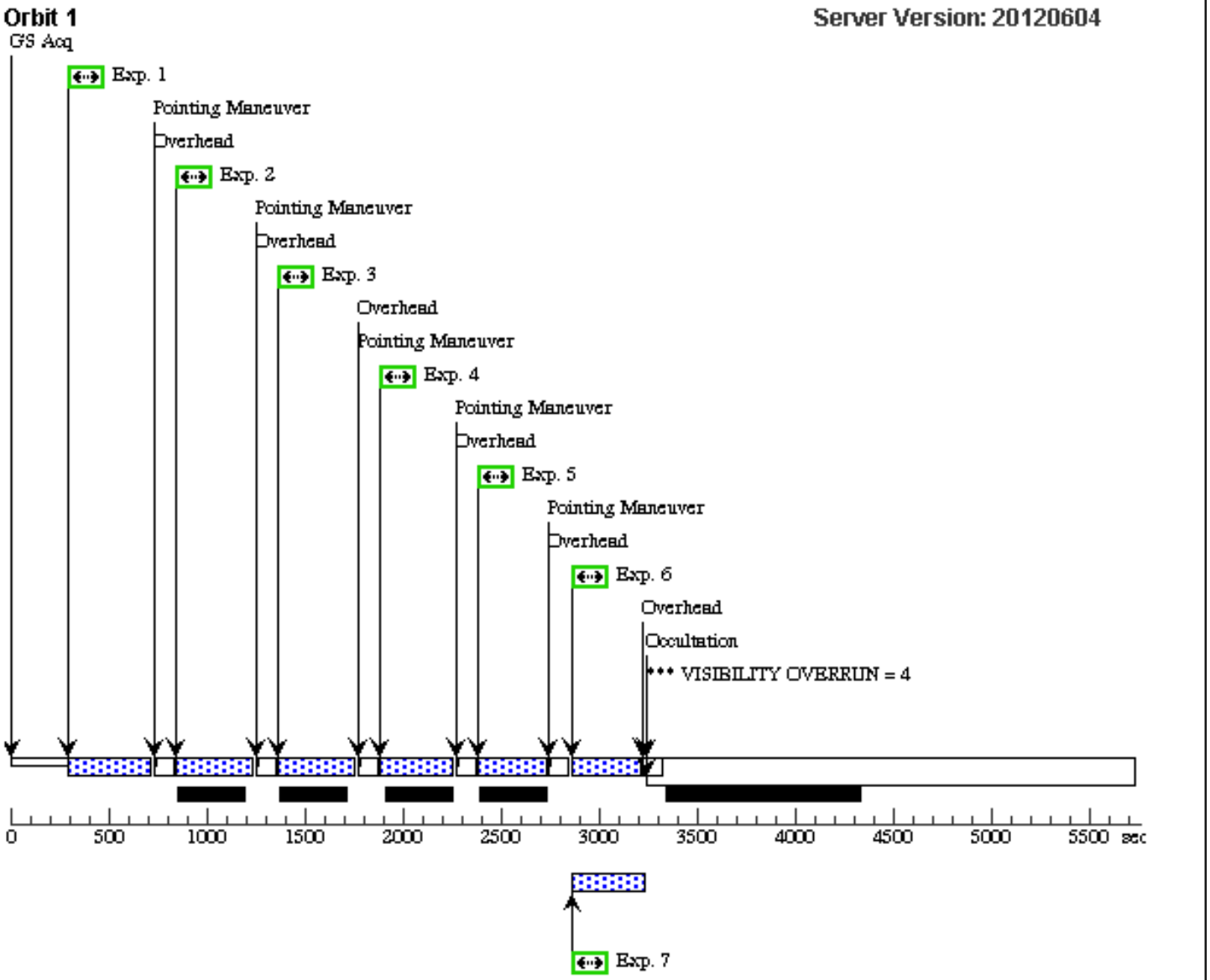
Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	6440_v25	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.059,0.193		392 Secs	
								[==>]	***[1]***
2	6440_v26	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.000,0.099		392 Secs	
								[==>]	***[1]***
3	6440_v27	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.000,0.059		392 Secs	
								[==>]	***[1]***
4	6440_i25	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.059,0.193		348 Secs	
								[==>]	***[1]***
5	6440_i26	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.000,0.099		348 Secs	
								[==>]	***[1]***
6	6440_i27	(1) NGC6440	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.000,0.059	Prime + Parallel Group 6-7 in Visit 09	348 Secs	
								[==>]	***[1]***
7	6440para_i160	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 6-7 in Visit 09	160 Secs	
								[==>]	***[1]***

Orbit Structure



Visit

Proposal 12517, Visit 10, completed Fri Jul 13 01:04:16 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/IR

Special Requirements: (none)

Diagnostics

(Visit 10) Warning (Orbit Planner): VISIBILITY OVERRUN

Patterns

#	Primary Pattern		Secondary Pattern	Exposures
(3)	Pattern Type=WFC3-IR-DITHER-BOX-MIN Purpose=DITHER Number Of Points=4 Point Spacing=0.572 Line Spacing=0.365	Coordinate Frame=POS-TARG Pattern Orientation=18.528 Angle Between Sides=74.653 Center Pattern=false		(2), (3), (4), (5)

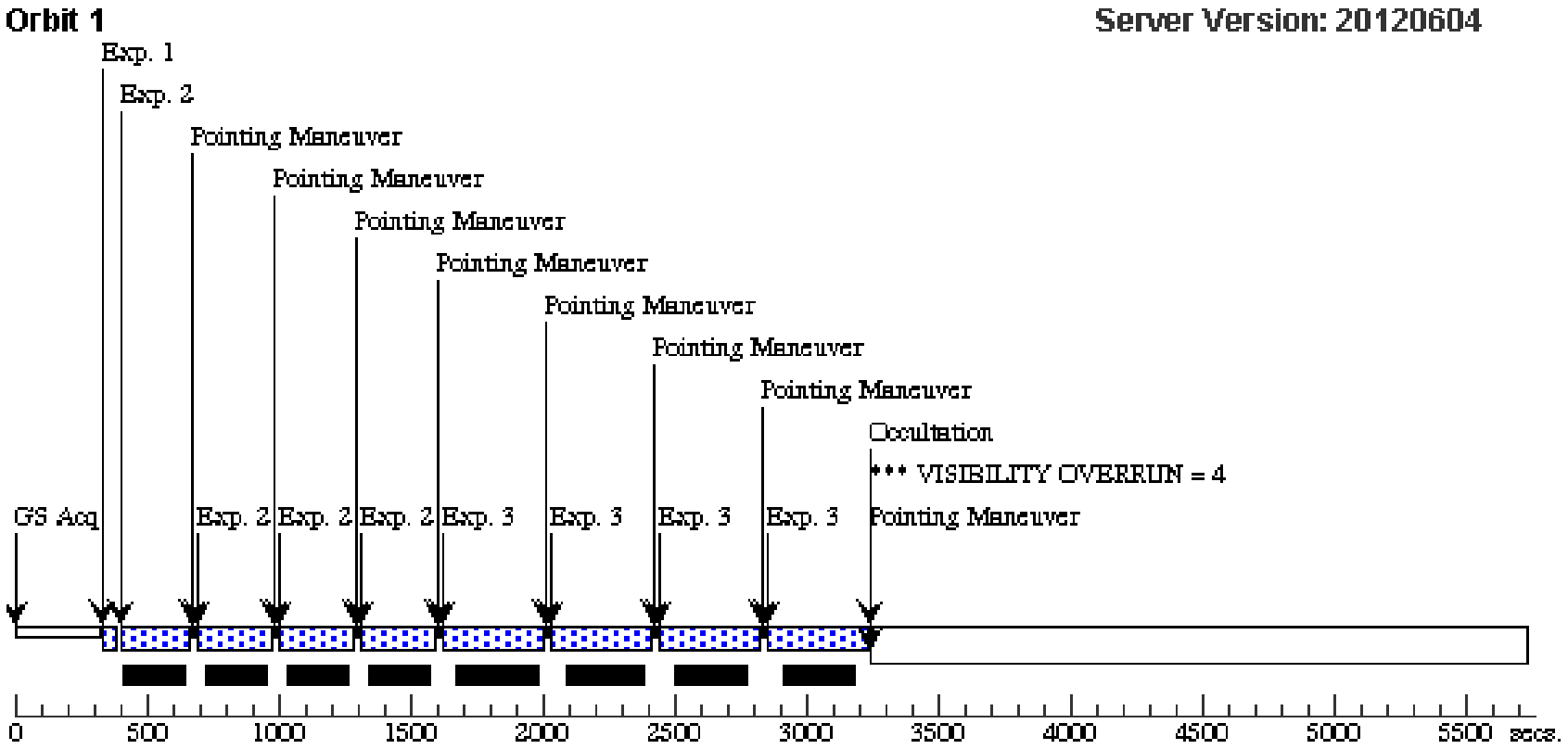
Fixed Targets

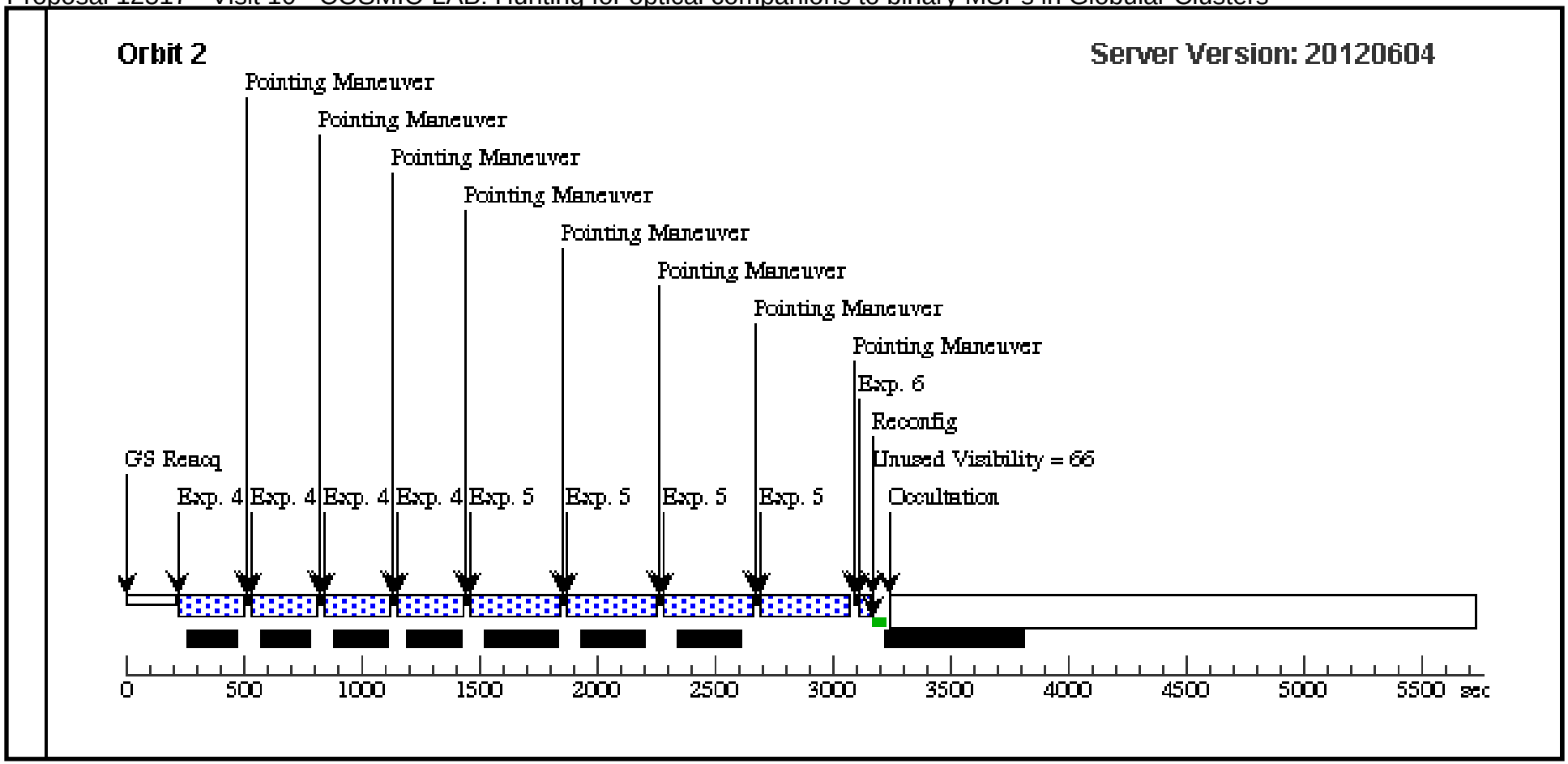
#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(1)	NGC6440	RA: 17 48 52.9500 (267.2206250d) Dec: -20 21 38.86 (-20.36079d) Equinox: J2000		V=26	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1		(1) NGC6440	WFC3/IR, MULTIACCUM, IR	F160W	NSAMP=9; SAMP-SEQ=RAPID			*[==>]*	***[1]***
2	6440_1_H	(1) NGC6440	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP50; NSAMP=10		Pattern 3, Exps 2-2 in Visit 10 (3)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
3	6440_1_J	(1) NGC6440	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP50; NSAMP=12		Pattern 3, Exps 3-3 in Visit 10 (3)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[1]***
4	6440_2_H	(1) NGC6440	WFC3/IR, MULTIACCUM, IR	F160W	SAMP-SEQ=STEP50; NSAMP=10		Pattern 3, Exps 4-4 in Visit 10 (3)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
5	6440_2_J	(1) NGC6440	WFC3/IR, MULTIACCUM, IR	F110W	SAMP-SEQ=STEP50; NSAMP=12		Pattern 3, Exps 5-5 in Visit 10 (3)	*[==>(Pattern 1)]* *[==>(Pattern 2)]* *[==>(Pattern 3)]* *[==>(Pattern 4)]*	***[2]***
6		(1) NGC6440	WFC3/IR, MULTIACCUM, IR	F110W	NSAMP=9; SAMP-SEQ=RAPID			*[==>]*	***[2]***

Orbit Structure




Orbit 2
Server Version: 20120604
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Pointing Maneuver
Exp. 6
Reconfig
Unused Visibility = 66
GS Reacq
Exp. 4
Exp. 4
Exp. 4
Exp. 4
Exp. 5
Exp. 5
Exp. 5
Exp. 5
Occultation
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12517, Visit 11, completed Fri Jul 13 01:04:18 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: (none)

Diagnostics

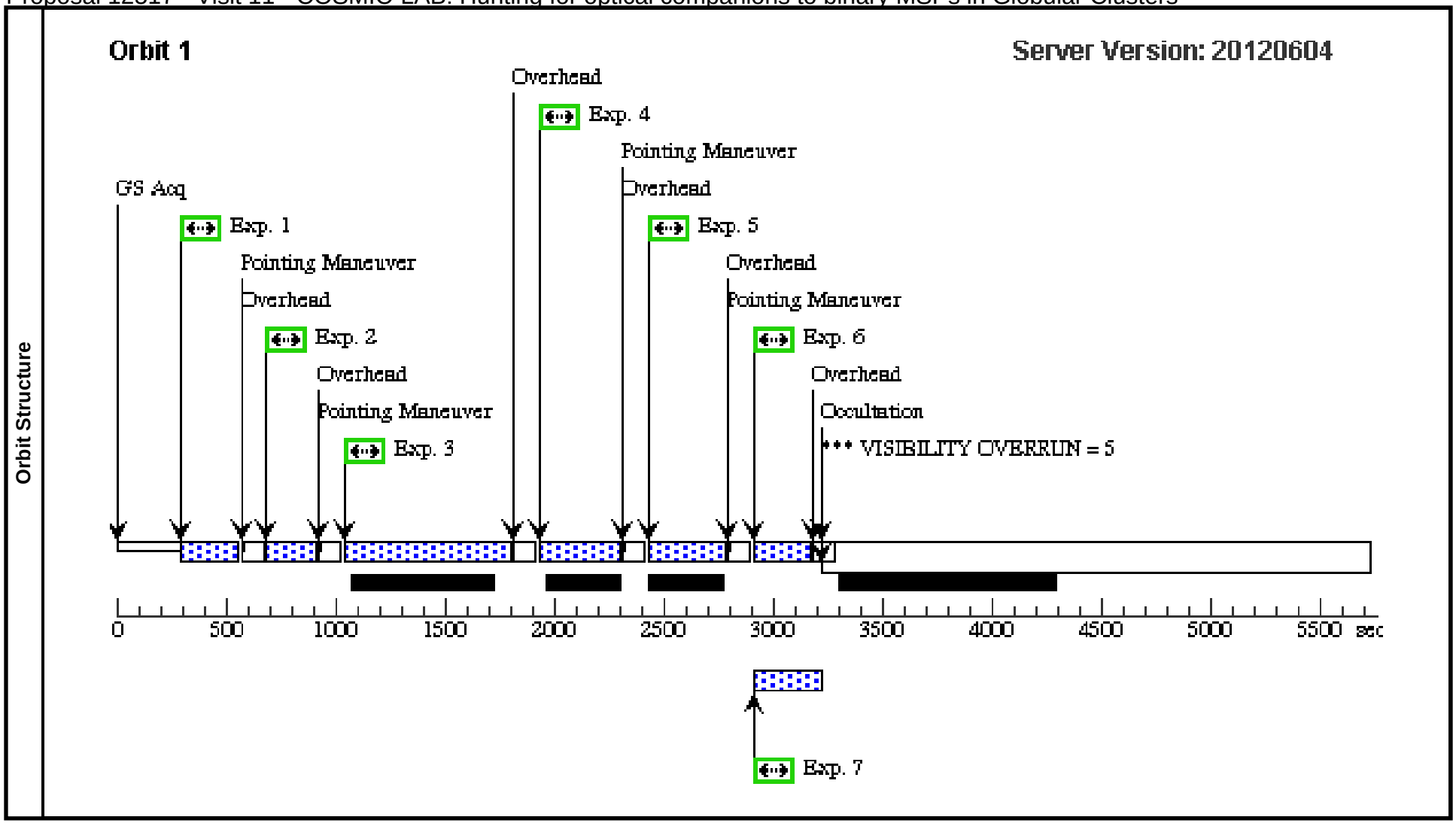
(Visit 11) Warning (Orbit Planner): VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M5	RA: 15 18 31.4600 (229.6310833d) Dec: +02 05 15.30 (2.08758d) Equinox: J2000		V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	m5_i1	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W				230 Secs	
								[==>]	***[1]***
2	m5_i2	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.099,-0.165		230 Secs	
								[==>]	***[1]***
3	m5_u1	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F390W				735 Secs	
								[==>]	***[1]***
4	m5_v1	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F606W				350 Secs	
								[==>]	***[1]***
5	m5_v2	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.099,-0.165		350 Secs	
								[==>]	***[1]***
6	m5_i3	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.059,-0.095	Prime + Parallel Group 6-7 in Visit 11	240 Secs	
								[==>]	***[1]***
7	M5para_i100	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 6-7 in Visit 11	100 Secs	
								[==>]	***[1]***


Orbit Structure
Orbit 1
Server Version: 20120604
GS Acq
Exp. 1
Pointing Maneuver
Overhead
Exp. 2
Overhead
Pointing Maneuver
Exp. 3
Overhead
Exp. 4
Pointing Maneuver
Overhead
Exp. 5
Overhead
Pointing Maneuver
Exp. 6
Overhead
Occultation
*** VISIBILITY OVERRUN = 5
Exp. 7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12517, Visit 12, completed Fri Jul 13 01:04:19 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER 11 BY 0.6 D TO 1.0 D

Diagnostics

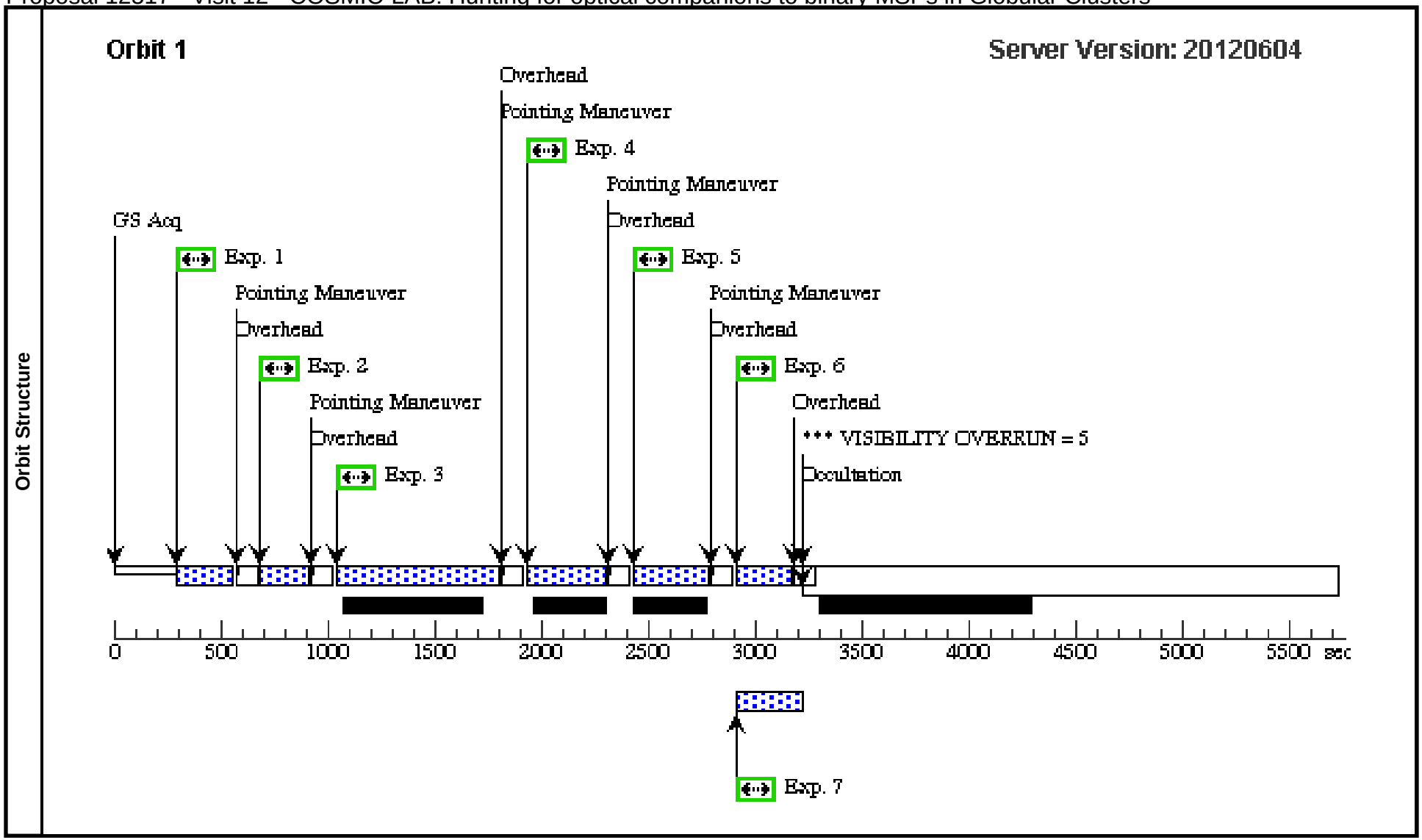
(Visit 12) Warning (Orbit Planner): VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M5	RA: 15 18 31.4600 (229.6310833d) Dec: +02 05 15.30 (2.08758d) Equinox: J2000		V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	m5_i4	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.218,-0.024		230 Secs	
								[==>]	***[1]***
2	m5_i5	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.158,0.07		230 Secs	
								[==>]	***[1]***
3	m5_u2	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG -0.099,-0.165		735 Secs	
								[==>]	***[1]***
4	m5_v3	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.059,-0.095		350 Secs	
								[==>]	***[1]***
5	m5_v4	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.218,-0.024		350 Secs	
								[==>]	***[1]***
6	m5_i6	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG 0.099,0.165	Prime + Parallel Group 6-7 in Visit 12	240 Secs	
								[==>]	***[1]***
7	M5para_i100	ANY	ACS/WFC, ACCUM, WFC	F814W			Prime + Parallel Group 6-7 in Visit 12	100 Secs	
								[==>]	***[1]***


Orbit 1
Server Version: 20120604
Orbit Structure
GS Acq
Exp. 1
Pointing Maneuver
Overhead
Exp. 2
Pointing Maneuver
Overhead
Exp. 3
Overhead
Pointing Maneuver
Exp. 4
Pointing Maneuver
Overhead
Exp. 5
Pointing Maneuver
Overhead
Exp. 6
Overhead
*** VISIBILITY OVERRUN = 5
Occultation
Exp. 7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12517, Visit 13, completed Fri Jul 13 01:04:20 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER 11 BY 1.5 D TO 1.9 D

Diagnostics

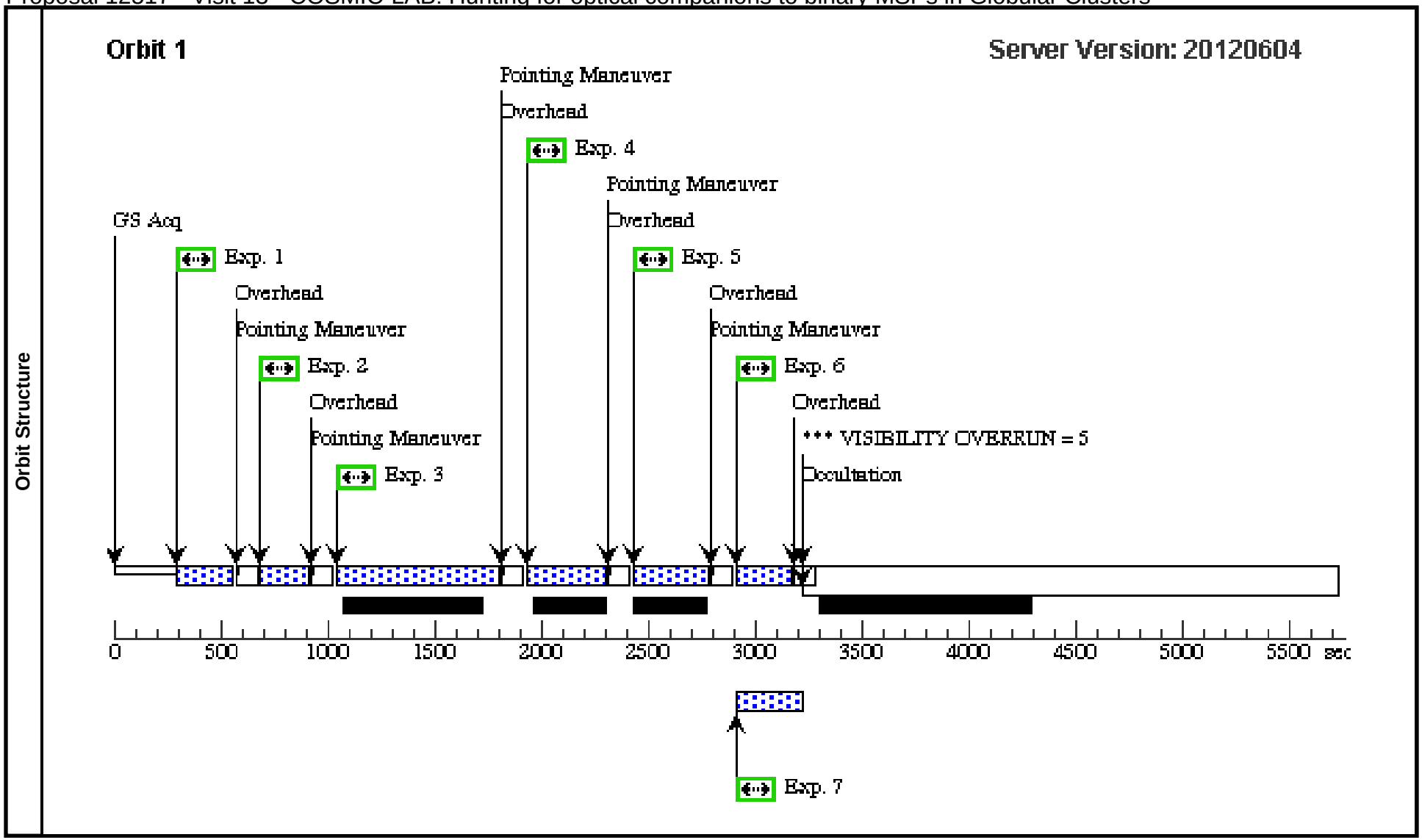
(Visit 13) Warning (Orbit Planner): VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M5	RA: 15 18 31.4600 (229.6310833d) Dec: +02 05 15.30 (2.08758d) Equinox: J2000		V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	m5_i7	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.059,0.095		230 Secs	
								[==>]	***[1]***
2	m5_i8	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.218,0.024		230 Secs	
								[==>]	***[1]***
3	m5_u3	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.059,-0.095		735 Secs	
								[==>]	***[1]***
4	m5_v5	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.158,0.07		350 Secs	
								[==>]	***[1]***
5	m5_v6	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG 0.099,0.165		350 Secs	
								[==>]	***[1]***
6	m5_i9	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.158,-0.07	Prime + Parallel Group 6-7 in Visit 13	240 Secs	
								[==>]	***[1]***
7	M5para_v100	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 6-7 in Visit 13	100 Secs	
								[==>]	***[1]***


Orbit Structure
Orbit 1
Server Version: 20120604
GS Acq
Exp. 1
Overhead
Pointing Maneuver
Exp. 2
Overhead
Pointing Maneuver
Exp. 3
Pointing Maneuver
Overhead
Exp. 4
Pointing Maneuver
Overhead
Exp. 5
Overhead
Pointing Maneuver
Exp. 6
Overhead
*** VISIBILITY OVERRUN = 5
Occultation
Exp. 7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec

Visit

Proposal 12517, Visit 14, completed Fri Jul 13 01:04:21 GMT 2012

Diagnostic Status: Warning

Scientific Instruments: WFC3/UVIS, ACS/WFC

Special Requirements: AFTER 11 BY 2.4 D TO 2.8 D

Diagnostics

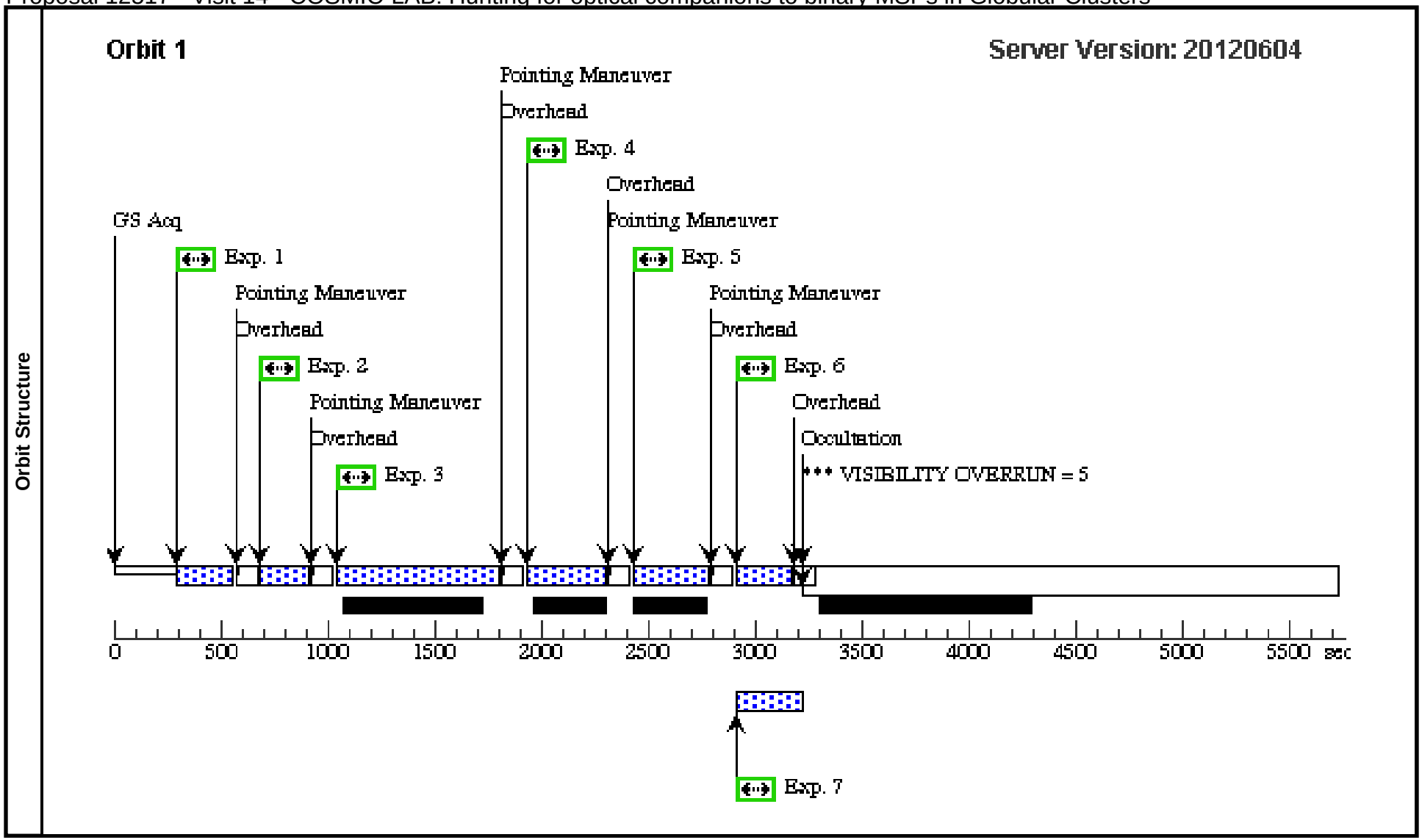
(Visit 14) Warning (Orbit Planner): VISIBILITY OVERRUN

Fixed Targets

#	Name	Target Coordinates	Targ. Coord. Corrections	Fluxes	Miscellaneous
(2)	M5	RA: 15 18 31.4600 (229.6310833d) Dec: +02 05 15.30 (2.08758d) Equinox: J2000		V=25	Reference Frame: ICRS

Exposures

#	Label	Target	Config,Mode,Aperture	Spectral Els.	Opt. Params.	Special Reqs.	Groups	Exp. Time/[Actual Dur.]	Orbit
1	m5_i10	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.158,-0.11		230 Secs	
								[==>]	***[1]***
2	m5_i11	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.099,0.052		230 Secs	
								[==>]	***[1]***
3	m5_u4	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F390W		POS TARG 0.218,-0.024		735 Secs	
								[==>]	***[1]***
4	m5_v7	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.059,0.095		350 Secs	
								[==>]	***[1]***
5	m5_v8	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F606W		POS TARG -0.218,0.024		350 Secs	
								[==>]	***[1]***
6	m5_i12	(2) M5	WFC3/UVIS, ACCUM, UVIS1	F814W		POS TARG -0.04,0.214	Prime + Parallel Group 6-7 in Visit 14	240 Secs	
								[==>]	***[1]***
7	M5para_v100	ANY	ACS/WFC, ACCUM, WFC	F606W			Prime + Parallel Group 6-7 in Visit 14	100 Secs	
								[==>]	***[1]***


Orbit Structure
Orbit 1
Server Version: 20120604
GS Acq
Exp. 1
Pointing Maneuver
Overhead
Exp. 2
Pointing Maneuver
Overhead
Exp. 3
Pointing Maneuver
Overhead
Exp. 4
Overhead
Pointing Maneuver
Exp. 5
Pointing Maneuver
Overhead
Exp. 6
Overhead
Occultation
*** VISIBILITY OVERRUN = 5
Exp. 7
0
500
1000
1500
2000
2500
3000
3500
4000
4500
5000
5500
sec