

PREPARING AN AMENDED PLAN DUE TO A MAJOR FLARE WATCH

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(Revised by M. Freed and D. McKenzie 2014/11/25)**

Sometimes, Hinode needs to upload a revised timeline on an originally-unplanned upload day due to a major flare watch. For example, this type of operation has been done for the timelines originally uploaded on 12 Feb 2011, 22 Sep 2011 and 18 Oct 2014. The guide below uses the timeline from 18 Oct 2014 as an example.

Background:

- The decision was made to revise the timeline at the Daily Meeting on Monday, 20 October 2014 (JST).
- Monday is usually a non-upload day because the timeline was already uploaded on Saturday, 18 October 2014 and would normally run until Tuesday, 21 October 2014.
- Hinode had to change its pointing to Active Region 12192 and cancel other HOPs in the original timeline in order to accommodate the major flare watch.

*** Note that XRT is to revise only timelines in such a case. Do not add any new XOBs to the timeline, because there will be no XRT table uploads with the amended timeline. The amended timeline can only use XOBs that are already in the on-board memory.**

During the Daily Meeting:

- Make sure CP does not click 'OK' button in the Planning Status Page. Since there will be an upload this evening (Monday evening), it is CO's responsibility to click the relevant buttons.
- Make sure CP updates the Daily Events Page to indicate that there will be OP/OG upload. In the case of Monday, 20 October 2014, CP should add:
For SOT and XRT:
 - Just add OP/OG upload. No SOT_TI/XRT_TI commands are necessary as there won't be table uploads for SOT & XRT.For EIS:
 - Include EIS table upload. Because there is table upload, EIS_TI should also be added.

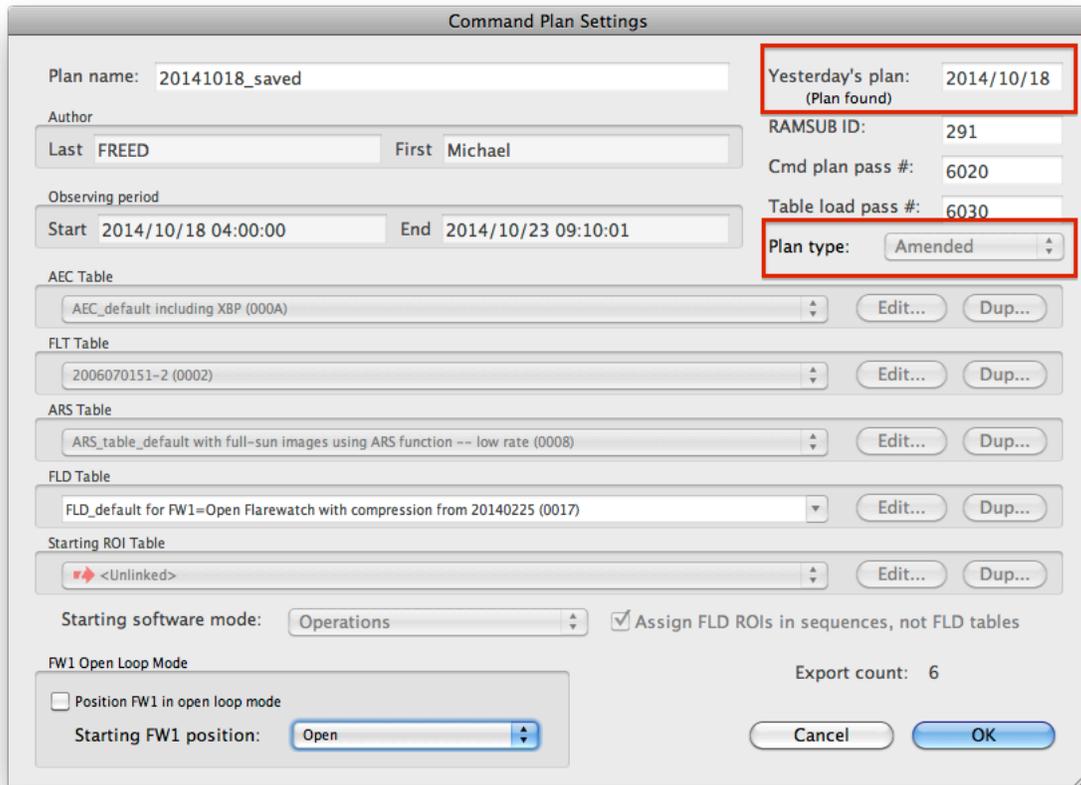
How To Revise the Timeline:

1. Backup the original 20141018_saved folder by copying and renaming it. Now open the original 20141018_saved.tim file in COT.
2. (Steps 2 and 3 can be done in either order, but both steps are required.) ROI commands are not allowed in Amended command plans, so you must delete the ROI event from the Table_Upload_with_TI sequence:

102	EXT	2014/10/18 09:03:40_00	XRT_CMD_AOS_3	2014/10/18 09:03:40		
103	SEQ	2014/10/18 09:06:40_00	Table_Upload_with_TI_without_auto	2014/10/18 09:06:40		
104	COM					
105	MSG	2014/10/18 09:06:40_00	(No pause)			
106	MSG	2014/10/18 09:06:40_00	***** XRT START ***** (No			
107	MSG	2014/10/18 09:06:40_00	(No pause)			
108	XRT	2014/10/18 09:06:40_00	MDP_XRT_CTRL_MANU			:02_00
109	XRT	2014/10/18 09:06:42_00	MDP_XRT_MODE_STBY			:02_00
110	MSG	2014/10/18 09:06:44_00	----- Success Verify ? OK / NC ____ (Pauses)			:05_00
111	MSG	2014/10/18 09:06:49_00	(No pause)			
112	MSG	2014/10/18 09:06:49_00	XRT Obs. Table Upload (No pause)			
113	XRT	2014/10/18 09:06:49_00	MDP_UPLOAD_XRTTBL			:01:00_00
114	MSG	2014/10/18 09:07:49_00	(No pause)			
115	XRT	2014/10/18 09:07:49_00	MDP_DUMP_XRTTBL			:01:00_00
116	MSG	2014/10/18 09:08:49_00	----- Comparison Check ? OK / ERR ____ (Pauses)	Delete this line		:05_00
117	MSG	2014/10/18 09:08:54_00	(No pause)			
118	MSG	2014/10/18 09:08:54_00	(No pause)			
119	ROI	2014/10/18 09:08:54_00	14 ROI set commands			:05_00
120	XRT	2014/10/18 09:08:59_00	MDP_XRT_FLD_ENA			:02_00
121	XRT	2014/10/18 09:09:01_00	MDP_XRT_FLRCTRL_ENA			:02_00
122	XRT	2014/10/18 09:09:03_00	MDP_XRT_AEC_RESET			:02_00
123	XRT	2014/10/18 09:09:05_00	MDP_XRT_ARS_DIS			:02_00
124	XRT	2014/10/18 09:09:07_00	MDP_XRT_FLD_RESET			:02_00
125	XOB	2014/10/18 09:09:09_00	AR Standard-A(Filter-Ratio with Al/poly and thin-Be) with PFB, 384x384 at 1064 1048, thin-Be, thick-Al, and Al/Poly context, with G-band (33ms/45ms leak), 180s cad (19E4) (Normal; Pauses)			:02:32_00
126	XOB	2014/10/18 09:11:41_00	Flare - high cad multifilter (Be/thin, Be/med, Al/thick), AEC 3, 384x384 + context (med- Al,thick-Be - 384x384 + Al-poly 512x512 2x2) + Cband (45ms) + Darks - 30 loops (19EC) (Flare; Pauses)			:02_00
127	MSG	2014/10/18 09:11:43_00	----- Success Verify ? OK / NG (Pauses)			:05_00

Note that deleting the ROI set commands will cause the check_rois program (in IDL) to abort. But if you don't delete the ROI event, COT will return a fatal error: "ROI events are illegal in amended command plans."

3. The plan type must be changed from “Updatable” to “Amended” in the command plan settings.



You must also change “Yesterday’s plan:” to *match* the date of the timeline you are overriding. In the example, the 2014/10/18 weekend timeline was being amended after its upload, so that’s the date to be included. (The original 20141018 timeline referenced a “yesterday” of 2014/10/16.) Without this step, COT will not recognize the ROIs needed by your XOBs (because you deleted the ROI set commands in Step 2).

4. Re-insert the new pointing file if necessary.

- File ⇒ Import Pointing File
- < Check Delete all existing point events first. >
- < Click on link to "latest" folder that appears in window. >
- < Choose the re-point*.txt file. >
- < Click "OK" >

5. Start making the necessary modifications to the timeline after OP_Start + 10 minutes (*). The goal is to modify the existing 2014/10/18 timeline, not to create a new one.

(*) Having +10 minutes is simply because we followed the convention of the first re-pointing starting at OP_Start + 10 minutes.

- In the case of revising the 18 Oct. 2014 timeline, XOBs HOP 81 and 267 were removed and an existing XOB onboard was used for active region observations on AR 12192.

- Make sure to choose only XOBs that are present in the already uploaded (in our case, uploaded on Saturday, 18 Oct. 2014) XRT Table.

6. Run `post_cot` with `pdl` as follows:

```
xrtco@xrtco> post_cot 2014/10/18 pdl
```

* Note that the date should be Saturday (2014/10/18), not Monday (2014/10/20)

- This `post_cot` successfully compiles the timeline (updates files in `~xrtco/cmdpln/latest`), but results in errors as shown at the end of this section.

- The errors are caused by the automatically-inserted 'y' for `pdlchk.sh` that is asking whether the date of 2014/10/20 (not 10/18!) is OK.

- Once the errors attached below are shown, we need to quit `post-cot` (by typing `ctrl+c`).

****Note that there are commands that failed to be performed due to the aforementioned `post-cot` error. These commands must now be done manually.****

a) `xrtco@xrtco> ssh sbusxrt@133.74.8.203` (No password is required)

b) `sbusxrt@cp> sh ~/tool/pdlchk.sh`

```
# The date you'd like to check is [20141020]? (y/n)
```

```
==>
```

* Type n here.

```
# Please input the date
```

```
==> yyymmdd :
```

* Type 20141018 (instead of the default 20141020)

This successfully completes `pdlchk.sh`

c) `sbusxrt@cp> sh ~/tool/xrtcmdi/cmdicopy.sh`

* All of the above series of commands substitutes the regular `post_cot` function.

4. Run `xrt_plan`

Example of Error messages when running post_cot for an amended timeline

```
Last login: Sat Oct 18 12:09:30 2014 from grayling.physics.montana.edu
[xrtco@xrtco ~]$ post_cot 2014/10/18 pdl
Date = 2014/10/18
Using exported directory /home/flare/slb/xrtco//command_plan_creation/2014/10/18/20141018_exported
Using saved directory /home/flare/slb/xrtco//command_plan_creation/2014/10/18/20141018_saved
Using submission directory /home/flare/slb/xrtco//cmdpln/latest
Archive directory /home/flare/slb/xrtco//archive/2014/10/18 already exists. Are you sure you want to overwrite
it? [y/n]
y
Removing /home/flare/slb/xrtco//archive/2014/10/18.
Creating these directories:
mkdir: created directory '/home/flare/slb/xrtco//archive/2014/10/18'
Cleaning out input and output directories to make hex file for table upload.
Copying files from /home/flare/slb/xrtco//command_plan_creation/2014/10/18/20141018_exported to make hex file
.
moved XRTAEC-20141018*.xml to XRTAEC-000A.xml
moved XRTARS-20141018*.xml to XRTARS-0008.xml
moved XRTFLD-20141018*.xml to XRTFLD-0017.xml
moved XRTFLT-20141018*.xml to XRTFLT-0002.xml
Creating hex file. This will take a little while.
1
ANT BUILD SUCCESSFUL
Removing comments and NOPs from orl file.
/home/flare/slb/xrtco//command_plan_creation/2014/10/18/20141018_exported
Archiving /home/flare/slb/xrtco//command_plan_creation/2014/10/18_exported and saved directories.
Archiving html version of timeline.
Archiving snapshot of COT database.
Cleaning out ~/cmdpln/latest.
Archiving and submitting files for chief planners.
Running orl checker on CO machine.
(This will be a post-deadline check.)
spawn ssh sbusxrt@133.74.8.203
Last login: Sat Oct 18 11:53:27 2014 from www.isas.jaxa.jp
cp.solar.isas.jaxa.jp 101:% setenv LANG C
cp.solar.isas.jaxa.jp 102:% sh ~/tool/pdlchk.sh

# The date you'd like to check is [20141020]? (y/n)
==>y

OP-upload is not planned this time.
mv: cannot stat '/home/sbusxrt/ISACS/SOLAR-B/data/input/request/XRT_20141020????.orl': No such file or director
y
cp: cannot stat '/home/flare/slb/xrtco/cmdpln/latest/*_20141020????.hex': No such file or directory

#### RAMSUBMK.csh ####

There is no Intel-hex file.

#### ISACS_PLN.csh ####

2014-10-20 12:24:24 INFO CMD plan create start
2014-10-20 12:24:26 INFO registered user knowledge base compile start
2014-10-20 12:24:26 INFO registered user knowledge base compile completed
2014-10-20 12:24:26 INFO registered user knowledge base compile end
2014-10-20 12:24:27 INFO request compile start co_MAIN.orl
2014-10-20 12:24:28 FATAL No such files [/home/sbusxrt/ISACS/SOLAR-B/data/input/request/XRT.orl]
2014-10-20 12:24:28 FATAL request process error stop
cp.solar.isas.jaxa.jp 103:% y
```

```
cp.solar.isas.jaxa.jp 103:% y
y: Command not found.
cp.solar.isas.jaxa.jp 104:% y
y: Command not found.
cp.solar.isas.jaxa.jp 105:% y
y: Command not found.
cp.solar.isas.jaxa.jp 106:% y
y: Command not found.
cp.solar.isas.jaxa.jp 107:% y
y: Command not found.
cp.solar.isas.jaxa.jp 108:% y ← This is where the user must use ctrl-c
y: Command not found.
cp.solar.isas.jaxa.jp 109:% y
y: Command not found.
cp.solar.isas.jaxa.jp 110:%
[xrtco@xrtco ~]$ ssh sbusxrt@133.74.8.203
Last login: Mon Oct 20 12:24:05 2014 from www.isas.jaxa.jp
cp.solar.isas.jaxa.jp 101:% sh ~/tool/pdlchk.sh

# The date you'd like to check is [20141020]? (y/n)
==>2^n

-----
Wrong character was input. Please answer [y] or [n].
-----

# The date you'd like to check is [20141020]? (y/n)
==>n
# Please input the date.
==> yyyyymmdd : 20141018

#### RAMSUBMK.csh ####

file: MDP_OBS_X_201410186030.hex
2014-10-20 12:27:43 INFO RAM sub plan conversion start
2014-10-20 12:27:43 INFO RAM sub-plan exchanging RAM-ID:MDP_OBS_X Ver.291
2014-10-20 12:27:43 INFO RAM sub plan conversion end

#### ISACS_PLN.csh ####
```

```

#### ISACS_PLN.csh ####
2014-10-20 12:27:43 INFO CMD plan create start
2014-10-20 12:27:45 INFO registered user knowledge base compile start
2014-10-20 12:27:45 INFO registered user knowledge base compile completed
2014-10-20 12:27:45 INFO registered user knowledge base compile end
2014-10-20 12:27:46 INFO request compile start co_MAIN.orl
2014-10-20 12:27:49 INFO request compile start XRT.orl
2014-10-20 12:27:51 INFO request compile start plan_term.orl
2014-10-20 12:27:54 INFO request compile start merged_event.orl
2014-10-20 12:28:00 INFO command sequence information base compile start
2014-10-20 12:28:02 INFO succession nothing
2014-10-20 12:28:12 INFO MAIN_plan term getting [2014-10-18 07:26:15.0 START]
-----
MAIN plan No:276 is all right? (y/n)
==>y
-----
2014-10-20 12:28:29 INFO MAIN_plan No setting [2014-10-18 07:26:15.0 START] No:276
2014-10-20 12:28:29 INFO OPOG_subplan entry getting [2014-10-18 07:26:15.0 ENTRY]
-----
OPOG sub-plan No:276 is all right? (y/n)
==>y
-----
2014-10-20 12:28:36 INFO OPOG_subplan No setting [2014-10-18 07:26:15.0 ENTRY] No:276
2014-10-20 12:28:36 INFO MAIN_plan term getting [2014-10-18 08:43:25.0 START]
-----
MAIN plan No:277 is all right? (y/n)
==>y
-----
2014-10-20 12:28:42 INFO MAIN_plan No setting [2014-10-18 08:43:25.0 START] No:277
2014-10-20 12:28:42 INFO MAIN_plan term getting [2014-10-18 09:03:05.0 START]
-----
MAIN plan No:278 is all right? (y/n)
==>y
-----
2014-10-20 12:28:45 INFO MAIN_plan No setting [2014-10-18 09:03:05.0 START] No:278
2014-10-20 12:28:45 INFO RAM_subplan entry getting [2014-10-18 09:06:40.0 ENTRY]
2014-10-20 12:28:45 INFO RAM_subplan No setting [2014-10-18 09:06:40.0 ENTRY] No:291
-----
making cmdi No:155 is all right? (y/n)
==>y
-----
2014-10-20 12:28:56 INFO cmdi No acquire completed [0155]
2014-10-20 12:28:56 INFO cmdi create completed [cmdi0155]
2014-10-20 12:28:57 INFO CMD plan create end

#### RamNoCheck.pl ####
2014-10-20 12:28:57 INFO CHECK PROCESS START (cmdi0155)
2014-10-20 12:28:57 INFO RAMID - RAM_SUBPLAN_NO CORRESPONDING RAMID(MDP_OBS_X) RAM_SUBPLAN_NO(291)
2014-10-20 12:28:57 INFO CHECK PROCESS END

Good job!

cp.solar.isas.jaxa.jp 102:% sh ~/tool/xrtcmdi/cmdicopy.sh

#### mkchkwork.sh ####
/home/sbusxrt/ISACS/SOLAR-B/data/cmdi/cmdi0155/cmdi0155
OK

#### op_checker.pl ####
OK

end of cmdicopy.sh
cp.solar.isas.jaxa.jp 103:% █

```