CHANDRA
X-ray Center

MEMORANDUM

August 12, 2005

To: ACIS Operations Team

From: Joseph DePasquale

Subject: Load Review Scenarios: A Reference

1 Introduction

This memo is designed to be a quick reference for the ACIS scientist on-call who wants to double check what scripts should be executed for different load review scenarios. The two major portions of the load review are the review itself (the running of *acis-backstop.pl* from within *lr*) and the updating of the Focal Plane history files (either by running *ACE-update.pl* or *history-files.pl*). Right now, there are 3 different scenarios that require the calling of different scripts in order to perform a load review. Those scenarios are:

Table 1: **Load Review Scenarios**

1.	Nominal Weekly Load Review
2.	Radiation Replan
3.	Fast TOO Replan

By now, you are all familiar with the nominal load review scenario. This is the one in which you run the script *lr* to obtain all the neccessary files and it runs *acis-backstop.pl*. When the load is approved, you run *ACE-update.pl* to update the Focal Plane history files with the latest load. For the sake of clarity, this memo runs through the 3 scenarios listed above with explicit examples explaining the use of *lr*, *lr_break.pl*, *ACS-update.ksh*, and *history-files.pl*. The details are broken into two parts - the first dealing with the load review and the second dealing with the history files once the load is approved. The following section is also organized so that the first line describes the scenario, the second describes the scripts used in that scenario and the third explains the outcome of running that particular script.

2 ACIS Load Review and History File Scenarios

2.1 Load Reviews

1. Nominal Weekly Load
lr {current load} {previous load} {print option}
directories generated, load review files created

2. Radiation Replan
lr_break.pl {replan load} {load on spacecraft} {print option}
same as *lr* but user hand-edits ACIS-history.txt
file to provided correct continuity for new load

3. Fast TOO replan*
lr_break.pl {TOO load} {load on spacecraft} {print option}
same as above

*Occasionally, the mission planners may want to "re-use" some portions of the previously approved load when creating a TOO load if the TOO fits "nicely" in the existing load. In this case the TOO load will be another iteration of the approved load (ie. if the approved load was version B, the TOO load would be version C). In this case, simply run "lr" as you would in the nominal weekly load supplying the next iteration of the load and the previous week's load for history continuity.

2.2 History Files

1. Nominal Weekly Load
ACE-update.pl {current load}
concatenates most recent history onto ACIS FP
history files on /proj/sot/acis/FLU-MON (backup) and PSICORP (primary)

2. Radiation Replan
history-files.pl -stop {time} {state} or *history-files.pl* -man or
history-files.pl -go
run with "stop" switch when loads are stopped due to SCS107.
The "man" option is only used when a maneuver load has been created and approved.
This option runs ACE-update.pl to update the history files and then moves the
existing "9999" line to the end of each history file, grabbing the most recent
history in the preceeding line.
Once the actual replan loads have been approved,
run with "go" switch. This will automatically run ACE-update.pl to
update the history files and then remove the "9999" line.

3. Fast TOO replan*
history-files.pl -too {time} {state} {TOO load}
breaks history files at specified point, then runs
ACE-update.pl with newly approved TOO replan load

*If the mission planners decide to "re-use" an
existing load when creating a TOO load, simply supply
history-files.pl with the start time of that load. The history files
will be overwritten with the same history information up until the
start of the actual TOO.

Hopefully, this provides a concise and quick reference to the reviewer of what scripts should be used at what times. The following section contains explicit examples of the above scenarios and is simply organized by the scenario itself.

3 Examples

1. Nominal Weekly Load

lr OCT1402A OCT0702

-loads are reviewed and finally approved, user runs:

ACE-update.pl /data/acis0/LoadReviews/2002/OCT1402/

2. Radiation Replan

a) Once user knows exact time of SCS107 execution run:

history-files.pl -stop 2002:281:01:43:57.095

HRC-S,HETG-OUT,LETG-OUT,2118,OORMPDS,CSELFMT2,ENAB

This ensures the projection of the current state into the future until the replan load is approved.

b) IF a maneuver load is needed, update the history files once this load is approved by running *history-files.pl* -man

c) Replan load reviews are done the following way:

lr_break.pl OCT1202A OCT0702 (where OCT12 is the replan and OCT07 is currently running on the spacecraft)

-user is prompted to edit ACIS-History_edit.txt to reflect real state of the spacecraft for continuity in the new load (A version only). Load is approved...user runs:

d) *history-files.pl* -go

3. Fast TOO replan

a)*lr_break.pl* OCT1202A OCT0702 (same as above)

Once TOO load is approved run:

b)*history-files.pl* -too 2002:281:01:43:57.095

HRC-S,HETG-OUT,LETG-OUT,2118,OORMPDS,CSELFMT2,ENAB OCT1202

Please send any questions or comments to jdepasquale@head-cfa.harvard.edu. Please also see `http://asc.harvard.edu/acis/memos/ACIS-LoadReviews.ps` for a detailed description of the operation of the *acis-backstop.pl* script.