SCIAMACHY Operations Concept
II. Timelines: Generation, Planning & Execution Rules and Reference Timelines

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Change Record

Issue	Rev.	Date	Page	Description of Change
Draft		August 1995	all	new document
1	0	31 October 1995	all	incorporation of comments provided by IFE, FSS-TPD-SRON, Dornier, DARA
2	0	30 November 1996	all	Implementation of increased number of on-board timelines, incorportation of in-flight calibration timelines
3	0	31 October 2001	all	Re-definition of timeline sets 1-6 Addition of timeline set 7 Update of generation, planning and execution rules & requirements Addition of recovery scenarios

Signatures

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Abbreviations List

AD	Applicable Document
ADC	Analog Digital Converter
ANX	Ascending Node Crossing
APSM	Aperture Stop Mechanism
ASM	Azimuth Scan Mechanism
ATC	Active Thermal Control
BF	Back-to-Front
BIRA-IASB	Belgisch Instituut voor Ruimte-Aëronomie/ Institut D'Aéronomie Spatiale de Belgique
CA	Corrective Action
CFI	Customer Furnished Item
CT	Count
CTI	Configurable Transfer Item
DFD	Deutsches Fernerkundungs-Datenzentrum
DLR	Deutsches Zentrum für Luft- und Raumfahrt
DMOP	Detailed Mission Operation Plan
EF	Earth Fixed
EG	Engineering Gap
ENVISAT	European Environmental Satellite
ER	Execution Rule & requirement
ESA	European Space Agency
ESM	Elevation Scan Mechanism
ESOC	European Space Operations Centre
ESTEC	European Space Technology Centre
FB	Front-to-Back
FI	Fixed
FL	Floating
FOCC	Flight Operations Control Centre
FOP	Flight Operation Procedure
FOS	Flight Operations Segment
FOV	Field of View
GR	Generation Rule & Requirement
ICD	Interface Control Document
ICU	Instrument Control Unit
ID	Identifier
IFE	Institut für Fernerkundung
IMF	Institut Methodik der Fernerkundung
IOM	Instrument Operations Manual
LLI	Life Limited Item
MCMD	Macrocommand
MF	Moon Fixed
MG	Measurement Gap
MO&C	Moon Occultation & Calibration
MPS	Mission Planning System
MSR	Mission Scenario Requirement
NCWM	Nadir Calibration Window Mechanism
ND	Neutral Density
NDF	Neutral Density Filter
NDFM	Neutral Density Filter Mechanism
NF	Not Fixed
NIR	Near Infrared

NIVR	Nederlands Instituut voor Vliegtuigontwikkeling en Ruimtevaart
OSDF	Orbit Sequence definition File
PDS	Payload Data Segment
PMD	Polarization Measurement Device
PR	Planning Rule & requirement
RAM	Random Access Memory
RD	Reference Document
RGT	ROP Generation Tool
ROE	Reference Orbit Event
ROM	Read Only Memory
ROP	Reference Operation Plan
RTCS	Relative Time Command Sequence
SCIAMACHY	Scanning Imaging Absorption Spectrometer for Atmospheric Chartography
SF	Sun Fixed
SFS	Sun Follower System
SLS	Spectral Line Source
SO&C	Sun Occultation & Calibration
SODAP	Switch-On and Data Aquisition Phase
SOST	SCIAMACHY Operations Support Team
SRC	SCIAMACHY Radiant Cooler
SRON	Space Research Organization Netherlands
SSCO	Sub-Solar Calibration Opportunity
TC	Thermal Control
TCFOV	Total Clear Field of View
TL	Timeline
TM	Telemetry
TN	Technical Note
VHR	Variable Header Record
VIS	Visible
WLS	White Light Source
UV	Ultraviolet

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1. Scope and Purpose of the Document

This Technical Note (TN) is the second volume in the trilogy of the SCIAMACHY Operation Concept TNs describing the basic knowledge about SCIAMACHY operations planning. It serves as input to the development of the ENVISAT ground segment, in particular to those systems that are required for mission planning and scheduling. In that respect, the TN is strongly related to the other two TNs which outline the concept of mission scenarios (SCIAMACHY Operations Concept: I. Mission Scenarios, PO-TN-DLR-SH-0001/1) and instrument states (SCIAMACHY Operations Concept: III. Instrument States, PO-TN-DLR-SH-0001/3). Although each individual TN can be treated as a separate document, the full picture of the operations concept can only be obtained by dealing with all three TNs.

The third issue of the TN is prepared about 5 years after the release of the second issue. This second issue was the basis in the past for all operations/ground segment related interface definitions. In the framework of these interface definitions the concept required some updates, although it was flexible and robust enough to accommodate most of the changes discussed. Close to the ENVISAT launch we consider it worth to update this TN in order to reflect the latest status of the SCIAMACHY timeline definitions. Please note that this issue is fully compliant with the agreed ground segment interfaces between SCIAMACHY and ENVISAT (SCIAMACHY-to-FOCC, SCIAMACHY-to-RGT).

Issue 3 differs from issue 2 in the following areas

- update of timeline generation, planning and execution rules
- addition of recovery scenarios
- update of timeline table structure
- update of timeline definition set 1-6 and addition of set 7
- update of timeline header definition
- update of set 1 timeline definitions in annex

The timelines described in this issue of the TN are related to scientific and calibration & monitoring requirements, i.e. mission scenarios, as derived from the instrument status compliant with the state definitions in the current version of the Operations Concept TN III [RD 4][1] and the operational boundary conditions described in the current versions of the IOM [AD 2] and TN 117 [AD 3].

It has to be noted that these timelines are only applicable for the first part (SODAP) of the Commissioning Phase as they define a subset of nominal operations to be executed in addition to the specific SODAP operations[2]. Towards the end of SODAP, the best on-ground knowledge instrument operations concept (including the results of the SCIAMACHY Parameter Freezing no. 2 to be outlined in the next issue of the operations concept TNs = issue 4 - tbw) becomes valid and is checked in-flight. After a potential further modification based on the lessons learned from SODAP (Parameter Freezing no. 3) the final flight operations concept will be implemented. The validation part of the Commissioning Phase together with the succeeding routine operation phase will then be executed with the final flight settings of mission scenarios, states and timelines.

Exceptions do exist w.r.t. the settings required by TN 117 [AD 3] for nominal operations dark current states. These states are still defined with 'NDFM in' and 'APSM small' while TN 117 requires, due to LLI budgets over the mission lifetime, 'NDFM out' and 'APSM large'. However the additional operation of both LLIs caused by this definition is acceptable as the total amount of LLI switches in the Commissioning Phase part applicable to the current issue does not exceed 2000 (overall budget over mission lifetime is 49000 switches each).

[1] A minor revision of TN III is in preparation which impacts the state duration of a few states. This modification is already taken into account in this TN

[2] Specific SODAP (Commissioning Phase) timelines are not described in the context of this TN. They will be found in technical descriptions for SCIAMACHY SODAP execution.

2. Applicable and Reference Documents

2.1 Applicable Documents

AD 1: SCIAMACHY Scientific Requirements, University of Bremen, DARA, PO-RS-DAR-SH-0002, Issue Draft 1

AD 2: SCIAMACHY Instrument Operation Manual, MA-SCIA-0000DO/01, Issue E, 31 July 2001

AD 3: Optical and Radiant Cooler Assemblies Requirements and Constraints for In-Flight Operation and Instrument Calibration, TN-SCIA-1000FO/117, Issue 4, 15 March 2000

2.2 Reference Documents

RD 1: SCIAMACHY Instrument Requirements Document, DARA, PO-RS-DAR-SH-0001, Issue 3 Rev. 1, 12 December 1995

RD 2: SCIAMACHY Operations Concept: I. Mission Scenarios, PO-TN-DLR-SH-0001/1, Issue 3, Rev. 0, 30 September 2001

RD 3: SCIAMACHY Operations Concept: II. Timeline Generation Rules and Reference Timelines, PO-TN-DLR-SH-0001/2, Issue 2, Rev. 0, 30 November 1996

RD 4: SCIAMACHY Operations Concept: III. Instrument States, PO-TN-DLR-SH-0001/3, Issue 3, Rev. 2, 22 July 2001

RD 5: SCIAMACHY Orbit Analysis, PO-TN-DLR-SH-0002, Issue 1, Rev. 0, 20 October 1996

RD 6: Description of the Operational Concept of SCIAMACHY, Dornier, TN-SCIA-0000DO/01, 15 December 1993

RD 7: SCIAMACHY Instrument Monitoring (Short-Term and Long-Term): I. The Concept, PO-TN-DLR-SH-0004, Issue Draft, 31 March 1998

RD 8: SCIAMACHY In-Flight Calibration and Monitoring Operation, States, and Timelines, SRON-SCIA-MD-IFCM, Issue 2, 12 February 1996

RD 9: SCIAMACHY In-Flight Calibration and Monitoring Operation, States, and Timelines, SRON-SCIA-MD-IFCM, Issue 3, change pages, 5 March 1996

RD 10: SCIAMACHY In-Flight Calibration and Monitoring Concept, SRON-SCIA-MD-CALCONC, Issue 1, 2 May 1996

RD 11: SCIAMACHY Commissioning Plan, PO-PL-DLR-SH-0001, Issue Draft, Rev. 1, 15 July 2000

RD 12: SCIAMACHY SODAP Input, PO-TN-DLR-SH-0009, Issue 1, Rev. 0, 20 October 2000

RD 13: REMASE-3 URD pe_sciacal, PO-TN-ESA-GS-0733, Issue 1.3, 17 September 2001

RD 14: ENVISAT-1 Mission CFI Software. Mission Conventions Document, PO-IS-ESA-GS-0561, Issue 2.0, 7 April 1997

RD 15: FOCC-External user Generic Interface Control Document, PO-ID-ESA-GS-00400, Issue 1.7, 19 February 2001

RD 16: RGT-DLR Interface Control Document, GMV-RGT-ICD-04, Version 1.1, 4 July 2000

RD 17: SCIAMACHY/ENVISAT-1 DLR/FOCC Interface Control Document, Issue 1.2, 23 March 2001

RD 18: Report on ENVISAT-1/SCIAMACHY Optical Assembly Alignment Adjustment on Satellite Level, PO-RP-DOR-SH-1082, Issue A, 30 April 2001

RD 19: PMTC/Scanner Operation and Commanding, TN-SCIA-0000DO/10, Issue B, 22 December 1999

RD 20: PMTC/Scanner Algorithms Parameters, TN-SCIA-0000DO/13, Issue C, 21 December 1999

3. Introduction

The operations concept of SCIAMACHY is built on the hierarchy Mission Scenarios - Timelines - States. Mission Scenarios define the high-level sequence of activities. They describe what type/categories of measurements have to be performed and how the various types are related to each other. The timelines are the implementation of the mission scenarios in that respect that they give a detailed outline of the sequence of indvidual measurements. The states are the lowest level in the hierarchy. Each state represents a single measurement type with a specific set of parameters.

A fixed number of SCIAMACHY timelines will be stored in the onboard RAM with the opportunity for updates via macrocommand (MCMD) according to established, configuration controlled procedures. In order to ease daily operations, it is therefore required to develop timeline schemes which cover most of the envisaged instrument activities (mission scenarios).

It is obvious that modifications in timeline definition may impact mission scenario characteristics and individual states, even with the necessity to alter individual parameters. Therefore, timelines are interrelated with mission scenarios and state descriptions and cannot be regarded as a separate item.

Timeline generation is the process to assemble the sequence of instrument activities over a specific time interval. In the case of SCIAMACHY, the timelines can be developed by using pre-defined building blocks, the Instrument States (see TN III, PO-TN-DLR-SH-0001/3). Acting as the top level constraints, the Mission Scenarios (see TN I, PO-TN-DLR-SH-0001/1) define the overall measurement goals which must be achieved by the timelines. Because the maximum time interval spanned by a single timeline is 1 orbit, the orbit mission scenarios provide the main input (note: an orbit mission scenario is not identical to a timeline). The inter-relation between mission scenarios, states and timelines is depicted in fig. 1.

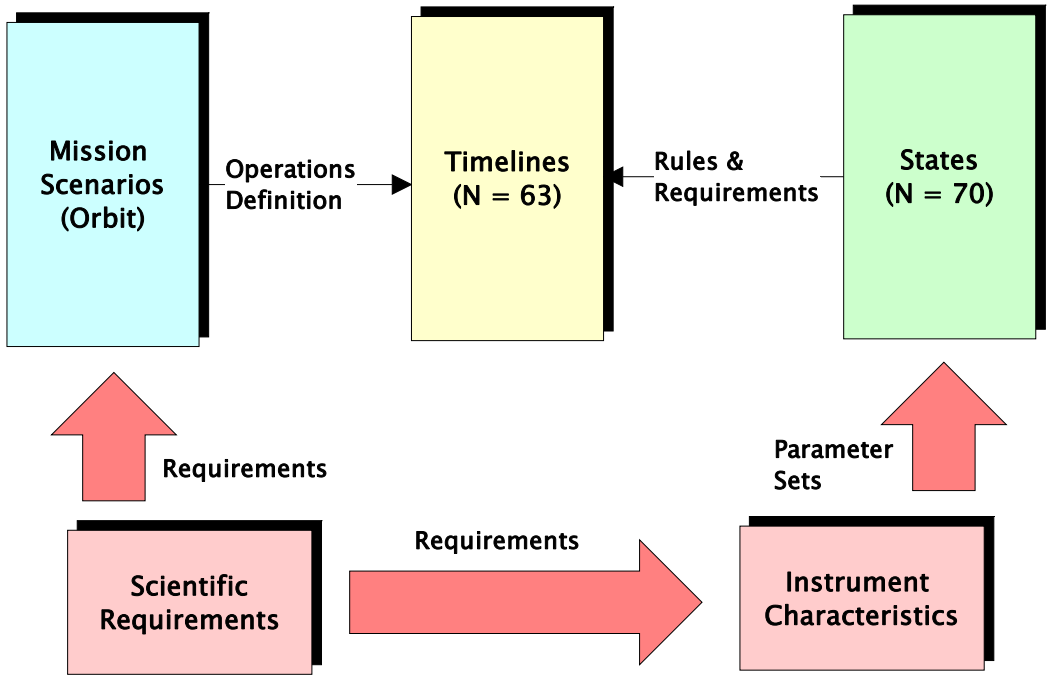

Figure 1: SCIAMACHY Timeline Generation Concept

4. Timeline Rules & Requirements

4.1 Generation Rules & Requirements

GR 1: The timeline definition shall be based on the hierarchical mission scenario concept orbit – day – month. It shall be possible to assemble each orbital mission scenario by a series of timelines.

GR 2: All SCIAMACHY measurement activities are defined in terms of timelines.

GR 3: Each timeline shall optimize the corresponding sequence of measurements.

GR 4: The nominal sequence of measurements is alternating limb/nadir.

GR 5: A timeline covers measurement and calibration/monitoring activities. It may also include instrument tests, maintenance or characterisation/verification activities.

GR 6: Each timeline shall include not more than one Sun/moon fixed state. Generally, Sun/moon fixed states are defined for

- Sun occultation & calibration
- sub-solar calibration
- Sun ESM diffuser calibration
- moon occultation & calibration
- moon calibration
- nadir/elevation mirror calibration

Note: A timeline may also include no Sun/moon fixed state.

GR 7: The number of individual timelines in one orbit is given by the number of Sun/moon fixed state observations plus the number of timelines without a Sun/moon fixed state.

GR 8: The TIMELINE table in the onboard RAM stores 63 timelines in total.

GR 9: Each timeline must end with an *END OF TIMELINE* entry after the last state.

GR 10: Each timeline is made out of 64 timeline table entries. The maximum number of states in a timeline is therefore 63.

GR 11: Timeline ID 63 is excepted from GR 10 because of the size of the timeline store. This timeline can be defined in such a way that the TIMELINE table entries can be read as one single timeline ID 63 with 128 entries.

GR 12: All states in a timeline can be scheduled to run without gaps (idle state) in between ('back-to-front' or 'front-to-back').

GR 13: The resolution for the timeline commanding is T_{tres} = 1 clock-count (CT) = 1/256 sec = 3.90625 ms

GR 14: Each timeline is the definition of a sequence of individual time tagged states. All time tags refer to the start of the state and are relative to the start of the previous state, except for the time tag of the first state of a timeline which refers to the start of the timeline.

GR 15: A state represents one single measurement (e.g. nadir, limb)

GR 16: The total number of states is 70 (which can be executed without modification of the onboard tables).

GR 17: Each state is controlled by a set of parameters. Certain parameters are stored onboard with two different values, one for each measurement data rate.

GR 18: All states (default values with their parameters) are stored in the ICU ROM and expanded at ICU initialization into RAM.

GR 19: The absolute time of the start of a state results from the absolute time tag of the *START TIMELINE* MCMD plus all relative ΔT time tags of the previous states plus the relative ΔT time tag of the actual state.

GR 20: The first state in a timeline shall be commanded with a relative time tag ΔT_{setup} identical to the *TIMELINE SETUP* interval (ΔT_{setup} = 709 CT = 2.76953125 sec – see ER 2).

GR 21: After the last state in each timeline has ended, a NOP_RTS of $\Delta T_{cleanup}$ = 24 CT = 0.09375 sec duration is executed. This period is referred to as the *TIMELINE CLEANUP* time.

GR 22: At the start and at the end of a state all LAT mechanisms (scanner, nadir calibration window, aperture stop, neutral denisty filter) are in the *HOME* position and the calibration lamps (white light source, spectral lamp source) are *OFF*. The *HOME* position is defined as follows
- scanner: IDLE
- nadir calibration window: CLOSED
- neutral density filter: OUT
- aperture stop: LARGE

GR 23: The resolution for the states commanding is T_{sres} = 1/256 sec = 3.90625 ms

4.2 Planning Rules & Requirements

PR 1: The timeline definitions shall account for a Sun occultation & calibration (scanning) measurement each orbit.

PR 2: The definition of Sun occultation timelines shall account for refraction in case the Sun fixed event is affected by refraction.

PR 3: The timeline definitions shall account for a sub-solar measurement each day.

PR 4: The timeline definitions shall account for a moon occultation measurement every second orbit when the moon is visible above the southern hemisphere. Exceptions of this rule exist for the period with lunar azimuth at moonrise = 0º ±10º when a lunar observation has to be scheduled each orbit.

PR 5: The definition of moon occultation timelines shall account for refraction in case the moon fixed event is affected by refraction.

PR 6: The timeline definitions shall account for the variability in the monthly lunar observation windows without generating gaps in coverage exceeding the duration of one typical limb or nadir state.

PR 7: The timeline definitions shall account for nadir eclipse measurements.

PR 8: The timeline definitions shall account for the required in-flight calibration and monitoring measurements with a frequency as described in the mission scenarios.

PR 9: The timeline definitions shall account for a swap between the limb/nadir sequence 1 and the limb/nadir sequence 2 every consecutive orbit.

PR 10: The last timeline in one orbit shall be finished before sunrise in the next orbit (including any limb states prior to it).

PR 11: Timelines can either run back-to-front, front-to-back or with a gap in between (idle mode). The duration of the idle mode is defined by the time difference between start of succeeding timeline and end of preceding timeline.

PR 12: Two consecutive timelines, even when they are scheduled 'back-to-front' or 'front-to-back', must be separated by an idle gap of at least $\Delta T = 1$ sec.

PR 13: Each orbit a timeline including the state ID 65 has to be executed. This timeline shall run prior to the start of any eclipse timelines.

PR 14: Between the end of last timeline to be executed in the illuminated part of the orbit and the start of the timeline with state ID 65 an idle gap of at least 135 sec duration shall be implemented. This is for allowing engineering command & control activities to be executed by flight operations.

PR 15: Between the end of the last eclipse timeline and the start of the first timeline in the next orbit an idle gap of 30 sec duration shall be implemented. This is for allowing specific mission planning driven command & control activities to be executed by flight operations.

PR 16: Timeline definition must allow for a measurement idle gap covering the complete eclipse phase once per month for the purpose of particular engineering activities. This is achieved by not planning any eclipse timeline for a specific orbit once per month.

PR 17: The maximum duration of a timeline is limited by the maximum number of states and their associated individual duration. The maximum duration of a timeline however must not exceed the time interval between two consecutive Sunrises (equivalent to one 'SCIAMACHY orbit').

PR 18: The total duration of a state results from the duration of the setup phase, measurement window and the cleanup phase. The timing of these phases is controlled by the state RTCS and the STATE DURATION table.

PR 19: States can either run 'back-to-front', 'front-to-back' or with a gap in between (idle state). The duration of the idle state is defined by the time difference between start of succeeding state and end of preceding state.

PR 20: The maximum duration of a state must not exceed 68 minutes.

4.3 Execution Rules & Requirements

ER 1: All timelines are stored in the ICU RAM. As a consequence, all timelines scheduled must be loaded by MCMD after the initialisation of the ICU.

ER 2: A timeline is started by an absolute time tagged *START TIMELINE* mode switching MCMD. The first state is scheduled to start when the *START TIMELINE* Relative Time Command Sequence (RTCS) has run to completion. This period is referred to as the *TIMELINE SETUP* time. It amounts to 709 clock-counts (CT) = 2.76953125 sec.

ER 3: The time tag for the individual *START TIMELINE* MCMD must be derived by the ground segment such that the sun and the moon related measurement state of that particular timeline is executed at the appropriate time taking into account orbital and celestial constraints (e.g. seasonal variations, spacecraft ephemeris data, etc.).

ER 4: The execution of the *START TIMELINE* MCMD has to start within a time window of 40 ms after the time tag of the MCMD. If the execution of the S*TART TIMELINE* MCMD starts later than 40 ms after the time tag, a Corrective Action (CA) will be initiated.

ER 5: The *START TIMELINE* MCMD allows to set a limited number of parameters. These parameters define the absolute time-tag of timeline start and predicted position (aspect, nadir) and motion (nadir rate) of the Sun and the moon.

ER 6: The *START TIMELINE* MCMD is executed nominally in heater mode or in measurement/idle mode. In all other modes or transitions a *START TIMELINE* MCMD will not be executed but a CA will be initiated.

ER 7: Each timeline is terminated by an *END OF TIMELINE* entry after the last state. The timeline ends when the instrument falls back into idle submode after the *END OF TIMELINE* entry has been executed.

ER 8: Timelines can be loaded or modified by the *SET TIMELINE* MCMD.

ER 9: During the execution of a timeline the measurement data rate may be changed by the *MEASUREMENT DATA RATE* MCMD.

ER 10: For Sun occultation & calibration measurements the data rate has to be switched from low to high.

ER 11: The scheduling of the *MEASUREMENT DATA RATE* MCMD is not synchronized with the activities in a timeline.

ER 12: The *MEASUREMENT DATA RATE* MCMD has to be treated as follows:

- the *MEASUREMENT DATA RATE* MCMD sets the data rate flag (1800K = available), and provides the predicted time tag when the data rate flag will be reset again next occasion (1800K = not available)
- in order not to change the data rate during the execution of a state, the data rate flag and the time tag are handled by the ICU as follows:
  - if the flag is down (400K = available) at the start of a state, all of the state will be expanded with 400K data rate parameters
  - if the flag is up (1800K = available) at the start of a state, and the flag reset time tag is earlier than the end of this state, then all of the state will be expanded with 400K data rate parameters
  - if the flag is up (1800K = available) at the start of a state, and the flag reset time tag is later than the end of this state, then all of the state will be expanded with 1800K data rate parameters

  The rules how to derive the flag time-tags are given in chapter 7.2.3.

ER 13: The data rate cannot be changed during the execution of a state.

ER 14: During execution of a timeline certain orbit parameters which are used on-board for LOS corrections, may be changed by the *ANCILLARY DATA* MCMD.

ER 15: A running timeline may be interrupted in a controlled fashion by a *HEATER* MCMD only. In case of unexpectedly long engineering activities waiting for execution this is the only means to stop *MEASUREMENT TIMELINE* mode.

ER 16: The start and end of each state, as well as the selected data rate are reported in the ICU history area during the execution of a timeline.

ER 17: The execution of each state is controlled in-flight by one of 9 different RTCS (RTCS STT_01 – STT_15, where STT_08 was only implemented specific for on-ground tests).

ER 18: The execution of a state has to start within a time window of 3 CTs after the time tag of the state. If the execution of a state starts later than 3 CTs after the time tag, a CA will be initiated.

ER 19: The time tag of a state is not checked until the previous state has run to completion. In case the time tag of a state, when being checked, lies in the past, a fault ID is generated (timeline time tag error) and a CA is initiated.

ER 20: State parameters can be modified by parameter setting MCMDs.

ER 21: Acceptability of parameter setting MCMDs is defined by Table 7-2 in [AD 2].

5. Timeline Generation and Timeline Table Structure

Based on the rules presented in chapter 4, the principles of SCIAMACHY timelines can be elaborated. In SCIAMACHY terms, a timeline is a sequence of measurement or calibration & monitoring activities which either includes a Sun/moon fixed state or has no reference to the Sun or moon position. It must never span a time interval with two or more Sun/moon fixed states. For SCIAMACHY planning purposes the sequence of timelines within one complete orbit is the main mission planning goal. This sequence is driven by the required orbital mission scenario (see TN I). The general relation between SCIAMACHY's timelines and the implemented orbital mission scenario is

$$\begin{aligned} \textit{timelines (orbital scenario)} = \; & \sum \textit{timelines (Sun fixed)} + \\ & \sum \textit{timelines (moon fixed)} + \\ & \sum \textit{timelines (not Sun/not moon fixed)} \end{aligned}$$

States executing the actual Sun/moon observation do not have to be the first state in the timeline. They can be preceded by other states. However, it has to be ensured that the relative time tags for each state prior to the Sun/moon measurement plus the absolute time tag for the timeline start yield an absolute time for the start of the Sun/moon fixed state corresponding exactly to the Sun/moon position in the *START TIMELINE* MCMD (see chapter 7).

All 63 measurement timelines are stored on-board in the TIMELINE table (see [RD 4]). In order to avoid the necessity to update large parts of that table when only one timeline has to be changed it has been decided to reserve fixed storage space for each timeline. This allows to specifically select and modify a single timeline with the *SET TIMELINE* MCMD.

The TIMELINE table has a total number of 4096 entries. Each measurement timeline occupies 64 entries. In every timeline the 'End-of-Timeline' entry follows immediately after the last state in the timeline. Unused timeline entries after the first 'End-of-Timeline' are all padded with 'End-of-Timeline' in the master timeline definition spreadsheet (see chapter 9) and translated to '00' in the timeline file transferred to FOCC for command & control purposes (SET TIMELINE MCMD). TIMELINE table entries 4033-4096 are left empty. If required, they might be filled such that timeline ID 63 can be expanded to have a length of 128 entries. However, under nominal conditions this option is not used.

6. Timeline Sets

For nominal operations the mission scenarios require the implementation of 3 different measurement goals:

- Limb/nadir sequence with limb and nadir swath width either having wide (= default - 960 km across track) or small (103 km resp. 120 km across track) values
- Nadir only with nadir swath width either having small (120 km across track) or wide (960 km across track) values
- Limb only with nadir swath width either having small (103 km across track) or wide (960 km across track) values

Because of the need to avoid regular data gaps in global coverage, it is required to split the limb/nadir sequence into two:

- Limb/nadir sequence 1
- Limb/nadir sequence 2 (the sequence 2 is shifted by approx. 1 state in orbital phase w.r.t. sequence 1)

Since the total number of measurement timelines to be stored on-board is limited to 63 not all goals can be implemented on-board simultaneously. Thus it is required to distinguish between 'on-board' and 'on-ground' timelines. 'On-ground' timelines are pre-defined timelines, kept under configuration control, and uplinked when needed in orbit (as specified in the FOCC ICD [RD 15]). The 'on-board' store changes according to the planning as provided in the Orbit Sequence Definition File (OSDF - see RGT ICD [RD 16]).). The maintenance of both types of timelines over the mission lifetime makes it necessary to develop a flexible timeline set system which is capable to identify

- individual timeline sets (measurement goals)
- the location of a timeline within a set (relevant for the TIMELINE table)
- the multiples of an individual timeline (relevant for modifications, e.g. timeline of different length)
- the status of timelines within a set (on-board versus on-ground)

By defining 3 timeline flags it is possible to identify individual measurement timelines unambiguously. These flags are

- ***SET***: two digit integer number (maximum 99, presently used 01 to 07 for nominal operations)
  - 01 = limb/nadir sequence 1 and 2 for wide swath state parameter settings
  - 02 = limb/nadir sequence 1 and 2 for small swath state parameter settings
  - 03 = nadir only for wide swath state parameter settings
  - 04 = nadir only for small swath state parameter settings
  - 05 = limb only for wide swath state parameter settings
  - 06 = limb only for small swath state parameter settings
  - 07 = engineering timelines
- ***ID***: integer number 1 - 63
  defines the location of an individual timeline within a *set*
- ***SUB-ID***: integer number ≥ 1
  defines the multiples of an individual timeline with flag *ID* (sub-IDs are mainly used to identify timelines with identical functionality but different timeline settings, e.g. shorter duration)

For clarity each string of flags should be preceded by the string 't/l'. With this definition each timeline can be represented in the form

timeline = t/l_***SET_ID_SUB-ID***

The flags *SET*, *ID* and *SUB-ID* are used in the ENVISAT/SCIAMACHY interfaces. *SET* (digits 1 & 2) and *SUB-ID* digits (3 & 4) define the first 4 digits of the 8 digit timeline version number. The last 4 digits of the version number are unused and remain at '`0000`'.

Each timeline is described using the scheme

description = ***INTERVAL_START_INTERVAL_STOP_FUNCTION***

- **INTERVAL** defines the applicable orbit interval
  values are: `SOC, MOC, sub` (subsolar), `ecl` (eclipse), `ANX`
- **START** defines where the applicable orbit interval begins
  values are: `beg` (begin), `end, _17` (17.2 km altitude), `150` (150 km altitude), `200` (200 km altitude), `_22` (22.5º elevation)
- **STOP** defines where the applicable orbit interval ends
  values are: `beg` (begin), `end, _17` (17.2 km altitude), `150` (150 km altitude), `200` (200 km altitude), `_22` (22.5º elevation)
- **FUNCTION** defines purpose and type of measurements of timeline
  values are any combination of: `nadir, limb, ADC, sun, moon, fs` (fast sweep), `ns` (nominal scan), `pt` (pointing), `esmd` (ESM diffuser), `asmd` (ASM diffuser), `exm` (extra mirror), `ndof` (ND filter out), `ndfi` (ND filter in), `sq1` (sequence 1), `sq2` (sequence 2), `cal` (calibration), `ecl` (eclipse), `orbit, daily, weekly, monthly, spec` (special), `orbn` (n^{th} orbit, $n \geq 1$)

6.2 Timeline Sets (Set 01 – Set 07)

6.2.1 Orbit Intervals

Each timeline is associated to a particular orbit interval. The timeline properties (e.g. fixed states, duration) are such that the timeline can be executed properly only within this interval. By assembling individual timelines along the orbit, it is thus possible to cover the complete orbit with measurements. In the process of timeline definition it has to be ensured that all orbit intervals are adequately used in order to allow the implementation of all orbital mission scenarios.

Table 1 displays the relation between orbit phase and timeline ID. Horizontally the orbit is separated into intervals representing all measurement windows required in the various orbit mission scenarios. The bold framed boxes surround orbit intervals within the SO&C and MO&C window, which are defined by the calibration and monitoring activities. Vertically the timelines are given. A shaded box indicates that the timeline covers the corresponding interval. Those boxes labelled 'SF' or 'MF' define the windows where the Sun or moon fixed states are executed. For the sake of maintaining a clear timeline to orbit interval assignment the rule is that each timeline is applicable in only one orbit interval.

		Orbital Interval (from - to)													
Timeline	**ID**	SO&C start to 17.2 km	SO&C 17.2 km to 150 km	SO&C 150 km to 22.5 deg	SO&C 22.5 deg to end	SO&C end to sub-solar start	Sub-solar start to end	Sub-solar end to MO&C start	MO&C 17.2 km to 200 km	MO&C 200 km to end	MO&C end to eclipse start	Eclipse start to ADC calibration start (EG1)	ADC calibration start to end	ADC calibration end to MPS idle gap start	MPS idle gap start to eclipse end (MG3)
SOC_beg_SOC_end_limb_sun_ns	1	**SF**													
SOC_beg_SOC_150_limb_sun_ns_pt	2	**SF**													
SOC_150_SOC_end_sun_fs	3			**SF**											
SOC_150_SOC_end_sun_exm_fs	4			**SF**											
SOC_150_SOC_end_sun_exm_pt	5			**SF**											
SOC_150_SOC_end_sun_exm_ns	6			**SF**											
SOC__22_SOC_end_sun_esmd_ndfo	7				**SF**										
SOC__22_SOC_end_sun_esmd_ndfi	8				**SF**										
MOC_beg_MOC_200_moon_pt	9								**MF**						
MOC_beg_MOC_end_moon_pt	10								**MF**						
MOC_200_MOC_end_moon_ns	11									**MF**					
MOC_200_MOC_end_moon_exm	12									**MF**					
SOC_end_MOC_beg_limb_nadir_sq1	13														
SOC_end_MOC_beg_limb_nadir_sq1	14														
SOC_end_MOC_beg_limb_nadir_sq1	15														
SOC_end_MOC_beg_limb_nadir_sq1	16														
SOC_end_MOC_beg_limb_nadir_sq1	17														
SOC_end_MOC_beg_limb_nadir_sq1	18														
SOC_end_MOC_beg_limb_nadir_sq1	19														
SOC_end_MOC_beg_limb_nadir_sq1	20														
SOC_end_MOC_beg_limb_nadir_sq1	21														
SOC_end_MOC_beg_limb_nadir_sq1	22														
SOC_end_MOC_beg_limb_nadir_sq1	23														
SOC_end_MOC_beg_limb_nadir_sq1	24														
SOC_end_sub_beg_limb_nadir_sq1	25														
sub_beg_MOC_beg_limb_nadir_sq1	26						**SF**								
sub_beg_MOC_beg_limb_nadir_sq1	27						**SF**								
sub_beg_MOC_beg_limb_nadir_sq1	28						**SF**								
sub_beg_MOC_beg_limb_nadir_sq1	29						**SF**								
sub_beg_MOC_beg_limb_nadir_sq1	30						**SF**								
sub_beg_MOC_beg_limb_nadir_sq1	31						**SF**								

Timeline	ID	Orbital Interval (from - to)													
		SO&C start to 17.2 km (incl. 4 limb)	SO&C 17.2 km to 150 km	SO&C 150 km to 22.5 deg	SO&C 22.5 deg to end	SO&C end to sub-solar start	Sub-solar start to end	Sub-solar end to MO&C start	MO&C 17.2 km to 200 km	MO&C 200 km to end	MO&C end to eclipse start	Eclipse start to ADC calibration start (EG1)	ADC calibration start to end	ADC calibration end to MPS idle gap start	MPS idle gap start to eclipse end (MG3)
sub_beg_MOC_beg_limb_nadir_sq1	32						SF								
sub_beg_MOC_beg_limb_nadir_sq1	33						SF								
sub_beg_MOC_beg_limb_nadir_sq1	34						SF								
sub_beg_MOC_beg_limb_nadir_sq1	35						SF								
sub_beg_MOC_beg_limb_nadir_sq1	36						SF								
sub_beg_MOC_beg_limb_nadir_sq1	37						SF								
MOC_end_ecl_beg_limb_nadir_sq1	38														
MOC_end_ecl_beg_limb_nadir_sq1	39														
MOC_end_ecl_beg_limb_nadir_sq1	40														
MOC_end_ecl_beg_limb_nadir_sq1	41														
MOC_end_ecl_beg_limb_nadir_sq1	42														
MOC_end_ecl_beg_limb_nadir_sq1	43														
MOC_end_ecl_beg_limb_nadir_sq1	44														
MOC_end_ecl_beg_limb_nadir_sq1	45														
MOC_end_ecl_beg_limb_nadir_sq1	46														
MOC_end_ecl_beg_limb_nadir_sq1	47														
MOC_end_ecl_beg_limb_nadir_sq1	48														
MOC_end_ecl_beg_limb_nadir_sq1	49														
SOC_end_ecl_beg_limb_nadir_sq1	50														
sub_beg_ecl_beg_limb_nadir_sq1	51						SF								
SOC_end_sub_beg_limb_nadir_sq2	52														
SOC_end_ecl_beg_limb_nadir_sq2	53														
sub_beg_ecl_beg_limb_nadir_sq2	54						SF								
ecl_beg_ecl_end_cal_orbit_daily	55														
ecl_beg_ecl_end_cal_weekly_monthly	56														
SOC_end_sub_beg_cal_monthly_spec_orb1	57														
sub_beg_MOC_beg_cal_monthly_orb1	58						SF								
MOC_end_ecl_beg_cal_monthly_spec_orb1	59														
SOC_end_sub_beg_cal_monthly_spec_orb2_orb3	60														
sub_beg_ecl_beg_cal_monthly_spec_orb2	61						SF								
sub_beg_ecl_beg_cal_monthly_spec_orb3	62						SF								
ecl_beg_ecl_end_ADC_cal	63														

Table 1: Timelines versus Orbit Intervals

Because of the high variability of moon related observation windows, a number of timelines covering the same orbital interval is defined (*ID 13-24, 26-37, 38-49)*. These timelines have identical functionality but different duration. Thus it is possible to start individual timelines within an orbit mission scenario without continuously uplinking modified timelines. However, the annual variability of some windows is even so large that it is unavoidable to define additional timelines with the same ID but different sub-IDs, maintain them on-ground and exchange them with the corresponding on-board timelines whenever required.

The timeline / orbit interval relation in table 1 has been originally derived for the standard timeline set 01 (alternating limb/nadir – wide swath) but is also applicable to the sets 02 – 06 (alternating limb/nadir small swath; nadir only, limb only – both in wide and small swath). Therefore it can be considered to be generic for all scientific timelines.

6.2.2 Timeline Set 01 (Alternating Limb/Nadir – Wide Swath)

This is the standard timeline set for routine operations. The following list provides a brief description of the measurement goal of each timeline.

ID 1: SOC_beg_SOC_end_limb_sun_ns

Covers time interval from the start to the end of the SO&C window but is supplemented by several states to be executed before sunrise. It includes measurements of category limb and *SO&C_Scanning (nominal scanning)*. The timeline is scheduled each orbit when no calibration and monitoring measurements above the atmosphere are required.

ID 2: SOC_beg_SOC_150_limb_sun_ns_pt

Covers time interval from the start of the SO&C window until the sun has reached at least the upper limit of the atmosphere at 100 km. It includes measurements of category limb and *SO&C_Scanning (nominal scanning.plus short pointing phase at the end)*. The timeline is scheduled when calibration and monitoring measurements are required above the atmosphere.

ID 3: SOC_150_SOC_end_sun_fs

Covers time interval within the SO&C window above the atmosphere sufficiently long for the execution of the fast sweep measurement. It includes measurements of category *SO&C_Scanning (fast sweep)*. The timeline is scheduled when calibration and monitoring measurements are required above the atmosphere.

ID 4: SOC_150_SOC_end_sun_exm_fs

Covers time interval within the SO&C window above the atmosphere sufficiently long for the execution of the fast sweep measurement via the nadir/extra mirror. It includes measurements of category *Sun_Nadir/Elevation_Mirror_Calibration (fast sweep scanning)*. The timeline is scheduled when calibration and monitoring measurements are required above the atmosphere.

ID 5: SOC_150_SOC_end_sun_exm_pt

Covers time interval within the SO&C window above the atmosphere sufficiently long for the execution of the pointing measurement via the nadir/extra mirror. It includes measurements of category *Sun_Nadir/Elevation_Mirror_Calibration (pointing)*. The timeline is scheduled when calibration and monitoring measurements are required above the atmosphere.

ID 6: SOC_150_SOC_end_sun_exm_ns

Covers time interval within the SO&C window above the atmosphere sufficiently long for the execution of the nominal scanning measurement via the nadir/extra mirror. It includes measurements of category *Sun_Nadir/Elevation_Mirror_Calibration (nominal scanning)*. The timeline is scheduled when calibration and monitoring measurements are required above the atmosphere.

ID 7: SOC__22_SOC_end_sun_esmd_ndfo

Covers time interval within the SO&C window above the atmosphere sufficiently long for the execution of the diffuser measurement with ND filter out. It includes measurements of category *Sun_Diffuser_Calibration (ND out)*. The timeline is scheduled when calibration and monitoring measurements are required above the atmosphere.

ID 8: SOC__22_SOC_end_sun_esmd_ndfi

Covers time interval within the SO&C window above the atmosphere sufficiently long for the execution of the diffuser measurement with ND filter in. It includes measurements of category *Sun_Diffuser_Calibration (ND in)*. The timeline is scheduled when calibration and monitoring measurements are required above the atmosphere.

ID 9: MOC_beg_MOC_200_moon_pt

Covers time interval from the start of the MO&C window until the moon has reached at least the upper limit of the atmosphere at 100 km. It includes measurements of category *MO&C_Pointing*. The timeline

is scheduled each orbit with lunar observations when calibration and monitoring measurements are required above the atmosphere.

ID 10: MOC_beg_MOC_end_moon_pt

Covers time interval from the start to the end of the MO&C window. It includes measurements of category *MO&C_Pointing*. The timeline is scheduled each orbit with lunar observations when no calibration and monitoring measurements above the atmosphere are required.

ID 11: MOC_200_MOC_end_moon_ns

Covers time interval within the MO&C window above the atmosphere sufficiently long for the execution of the nominal scanning measurement It includes measurements of category *Moon_Scanning*. The timeline is scheduled each orbit with lunar observations when calibration and monitoring measurements above the atmosphere are required.

ID 12: MOC_200_MOC_end_moon_exm

Covers time interval within the MO&C window above the atmosphere sufficiently long for the execution of the nominal scanning measurement via the nadir/extra mirror. It includes measurements of category *Moon_Nadir/Elevation_Mirror_Calibration (nominal scanning)*. The timeline is scheduled each orbit with lunar observations when calibration and monitoring measurements are required above the atmosphere.

ID 13 - ID 24: SOC_end_MOC_beg_limb_nadir_sq1

Cover time interval from the end of the SO&C window to the start of the MO&C window. They include measurements of category *Limb* and *Nadir*. The timelines are scheduled each orbit with lunar observations. The individual timelines differ from each other by the duration. The granularity of the timelines is 1 limb or nadir state. Seven timelines with durations from 2728 sec to 2334 sec are required additionally to cover the full range of time intervals expected for the year 2002. They have sub-ID 02 and are uplinked in certain orbits.

ID 25: SOC_end_sub_beg_limb_nadir_sq1

Covers time interval from the end of the SO&C window to the start of the sub-solar window. It includes measurements of category *Limb* and *Nadir*. The timeline is scheduled in each measurement orbit whenever sub-solar observations are required.

ID 26 - ID 37: sub_beg_MOC_beg_limb_nadir_sq1

Cover time interval from the start of the sub-solar window to the start of the MO&C window. They include measurements of category *Sub_Solar_Calibration, Limb* and *Nadir*. The timelines are scheduled each orbit with lunar observations. The individual timelines differ from each other by their duration. The granularity of the timelines is 1 limb or nadir state. Seven timelines with durations from 881 sec to 487 sec are required additionally to cover the full range of time intervals expected for the year 2002. They have sub-ID 02 and are uplinked in certain orbits.

ID 38 - ID 49: MOC_end_ecl_beg_limb_nadir_sq1

Cover time interval from the end of the MO&C window to the start of the eclipse phase. They include measurements of category *Limb* and *Nadir*. The timelines are scheduled each orbit with lunar observations. The individual timelines differ from each other by their duration. The granularity of the timelines is 1 limb or nadir state. Five timelines with durations from 1038 sec to 1300 sec are required additionally to cover the full range of time intervals expected for the year 2002. They have sub-ID 02 and are uplinked in certain orbits.

ID 50: SOC_end_ecl_beg_limb_nadir_sq1

Covers time interval from the end of the SO&C window to the start of the eclipse phase. It includes measurements of category *Limb* and *Nadir*. The timeline is scheduled each orbit when no sub-solar or lunar measurements are required.

ID 51: sub_beg_ecl_beg_limb_nadir_sq1

Covers time interval from the start of the sub-solar window to the start of the eclipse phase. It includes

measurements of category *Limb* and *Nadir*. The timeline is scheduled each orbit when sub-solar but no lunar measurements are required.

ID 52: SOC_end_sub_beg_limb_nadir_sq2

Covers time interval from the end of the SO&C window to the start of the sub-solar window. It includes measurements of category *Limb* and *Nadir*. The timeline is scheduled in each measurement orbit whenever sub-solar observations are required. This timeline is equivalent to timeline ID 25 but executes a limb/nadir sequence which is shifted by 1 state w.r.t. timeline ID 25 such that the ground coverage eliminates gaps caused by running only sequence 1.

ID 53: SOC_end_ecl_beg_limb_nadir_sq2

Covers time interval from the end of the SO&C window to the start of the eclipse phase. It includes measurements of category *Limb* and *Nadir*. The timeline is scheduled each orbit when no sub-solar or lunar measurements are required. This timeline is equivalent to timeline ID 50 but executes a limb/nadir sequence which is shifted by 1 state w.r.t. timeline ID 50 such that the ground coverage eliminates gaps caused by running only sequence 1.

ID 54: sub_beg_ecl_beg_limb_nadir_sq2

Covers time interval from the start of the sub-solar window to the start of the eclipse phase. It includes measurements of category *Limb* and *Nadir*. The timeline is scheduled each orbit when sub-solar but no lunar measurements are required. This timeline is equivalent to timeline ID 51 but executes a limb/nadir sequence which is shifted by 1 state w.r.t. timeline ID 51 such that the ground coverage eliminates gaps caused by running only sequence 1.

ID 55: ecl_beg_ecl_end_cal_orbit_daily

Covers time interval from the start of the eclipse phase to the end of the eclipse phase. It includes measurements of category *Nadir_Eclipse* and *Dark_Current_Calibration*. The timeline is scheduled whenever the daily or orbital calibration scenario has to be executed. Its definition must account for the 30 sec measurement idle gap immediately after the eclipse timeline.

ID 56: ecl_beg_ecl_end_cal_weekly_monthly

Covers time interval from the start of the eclipse phase to the end of the eclipse phase. It includes measurements of category *Dark_Current_Calibration, Spectral_Lamp_Calibratio* and *White_Lamp_Calibration*. The timeline is scheduled whenever the weekly or monthly calibration scenario has to be executed. Its definition must account for the 30 sec measurement idle gap immediately after the eclipse timeline.

ID 57: SOC_end_sub_beg_cal_monthly_spec_orb1

Covers time interval from the end of the SO&C window to the start of the sub-solar window. It includes measurements of category *Limb, Nadir* and *Spectral_Lamp_Calibration*. The timeline is required for the first of the three calibration orbits in the monthly or special calibration scenario.

ID 58: sub_beg_MOC_beg_cal_monthly_orb1

Covers time interval from the start of the sub-solar window to the start of the MO&C window. It includes measurements of category *Limb, Nadir, Sub_Solar_Calibration* and *Spectral_Lamp_Calibration*. The timeline is required for the first of the three calibration orbits in the monthly or special calibration scenario.

ID 59: MOC_end_ecl_beg_cal_monthly_spec_orb1

Covers time interval from the end of the MO&C window to the start of the eclipse phase. It includes measurements of category *Nadir, Spectral_Lamp_Calibration, White_Lamp_Calibration* and *Dark_Current_Calibration*. The timeline is required for the first of the three calibration orbits in the monthly or special calibration scenario.

ID 60: SOC_end_sub_beg_cal_monthly_spec_orb2_orb3

Covers time interval from the end of the SO&C window to the start of the sub-solar window. It includes measurements of category *Dark_Calibration*. The timeline is required for the 2nd and 3rd of the three calibration orbits in the monthly or special calibration scenario.

ID 61: sub_beg_ecl_beg_cal_monthly_spec_orb2

Covers time interval from the start of the sub-solar window to the start of the eclipse phase. It includes measurements of category *Sub_Solar_Calibration* and *Dark_Calibration*. The timeline is required for the 2nd of the three calibration orbits in the monthly or special calibration scenario.

ID 62: sub_beg_ecl_beg_cal_monthly_spec_orb3

Covers time interval from the start of the sub-solar window to the start of the eclipse phase. It includes measurements of category *Sub_Solar_Calibration, Spectral_Lamp_Calibration, White_Lamp_Calibration* and *Dark_Calibration*. The timeline is required for the 3rd of the three calibration orbits in the monthly or special calibration scenario.

ID 63: ecl_beg_ecl_end_ADC_cal

Covers time interval from the start of the ADC calibration to the end of the ADC calibration. This window is part of the eclipse phase. The timeline is required each orbit to calibrate the detector ADCs. Its definition must account for the 135 sec measurement idle gap immediately before timeline ID 63.

6.2.3 Timeline Set 02 - 06

These timeline sets can be defined for

- alternating limb/nadir small swath width
- nadir only wide swath width
- nadir only small swath width
- limb only wide swath width
- limb only small swath width

measurement goals.

- **Timeline Set 02 (alternating limb/nadir – small swath)**

All timelines have the same purpose as in timeline set 01

- **Timeline Set 03 (nadir only – wide swath) and Set 04 (nadir only – small swath)**

Changes exist for timelines ID 1, 2, 13-24, 25, 26-37, 38-49, 50, 51, 52, 53, 54, 57, 58 and 59. All limb states in timeline definition files are replaced by nadir states.

- **Timeline Set 05 (limb only – wide swath) and Set 06 (limb only – small swath)**

Timelines ID 1, 2, 13-24, 25, 26-37, 38-49, 50, 51, 52, 53, 54, 57, 58 and 59 have to be modified. All nadir states in timeline defintion files are replaced by limb states.

Note: None of the timelines of set 02 – 06 are required in the first part of the Commissioning Phase (SODAP). As this issue of the TN is only applicable just in that phase, the timelines of set 02 – 06 are not contained in the current issue.

6.2.4 Timeline Set 07 (Engineering)

For engineering purposes the timeline set 07 has been defined. This set shall include timelines required for specific instrument activities in addition to the standard nominal measurement operations. The timelines of set 07 may either be handled manually via Flight Operations procedures (FOP) or via the MPS. Presently only one timeline is defined therein. This is timeline ID 63 which executes the ADC calibration (state ID 65 only) as part of the transition from HEATER to MEASUREMENT IDLE mode (P-I-N 008 in transition NT8).

The loading and start of timeline ID 63 is embedded in the procedure and is not MPS driven. Therefore, timeline ID 63 in set 07 is not further addressed in this TN.

7. Timeline Definition Information

Each timeline is defined by its sequence of states. The duration of the timeline is the sum of

- setup, measurement and cleanup time of each state
- timeline setup (= preparation) at its beginning
- timeline cleanup at its end
- any idle state mode within the timeline (currently no idle states are defined)
- timeline pad for each timeline (virtual duration extension)

An exact determination of the total timeline duration is crucial in the timeline generation and planning process because it avoids situations where a timeline has not yet finished while the succeeding timeline already has to start. There is no MCMD for a nominal stop of a timeline with automatic start of the next.

Usually overlapping timelines are outruled by the mission planning process on SCIAMACHY-SOST side. The timeline sequences per orbit as provided in the OSDF are expected to contain none of such timeline mismatches. However, if one of these would have escaped SCIAMACHY-SOST's notice occassionally, the scheduling process within MPS/SCIACAL on ENVISAT side would trigger an error message and delete the overlapping timeline from the mission plan.

Additional information is needed by MPS/SCIACAL in order to schedule the timelines at the required time interval in the orbit and to provide for the correct data rate setting. This includes

- timeline start parameters
- fixed event definition
- data rate
- FOV check

All this information is generated by SCIAMACHY-SOST. It forms the header of the timeline definition file and is transferred to ENVISAT via the SCIAMACHY – FOCC interface [RD 17].

7.1. State Specific Information

For the calculation of the duration of a timeline and the absolute time tags of each state (e.g. required for Sun fixed states when the Sun/moon has to be captured in the field of view at a certain position), the following state associated timing information has to be considered

- $\Delta T_{state\ setup}$: Time interval for the setup phase within a state. This interval is dependent on the RTCS which is responsible for the execution of the state and to some extent on the required initial scanner position.
- $\Delta T_{state\ measurement}$: Time interval defined by the measurement phase. Each state is assigned a measurement time which is defined based on the measurement goals (e.g. signal-to-noise ratio, identical volumes of air in alternating limb/nadir sequences) and implemented via specific state parameters.
- $\Delta T_{state\ cleanup}$: Time interval at the end of a state for the cleanup of the state dependent measurement settings. After the cleanup, the timeline either proceeds immediately with the execution of the next state or with an idle state.

Table 2 lists timing information associated with states. The quoted durations are compliant with the parameter tables given in TN III [RD 4]. The column labelled 'State Type' indicates, whether the state includes a fixed event (Sun or moon – SF/MF) or none (NF).

State ID	State Description	State Type	Setup Duration (sec)	Measurement Duration (sec)	Cleanup Duration (sec)	Total Duration (sec)
1	nad01	NF	2,48437500	80,00000000	1,07812500	83,56250000
2	nad02	NF	2,48437500	80,00000000	1,07812500	83,56250000
3	nad03	NF	2,48437500	80,00000000	1,07812500	83,56250000
4	nad04	NF	2,48437500	65,00390625	1,07031250	68,55859375
5	nad05	NF	2,48437500	65,00390625	1,07031250	68,55859375
6	nad06	NF	2,48437500	65,00390625	1,07031250	68,55859375
7	nad07	NF	2,48437500	65,00390625	1,07031250	68,55859375
8	nad08	NF	2,48437500	65,00390625	1,07031250	68,55859375
9	nad09	NF	2,48437500	80,00000000	1,07812500	83,56250000
10	nad10	NF	2,48437500	80,00000000	1,07812500	83,56250000
11	nad11	NF	2,48437500	80,00000000	1,07812500	83,56250000
12	nad12	NF	2,48437500	65,00390625	1,07031250	68,55859375
13	nad13	NF	2,48437500	65,00390625	1,07031250	68,55859375
14	nad14	NF	2,48437500	65,00390625	1,07031250	68,55859375
15	nad15	NF	2,48437500	65,00390625	1,07031250	68,55859375
16	nad16	NF	2,48437500	65,00390625	1,07031250	68,55859375
17	nad17	NF	2,48437500	20,00390625	1,07031250	23,55859375
18	nad18	NF	2,48437500	20,00390625	1,07031250	23,55859375
19	nad19	NF	2,48437500	20,00390625	1,07031250	23,55859375
20	nad20	NF	2,48437500	20,00390625	1,07031250	23,55859375
21	nad21	NF	2,48437500	20,00390625	1,07031250	23,55859375
22	nad22	NF	2,48437500	20,00390625	1,07031250	23,55859375
23	nad23	NF	2,48437500	80,00000000	1,07812500	83,56250000
24	nad24	NF	2,48437500	80,00000000	1,07812500	83,56250000
25	nad25	NF	2,48437500	80,00000000	1,07812500	83,56250000
26	nae01	NF	2,48437500	80,00000000	1,07812500	83,56250000
27	nae02	NF	2,48437500	80,00000000	1,07812500	83,56250000
28	limb01	NF	2,48437500	59,06640625	1,07031250	62,62109375
29	limb02	NF	2,48437500	59,06640625	1,07031250	62,62109375
30	limb03	NF	2,48437500	59,06640625	1,07031250	62,62109375

State ID	State Description	State Type	Setup Duration (sec)	Measurement Duration (sec)	Cleanup Duration (sec)	Total Duration (sec)
31	limb04	NF	2,48437500	59,06640625	1,07031250	62,62109375
32	limb05	NF	2,48437500	59,06640625	1,07031250	62,62109375
33	limb06	NF	2,48437500	59,06640625	1,07031250	62,62109375
34	limb07	NF	2,48437500	59,06640625	1,07031250	62,62109375
35	limb08	NF	2,48437500	59,06640625	1,07031250	62,62109375
36	limb09	NF	2,48437500	59,06640625	1,07031250	62,62109375
37	limb10	NF	2,48437500	59,06640625	1,07031250	62,62109375
38	limb11	NF	2,48437500	59,06640625	1,07031250	62,62109375
39	limb12	NF	2,48437500	59,06640625	1,07031250	62,62109375
40	limb13	NF	2,48437500	59,06640625	1,07031250	62,62109375
41	limb14	NF	2,48437500	59,06640625	1,07031250	62,62109375
42	nad26	NF	2,48437500	65,00390625	1,07031250	68,55859375
43	nad27	NF	2,48437500	65,00390625	1,07031250	68,55859375
44	nad28	NF	2,48437500	65,00390625	1,07031250	68,55859375
45	nad29	NF	2,48437500	65,00390625	1,07031250	68,55859375
46	dcc01	NF	3,51562500	5,00390625	1,46093750	9,98046875
47	sos02	SF	3,51562500	66,00390625	1,46093750	70,98046875
48	nad30	NF	2,48437500	65,00390625	1,07031250	68,55859375
49	sos01	SF	3,51562500	130,00000000	1,46093750	134,97656250
50	scs01	SF	3,51562500	2,50390625	1,46093750	7,48046875
51	sop01	SF	3,51562500	64,00390625	1,46093750	68,98046875
52	scd01	SF	5,18359375	30,00390625	3,52734375	38,71484375
53	sscp02	SF	4,48046875	22,00390625	1,97656250	28,46093750
54	mos01	MF	2,48437500	12,00390625	1,08984375	15,57812500
55	mems01	MF	2,48437500	12,00390625	1,17968750	15,66796875
56	mop01	MF	2,48437500	40,00390625	1,08984375	43,57812500
57	mop02	MF	2,48437500	128,00000000	1,09765625	131,58203125
58	sscp01	SF	4,48046875	22,00390625	1,97656250	28,46093750
59	lsc01	NF	5,50000000	12,00390625	4,07031250	21,57421875
60	sscs01	SF	4,48046875	22,00390625	1,97656250	28,46093750
61	lwc01	NF	6,76562500	12,00390625	4,57812500	23,34765625
62	scd02	SF	5,69921875	30,00390625	4,04296875	39,74609375
63	dcc02	NF	3,51562500	30,00390625	1,46093750	34,98046875
64	nmep01	SF	3,51562500	3,50390625	1,46093750	8,48046875
65	adc01	NF	4,89062500	20,00390625	17,30468750	42,19921875
66	nmes02	SF	3,51562500	11,00390625	1,46093750	15,98046875
67	dcc03	NF	3,51562500	199,99609375	1,46093750	204,97265625
68	nmes01	SF	3,51562500	2,50390625	1,46093750	7,48046875
69	lsd01	NF	5,50000000	80,00000000	4,07812500	89,57812500
70	lwd01	NF	6,25000000	80,00000000	4,07031250	90,32031250

Table 2: State Timing Information Overview

7.2 Timeline Specific Information

Each timeline adds a setup and cleanup time to its total duration. These two time intervals amount to

- $\Delta T_{t/l\ setup}$ = time interval for the preparation of the timeline = 709 CT = 2.76953125 sec
- $\Delta T_{t/l\ cleanup}$: = time interval for the cleanup of the timeline = 24 CT = 0.09375 sec

Timeline setup and cleanup times are an integral part of the timeline. Only when the cleanup time has run to completion, the instrument has reached MEASUREMENT IDLE mode.

The parameter *timeline pad* differs in that respect as it is only applicable for scheduling purposes. For mission planning this parameter is part of the parameter *duration* in the timeline definition file in order to avoid succeeding timelines to be scheduled closer than the interval provided by the *pad* (the SCIACAL parameter *min_tl_delay* has therefore to be set to 0). Thus it is possible to control the minimum idle gaps between consecutive timelines. The *timeline pad* has no impact on timeline internal command & control execution.

7.2.1 Start Timeline Information

Timelines stored on-board are started by executing the *START TIMELINE* macrocommand. This MCMD requires as input the

- ID of the timeline (1 - 63)
- ASPECT and NADIR ANGLE of the sun or moon exactly for the moment when the ASM or ESM are first switched to Sun/moon observation (with the current definition of the corresponding states this is in most cases equivalent to the beginning of scan phase 2 – exceptions do exist for some solar occultation and sub-solar states). Both angles have to be calculated with reference to F_{LO0} (the s/c yaw steering correction is already accounted for by SCIAMACHY's PMTC).
- NADIR RATE of the sun or moon exactly for the moment when the ASM or ESM are first switched to sun/moon observation (with the current definition of the corresponding states this is in most cases equivalent to the beginning of scan phase 2 – exceptions do exist for some solar occultation and sub-solar states).
- time tag indicating the time when the timeline has to be started

Note that ASPECT and NADIR ANGLE and NADIR RATE are only used in timelines containing Sun or moon fixed states. If none of these states is included, these MCMD parameters are considered as dummy input. For the processing of the MCMD input in scanner control algorithms see [RD 19] and [RD 20].

The rules how to derive the start times depend on the type of timelines, i.e. whether Sun or moon fixed states have to be executed and the observing conditions for both targets.

7.2.1.1 Timelines with Sun/Moon Fixed States

The Sun or moon fixed (SF/MF) state can be executed anywhere in the sequence of states within a timeline. Fig. 2 depicts the general properties of such a timeline. The SF/MF state is the n^{th} state in the sequence of states. It is preceded by n-1 states without a Sun/moon relation. The SF/MF state consists of a setup phase lasting $\Delta t_{state\ setup}$, a measurement phase and a cleanup phase $\Delta t_{state\ cleanup}$. During most of the state the scanners are operating. Their activities are seperated into k scan phases. The first scan phase is part of the state setup phase, the last scan phase part of the cleanup phase. The duration of each individual scan phase is $\Delta t_{np(i)}$. The SF/MF state is designed in such a way that at the start of scan phase j the Sun or moon can be observed under the conditions required to meet the scientific or calibration/measurement goal. This can be either e.g. target at a specific altitude, specific incidence angle of target onto the mirrors,

etc.. The condition is characterised by the timeline definition parameter GEO_TYPE with a value GEO_NUM. GEO_TYPE can be

- tangent_height <km>
- elevation_forward <deg>
- elevation_backward <deg>
- azimuth <deg>

The exact time t_X of the occurence of such an event can be computed by using the ENVISAT Customer Furnished Items (CFIs). Nadir and aspect parameters of the target for the *START TIMELINE* MCMD refer to t_1, the time when scan phase 2 starts. This is due to the instrument internal algorithms implemented to correct the various scan profiles (for details see Annex 2 of TN III: Instrument States and [RD 19], [RD 20]).
For scheduling of the timeline the start time t_0 has to be known because this is the time-tag that must be provided with the *START TIMELINE* MCMD. The start time t_0 can be calculated acording to

$$t_0 = t_X - DTX0 \qquad with$$

$$DTX0 = \Delta t_{t/l\ setup} + \sum_{i=1}^{i=n-1} \Delta t_{S(i)} + \Delta t_{SF/MF\ setup} + \sum_{i'=2}^{i'=j-1} \Delta t_{np(i')}$$

States prior SF/MF state — *SF/MF state*

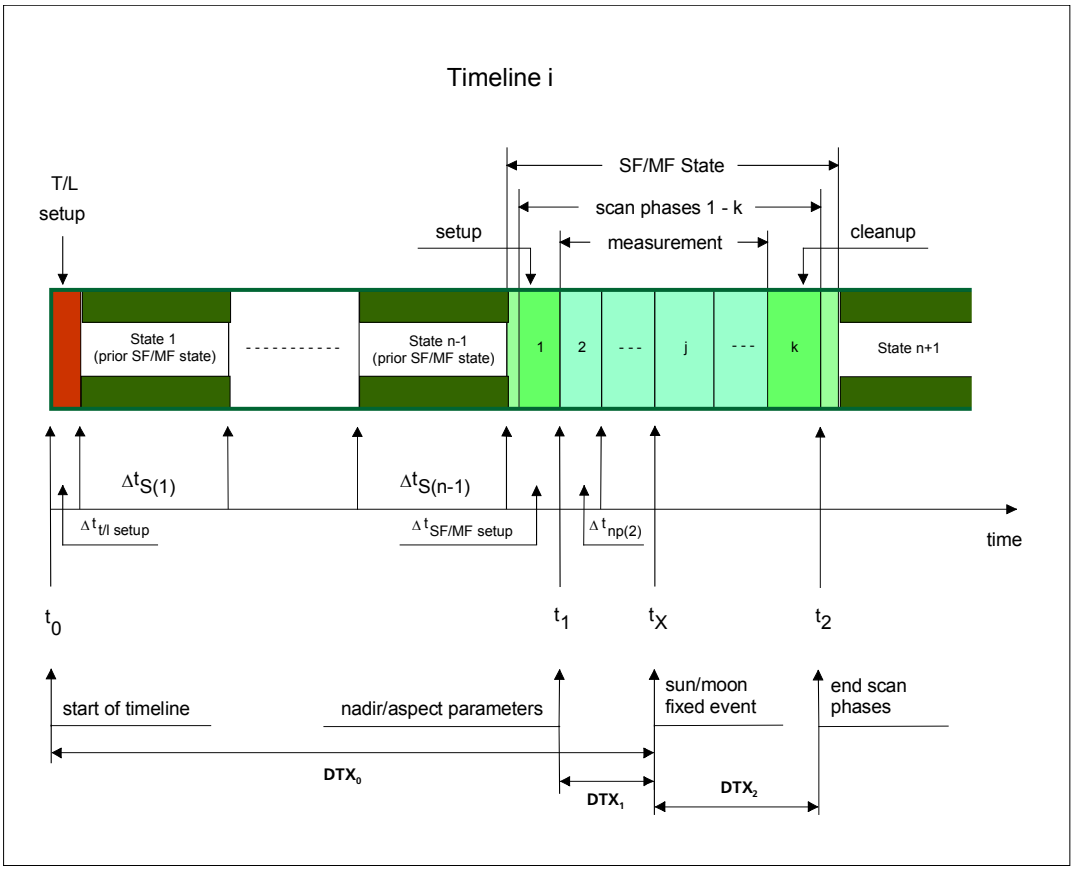

Figure 2: Timeline Start with Sun or Moon Fixed States

The nadir and aspect parameters for the *START TIMELINE* MCMD must be calculated for the time t_1.

$$t_1 = t_X - DTX1 \qquad with$$

$$DTX1 = \sum_{i'=2}^{i'=j-1} \Delta t_{np(i')}$$

The provision of DTX0 and DTX1 is required in each Sun or moon fixed timeline.

7.2.1.2 Timelines without Sun/Moon Fixed States

The start times of timelines without any Sun or moon fixed state does not require the Sun or moon to meet specific observing conditions. As such timelines will either run between timelines with SF/MF states or prior or after a SF/MF timeline, their scheduling is equivalent to define the duration of the time interval between timelines without SF/MF states and the preceding or succeeding timelines. Fig. 3 shows the general relation between timelines without a SF/MF state and its preceding and succeeding timelines. The timeline with ID i has to run after timeline with ID m and prior to timeline with ID n. Its duration is $\Delta t_{TL(i)}$. Generally, the granularity of timeline i of 1 state makes it necessary to insert idle modes of durations Δt_{i1} and Δt_{i2} prior and after timeline i. The parameter timeline pad of timeline i will be part of Δt_{i1} as a result of the scheduling process.

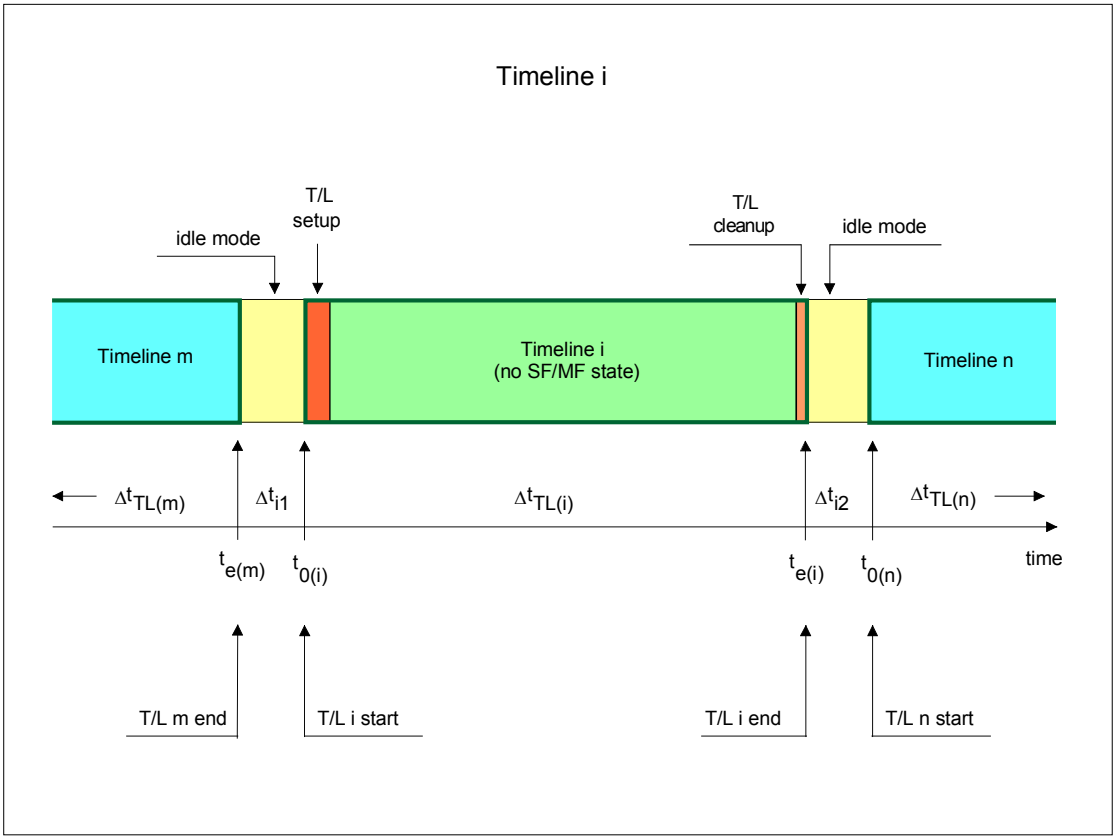

Figure 3: Timeline Start without Sun or Moon Fixed States

If timeline m or timeline n is also a timeline without a SF/MF state, the associated idle mode can be deleted and both timelines are only separated by the time interval *timeline pad* (see chapter 7.2). The general rule is that consecutive floating timelines (= timelines without a SF/MF state) are treated as one block, i.e. the idle gaps occur only before and after this block. In SCIACAL terminology [RD 13] this is equivalent to the setting *fl_group = 0*.

7.2.1.3 ANX/Earth Fixed Timelines

Specific cases of fixed timelines are those which are related to either the ANX or Earth fixed targets. Although the mission planning and operations of SCIAMACHY are usually Sun/moon related, the operations concept has provided for an opportunity to execute measurements exactly timed at these events. Such timelines are of GEO_TYPE = anx_time and the associated GEO_NUM value is the time offset in msec of the fixed event t_X w.r.t. to ANX. The start of the timeline t_0 is calculated by applying the parameters DTX0 and DTX1 to t_X. The provision of DTX0 and DTX1 is required in each ANX/Earth fixed timeline.

In the nominal operations concept no ANX/Earth fixed timelines are defined. Their planning cannot be accomplished using the standard SCIAMACHY-SOST mission planning tools. It requires considerable amount of manual intervention to define and plan in the OSDF the execution of ANX/Earth fixed timelines. Therefore they represent only an extension of the operations concept for non-nominal cases.

7.2.2 FOV Check Information

During Sun and moon observations it must be ensured that both celestial targets stay within the Total Clear Field of View (TCFOV) throughout the measurement phase of the particular state. In SCIACAL [RD 13] checks are performed which issue a warning whenever the Sun or moon leaves the TCFOV before the scan phases have run to completion.

The relation between fixed event t_X and start/stop of the scan phases is shown in fig. 2. The measurements start at scan phase 2, which is separated from t_X by DTX1. The end of the scan phases is reached DTX2 sec after t_X where DTX2 is calculated according to

$$t_2 = t_X + DTX2 \qquad with$$

$$DTX2 = \sum_{i'=j+1}^{i'=k} \Delta t_{np(i')}$$

The provision of DTX1 and DTX2 is required in each Sun or moon fixed timeline with TCFOV checking.

Whether SCIACAL must perform the TCFOV check or not is defined by the keyword FOV_CHECK in the timeline definition file with the values YES or NO. Note that this keyword does not explicitly appear in the Variable Header Record (VHR) of the associated ASCII timeline file for the CTI transfer between SCIAMACHY-SOST and FOCC [RD 17] because of late introduction of the requirement. The keyword and its value is part of the keyword TABLE_DESCR in the VHR.

7.2.3 High Data Rate Switching Information

Sun fixed states in timelines planned in the SO&C window have to run in high data rate mode (the provision of the high data rate is ensured by ENVISAT and may not be considered in the timeline definitions). High data rate switching is achieved by setting the data rate flag to high (1800K = available) via the *MEASUREMENT DATA RATE* MCMD. This MCMD also provides the time information when the flag has to be reset to low (1800K = not available).

Fig. 4 sketches how the high data rate switching relates to the start of the timeline. The example is identical to fig. 2. The start of the timeline t_0 has been derived from t_X and the parameter DTX0. Then high data rate switching occurs at t_3 where

$$t_3 = t_0 + DTX3 \qquad with$$

$$DTX3 = \frac{\Delta t_{t/l\ setup}}{2} + \sum_{i=1}^{i=n-1} \Delta t_{S(i)}$$

States prior SF/MF state

The time t_3 is thus scheduled shortly prior to the end of state n-1. Switching back to low data rate is planned for time t_4 with

$$t_4 = t_3 + DTX4 \qquad with$$

$$DTX4 = \frac{\Delta t_{t/l\ setup}}{2} + \Delta t_{SF\ setup} + \sum_{i'=2}^{i'=k-1} \Delta t_{np(i')} + \Delta t_{SF\ cleanup} + \Delta t_{t/l\ cleanup} + \frac{t/l\ pad}{2}$$

SF/MF state

The provision of DTX3 and DTX4 is required in each Sun fixed timeline with high data rate switching. Whether a timeline requires high data rate switching or not is defined by the keyword RATE_TYPE in the timeline definition file with the values HIGH or LOW.

Note that the resulting timing of the DATA RATE MCMD must also take the requirements of [AD 2] into account. According to the IOM (section 7.1.4) the DATA RATE MCMD must be scheduled not later than 200 msec before the start of the State which shall be executed in High Data Rate. The *Reset Time* for the High Data Rate, which is a parameter in the DATA RATE MCMD, must be scheduled such that the time-tag is not earlier than 48 msec after the relevant State ends. The terms

$$\frac{\Delta t_{t/l\ setup}}{2} \text{ in DTX3 and } \frac{t/l\ pad}{2} \text{ in DTX3/DTX4}$$

provide sufficient margin to ensure to meet these requirements.

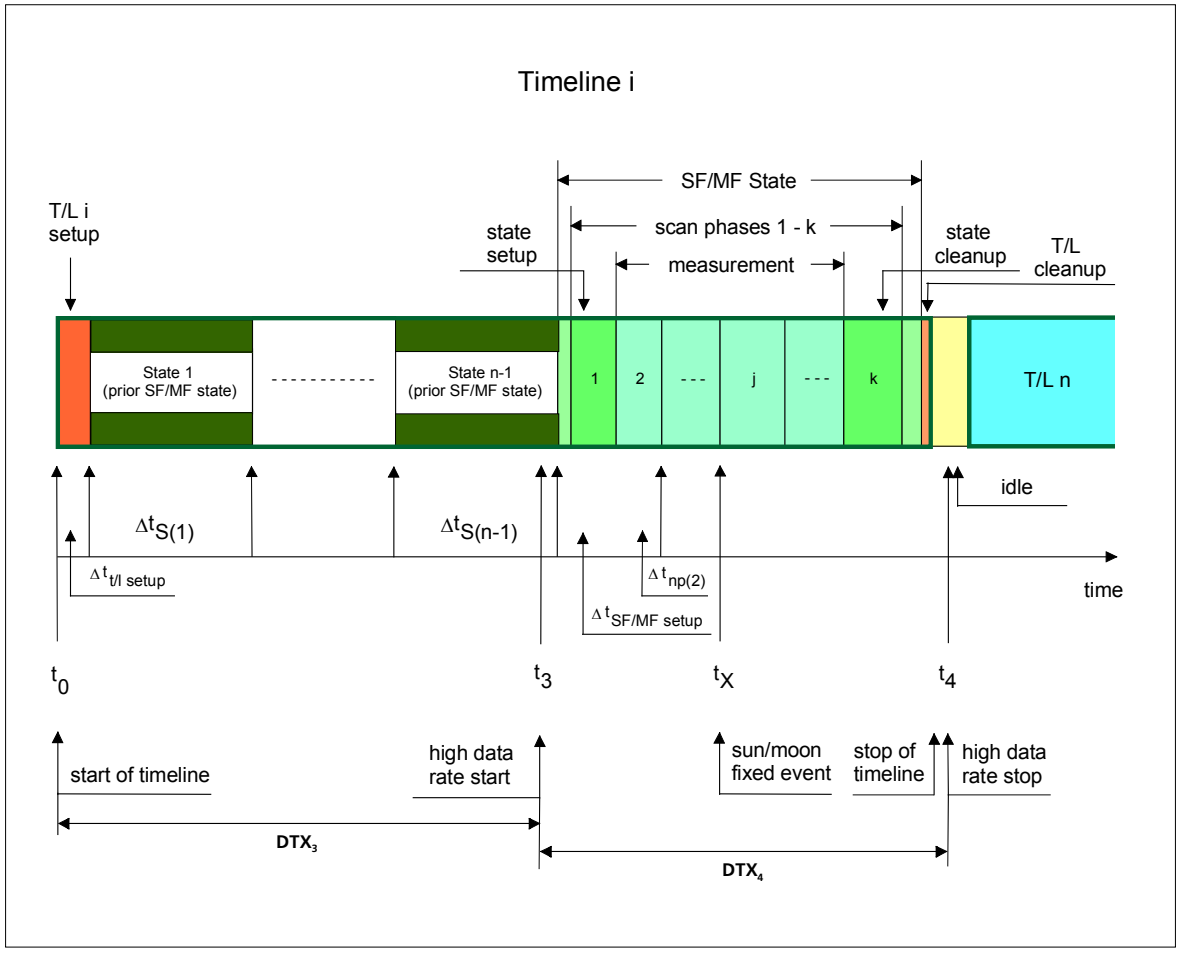

Figure 4: High Data Rate Switching in Sun Fixed Timelines

7.3 Scheduling Information

Each timeline must be treated in the scheduling process according to its SCHEDULE_TYPE. This keyword can have the values

- SF_FI (Sun fixed – fixed)
- MF_FI (moon fixed – fixed)
- SF_FB (Sun fixed – front-to-back)
- SF_BF (Sun fixed – back-to-front)
- MF_FB (moon fixed – front-to-back)
- MF_BF (moon fixed – back-to-front)
- NF_FL (not fixed – floating)
- NF_FB (not fixed – front-to-back)
- NF_BF (not fixed – back-to-front)
- EF_FI (Earth fixed – fixed)

Timelines of type SF_FI/MF_FI/EF_FI are scheduled by applying the rules outlined in chapters 7.2.1.1 and 7.2.1.3. All NF_FL timelines follow the requirements described in chapter 7.2.1.2.

Whenever the timeline defines SF_FB/MF_FB or SF_BF/MF_BF the determination of the timeline start time t_0 must take the following requirements into account.

- The conditions of the fixed event (SF or MF) must be fulfilled at the start of the defined measurement phase t_X. The timeline start t_0 is calculated by applying the parameter DTX0 to t_X.
- FB: In case t_0 overlaps with the preceding timeline, t_0 has to be moved until the overlap has vanished and the front-to-back criterion can be met. Then the idle gap between the preceding timeline and the FB timeline amounts to the parameter *timeline pad*.
- BF: In case the timeline end ($t_0 + t/l_{duration}$) overlaps with the start of the succeeding timeline, t_0 has to be moved until the overlap has vanished and the back-to-front criterion can be met. The idle gap between the BF timeline and the succeeding timeline amounts to the parameter *timeline pad*.

Timelines of this schedule type are generally required in the SO&C or MO&C window whenever a calibration & monitoring measurement has to be executed above the atmosphere. The SF or MF condition may be identical for several of such timelines. Therefore, combining some of them in one orbit can only be achieved when the fixed criterion is combined with a certain degree of flexibility as provided by the FB or BF requirements.

Timelines of SCHEDULE_TYPE = NF_FB/NF_BF do not need to fulfill a fixed criterion but the floating condition is replaced by the front-to-back or back-to-front requirement. The start time t_0 of such timelines is determined as described below.

- FB: Calculate the timeline end of the preceding timeline and start the NF_FB timeline immediately afterwards. Both timelines are separated by an idle gap of *timeline pad* length.
- BF: Schedule the start of the succeeding timeline and start the NF_BF timeline $\Delta t = t/l_{duration}$ earlier. Both timelines are again separated by an idle gap of *timeline pad* length.

In the present definition of the nominal timeline sets 01-06 only timelines with SCHEDULE_TYPE = SF_FB, MF_FB and NF_FB do exist.

7.4 Sun/Moon Fixed Timelines – GEO_NUM Conditions

7.4.1 SO&C Window

Timelines to be run in the SO&C window execute

- Sun occultation measurements up to an altitude of 100 km (top of atmosphere)
- Sun calibration & monitoring measurements above atmosphere (altitude > 100 km)
- Sun calibration & monitoring measurements via the diffuser (solar elevation = 22.5º)

The timeline definition must ensure that timeline scheduling will place such timelines exactly at the correct position along the orbit. SO&C timelines are comprised of

- ***SOC_beg_SOC_end_limb_sun_ns (ID 1):*** The fixed event occurs at a solar altitude of 17.2 km (state ID 49). As this timeline executes a continuous measurement throughout the SO&C window no additional calibration & monitoring measurements are scheduled. The timeline duration only has to account for the 4 limb states prior to state ID 49 and state ID 49 itself).
- ***SOC_beg_SOC_150_limb_sun_ns_pt (ID 2):*** The fixed event (state ID 47) is equivalent to timeline ID 1, i.e. solar altitude = 17.2 km. The state internal scan phase 4 has a duration which ensures that at the end of this scan phase, when a short pointing measurement is executed, an altitude above 100 km is always reached. This is shown in fig. 5 where the solar altitude 36 sec (= duration scan phase 3 & 4) after the event at 17.2 km is plotted as a function of the day (year 2002). The minimum altitude reached amounts to 108 km, the maximum altitude to 124 km. Any succeeding calibration & monitoring timeline has to be scheduled for a GEO_NUM condition of 150 km.

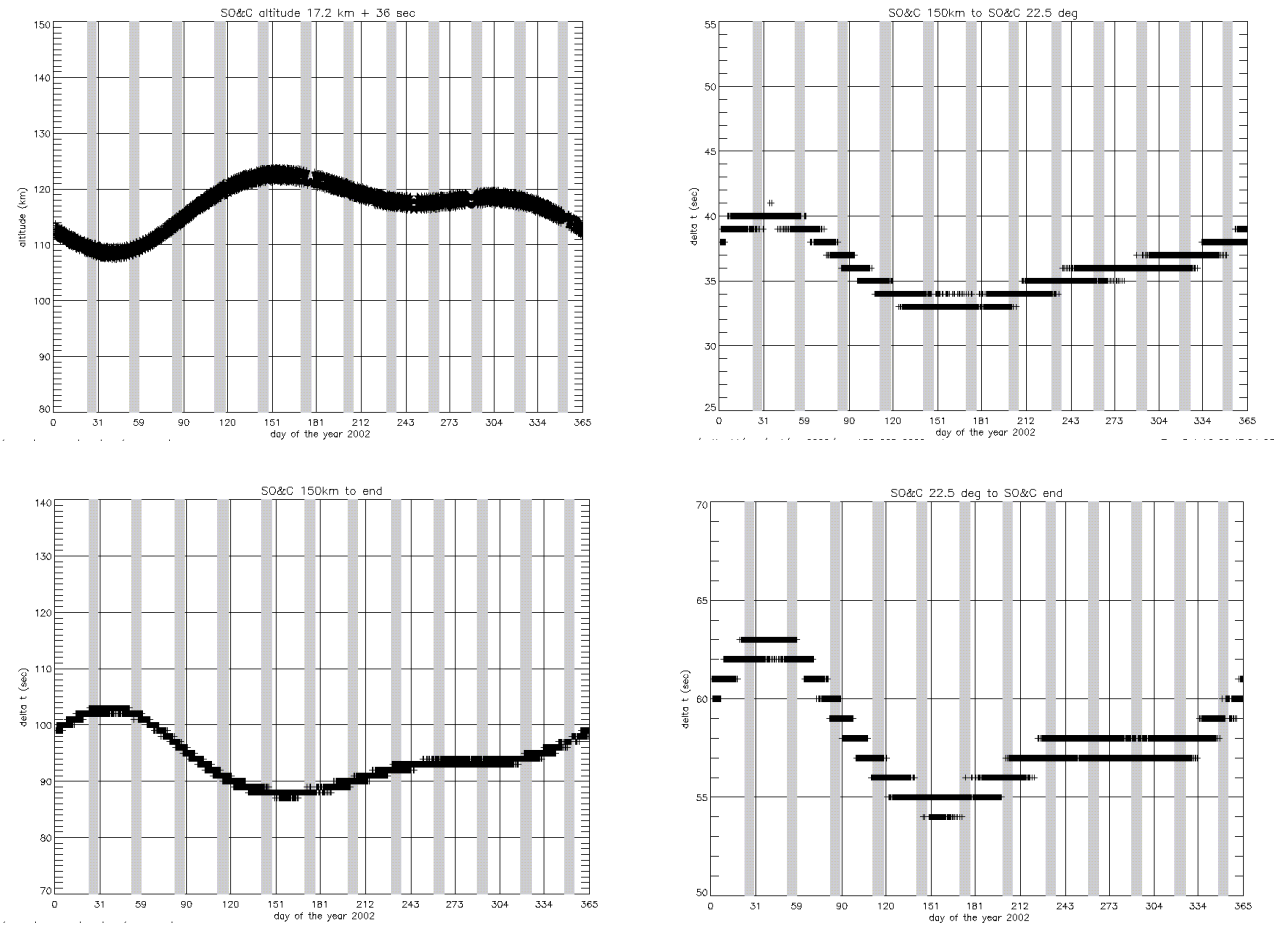

Figure 5: Solar altitude at end of state ID 47 scan phase 4 (top left), time between solar altitude = 150 km and solar elevation = 22.5º (top right), time between solar altitude = 150 km and end of SO&C window (bottom left) and time between solar elevation = 22.5º and SO&C end (bottom right)

- ***SOC_150_SOC_end_sun_fs (ID 3):*** This timeline is of SCHEDULTE_TYPE = SF_FB. Thus it is only required that the GEO_NUM criterion solar altitude = 150 km is met as a minimum condition. The value of 150 km has been selected based on the maximum solar altitude which can be reached in the short occultation state ID 47 (timeline ID 2). The timeline can be started either at a time such that the GEO_NUM condition is fulfilled at the start of scan phase 2 (state ID 50) or, if the preceding timeline has not yet run to completion, at a later point in time fulfilling the front-to-back requirement. As timeline ID 3 may be followed by one of the diffuser timelines it has to be ensured that the duration fits into the time gap between solar altitude = 150 km and solar elevation = 22.5º (see fig. 5). There is also ample time between solar altitude = 150 km and the end of the SO&C window in case timeline ID 3 has to run in conjunction with several similar timelines, but without a Sun diffuser timeline, within the same orbit.
- ***SOC_150_SOC_end_sun_exm_fs (ID 4):*** This timeline has requirements similar to timeline ID 3. The GEO_NUM criterion has to be fulfilled at the start of scan phase 2 of state ID 68.
- ***SOC_150_SOC_end_sun_exm_pt (ID 5):*** This timeline has requirements similar to timeline ID 3. The GEO_NUM criterion has to be fulfilled at the start of scan phase 2 of state ID 64.
- ***SOC_150_SOC_end_sun_exm_ns (ID 6):*** This timeline has requirements similar to timeline ID 3. The GEO_NUM criterion has to be fulfilled at the start of scan phase 2 of state ID 66.
- ***SOC__22_SOC_end_sun_esmd_ndfo (ID 7):*** The diffuser measurement has to start exactly when the Sun has reached an elevation of 22.5º at the beginning of scan phase 2 in state ID 52. The timeline duration must fit into the time gap between solar elevation = 22.5º and end of SO&C window.

Although this interval is variable over the year (fig. 5), there is sufficient time left to execute the timeline as required.

- ***SOC__22_SOC_end_sun_esmd_ndfi (ID 8):*** This timeline has requirements similar to timeline ID 7. The GEO_NUM criterion has to be fulfilled at the start of scan phase 2 of state ID 62.

It has to be noted that all timeline duration definitions must leave ample margin for the case that the fixed event must be met in a sequence of timelines. However no general timeline definition rules can be established for this purpose because each timeline must be considered as a 'standalone' item.

7.4.2 MO&C Window

Timelines to be run in the MO&C window are required for

- moon occultation measurements up to an altitude of 100 km (top of atmosphere)
- moon calibration & monitoring measurements above atmosphere (altitude > 100 km)

The timeline definition must ensure that timeline scheduling will place such timelines exactly at the correct position along the orbit. MO&C timelines are comprised of

- ***MOC_beg_MOC_200_moon_pt (ID 9):*** Similarly to the SO&C timeline ID 2, the fixed event (state ID 56) is defined at the lunar altitude = 17.2 km. The state internal scan phase 2 has a duration which ensures that at the end of this scan phase an altitude above 100 km is reached. Fig. 6 displays the lunar altitude 40 sec (= duration scan phase 2 & 3) after the event at 17.2 km for the year 2002. The minimum altitude reached in the monthly visibility periods amounts to 106 km, the maximum altitude to 148 km. Any succeeding calibration & monitoring timeline has to be scheduled for a GEO_NUM condition of 200 km.
- ***MOC_beg_MOC_end_moon_pt (ID 10):*** As in timeline ID 9 the fixed event occurs at a lunar altitude of 17.2 km (state ID 57). As this timeline executes a continuous measurement throughout the MO&C window no additional calibration & monitoring measurements are scheduled and the duration has to fit into the MO&C window.
- ***MOC_200_MOC_end_moon_ns (ID 11):*** This timeline is of SCHEDULTE_TYPE = MF_FB. Thus it is only required that the GEO_NUM criterion lunar altitude = 200 km is met as a minimum condition. The value of 200 km has been selected based on the maximum lunar altitude which can be reached in the short occultation state ID 56 (timeline ID 9). The timeline can be started either at a time such that the GEO_NUM condition is fulfilled at the start of scan phase 2 (state ID 54) or, if the preceding timeline has not yet run to completion, at a later point in time fulfilling the front-to-back requirement. There is also ample time between lunar altitude = 200 km and the end of the MO&C window in case timeline ID 11 has to run in conjunction with several similar timelines within the same orbit (see fig. 6).
- ***MOC_200_MOC_end_moon_exm (ID 12):*** This timeline has requirements similar to timeline ID 11. The GEO_NUM criterion has to be fulfilled at the start of scan phase 2 of state ID 55.

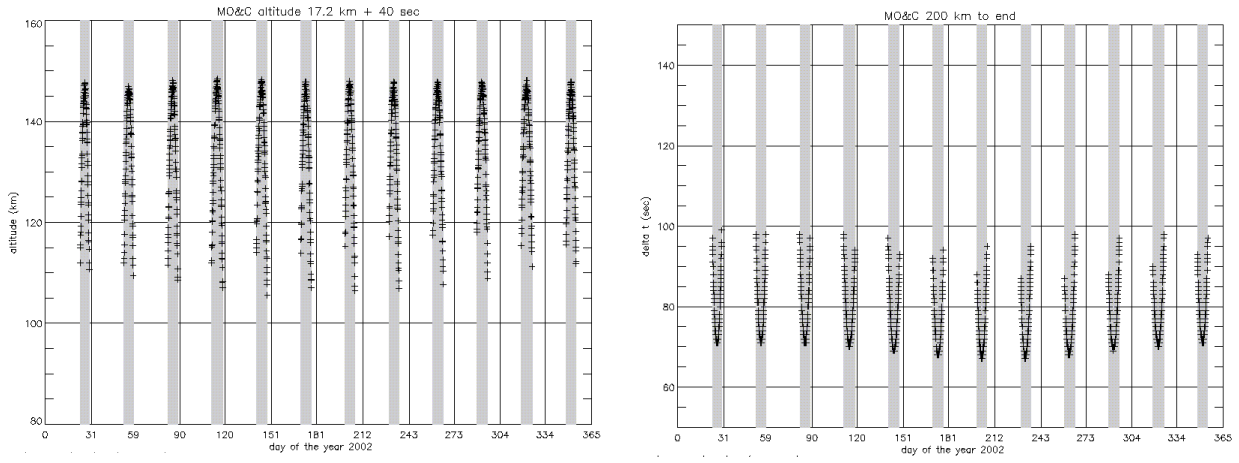

Figure 6: Lunar altitude at end of state ID 56 scan phase 3 (left) and time between lunar altitude = 200 km and MO&C end (right)

7.4.3 Sub-solar Window

Sub-solar states are always included in timelines spanning a much wider time interval than only the sub-solar window. All timelines including a sub-solar state are of SCHEDULE_TYPE = SF_FI. The sub-solar condition is GEO_TYPE = azimuth with GEO_NUM = 269.77º. The GEO_NUM value is a result of the SCIAMACHY misalignment around Z which causes the sub-solar TCFOV to be rotated by 0.23º away from flight direction [RD 18]. This condition is valid as long as the ENVISAT CFIs are used without a SCIAMACHY misalignment file. If the instrument misalignment is implemented in the CFIs via such a file, the GEO_NUM value shall be 270º.

Sub-solar timelines are

- ***sub_beg_MOC_beg_limb_nadir_sq1 (ID 26 – ID 37):*** The sub-solar criterion must be achieved in the middle of scan phase 2 of state ID 60. The duration of the individual timelines is defined by the variable orbit interval between the start of the sub-solar window and the start of the MO&C window.
- ***sub_beg_ecl_beg_limb_nadir_sq1 (ID 51):*** The GEO_NUM criterion has to be fulfilled at the start of scan phase 2 of state ID 60. GEO_TYPE/GEO_NUM requirements are identical to timeline IDs 26-37.
- ***sub_beg_ecl_beg_limb_nadir_sq2 (ID 54):*** See timeline ID 51
- ***sub_beg_MOC_beg_cal_monthly_orb1 (ID 58):*** See timeline ID 51. Although this timeline is related to the MO&C window with highly variable viewing conditions, only one timeline exists (the monthly planning uses always the orbit where the associated orbit interval fits with the timeline duration).
- ***sub_beg_ecl_beg_cal_monthly_spec_orb2 (ID 61):*** The GEO_NUM condition must be fulfilled in the middle of scan phase 4 of state ID 58. GEO_TYPE/GEO_NUM requirements are identical to timeline IDs 26-37.
- ***sub_beg_ecl_beg_cal_monthly_spec_orb3 (ID 62):*** The GEO_NUM criterion must occur in the middle of the combined scan phases 2-4. GEO_TYPE/GEO_NUM requirements are identical to timeline IDs 26-37.

In all sub-solar timelines the sub-solar state is the first entry in the sequence of states. This minimises the DTX0 and DTX1 parameter values.

7.5 Life Limited Items Information

A state listed in a timeline definition file directly relates, via the RTCS, to the usage of Life Limited Items (LLI)

- Neutral Density Filter Mechanism (NDFM)
- Aperture Stop Mechanism (APSM)
- Nadir Calibration Window Mechanism (NCWM)
- White Light Source (WLS)
- Spectral Line Source (SLS)

Therefore each timeline can be assigned a LLI budget which specifies the LLI usage whenever the timeline is activated and runs to completion. The WLS and SLS cycles can be directly translated into WLS and SLS switch-on times by multiplying each activation with the duration of the measurement phase of the particular state.

For the purpose of monitoring the exposures of the diffuser over the mission lifetime this concept can be expanded to also include the diffuser Sun exposure time (diffuser activation × measurement duration) in the timeline LLI budget (although note that the diffuser is not a LLI).

In all timeline definition files the LLI information as described above is provided and used in the SCIAMACHY mission planning process for the forecast of LLI usage based on the DMOP (as planned) and the restituted DMOP (as executed). This LLI monitoring supplements the procedure driven LLI monitoring to be executed at ESOC based on history information.

7.6 Timelines in Eclipse Phase

7.6.1 Background

SCIA routine operations comprise a mixture of science (MPS/timeline driven) and engineering (procedure driven) activities, as well as TM Format acquisitions.

Science activities are controlled by execution of measurement timelines being supported by Ancillary Data MCMDs and measurement data rate MCMDs. During the first part of the Commissioning Phase (SODAP), modifications of various on-board measurement parameter tables will also be required.

The Mission Planning System (MPS) will schedule

- the loading and execution of the timelines
- the modification of on-board measurement parameter tables (CTI)
- the measurement data rate switching

The MPS receives timelines and on-board parameter tables as CTI files. Their header information controls the scheduling of the associated MCMDs in MPS/SCIACAL. The Ancillary Data MCMDs are autonomously sent once per second by the PPF.

Engineering activities comprise

- SRC Decontamination twice per year, or if required due to detector temperature limit exceeding
- TC Heater Power (trim heaters) readjustment due to detector temperature limit exceeding
- ATC Temperature Setpoints readjustment due to OBM temperature limit exceeding, or due to ATC Heater Power limit exceeding
- PMD/SF ADC Calibration once per month or 30 days after the last transition from APSM Health Check once per month for the first year after launch, and then on a bi-monthly basis

All routine engineering activities are 'manually' scheduled and executed via flight procedures using time tagged MCMDs. These activities are interleaved with the MPS scheduled measurement timelines.

7.6.2 Merging Science and Engineering Activities

In order to merge the engineering activities with the science activities, a set of 'merging rules' has been established. This set of rules is used to generate Engineering Gaps (EG) which allow scheduling and execution of engineering activities. Whenever an EG is required, no MPS driven MCMDs are permitted. Thus, in MPS terminology, EGs must always be part of a Measurement Idle Gap (MG). Idle gaps result in loss of scientific coverage of the atmosphere. As the measurements on the eclipse side of the orbit have lower scientific priority (atmospheric parameters can only be derived on the dayside of the orbit from an UV/Vis-to-NIR instrument) the MGs including EGs will be inserted in the eclipse phase. The MGs are created by appropriately setting parameters in the header of the timeline definition files for the eclipse timelines. Thus MPS/SCIACAL, based on the OSDF planning input, regularly produces schedules with pre-planned idle gaps triggered by consecutive timelines. These gaps allow FOCC to execute procedure driven engineering activities without the risk that the associated command & control interferes with mission planning driven timeline execution.

However note that the following engineering activities will upset the thermal balance of the detectors and/or the OBM

- TC Heater Power (trim heaters) readjustment
- ATC Temperature Setpoints readjustment
- PMD/SF ADC Calibration

and as a consequence the measurement data of the effected detectors cannot be used for scientific analysis for several hours after the activity (details are found in the relevant procedures – see [AD 2]).

Note: The SRC Decontamination lasts approx. one week and can thus not be handled via a merging of science and engineering activities. It will always interrupt routine operations for that period of time. The interrupt occurs in a pre-defined way via the SCIAMACHY – RGT interface [RD 16].

The following pre-defined EGs are required:

- ***Engineering Gap EG1:*** EG1 starts at begin of the eclipse phase and provides a time interval of 135 seconds before the start of timeline ID 63 (ADC calibration – single state ID 65). Within EG1 no activities are scheduled by the MPS. During EG1 one of the following Engineering activities can be executed
  - transfer SCIA to Heater mode and readjust TC Heater Power (trim heaters)
  - transfer SCIA to Heater mode and readjust ATC Temperature Setpoints
  - transfer SCIA to Heater mode and execute PMD/SF ADC calibration

  Note: The PMD/SF ADC calibration includes a short mode transition through STANDBY mode, which again requires to execute the timeline ID 63 (ADC calibration) before executing nominal measurements. This is automatically taken care off, because by definition, EG1 is always followed by the timeline ID 63 (ADC calibration) which is planned in the OSDF and scheduled by MPS.
- ***Engineering Gap EG2:*** Once per month, no eclipse timeline is planned in the OSDF. The resulting eclipse gap in the schedule hosts EG2. EG2 starts at the end of timeline ID 63 (ID 63 stop time = start time-tag ID 63 + 47 sec) and lasts for a total duration of 1020 sec. Within EG2 no activities are scheduled by the MPS. During EG2 the following engineering activities can be executed
  - transfer SCIA to Heater mode and execute APSM Health Check

EG1 and EG2 are, from a schedule point of view, part of the following MGs:

- ***Measurement Gap MG1:*** MG1 covers the time interval from the end of the timeline prior to eclipse to the start of timeline ID 63. Because of the timeline granularity of 1 state, MG1 is always larger than EG1. In addition, the seasonal changes in the position of the Sun cause MG1 to vary.

- ***Measurement Gap MG2:*** Once per month, no eclipse timeline is planned in the OSDF. The resulting gap in the schedule MG2 hosts EG2. MG2 starts after timeline ID 63 has run to completion and ends - after ANX - at the beginning of the next timeline. No window MG3 does exist in this case (see below).

- ***Measurement Gap MG3:*** Between the end of last eclipse timeline and the start of the first timeline in the current orbit (which commenced at ANX), an idle gap MG3 of at least 30 sec duration is generated. As in the case of MG1, MG3 shows seasonal time variability. MG3 is reserved for the loading of measurement timelines and modification of on-board measurement parameter tables (CTI files) being scheduled by the MPS.

The definitions of eclipse timelines (see chapter 7.6.3) is such that the windows MG1-MG3 are generated by the MPS when scheduling the timeline start time-tags. In the case of window EG2 a rule still has to be formulated to avoid conflicts between MPS driven MCMD loading and engineering activities. This is because currently the rule for MPS is to start each orbit the search for the time interval for MCMD uploads at ANX and propagate towards the start of the first timeline in the present orbit. It is proposed that the rule shall read as follows: *If, once per month, timeline ID 63 is the last entry in the timeline sequence of an orbit in the OSDF, no MPS driven MCMD uploads shall be scheduled between timeline ID 63 and the first timeline in the next orbit.* Implementation of this rule is tbc ESOC.

The requirements concerning gaps MG1 – MG3 and EG1/EG2 are sketched in fig. 7 together with the implementation via the MPS.

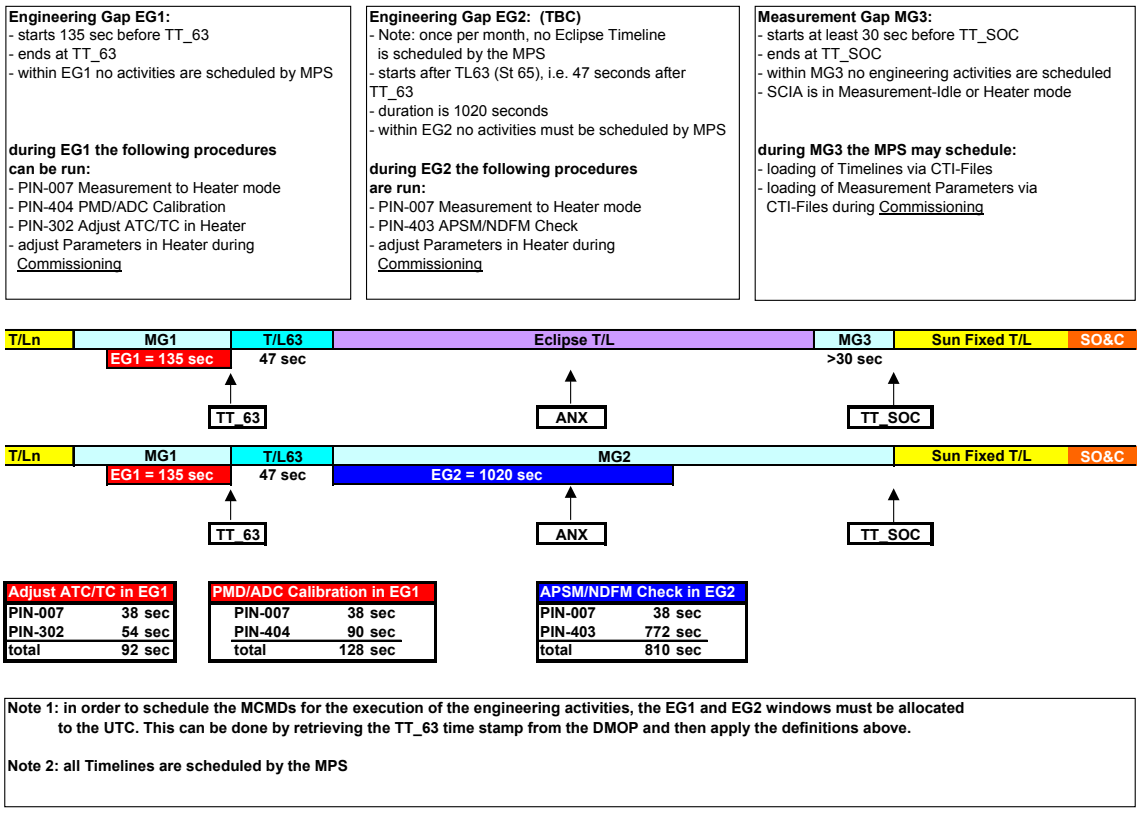

Figure 7: Eclipse Idle Gaps – Requirements and Implementation

7.6.3 Eclipse Timeline Definition

The timelines to be run in the eclipse phase are

- ***ecl_beg_ecl_end_cal_orbit_daily (ID 55):*** This timeline starts after timeline ID 63 has run to completion. It has SCHEDULE_TYPE = NF_FB, i.e. it runs 'front-to-back' with timeline ID 63. The start of the timeline is always prior to ANX. The duration must be defined such that the end of the timeline occurs at least 30 sec before the start of the first timeline in the next orbit (timeline ID 1 or 2 consisting of 4 limb states followed by the Sun occultation state) in order to allow for gap MG3.
- ***ecl_beg_ecl_end_cal_weekly_monthly (ID 56):*** The requirements for this timeline w.r.t. timeline start and MG3 creation are identical to those for timeline ID 55.
- ***ecl_beg_ecl_end_ADC_cal (ID 63):*** This timeline must be planned in each orbit. Its start must be scheduled 135 sec after eclipse start. Eclipse is defined to begin when the upper edge of the refracted solar image just coincides with the horizon (as seen from ENVISAT). At that time the true Sun is already well below the Earth's limb. Timeline definition assumes a solar elevation of 28.5º at this moment with an azimuth angle < 300º (GEO_TYPE = elevation_backward, GEO_NUM = 28.5º). The selected GEO_NUM value is a mean value. As the geographic latitude of eclipse start varies over the year the shape of the Earth geoid causes the true eclipse start to range between 28.4° and 26.5º in elevation. Note that the scheduled idle gap prior to timeline ID 63 will generally be larger than 135 sec because the timeline running prior to eclipse phase can only be defined with a granularity of 1 state, i.e. it never stops exactly at start of eclipse.

With these definitions idle gaps MG1 and MG3 are always scheduled by MPS whenever the OSDF includes the sequence of timelines ID 63,55 or ID 63,56 in an orbit. If only timeline ID 63 is present in an orbit (1/month), then idle gap MG2 is created.

8. Timeline Information Summary

Taking the timeline generation rules and requirements into account (chapter 4), the timeline definition files for all timelines of timeline set 01 (concerning timelines of set 02 – 06 see chapter 6.2.3) have been generated based on the information given in chapter 7. This resulted in a total of 82 timelines. 19 timelines have sub-ID 02, i.e. they are kept on-ground and exchanged on-board when required by orbital conditions.

Each timeline must fit into the orbit interval it is designed for. An overview of orbit interval durations and associated timeline durations is given in table 3. The figures provided is the duration in sec, both for the orbit intervals (top) and timelines (bottom).The orbit intervals are determined for the year 2002. For each interval the minimum and maximum duration, caused by the annual variability, is given. If they are related to solar events, the variability is moderate while for lunar events the duration changes drastically. All timelines defined w.r.t. the MO&C window must be adjusted each year as the lunar monthly visibility also has a yearly dependence.

The timelines ID 1-12 are those which are executed in either the SO&C or MO&C window. For these timelines fitting into the orbit interval is not the only criterion for successful timeline execution. The timing of the scan phases must be designed such that the orbital conditions of Sun or moon are matched with the requirements of the particular measurement state (e.g. achieving an occultation measurement between an altitude of 17.2 km and 100 km requires to take into account scanner control algorithms and altitude rate of Sun or moon as a function of azimuth). Table 3 provides for these timelines only one of several timing constraints to be fulfilled. The state related constraints cannot be described in the context of this TN but information can be found in TN III (State Parameters – [RD 4]).

Timeline ID 58 and 59 are used in the monthly calibration scenario. Although both timelines are related to the MO&C window, only one timeline each exists. This means that their timeline duration does fit into the associated orbit interval only for one particular orbit within a month. Therefore the planning of the OSDF always has to start with the monthly calibration orbits executing timeline ID 58 and 59.

Timelines with two durations are those where timelines with sub-ID 02 exist. The 1st figure given is the one for sub-ID = 01, the 2nd that for sub-ID = 02.

Timeline	ID	Orbital Interval: SO&C start to 17.2 km (incl. 4 limb)	SO&C 17.2 km to 150 km	SO&C 150 km to 22.5 deg	SO&C 22.5 deg to end	SO&C end to sub-solar start	Sub-solar start to end	Sub-solar end to MO&C start	MO&C start to 17.2 km	MO&C 17.2 km to 200 km	MO&C 200 km to end	MO&C end to eclipse start	Eclipse start to ADC calibration start (EG1)	ADC calibration start to end	ADC calibration end to MPS idle gap start	MPS idle gap start to eclipse end (MG3)
Min. Interval Duration - 2002 (sec)		288	45	33	54	1827	29	537	24	57	68	3	135	47	1360	30
		333														
									81							
				87												
		421														
							566									
									150							
							2061									
						2393										
						3905										
Max. Interval Duration - 2002 (sec)		288	53	41	63	1847	29	1834	35	84	99	1388	135	47	1496	30
		342														
									119							
				103												
		445														
							1863									
									210							
							2157									
						3694										
						4019										
SOC_beg_SOC_end_limb_sun_ns [1]	1	390														
SOC_beg_SOC_150_limb_sun_ns_pt [1) 2)]	2	326														
SOC_150_SOC_end_sun_fs [1]	3			12												
SOC_150_SOC_end_sun_exm_fs [1]	4			12												
SOC_150_SOC_end_sun_exm_pt [1]	5			13												
SOC_150_SOC_end_sun_exm_ns [1]	6			20												
SOC__22_SOC_end_sun_esmd_ndfo [1]	7				43											
SOC__22_SOC_end_sun_esmd_ndfi [1]	8				44											
MOC_beg_MOC_200_moon_pt [1) 3)]	9								48							
MOC_beg_MOC_end_moon_pt [1]	10								137							
MOC_200_MOC_end_moon_ns [1]	11										20					
MOC_200_MOC_end_moon_exm [1]	12										20					
SOC_end_MOC_beg_limb_nadir_sq1	13					3625/2730										
SOC_end_MOC_beg_limb_nadir_sq1	14					3541/2661										
SOC_end_MOC_beg_limb_nadir_sq1	15					3457/2598										
SOC_end_MOC_beg_limb_nadir_sq1	16					3374/2530										
SOC_end_MOC_beg_limb_nadir_sq1	17					3290/2467										
SOC_end_MOC_beg_limb_nadir_sq1	18					3207/2399										
SOC_end_MOC_beg_limb_nadir_sq1	19					3123/2336										
SOC_end_MOC_beg_limb_nadir_sq1	20					3055										
SOC_end_MOC_beg_limb_nadir_sq1	21					2992										
SOC_end_MOC_beg_limb_nadir_sq1	22					2923										
SOC_end_MOC_beg_limb_nadir_sq1	23					2861										
SOC_end_MOC_beg_limb_nadir_sq1	24					2792										
SOC_end_sub_beg_limb_nadir_sq1	25					1811										
sub_beg_MOC_beg_limb_nadir_sq1	26						1798/883									
sub_beg_MOC_beg_limb_nadir_sq1	27						1715/820									
sub_beg_MOC_beg_limb_nadir_sq1	28						1631/751									
sub_beg_MOC_beg_limb_nadir_sq1	29						1548/689									
sub_beg_MOC_beg_limb_nadir_sq1	30						1464/620									
sub_beg_MOC_beg_limb_nadir_sq1	31						1381/558									
sub_beg_MOC_beg_limb_nadir_sq1	32						1297/489									
sub_beg_MOC_beg_limb_nadir_sq1	33						1213									
sub_beg_MOC_beg_limb_nadir_sq1	34						1145									
sub_beg_MOC_beg_limb_nadir_sq1	35						1082									

Timeline	ID	Orbital Interval: SO&C start to 17.2 km (incl. 4 limb)	SO&C 17.2 km to 150 km	SO&C 150 km to 22.5 deg	SO&C 22.5 deg to end	SO&C end to sub-solar start	Sub-solar start to end	Sub-solar end to MO&C start	MO&C start to 17.2 km	MO&C 17.2 km to 200 km	MO&C 200 km to end	MO&C end to eclipse start	Eclipse start to ADC calibration start (EG1)	ADC calibration start to end	ADC calibration end to MPS idle gap start	MPS idle gap start to eclipse end (MG3)
Min. Interval Duration - 2002 (sec)		288	45	33	54	1827	29	537	24	57	68	3	135	47	1360	30
		333														
									81							
				87												
		421														
							566									
									150							
							2061									
						2393										
						3905										
Max. Interval Duration - 2002 (sec)		288	53	41	63	1847	29	1834	35	84	99	1388	135	47	1496	30
		342														
									119							
				103												
		445														
							1863									
									210							
							2157									
						3694										
						4019										
MOC_end_ecl_beg_limb_nadir_sq1	40											255/1171				
MOC_end_ecl_beg_limb_nadir_sq1	41											339/1234				
MOC_end_ecl_beg_limb_nadir_sq1	42											422/1302				
MOC_end_ecl_beg_limb_nadir_sq1	43											506				
MOC_end_ecl_beg_limb_nadir_sq1	44											589				
MOC_end_ecl_beg_limb_nadir_sq1	45											673				
MOC_end_ecl_beg_limb_nadir_sq1	46											756				
MOC_end_ecl_beg_limb_nadir_sq1	47											840				
MOC_end_ecl_beg_limb_nadir_sq1	48											909				
MOC_end_ecl_beg_limb_nadir_sq1	49											971				
SOC_end_ecl_beg_limb_nadir_sq1	50					3875										
sub_beg_ecl_beg_limb_nadir_sq1	51						2049									
SOC_end_sub_beg_limb_nadir_sq2	52					1764										
SOC_end_ecl_beg_limb_nadir_sq2	53					3875										
sub_beg_ecl_beg_limb_nadir_sq2	54						2034									
ecl_beg_ecl_end_cal_orbit_daily	55														1341	
ecl_beg_ecl_end_cal_weekly_monthly	56														1216	
SOC_end_sub_beg_cal_monthly_spec_orb1	57					1767										
sub_beg_MOC_beg_cal_monthly_orb1 [4]	58						863									
MOC_end_ecl_beg_cal_monthly_spec_orb1 [5]	59											822				
SOC_end_sub_beg_cal_monthly_spec_orb2_orb3	60					1774										
sub_beg_ecl_beg_cal_monthly_spec_orb2	61						2032									
sub_beg_ecl_beg_cal_monthly_spec_orb3	62						2042									
ecl_beg_ecl_end_ADC_cal	63													47		

1) timelines require also synchronization between scan phase duration in Sun or moon fixed state and Sun or moon altitude
2) duration of scan phase 4 in Sun fixed state must ensure occultation measurement up to 100 km
3) duration of scan phase 3 in moon fixed state must ensure occultation measurement up to 100 km
4) timeline for monthly calibration fits into orbit interval once per month (together with timeline ID 59)
5) timeline for monthly calibration fits into orbit interval once per month (together with timeline ID 58)

Table 3: Timeline and Orbit Interval Duration

A summary of the information described in chapters 7.1 – 7.6 as defined for each timeline of set 01 is provided in tables 4 – 6. Table 4 describes the general timing information (duration, DTX parameters), table 5 the information required in MPS/SCIACAL for correct scheduling and table 6 the information which allows to track the LLI status based on timeline planning. The column labelled TL ID provides the timeline ID together with the sub-ID (ID_sub-ID).

TL ID	TL	Duration (sec)	DTX0 (sec)	DTX1 (sec)	DTX2 (sec)	DTX3 (sec)	DTX4 (sec)
01_01	SOC_beg_SOC_end_limb_sun_ns	389,32421875	288,76953125	32,00000000	98,78000000	251,86914063	136,9082031
02_01	SOC_beg_SOC_150_limb_sun_ns_pt	325,32812500	288,76953125	32,00000000	34,78000000	251,86914063	72,95898438
03_01	SOC_150_SOC_end_sun_fs	11,34375000	6,28515625	0,00000000	3,28000000	1,38476563	9,458984375
04_01	SOC_150_SOC_end_sun_exm_fs	11,34375000	6,28515625	0,00000000	3,61000000	1,38476563	9,458984375
05_01	SOC_150_SOC_end_sun_exm_pt	12,34375000	6,28515625	0,00000000	4,61000000	1,38476563	10,45898438
06_01	SOC_150_SOC_end_sun_exm_ns	19,84375000	6,28515625	0,00000000	12,11000000	1,38476563	17,95898438
07_01	SOC__22_SOC_end_sun_esmd_ndfo	42,57812500	7,95312500	0,00000000	33,46000000	1,38476563	40,69335938
08_01	SOC__22_SOC_end_sun_esmd_ndfi	43,60937500	8,46875000	0,00000000	33,46000000	1,38476563	41,72460938
09_01	MOC_beg_MOC_200_moon_pt	47,44140625	5,25390625	0,00000000	41,02000000	n/a	n/a
10_01	MOC_beg_MOC_end_moon_pt	135,44531250	5,25390625	0,00000000	129,02000000	n/a	n/a
11_01	MOC_200_MOC_end_moon_ns	19,44140625	5,25390625	0,00000000	13,02000000	n/a	n/a
12_01	MOC_200_MOC_end_moon_exm	19,53125000	5,25390625	0,00000000	13,11000000	n/a	n/a
13_01	SOC_end_MOC_beg_limb_nadir_sq1	3624,06640625	n/a	n/a	n/a	n/a	n/a
14_01	SOC_end_MOC_beg_limb_nadir_sq1	3540,50390625	n/a	n/a	n/a	n/a	n/a
15_01	SOC_end_MOC_beg_limb_nadir_sq1	3456,94140625	n/a	n/a	n/a	n/a	n/a
16_01	SOC_end_MOC_beg_limb_nadir_sq1	3373,37890625	n/a	n/a	n/a	n/a	n/a
17_01	SOC_end_MOC_beg_limb_nadir_sq1	3289,81640625	n/a	n/a	n/a	n/a	n/a
18_01	SOC_end_MOC_beg_limb_nadir_sq1	3206,25390625	n/a	n/a	n/a	n/a	n/a
19_01	SOC_end_MOC_beg_limb_nadir_sq1	3122,69140625	n/a	n/a	n/a	n/a	n/a
20_01	SOC_end_MOC_beg_limb_nadir_sq1	3054,13281250	n/a	n/a	n/a	n/a	n/a
21_01	SOC_end_MOC_beg_limb_nadir_sq1	2991,51171875	n/a	n/a	n/a	n/a	n/a
22_01	SOC_end_MOC_beg_limb_nadir_sq1	2922,95312500	n/a	n/a	n/a	n/a	n/a
23_01	SOC_end_MOC_beg_limb_nadir_sq1	2860,33203125	n/a	n/a	n/a	n/a	n/a
24_01	SOC_end_MOC_beg_limb_nadir_sq1	2791,77343750	n/a	n/a	n/a	n/a	n/a
25_01	SOC_end_sub_beg_limb_nadir_sq1	1810,89453125	n/a	n/a	n/a	n/a	n/a
26_01	sub_beg_MOC_beg_limb_nadir_sq1	1797,87890625	18,25000000	11,00000000	12,73000000	n/a	n/a
27_01	sub_beg_MOC_beg_limb_nadir_sq1	1714,31640625	18,25000000	11,00000000	12,73000000	n/a	n/a
28_01	sub_beg_MOC_beg_limb_nadir_sq1	1630,75390625	18,25000000	11,00000000	12,73000000	n/a	n/a
29_01	sub_beg_MOC_beg_limb_nadir_sq1	1547,19140625	18,25000000	11,00000000	12,73000000	n/a	n/a
30_01	sub_beg_MOC_beg_limb_nadir_sq1	1463,62890625	18,25000000	11,00000000	12,73000000	n/a	n/a
31_01	sub_beg_MOC_beg_limb_nadir_sq1	1380,06640625	18,25000000	11,00000000	12,73000000	n/a	n/a
32_01	sub_beg_MOC_beg_limb_nadir_sq1	1296,50390625	18,25000000	11,00000000	12,73000000	n/a	n/a
33_01	sub_beg_MOC_beg_limb_nadir_sq1	1212,94140625	18,25000000	11,00000000	12,73000000	n/a	n/a
34_01	sub_beg_MOC_beg_limb_nadir_sq1	1144,38281250	18,25000000	11,00000000	12,73000000	n/a	n/a
35_01	sub_beg_MOC_beg_limb_nadir_sq1	1081,76171875	18,25000000	11,00000000	12,73000000	n/a	n/a
36_01	sub_beg_MOC_beg_limb_nadir_sq1	1013,20312500	18,25000000	11,00000000	12,73000000	n/a	n/a
37_01	sub_beg_MOC_beg_limb_nadir_sq1	950,58203125	18,25000000	11,00000000	12,73000000	n/a	n/a
38_01	MOC_end_ecl_beg_limb_nadir_sq1	87,42578125	n/a	n/a	n/a	n/a	n/a
39_01	MOC_end_ecl_beg_limb_nadir_sq1	170,98828125	n/a	n/a	n/a	n/a	n/a
40_01	MOC_end_ecl_beg_limb_nadir_sq1	254,55078125	n/a	n/a	n/a	n/a	n/a
41_01	MOC_end_ecl_beg_limb_nadir_sq1	338,11328125	n/a	n/a	n/a	n/a	n/a
42_01	MOC_end_ecl_beg_limb_nadir_sq1	421,67578125	n/a	n/a	n/a	n/a	n/a
43_01	MOC_end_ecl_beg_limb_nadir_sq1	505,23828125	n/a	n/a	n/a	n/a	n/a
44_01	MOC_end_ecl_beg_limb_nadir_sq1	588,80078125	n/a	n/a	n/a	n/a	n/a
45_01	MOC_end_ecl_beg_limb_nadir_sq1	672,36328125	n/a	n/a	n/a	n/a	n/a
46_01	MOC_end_ecl_beg_limb_nadir_sq1	755,92578125	n/a	n/a	n/a	n/a	n/a
47_01	MOC_end_ecl_beg_limb_nadir_sq1	839,48828125	n/a	n/a	n/a	n/a	n/a
48_01	MOC_end_ecl_beg_limb_nadir_sq1	908,04687500	n/a	n/a	n/a	n/a	n/a
49_01	MOC_end_ecl_beg_limb_nadir_sq1	970,66796875	n/a	n/a	n/a	n/a	n/a
50_01	SOC_end_ecl_beg_limb_nadir_sq1	3874,75390625	n/a	n/a	n/a	n/a	n/a
51_01	sub_beg_ecl_beg_limb_nadir_sq1	2048,56640625	18,25000000	11,00000000	12,73000000	n/a	n/a
52_01	SOC_end_sub_beg_limb_nadir_sq2	1763,27734375	n/a	n/a	n/a	n/a	n/a
53_01	SOC_end_ecl_beg_limb_nadir_sq2	3874,75390625	n/a	n/a	n/a	n/a	n/a
54_01	sub_beg_ecl_beg_limb_nadir_sq2	2033,56250000	18,25000000	11,00000000	12,73000000	n/a	n/a
55_01	ecl_beg_ecl_end_cal_orbit_daily	1340,86328125	n/a	n/a	n/a	n/a	n/a
56_01	ecl_beg_ecl_end_cal_weekly_monthly	1215,64453125	n/a	n/a	n/a	n/a	n/a
57_01	SOC_end_sub_beg_cal_monthly_spec_orb1	1766,01171875	n/a	n/a	n/a	n/a	n/a
58_01	sub_beg_MOC_beg_cal_monthly_orb1	862,55078125	18,25000000	11,00000000	12,73000000	n/a	n/a
59_01	MOC_end_ecl_beg_cal_monthly_spec_orb1	821,57812500	n/a	n/a	n/a	n/a	n/a
60_01	SOC_end_sub_beg_cal_monthly_spec_orb2_orb3	1773,35937500	n/a	n/a	n/a	n/a	n/a
61_01	sub_beg_ecl_beg_cal_monthly_spec_orb2	2031,79296875	18,25000000	11,00000000	12,73000000	n/a	n/a
62_01	sub_beg_ecl_beg_cal_monthly_spec_orb3	2041,69921875	18,25000000	11,00000000	12,73000000	n/a	n/a
63_01	ecl_beg_ecl_end_ADC_cal	46,06250000	-135,00000000	n/a	n/a	n/a	n/a

TL ID	TL	Duration (sec)	DTX0 (sec)	DTX1 (sec)	DTX2 (sec)	DTX3 (sec)	DTX4 (sec)
13_02	SOC_end_MOC_beg_limb_nadir_sq1	2729,15234375	n/a	n/a	n/a	n/a	n/a
14_02	SOC_end_MOC_beg_limb_nadir_sq1	2660,59375000	n/a	n/a	n/a	n/a	n/a
15_02	SOC_end_MOC_beg_limb_nadir_sq1	2597,97265625	n/a	n/a	n/a	n/a	n/a
16_02	SOC_end_MOC_beg_limb_nadir_sq1	2529,41406250	n/a	n/a	n/a	n/a	n/a
17_02	SOC_end_MOC_beg_limb_nadir_sq1	2466,79296875	n/a	n/a	n/a	n/a	n/a
18_02	SOC_end_MOC_beg_limb_nadir_sq1	2398,23437500	n/a	n/a	n/a	n/a	n/a
19_02	SOC_end_MOC_beg_limb_nadir_sq1	2335,61328125	n/a	n/a	n/a	n/a	n/a
26_02	sub_beg_MOC_beg_limb_nadir_sq1	882,02343750	18,25000000	11,00000000	12,73000000	n/a	n/a
27_02	sub_beg_MOC_beg_limb_nadir_sq1	819,40234375	18,25000000	11,00000000	12,73000000	n/a	n/a
28_02	sub_beg_MOC_beg_limb_nadir_sq1	750,84375000	18,25000000	11,00000000	12,73000000	n/a	n/a
29_02	sub_beg_MOC_beg_limb_nadir_sq1	688,22265625	18,25000000	11,00000000	12,73000000	n/a	n/a
30_02	sub_beg_MOC_beg_limb_nadir_sq1	619,66406250	18,25000000	11,00000000	12,73000000	n/a	n/a
31_02	sub_beg_MOC_beg_limb_nadir_sq1	557,04296875	18,25000000	11,00000000	12,73000000	n/a	n/a
32_02	sub_beg_MOC_beg_limb_nadir_sq1	488,48437500	18,25000000	11,00000000	12,73000000	n/a	n/a
38_02	MOC_end_ecl_beg_limb_nadir_sq1	1039,22656250	n/a	n/a	n/a	n/a	n/a
39_02	MOC_end_ecl_beg_limb_nadir_sq1	1101,84765625	n/a	n/a	n/a	n/a	n/a
40_02	MOC_end_ecl_beg_limb_nadir_sq1	1170,40625000	n/a	n/a	n/a	n/a	n/a
41_02	MOC_end_ecl_beg_limb_nadir_sq1	1233,02734375	n/a	n/a	n/a	n/a	n/a
42_02	MOC_end_ecl_beg_limb_nadir_sq1	1301,58593750	n/a	n/a	n/a	n/a	n/a

Table 4: Timeline Summary (Duration and DTX Parameters)

The provided durations include the parameter *timeline pad*. Timelines of SCHEDULE_TYPE = NF_FL/FB/BF do always have DTX0 – DTX4 set to 'n/a'. In fixed timelines not requiring high data rate, DTX3 and DTX4 are set to 'n/a'.

TL ID	TL	SCHEDULE_ TYPE	GEO_TYPE	GEO_NUM	RATE_TYPE	FOV_CHECK	T/L Pad (sec)
01_01	SOC_beg_SOC_end_limb_sun_ns	SF_FI	tangent_height	17,2	HIGH	NO	1,00000000
02_01	SOC_beg_SOC_150_limb_sun_ns_pt	SF_FI	tangent_height	17,2	HIGH	NO	1,00000000
03_01	SOC_150_SOC_end_sun_fs	SF_FB	tangent_height	150	HIGH	YES	1,00000000
04_01	SOC_150_SOC_end_sun_exm_fs	SF_FB	tangent_height	150	HIGH	YES	1,00000000
05_01	SOC_150_SOC_end_sun_exm_pt	SF_FB	tangent_height	150	HIGH	YES	1,00000000
06_01	SOC_150_SOC_end_sun_exm_ns	SF_FB	tangent_height	150	HIGH	YES	1,00000000
07_01	SOC__22_SOC_end_sun_esmd_ndfo	SF_FI	elevation_forward	22,5	HIGH	YES	1,00000000
08_01	SOC__22_SOC_end_sun_esmd_ndfi	SF_FI	elevation_forward	22,5	HIGH	YES	1,00000000
09_01	MOC_beg_MOC_200_moon_pt	MF_FI	tangent_height	17,2	LOW	NO	1,00000000
10_01	MOC_beg_MOC_end_moon_pt	MF_FI	tangent_height	17,2	LOW	NO	1,00000000
11_01	MOC_200_MOC_end_moon_ns	MF_FB	tangent_height	200	LOW	YES	1,00000000
12_01	MOC_200_MOC_end_moon_exm	MF_FB	tangent_height	200	LOW	YES	1,00000000
13_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
14_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
15_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
16_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
17_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
18_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
19_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
20_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
21_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
22_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
23_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
24_01	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
25_01	SOC_end_sub_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
26_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
27_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
28_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
29_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
30_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
31_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
32_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
33_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
34_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
35_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
36_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
37_01	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
38_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
39_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
40_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
41_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
42_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
43_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
44_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
45_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
46_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
47_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
48_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
49_01	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
50_01	SOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
51_01	sub_beg_ecl_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
52_01	SOC_end_sub_beg_limb_nadir_sq2	NF_FL	n/a	n/a	LOW	NO	1,00000000
53_01	SOC_end_ecl_beg_limb_nadir_sq2	NF_FB	n/a	n/a	LOW	NO	1,00000000
54_01	sub_beg_ecl_beg_limb_nadir_sq2	SF_FI	azimuth	269,77	LOW	YES	1,00000000
55_01	ecl_beg_ecl_end_cal_orbit_daily	NF_FB	n/a	n/a	LOW	NO	1,00000000
56_01	ecl_beg_ecl_end_cal_weekly_monthly	NF_FB	n/a	n/a	LOW	NO	1,00000000
57_01	SOC_end_sub_beg_cal_monthly_spec_orb1	NF_FL	n/a	n/a	LOW	NO	1,00000000
58_01	sub_beg_MOC_beg_cal_monthly_orb1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
59_01	MOC_end_ecl_beg_cal_monthly_spec_orb1	NF_FB	n/a	n/a	LOW	NO	1,00000000
60_01	SOC_end_sub_beg_cal_monthly_spec_orb2_orb3	NF_FL	n/a	n/a	LOW	NO	1,00000000
61_01	sub_beg_ecl_beg_cal_monthly_spec_orb2	SF_FI	azimuth	269,77	LOW	YES	1,00000000
62_01	sub_beg_ecl_beg_cal_monthly_spec_orb3	SF_FI	azimuth	269,77	LOW	YES	1,00000000
63_01	ecl_beg_ecl_end_ADC_cal	SF_FI	elevation_backward	28,5	LOW	NO	1,00000000

TL ID	TL	SCHEDULE_ TYPE	GEO_TYPE	GEO_NUM	RATE_TYPE	FOV_CHECK	T/L Pad (sec)
13_02	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
14_02	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
15_02	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
16_02	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
17_02	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
18_02	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
19_02	SOC_end_MOC_beg_limb_nadir_sq1	NF_FL	n/a	n/a	LOW	NO	1,00000000
26_02	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
27_02	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
28_02	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
29_02	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
30_02	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
31_02	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
32_02	sub_beg_MOC_beg_limb_nadir_sq1	SF_FI	azimuth	269,77	LOW	YES	1,00000000
38_02	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
39_02	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
40_02	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
41_02	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000
42_02	MOC_end_ecl_beg_limb_nadir_sq1	NF_FB	n/a	n/a	LOW	NO	1,00000000

Table 5: Timeline Summary (Scheduling Parameters)

Timelines ID 38 – 50, 53 and 59 are defined as SCHEDULE_TYPE = NF_FB in order not to interfere with the 135 sec engineering gap prior to timeline ID 63 at the start of the eclipse phase. The NF_FB condition 'attaches' each of these timelines to the preceding timeline leaving sufficient time before the start of timeline ID 63.

TL ID	TL	NDFM	APSM	NCWM	WLS	WLS (sec)	SLS	SLS (sec)	ESMD (sec)	ASMD (sec)
01_01	SOC_beg_SOC_end_limb_sun_ns	1	1	0	0	0,0	0	0,0	0,0	0,0
02_01	SOC_beg_SOC_150_limb_sun_ns_pt	1	1	0	0	0,0	0	0,0	0,0	0,0
03_01	SOC_150_SOC_end_sun_fs	1	1	0	0	0,0	0	0,0	0,0	0,0
04_01	SOC_150_SOC_end_sun_exm_fs	1	1	0	0	0,0	0	0,0	0,0	0,0
05_01	SOC_150_SOC_end_sun_exm_pt	1	1	0	0	0,0	0	0,0	0,0	0,0
06_01	SOC_150_SOC_end_sun_exm_ns	1	1	0	0	0,0	0	0,0	0,0	0,0
07_01	SOC__22_SOC_end_sun_esmd_ndfo	0	0	0	0	0,0	0	0,0	30,0	0,0
08_01	SOC__22_SOC_end_sun_esmd_ndfi	1	0	0	0	0,0	0	0,0	30,0	0,0
09_01	MOC_beg_MOC_200_moon_pt	0	0	0	0	0,0	0	0,0	0,0	0,0
10_01	MOC_beg_MOC_end_moon_pt	0	0	0	0	0,0	0	0,0	0,0	0,0
11_01	MOC_200_MOC_end_moon_ns	0	0	0	0	0,0	0	0,0	0,0	0,0
12_01	MOC_200_MOC_end_moon_exm	0	0	0	0	0,0	0	0,0	0,0	0,0
13_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
14_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
15_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
16_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
17_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
18_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
19_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
20_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
21_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
22_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
23_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
24_01	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
25_01	SOC_end_sub_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
26_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
27_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
28_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
29_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
30_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
31_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
32_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
33_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
34_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
35_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
36_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
37_01	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
38_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
39_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
40_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
41_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
42_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
43_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
44_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
45_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
46_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
47_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
48_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
49_01	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
50_01	SOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
51_01	sub_beg_ecl_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
52_01	SOC_end_sub_beg_limb_nadir_sq2	0	0	0	0	0,0	0	0,0	0,0	0,0
53_01	SOC_end_ecl_beg_limb_nadir_sq2	0	0	0	0	0,0	0	0,0	0,0	0,0
54_01	sub_beg_ecl_beg_limb_nadir_sq2	1	1	1	0	0,0	0	0,0	0,0	0,0
55_01	ecl_beg_ecl_end_cal_orbit_daily	0	0	0	0	0,0	0	0,0	0,0	0,0
56_01	ecl_beg_ecl_end_cal_weekly_monthly	13	13	0	1	12,0	1	12,0	0,0	0,0
57_01	SOC_end_sub_beg_cal_monthly_spec_orb1	0	0	0	0	0,0	4	48,0	0,0	0,0
58_01	sub_beg_MOC_beg_cal_monthly_orb1	1	1	1	0	0,0	2	24,0	0,0	0,0
59_01	MOC_end_ecl_beg_cal_monthly_spec_orb1	3	3	0	2	24,0	3	36,0	0,0	0,0
60_01	SOC_end_sub_beg_cal_monthly_spec_orb2_orb3	23	23	0	0	0,0	0	0,0	0,0	0,0
61_01	sub_beg_ecl_beg_cal_monthly_spec_orb2	25	25	1	0	0,0	0	0,0	0,0	0,0
62_01	sub_beg_ecl_beg_cal_monthly_spec_orb3	25	25	1	1	80,0	1	80,0	160,0	0,0
63_01	ecl_beg_ecl_end_ADC_cal	0	0	0	0	0,0	0	0,0	0,0	0,0

TL ID	TL	NDFM	APSM	NCWM	WLS	WLS (sec)	SLS	SLS (sec)	ESMD (sec)	ASMD (sec)
13_02	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
14_02	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
15_02	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
16_02	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
17_02	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
18_02	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
19_02	SOC_end_MOC_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
26_02	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
27_02	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
28_02	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
29_02	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
30_02	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
31_02	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
32_02	sub_beg_MOC_beg_limb_nadir_sq1	1	1	1	0	0,0	0	0,0	0,0	0,0
38_02	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
39_02	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
40_02	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
41_02	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0
42_02	MOC_end_ecl_beg_limb_nadir_sq1	0	0	0	0	0,0	0	0,0	0,0	0,0

Table 6: Timeline Summary (LLI Budget)

9. Timeline Master Definition File

The timelines sent via the SCIAMACHY – FOCC interface [RD 16] to the ENVISAT ground segment do only contain a subset of the information defined for each timeline. This subset is comprised of scheduling information in the variable header record of the timeline ASCII file and the state/time-tag sequence as required by the SET TIMELINE MCMD in the datablock.

On SCIAMACHY-SOST side the master copy of the timeline definition file for each timeline is maintained as an Excel spreadsheet. The spreadsheet consists of several parts, i.e.

- header *
- timeline state/time-tag sequence *
- timeline LLI budget
- state list – state timing information
- state list – scan phase timing information
- state list – LLI status information

The parts marked '*' provide information for the ASCII file. The state list is an auxiliary provision attached to each timeline definition file in order to allow automatic generation of header and state/time-tag information. In particular the link between header and the scan phase timing information of the state list applies the algorithms for computing the DTX parameters as described in chapters 7.2.

In annex 1 the timeline state/time-tag sequence of each timeline is presented.

10. Mission Scenarios versus Timelines

Each orbit mission scenario (see TN I – Mission Scenarios [RD 2]) is implemented via a sequence of timelines. The mission planning of SCIAMACHY has to specify, for each orbit, the sequence of timelines which include the specific states fulfilling the scientific and calibration & monitoring requirements of the particular mission scenario.

In table 7 the timeline sequences for the mision scenarios are listed.

	Orbit Intervals																
	SO&C start to 17.2 km (incl. 4 limb)	SO&C 17.2 km to 150 km	SO&C 150 km to 22.5 deg	SO&C 22.5 deg to end	SO&C end to sub-solar start	Sub-solar start to end	Sub-solar end to MO&C start	MO&C start to 17.2 km	MO&C 17.2 km to 200 km	MO&C 200 km to end	MO&C end to eclipse start	Eclipse start to ADC calibration start (EG1)	ADC calibration start to end	ADC calibration end to MPS idle gap start	MPS idle gap start to eclipse end (MG3)		
Orbit Mission Scenario	**Timeline Sequence**																**Coverage (%)**
Orbit_No_Moon	1				50								63	55			92,9
	1				53								63	55			92,9
Orbit_Moon	1				13-24				10		38-49		63	55			91,2
Orbit_No_Moon_Daily_Calibration_1	2	3		8	25	51							63	55			92,5
	2	3		8	52	54							63	55			91,4
Orbit_No_Moon_Daily_Calibration_2	2	4			50								63	55			91,7
	2	4			53								63	55			90,7
Orbit_Moon_Daily_Calibration_1	2	3		8	25	26-37			9	11/12	38-49		63	55			89,6
Orbit_Moon_Daily_Calibration_2	2	4			25	26-37			10		38-49		63	55			89,7
Orbit_No_Moon_Weekly_Calibration_1	2	3		8	25	51							63	56			90,4
	2	3		8	52	54							63	56			89,3
Orbit_No_Moon_Weekly_Calibration_2	2	4/5/6			50								63	56			90,4
	2	4/5/6			53								63	56			90,4
Orbit_Moon_Weekly_Calibration_1	2	3		8	25	26-37			9	11/12	38-49		63	56			89,6
	2	3		8	52	26-37			9	11/12	38-49		63	56			88,8
Orbit_Moon_Weekly_Calibration_2	2	4/5/6			13-24				10		38-49		63	56			88,8
Orbit_Monthly_Calibration_1	2	3		8	57	58			9	11/12	59		63	56			85,0
Orbit_Monthly_Calibration_2	2	4		7	60	61							63	56			89,5
Orbit_Monthly_Calibration_3	2	5/6			60	62							63	56			89,3
Orbit_Special_Calibration_1	2	3		8	57	58					59		63	56			83,6
Orbit_Special_Calibration_2	2	4		7	60	61							63	56			89,5
Orbit_Special_Calibration_3	2	5/6			60	62							63	56			89,3

Table 7: Implementation of Mission Scenarios via Timeline Sequences

The orbit intervals of table 7 are those used in tables 1 and 3. Whenever a mission scenario is using two different timeline sequences, the 1st sequence corresponds to limb/nadir sequence 1, the 2nd to limb/nadir sequence 2. Moon releated scenarios can only be implemented by selecting the timelines with the correct duration for the particular intervals of the associated orbit. Table 7 therefore lists the full range of timeline IDs (13 – 24, 26 – 37, 38 – 49) and it is up to the SCIAMACHY mission planning to choose the appropriate timeline. Timeline ID 63 (ADC calibration) has to run in each mission scenario as a separate timeline.

The column labelled 'Coverage (%)' gives an indication about the time SCIAMACHY spends in MEASUREMENT TIMELINE mode in each orbit executing the corresponding timeline sequence, i.e. mission scenario.

11. Timeline Recovery

After a safing event (Corrective Action) SCIAMACHY must be recovered to MEASUREMENT mode before nominal operations can be reinstated. The recovery scenario is split in two phases

- ***Engineering Recovery***
  - recover from SAFE mode to HEATER mode
  - load and execute the engineering ('maintenance') timeline ID 63 (single state 65) of set 07
- ***Science Recovery***
  - recover the timeline status

During the Engineering Recovery only engineering activities are executed via Flight Operations Procedures (FOP). The only timeline related activity in that respect is the manual loading and start of timeline ID 63 from timeline set 07 as part of a FOP.

Except for trivial cases, with the TIMELINE table reflecting exactly and without doubt what is needed after recovery for nominal operations, one must assume that

- the current TIMELINE table is obsolete at the start of the Science Recovery phase, and
- the complete TIMELINE table must be recovered before nominal operations can be resumed.

This is due to the fact, that the various safing scenarios may or may not inhibit the planned replacement of timelines during and after the safing event, making it difficult to predict what the TIMELINE table looks like at a given point in time.

Establishing the on-board timeline status for commencing measurements requires definition of the orbit and time when nominal operations will be resumed, i.e. when the Science Recovery has terminated. Several cases have to be considered for SCIAMACHY (it is assumed that nominal operations are resumed at the beginning of an orbit)

a) the orbit when nominal operations are resumed (= $orbit_{resume}$) is still in the actual OSDF

a1) the orbits missed did not include any specific timelines:

- restore on-board status of TIMELINE table at end of last measurement gap MG3 or MG2 (see chapter 7.6.2) prior to non-nominal event (FOCC)
- implement all timeline exchange requests falling into the period of missed orbits (FOCC)
- continue with OSDF at $orbit_{resume}$ (FOCC)

a2) the orbits missed did include specific timelines (e.g. required calibration & monitoring measurements):

- provide new ROE file and SSCO file if required (RGT)
- generate new OSDF and submit to RGT (SOST): insert required measurements as applicable; if monthly calibration orbits are impacted and the moon is not visible at recovery, the special calibration orbits can be used
- generate new DMOP (FOCC)
- generate on-board status of TIMELINE table as provided in the OSDF timeline status record (FOCC)
- execute new DMOP starting with $orbit_{resume}$ (FOCC)

a3) the interrupt requires to run at least 1 timeline not included in the OSDF:

- provide new ROE file and SSCO file if required (RGT)

- generate new OSDF and submit to RGT (SOST): insert required measurements as applicable; if monthly calibration orbits are impacted and the moon is not visible at recovery, the special calibration orbits can be used
- generate new DMOP (FOCC)
- generate on-board status of TIMELINE table as provided in the OSDF timeline status record (FOCC)
- execute new DMOP starting with $orbit_{resume}$ (FOCC)

b) the orbit when nominal operations are resumed (= $orbit_{resume}$) is not included in the actual OSDF

- provide new ROE file and SSCO file if required (RGT)
- generate OSDF and submit to RGT (SOST)
- generate DMOP (FOCC)
- generate on-board status of TIMELINE table as provided in the OSDF timeline status record (FOCC)
- execute DMOP starting with $orbit_{resume}$ (FOCC)

Contrary to CTI parameter tables, the validity of timelines is not limited by the keywords 'validity time start' and 'validity time stop' in the variable header record. Timelines are valid by definition from launch to a default time in the far future (31 December 2078). The 8-digit version number in the timeline filename provides the set ID (first 2 digits) and sub-ID (next 2 digits) while the last 4 digits remain at '0000' [RD 16], i.e. no incremeted file version does exist. Restoring relies completely on the timeline ID, set ID and timeline sub-ID.

Restoring or generating the on-board status of the TIMELINE table is a pre-requisite for successful resumption of nominal operations. It must occur either in HEATER or MEASUREMENT IDLE mode. Note that this loading of the TIMELINE table is presently not part of a FOP. [RD 16] describes the recovery procedure for timelines only in a general context. No OSDF specific recovery information can be found therein.

If a new DMOP is necessary for establishing nominal operations again, the recovery procedure requires fast interfaces between RGT, FOCC and SOST. This is particularly the case in the first part of the Commissioning Phase (SODAP) where time-critical specific measurements are planned. In case one of such measurements was skipped because of an anomaly, it is likely that returning to nominal operations causes re-planning on SCIAMACHY-SOST side which leads to a new OSDF (case a2 above).

Annex 1: Timeline Definitions

This annex lists all timelines of set 01. Only the state/time-tag sequence of the timelines with associated header information (see chapter 8) is presented. The header information is comprised of

- Filename
- Timeline description
- Table start ID .....index in TIMELINE table where timeline starts
- Version.....version of timeline related to operations concept TN issue/revision number
- Duration .....timeline duration including timeline pad
- DTX0 .....start timeline time parameter (see chapter 7.2.1)
- DTX1 .....scanner position time parameter (see chapter 7.2.1)
- DTX2 .....FOV check time parameter (see chapter 7.2.2)
- SCHEDULE_TYPE.....timeline scheduling control parameter (see chapter 7.3 & 7.4)
- GEO_TYPE .....timeline scheduling control parameter (see chapter 7.3 & 7.4)
- GEO_NUM .....timeline scheduling control parameter (see chapter 7.3 & 7.4)
- FOV_CHECK .....timeline scheduling control parameter (see chapter 7.3 & 7.4)
- RATE_TYPE .....high data rate switch control parameter (see chapter 7.3 & 7.4)
- DTX3 .....high data rate start time parameter (see chapter 7.2.3)
- DTX4 .....high data rate stop time parameter (see chapter 7.2.3)
- TL_PAD.....timeline pad

H:\scia\timing\timeline_set_01_V30\tl_01_01_01.xls		SOC_beg_SOC_end_limb_sun_ns		Table start ID =	1	Version =	V3.0
DURATION <s>=	389,32421875	DTX0 <s>=	288,76953125	DTX1 <s>=	32,00000000	DTX2 <s>=	98,78000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	tangent_height	GEO_NUM <km>=	17,20	FOV_CHECK =	NO
RATE_TYPE =	HIGH	DTX3 <s>=	251,86914063	DTX4 <s>=	136,90820313	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	28	limb01	16031	62,62	65,39	62,62	128,01
3	28	limb01	16031	62,62	128,01	62,62	190,63
4	28	limb01	16031	62,62	190,63	62,62	253,25
5	49	sos01	16031	62,62	253,25	134,98	388,23
6	End of Timeline	End of Timeline	34554	134,98			
7	End of Timeline	End of Timeline	0				
8	End of Timeline	End of Timeline	0				
9	End of Timeline	End of Timeline	0				
10	End of Timeline	End of Timeline	0				
11	End of Timeline	End of Timeline	0				
12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	99387		388,23	0,09	388,32

H:\scia\timing\timeline_set_01_V30\tl_01_02_01.xls		SOC_beg_SOC_150_limb_sun_ns_pt		Table start ID =	65	Version =	V3.0
DURATION <s>=	325,32812500	DTX0 <s>=	288,76953125	DTX1 <s>=	32,00000000	DTX2 <s>=	34,78000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	tangent_height	GEO_NUM <km>=	17,20	FOV_CHECK =	NO
RATE_TYPE =	HIGH	DTX3 <s>=	251,86914063	DTX4 <s>=	72,95898438	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	28	limb01	16031	62,62	65,39	62,62	128,01
3	28	limb01	16031	62,62	128,01	62,62	190,63
4	28	limb01	16031	62,62	190,63	62,62	253,25
5	47	sos02	16031	62,62	253,25	70,98	324,23
6	End of Timeline	End of Timeline	18171	70,98			
7	End of Timeline	End of Timeline	0				
8	End of Timeline	End of Timeline	0				
9	End of Timeline	End of Timeline	0				
10	End of Timeline	End of Timeline	0				
11	End of Timeline	End of Timeline	0				
12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
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25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
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31	End of Timeline	End of Timeline	0				
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41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
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53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	83004		324,23	0,09	324,33

H:\scia\timing\timeline_set_01_V30\tl_01_03_01.xls		SOC_150_SOC_end_sun_fs		Table start ID =	129	Version =	V3.0
DURATION <s>=	11,34375000	DTX0 <s>=	6,28515625	DTX1 <s>=	0,00000000	DTX2 <s>=	3,28000000
SCHED_TYPE =	SF_FB	GEO_TYPE =	tangent_height	GEO_NUM <km>=	150,00	FOV_CHECK =	YES
RATE_TYPE =	HIGH	DTX3 <s>=	1,38476563	DTX4 <s>=	9,45898438	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	50	scs01	709	2,77	2,77	7,48	10,25
2	End of Timeline	End of Timeline	1915	7,48			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
5	End of Timeline	End of Timeline	0				
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		T/L Cleanup	2624		10,25	0,09	10,34

H:\scia\timing\timeline_set_01_V30\tl_01_04_01.xls		SOC_150_SOC_end_sun_exm_fs		Table start ID =	193	Version =	V3.0
DURATION <s>=	11,34375000	DTX0 <s>=	6,28515625	DTX1 <s>=	0,00000000	DTX2 <s>=	3,61000000
SCHED_TYPE =	SF_FB	GEO_TYPE =	tangent_height	GEO_NUM <km>=	150,00	FOV_CHECK =	YES
RATE_TYPE =	HIGH	DTX3 <s>=	1,38476563	DTX4 <s>=	9,45898438	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	68	nmes01	709	2,77	2,77	7,48	10,25
2	End of Timeline	End of Timeline	1915	7,48			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
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		T/L Cleanup	2624		10,25	0,09	10,34

H:\scia\timing\timeline_set_01_V30\tl_01_05_01.xls		SOC_150_SOC_end_sun_exm_pt		Table start ID =	257	Version =	V3.0
DURATION <s>=	12,34375000	DTX0 <s>=	6,28515625	DTX1 <s>=	0,00000000	DTX2 <s>=	4,61000000
SCHED_TYPE =	SF_FB	GEO_TYPE =	tangent_height	GEO_NUM <km>=	150,00	FOV_CHECK =	YES
RATE_TYPE =	HIGH	DTX3 <s>=	1,38476563	DTX4 <s>=	10,45898438	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	64	nmep01	709	2,77	2,77	8,48	11,25
2	End of Timeline	End of Timeline	2171	8,48			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
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		T/L Cleanup	2880		11,25	0,09	11,34

H:\scia\timing\timeline_set_01_V30\tl_01_06_01.xls		SOC_150_SOC_end_sun_exm_ns		Table start ID =	321	Version =	V3.0
DURATION <s>=	19,84375000	DTX0 <s>=	6,28515625	DTX1 <s>=	0,00000000	DTX2 <s>=	12,11000000
SCHED_TYPE =	SF_FB	GEO_TYPE =	tangent_height	GEO_NUM <km>=	150,00	FOV_CHECK =	YES
RATE_TYPE =	HIGH	DTX3 <s>=	1,38476563	DTX4 <s>=	17,95898438	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	66	nmes02	709	2,77	2,77	15,98	18,75
2	End of Timeline	End of Timeline	4091	15,98			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
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64	End of Timeline	End of Timeline	0				
		T/L Cleanup	4800		18,75	0,09	18,84

H:\scia\timing\timeline_set_01_V30\tl_01_07_01.xls		SOC__22_SOC_end_sun_esmd_ndfo		Table start ID =	385	Version =	V3.0
DURATION <s>=	42,57812500	DTX0 <s>=	7,95312500	DTX1 <s>=	0,00000000	DTX2 <s>=	33,46000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	elevation_forward	GEO_NUM <deg>=	22,50	FOV_CHECK =	YES
RATE_TYPE =	HIGH	DTX3 <s>=	1,38476563	DTX4 <s>=	40,69335938	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	52	scd01	709	2,77	2,77	38,71	41,48
2	End of Timeline	End of Timeline	9911	38,71			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
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		T/L Cleanup	10620		41,48	0,09	41,58

H:\scia\timing\timeline_set_01_V30\tl_01_08_01.xls		SOC__22_SOC_end_sun_esmd_ndfi		Table start ID =	449	Version =	V3.0
DURATION <s>=	43,60937500	DTX0 <s>=	8,46875000	DTX1 <s>=	0,00000000	DTX2 <s>=	33,46000000
SCHED_TYPE	SF_FI	GEO_TYPE =	elevation_forward	GEO_NUM <deg>=	22,50	FOV_CHECK =	YES
RATE_TYPE =	HIGH	DTX3 <s>=	1,38476563	DTX4 <s>=	41,72460938	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	62	scd02	709	2,77	2,77	39,75	42,52
2	End of Timeline	End of Timeline	10175	39,75			
3	End of Timeline	End of Timeline	0				
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		T/L Cleanup	10884		42,52	0,09	42,61

H:\scia\timing\timeline_set_01_V30\tl_01_09_01.xls		MOC_beg_MOC_200_moon_pt		Table start ID =	513	Version =	V3.0
DURATION <s>=	47,44140625	DTX0 <s>=	5,25390625	DTX1 <s>=	0,00000000	DTX2 <s>=	41,02000000
SCHED_TYPE =	MF_FI	GEO_TYPE =	tangent_height	GEO_NUM <km>=	17,20	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	56	mop01	709	2,77	2,77	43,58	46,35
2	End of Timeline	End of Timeline	11156	43,58			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
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14	End of Timeline	End of Timeline	0				
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61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	11865		46,35	0,09	46,44

H:\scia\timing\timeline_set_01_V30\tl_01_10_01.xls		MOC_beg_MOC_end_moon_pt		Table start ID =	577	Version =	V3.0
DURATION <s>=	135,44531250	DTX0 <s>=	5,25390625	DTX1 <s>=	0,00000000	DTX2 <s>=	129,02000000
SCHED_TYPE =	MF_FI	GEO_TYPE =	tangent_height	GEO_NUM <km>=	17,20	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	57	mop02	709	2,77	2,77	131,58	134,35
2	End of Timeline	End of Timeline	33685	131,58			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
5	End of Timeline	End of Timeline	0				
6	End of Timeline	End of Timeline	0				
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8	End of Timeline	End of Timeline	0				
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61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	34394		134,35	0,09	134,45

H:\scia\timing\timeline_set_01_V30\tl_01_11_01.xls		MOC_200_MOC_end_moon_ns		Table start ID =	641	Version =	V3.0
DURATION <s>=	19,44140625	DTX0 <s>=	5,25390625	DTX1 <s>=	0,00000000	DTX2 <s>=	13,02000000
SCHED_TYPE =	MF_FB	GEO_TYPE =	tangent_height	GEO_NUM <km>=	200,00	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	54	mos01	709	2,77	2,77	15,58	18,35
2	End of Timeline	End of Timeline	3988	15,58			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
5	End of Timeline	End of Timeline	0				
6	End of Timeline	End of Timeline	0				
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10	End of Timeline	End of Timeline	0				
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12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	4697		18,35	0,09	18,44

H:\scia\timing\timeline_set_01_V30\tl_01_12_01.xls		MOC_200_MOC_end_moon_exm		Table start ID =	705	Version =	V3.0
DURATION <s>=	19,53125000	DTX0 <s>=	5,25390625	DTX1 <s>=	0,00000000	DTX2 <s>=	13,11000000
SCHED_TYPE =	MF_FB	GEO_TYPE =	tangent_height	GEO_NUM <km>=	200,00	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	55	mems01	709	2,77	2,77	15,67	18,44
2	End of Timeline	End of Timeline	4011	15,67			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
5	End of Timeline	End of Timeline	0				
6	End of Timeline	End of Timeline	0				
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18	End of Timeline	End of Timeline	0				
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25	End of Timeline	End of Timeline	0				
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28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
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31	End of Timeline	End of Timeline	0				
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34	End of Timeline	End of Timeline	0				
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36	End of Timeline	End of Timeline	0				
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61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	4720		18,44	0,09	18,53

H:\scia\timing\timeline_set_01_V30\tl_01_13_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	769	Version =	V3.0
DURATION <s>=	3624,06640625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	30	limb03	17551	68,56	2990,42	62,62	3053,04
47	4	nad04	16031	62,62	3053,04	68,56	3121,60
48	3	nad03	17551	68,56	3121,60	83,56	3205,16
49	3	nad03	21392	83,56	3205,16	83,56	3288,72
50	3	nad03	21392	83,56	3288,72	83,56	3372,29
51	2	nad02	21392	83,56	3372,29	83,56	3455,85
52	1	nad01	21392	83,56	3455,85	83,56	3539,41
53	1	nad01	21392	83,56	3539,41	83,56	3622,97
54	End of Timeline	End of Timeline	21392	83,56			
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
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59	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	927481		3622,97	0,09	3623,07

H:\scia\timing\timeline_set_01_V30\tl_01_13_02.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	769	Version =	V3.0
DURATION <s>=	2729,15234375	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEOLOC_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	End of Timeline	End of Timeline	17551	68,56			
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	698383		2728,06	0,09	2728,15

H:\scia\timing\timeline_set_01_V30\tl_01_14_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	833	Version =	V3.0
DURATION <s>=	3540,50390625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	30	limb03	17551	68,56	2990,42	62,62	3053,04
47	4	nad04	16031	62,62	3053,04	68,56	3121,60
48	3	nad03	17551	68,56	3121,60	83,56	3205,16
49	3	nad03	21392	83,56	3205,16	83,56	3288,72
50	3	nad03	21392	83,56	3288,72	83,56	3372,29
51	2	nad02	21392	83,56	3372,29	83,56	3455,85
52	1	nad01	21392	83,56	3455,85	83,56	3539,41
53	End of Timeline	End of Timeline	21392	83,56			
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	906089		3539,41	0,09	3539,50

H:\scia\timing\timeline_set_01_V30\tl_01_14_02.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	833	Version =	V3.0
DURATION <s>=	2660,59375000	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	End of Timeline	End of Timeline	16031	62,62			
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	680832		2659,50	0,09	2659,59

H:\scia\timing\timeline_set_01_V30\tl_01_15_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	897	Version =	V3.0
DURATION <s>=	3456,94140625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	30	limb03	17551	68,56	2990,42	62,62	3053,04
47	4	nad04	16031	62,62	3053,04	68,56	3121,60
48	3	nad03	17551	68,56	3121,60	83,56	3205,16
49	3	nad03	21392	83,56	3205,16	83,56	3288,72
50	3	nad03	21392	83,56	3288,72	83,56	3372,29
51	2	nad02	21392	83,56	3372,29	83,56	3455,85
52	End of Timeline	End of Timeline	21392	83,56			
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	884697		3455,85	0,09	3455,94

H:\scia\timing\timeline_set_01_V30\tl_01_15_02.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	897	Version =	V3.0
DURATION <s>=	2597,97265625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX1 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	End of Timeline	End of Timeline	17551	68,56			
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	664801		2596,88	0,09	2596,97

H:\scia\timing\timeline_set_01_V30\tl_01_16_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	961	Version =	V3.0
DURATION <s>=	3373,37890625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	30	limb03	17551	68,56	2990,42	62,62	3053,04
47	4	nad04	16031	62,62	3053,04	68,56	3121,60
48	3	nad03	17551	68,56	3121,60	83,56	3205,16
49	3	nad03	21392	83,56	3205,16	83,56	3288,72
50	3	nad03	21392	83,56	3288,72	83,56	3372,29
51	End of Timeline	End of Timeline	21392	83,56			
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	863305		3372,29	0,09	3372,38

H:\scia\timing\timeline_set_01_V30\tl_01_16_02.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	961	Version =	V3.0
DURATION <s>=	2529,41406250	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	End of Timeline	End of Timeline	16031	62,62			
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	647250		2528,32	0,09	2528,41

H:\scia\timing\timeline_set_01_V30\tl_01_17_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1025	Version =	V3.0
DURATION <s>=	3289,81640625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	30	limb03	17551	68,56	2990,42	62,62	3053,04
47	4	nad04	16031	62,62	3053,04	68,56	3121,60
48	3	nad03	17551	68,56	3121,60	83,56	3205,16
49	3	nad03	21392	83,56	3205,16	83,56	3288,72
50	End of Timeline	End of Timeline	21392	83,56			
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	841913		3288,72	0,09	3288,82

H:\scia\timing\timeline_set_01_V30\tl_01_17_02.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1025	Version =	V3.0
DURATION <s>=	2466,79296875	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	End of Timeline	End of Timeline	17551	68,56			
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	631219		2465,70	0,09	2465,79

H:\scia\timing\timeline_set_01_V30\tl_01_18_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1089	Version =	V3.0
DURATION <s>=	3206,25390625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	30	limb03	17551	68,56	2990,42	62,62	3053,04
47	4	nad04	16031	62,62	3053,04	68,56	3121,60
48	3	nad03	17551	68,56	3121,60	83,56	3205,16
49	End of Timeline	End of Timeline	21392	83,56			
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	820521		3205,16	0,09	3205,25

H:\scia\timing\timeline_set_01_V30\tl_01_18_02.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1089	Version =	V3.0
DURATION <s>=	2398,23437500	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	End of Timeline	End of Timeline	16031	62,62			
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	613668		2397,14	0,09	2397,23

H:\scia\timing\timeline_set_01_V30\tl_01_19_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1153	Version =	V3.0
DURATION <s>=	3122,69140625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	30	limb03	17551	68,56	2990,42	62,62	3053,04
47	4	nad04	16031	62,62	3053,04	68,56	3121,60
48	End of Timeline	End of Timeline	17551	68,56			
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	799129		3121,60	0,09	3121,69

H:\scia\timing\timeline_set_01_V30\tl_01_19_02.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1153	Version =	V3.0
DURATION <s>=	2335,61328125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	End of Timeline	End of Timeline	17551	68,56			
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	597637		2334,52	0,09	2334,61

H:\scia\timing\timeline_set_01_V30\tl_01_20_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1217	Version =	V3.0
DURATION <s>=	3054,13281250	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	30	limb03	17551	68,56	2990,42	62,62	3053,04
47	End of Timeline	End of Timeline	16031	62,62			
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	781578		3053,04	0,09	3053,13

H:\scia\timing\timeline_set_01_V30\tl_01_21_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1281	Version =	V3.0
DURATION <s>=	2991,51171875	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEOLOC_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	End of Timeline	End of Timeline	17551	68,56			
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	765547		2990,42	0,09	2990,51

H:\scia\timing\timeline_set_01_V30\tl_01_22_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1345	Version =	V3.0
DURATION <s>=	2922,95312500	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEOLOC_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	End of Timeline	End of Timeline	16031	62,62			
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	747996		2921,86	0,09	2921,95

H:\scia\timing\timeline_set_01_V30\tl_01_23_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1409	Version =	V3.0
DURATION <s>=	2860,33203125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	End of Timeline	End of Timeline	17551	68,56			
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	731965		2859,24	0,09	2859,33

H:\scia\timing\timeline_set_01_V30\tl_01_24_01.xls		SOC_end_MOC_beg_limb_nadir_sq1		Table start ID =	1473	Version =	V3.0
DURATION <s>=	2791,77343750	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	End of Timeline	End of Timeline	16031	62,62			
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	714414		2790,68	0,09	2790,77

H:\scia\timing\timeline_set_01_V30\tl_01_25_01.xls		SOC_end_sub_beg_limb_nadir_sq1		Table start ID =	1537	Version =	V3.0
DURATION <s>=	1810,89453125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	End of Timeline	End of Timeline	17551	68,56			
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	463309		1809,80	0,09	1809,89

H:\scia\timing\timeline_set_01_V30\tl_01_26_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1601	Version =	V3.0
DURATION <s>=	1797,87890625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	4	nad04	16031	62,62	1143,29	68,56	1211,85
20	3	nad03	17551	68,56	1211,85	83,56	1295,41
21	3	nad03	21392	83,56	1295,41	83,56	1378,97
22	3	nad03	21392	83,56	1378,97	83,56	1462,54
23	2	nad02	21392	83,56	1462,54	83,56	1546,10
24	1	nad01	21392	83,56	1546,10	83,56	1629,66
25	1	nad01	21392	83,56	1629,66	83,56	1713,22
26	1	nad01	21392	83,56	1713,22	83,56	1796,79
27	End of Timeline	End of Timeline	21392	83,56			
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
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42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
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54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	459977		1796,79	0,09	1796,88

H:\scia\timing\timeline_set_01_V30\tl_01_26_02.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1601	Version =	V3.0
DURATION <s>=	882,02343750	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	End of Timeline	End of Timeline	16031	62,62			
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
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36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
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39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
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42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
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53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	225518		880,93	0,09	881,02

H:\scia\timing\timeline_set_01_V30\tl_01_27_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1665	Version =	V3.0
DURATION <s>=	1714,31640625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	4	nad04	16031	62,62	1143,29	68,56	1211,85
20	3	nad03	17551	68,56	1211,85	83,56	1295,41
21	3	nad03	21392	83,56	1295,41	83,56	1378,97
22	3	nad03	21392	83,56	1378,97	83,56	1462,54
23	2	nad02	21392	83,56	1462,54	83,56	1546,10
24	1	nad01	21392	83,56	1546,10	83,56	1629,66
25	1	nad01	21392	83,56	1629,66	83,56	1713,22
26	End of Timeline	End of Timeline	21392	83,56			
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	438585		1713,22	0,09	1713,32

H:\scia\timing\timeline_set_01_V30\tl_01_27_02.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1665	Version =	V3.0
DURATION <s>=	819,40234375	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	End of Timeline	End of Timeline	17551	68,56			
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
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55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	209487		818,31	0,09	818,40

H:\scia\timing\timeline_set_01_V30\tl_01_28_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1729	Version =	V3.0
DURATION <s>=	1630,75390625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	4	nad04	16031	62,62	1143,29	68,56	1211,85
20	3	nad03	17551	68,56	1211,85	83,56	1295,41
21	3	nad03	21392	83,56	1295,41	83,56	1378,97
22	3	nad03	21392	83,56	1378,97	83,56	1462,54
23	2	nad02	21392	83,56	1462,54	83,56	1546,10
24	1	nad01	21392	83,56	1546,10	83,56	1629,66
25	End of Timeline	End of Timeline	21392	83,56			
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
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54	End of Timeline	End of Timeline	0				
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56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	417193		1629,66	0,09	1629,75

H:\scia\timing\timeline_set_01_V30\tl_01_28_02.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1729	Version =	V3.0
DURATION <s>=	750,84375000	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	End of Timeline	End of Timeline	16031	62,62			
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
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39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
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56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	191936		749,75	0,09	749,84

H:\scia\timing\timeline_set_01_V30\tl_01_29_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1793	Version =	V3.0
DURATION <s>=	1547,19140625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	4	nad04	16031	62,62	1143,29	68,56	1211,85
20	3	nad03	17551	68,56	1211,85	83,56	1295,41
21	3	nad03	21392	83,56	1295,41	83,56	1378,97
22	3	nad03	21392	83,56	1378,97	83,56	1462,54
23	2	nad02	21392	83,56	1462,54	83,56	1546,10
24	End of Timeline	End of Timeline	21392	83,56			
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
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39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
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42	End of Timeline	End of Timeline	0				
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44	End of Timeline	End of Timeline	0				
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51	End of Timeline	End of Timeline	0				
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54	End of Timeline	End of Timeline	0				
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56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	395801		1546,10	0,09	1546,19

H:\scia\timing\timeline_set_01_V30\tl_01_29_02.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1793	Version =	V3.0
DURATION <s>=	688,22265625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	End of Timeline	End of Timeline	17551	68,56			
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
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41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
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52	End of Timeline	End of Timeline	0				
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60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	175905		687,13	0,09	687,22

H:\scia\timing\timeline_set_01_V30\tl_01_30_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1857	Version =	V3.0
DURATION <s>=	1463,62890625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	4	nad04	16031	62,62	1143,29	68,56	1211,85
20	3	nad03	17551	68,56	1211,85	83,56	1295,41
21	3	nad03	21392	83,56	1295,41	83,56	1378,97
22	3	nad03	21392	83,56	1378,97	83,56	1462,54
23	End of Timeline	End of Timeline	21392	83,56			
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
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32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
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39	End of Timeline	End of Timeline	0				
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42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
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57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	374409		1462,54	0,09	1462,63

H:\scia\timing\timeline_set_01_V30\tl_01_30_02.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1857	Version =	V3.0
DURATION <s>=	619,66406250	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	End of Timeline	End of Timeline	16031	62,62			
12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
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61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	158354		618,57	0,09	618,66

H:\scia\timing\timeline_set_01_V30\tl_01_31_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1921	Version =	V3.0
DURATION <s>=	1380,06640625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	4	nad04	16031	62,62	1143,29	68,56	1211,85
20	3	nad03	17551	68,56	1211,85	83,56	1295,41
21	3	nad03	21392	83,56	1295,41	83,56	1378,97
22	End of Timeline	End of Timeline	21392	83,56			
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
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44	End of Timeline	End of Timeline	0				
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61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	353017		1378,97	0,09	1379,07

H:\scia\timing\timeline_set_01_V30\tl_01_31_02.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1921	Version =	V3.0
DURATION <s>=	557,04296875	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	End of Timeline	End of Timeline	17551	68,56			
11	End of Timeline	End of Timeline	0				
12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	142323		555,95	0,09	556,04

H:\scia\timing\timeline_set_01_V30\tl_01_32_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1985	Version =	V3.0
DURATION <s>=	1296,50390625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	4	nad04	16031	62,62	1143,29	68,56	1211,85
20	3	nad03	17551	68,56	1211,85	83,56	1295,41
21	End of Timeline	End of Timeline	21392	83,56			
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	331625		1295,41	0,09	1295,50

H:\scia\timing\timeline_set_01_V30\tl_01_32_02.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	1985	Version =	V3.0
DURATION <s>=	488,48437500	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	End of Timeline	End of Timeline	16031	62,62			
10	End of Timeline	End of Timeline	0				
11	End of Timeline	End of Timeline	0				
12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
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16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	124772		487,39	0,09	487,48

H:\scia\timing\timeline_set_01_V30\tl_01_33_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	2049	Version =	V3.0
DURATION <s>=	1212,94140625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	4	nad04	16031	62,62	1143,29	68,56	1211,85
20	End of Timeline	End of Timeline	17551	68,56			
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
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50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	310233		1211,85	0,09	1211,94

H:\scia\timing\timeline_set_01_V30\tl_01_34_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	2113	Version =	V3.0
DURATION <s>=	1144,38281250	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	End of Timeline	End of Timeline	16031	62,62			
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
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29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
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44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
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61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	292682		1143,29	0,09	1143,38

H:\scia\timing\timeline_set_01_V30\tl_01_35_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	2177	Version =	V3.0
DURATION <s>=	1081,76171875	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	End of Timeline	End of Timeline	17551	68,56			
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
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25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
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48	End of Timeline	End of Timeline	0				
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59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	276651		1080,67	0,09	1080,76

H:\scia\timing\timeline_set_01_V30\tl_01_36_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	2241	Version =	V3.0
DURATION <s>=	1013,20312500	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)		Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	End of Timeline	End of Timeline	16031	62,62			
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
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36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
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39	End of Timeline	End of Timeline	0				
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42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
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54	End of Timeline	End of Timeline	0				
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57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	259100		1012,11	0,09	1012,20

H:\scia\timing\timeline_set_01_V30\tl_01_37_01.xls		sub_beg_MOC_beg_limb_nadir_sq1		Table start ID =	2305	Version =	V3.0
DURATION <s>=	950,58203125	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	End of Timeline	End of Timeline	17551	68,56			
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
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27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
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46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	243069		949,49	0,09	949,58

H:\scia\timing\timeline_set_01_V30\tl_01_38_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2369	Version =	V3.0
DURATION <s>=	87,42578125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	1	nad01	709	2,77	2,77	83,56	86,33
2	End of Timeline	End of Timeline	21392	83,56			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
5	End of Timeline	End of Timeline	0				
6	End of Timeline	End of Timeline	0				
7	End of Timeline	End of Timeline	0				
8	End of Timeline	End of Timeline	0				
9	End of Timeline	End of Timeline	0				
10	End of Timeline	End of Timeline	0				
11	End of Timeline	End of Timeline	0				
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13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
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17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
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25	End of Timeline	End of Timeline	0				
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28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
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37	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	22101		86,33	0,09	86,43

H:\scia\timing\timeline_set_01_V30\tl_01_38_02.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2369	Version =	V3.0
DURATION <s>=	1039,22656250	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	5	nad05	709	2,77	2,77	68,56	71,33
2	30	limb03	17551	68,56	71,33	62,62	133,95
3	4	nad04	16031	62,62	133,95	68,56	202,51
4	3	nad03	17551	68,56	202,51	83,56	286,07
5	3	nad03	21392	83,56	286,07	83,56	369,63
6	2	nad02	21392	83,56	369,63	83,56	453,20
7	2	nad02	21392	83,56	453,20	83,56	536,76
8	1	nad01	21392	83,56	536,76	83,56	620,32
9	1	nad01	21392	83,56	620,32	83,56	703,88
10	1	nad01	21392	83,56	703,88	83,56	787,45
11	1	nad01	21392	83,56	787,45	83,56	871,01
12	1	nad01	21392	83,56	871,01	83,56	954,57
13	1	nad01	21392	83,56	954,57	83,56	1038,13
14	End of Timeline	End of Timeline	21392	83,56			
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	265762		1038,13	0,09	1038,23

H:\scia\timing\timeline_set_01_V30\tl_01_39_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2433	Version =	V3.0
DURATION <s>=	170,98828125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	1	nad01	709	2,77	2,77	83,56	86,33
2	1	nad01	21392	83,56	86,33	83,56	169,89
3	End of Timeline	End of Timeline	21392	83,56			
4	End of Timeline	End of Timeline	0				
5	End of Timeline	End of Timeline	0				
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64	End of Timeline	End of Timeline	0				
		T/L Cleanup	43493		169,89	0,09	169,99

H:\scia\timing\timeline_set_01_V30\tl_01_39_02.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2433	Version =	V3.0
DURATION <s>=	1101,84765625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	30	limb03	709	2,77	2,77	62,62	65,39
2	5	nad05	16031	62,62	65,39	68,56	133,95
3	30	limb03	17551	68,56	133,95	62,62	196,57
4	4	nad04	16031	62,62	196,57	68,56	265,13
5	3	nad03	17551	68,56	265,13	83,56	348,69
6	3	nad03	21392	83,56	348,69	83,56	432,25
7	2	nad02	21392	83,56	432,25	83,56	515,82
8	2	nad02	21392	83,56	515,82	83,56	599,38
9	1	nad01	21392	83,56	599,38	83,56	682,94
10	1	nad01	21392	83,56	682,94	83,56	766,50
11	1	nad01	21392	83,56	766,50	83,56	850,07
12	1	nad01	21392	83,56	850,07	83,56	933,63
13	1	nad01	21392	83,56	933,63	83,56	1017,19
14	1	nad01	21392	83,56	1017,19	83,56	1100,75
15	End of Timeline	End of Timeline	21392	83,56			
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
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63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	281793		1100,75	0,09	1100,85

H:\scia\timing\timeline_set_01_V30\tl_01_40_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2497	Version =	V3.0
DURATION <s>=	254,55078125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	1	nad01	709	2,77	2,77	83,56	86,33
2	1	nad01	21392	83,56	86,33	83,56	169,89
3	1	nad01	21392	83,56	169,89	83,56	253,46
4	End of Timeline	End of Timeline	21392	83,56			
5	End of Timeline	End of Timeline	0				
6	End of Timeline	End of Timeline	0				
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64	End of Timeline	End of Timeline	0				
		T/L Cleanup	64885		253,46	0,09	253,55

H:\scia\timing\timeline_set_01_V30\tl_01_40_02.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2497	Version =	V3.0
DURATION <s>=	1170,40625000	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	5	nad05	709	2,77	2,77	68,56	71,33
2	30	limb03	17551	68,56	71,33	62,62	133,95
3	5	nad05	16031	62,62	133,95	68,56	202,51
4	30	limb03	17551	68,56	202,51	62,62	265,13
5	4	nad04	16031	62,62	265,13	68,56	333,69
6	3	nad03	17551	68,56	333,69	83,56	417,25
7	3	nad03	21392	83,56	417,25	83,56	500,81
8	2	nad02	21392	83,56	500,81	83,56	584,38
9	2	nad02	21392	83,56	584,38	83,56	667,94
10	1	nad01	21392	83,56	667,94	83,56	751,50
11	1	nad01	21392	83,56	751,50	83,56	835,06
12	1	nad01	21392	83,56	835,06	83,56	918,63
13	1	nad01	21392	83,56	918,63	83,56	1002,19
14	1	nad01	21392	83,56	1002,19	83,56	1085,75
15	1	nad01	21392	83,56	1085,75	83,56	1169,31
16	End of Timeline	End of Timeline	21392	83,56			
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
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64	End of Timeline	End of Timeline	0				
		T/L Cleanup	299344		1169,31	0,09	1169,41

H:\scia\timing\timeline_set_01_V30\tl_01_41_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2561	Version =	V3.0
DURATION <s>=	338,11328125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	1	nad01	709	2,77	2,77	83,56	86,33
2	1	nad01	21392	83,56	86,33	83,56	169,89
3	1	nad01	21392	83,56	169,89	83,56	253,46
4	1	nad01	21392	83,56	253,46	83,56	337,02
5	End of Timeline	End of Timeline	21392	83,56			
6	End of Timeline	End of Timeline	0				
7	End of Timeline	End of Timeline	0				
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64	End of Timeline	End of Timeline	0				
		T/L Cleanup	86277		337,02	0,09	337,11

H:\scia\timing\timeline_set_01_V30\tl_01_41_02.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2561	Version =	V3.0
DURATION <s>=	1233,02734375	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	31	limb04	709	2,77	2,77	62,62	65,39
2	5	nad05	16031	62,62	65,39	68,56	133,95
3	30	limb03	17551	68,56	133,95	62,62	196,57
4	5	nad05	16031	62,62	196,57	68,56	265,13
5	30	limb03	17551	68,56	265,13	62,62	327,75
6	4	nad04	16031	62,62	327,75	68,56	396,31
7	3	nad03	17551	68,56	396,31	83,56	479,87
8	3	nad03	21392	83,56	479,87	83,56	563,43
9	2	nad02	21392	83,56	563,43	83,56	647,00
10	2	nad02	21392	83,56	647,00	83,56	730,56
11	1	nad01	21392	83,56	730,56	83,56	814,12
12	1	nad01	21392	83,56	814,12	83,56	897,68
13	1	nad01	21392	83,56	897,68	83,56	981,25
14	1	nad01	21392	83,56	981,25	83,56	1064,81
15	1	nad01	21392	83,56	1064,81	83,56	1148,37
16	1	nad01	21392	83,56	1148,37	83,56	1231,93
17	End of Timeline	End of Timeline	21392	83,56			
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	315375		1231,93	0,09	1232,03

H:\scia\timing\timeline_set_01_V30\tl_01_42_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2625	Version =	V3.0
DURATION <s>=	421,67578125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	1	nad01	709	2,77	2,77	83,56	86,33
2	1	nad01	21392	83,56	86,33	83,56	169,89
3	1	nad01	21392	83,56	169,89	83,56	253,46
4	1	nad01	21392	83,56	253,46	83,56	337,02
5	1	nad01	21392	83,56	337,02	83,56	420,58
6	End of Timeline	End of Timeline	21392	83,56			
7	End of Timeline	End of Timeline	0				
8	End of Timeline	End of Timeline	0				
9	End of Timeline	End of Timeline	0				
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63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	107669		420,58	0,09	420,68

H:\scia\timing\timeline_set_01_V30\tl_01_42_02.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2625	Version =	V3.0
DURATION <s>=	1301,58593750	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	6	nad06	709	2,77	2,77	68,56	71,33
2	31	limb04	17551	68,56	71,33	62,62	133,95
3	5	nad05	16031	62,62	133,95	68,56	202,51
4	30	limb03	17551	68,56	202,51	62,62	265,13
5	5	nad05	16031	62,62	265,13	68,56	333,69
6	30	limb03	17551	68,56	333,69	62,62	396,31
7	4	nad04	16031	62,62	396,31	68,56	464,87
8	3	nad03	17551	68,56	464,87	83,56	548,43
9	3	nad03	21392	83,56	548,43	83,56	631,99
10	2	nad02	21392	83,56	631,99	83,56	715,55
11	2	nad02	21392	83,56	715,55	83,56	799,12
12	1	nad01	21392	83,56	799,12	83,56	882,68
13	1	nad01	21392	83,56	882,68	83,56	966,24
14	1	nad01	21392	83,56	966,24	83,56	1049,80
15	1	nad01	21392	83,56	1049,80	83,56	1133,37
16	1	nad01	21392	83,56	1133,37	83,56	1216,93
17	1	nad01	21392	83,56	1216,93	83,56	1300,49
18	End of Timeline	End of Timeline	21392	83,56			
19	End of Timeline	End of Timeline	0				
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63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	332926		1300,49	0,09	1300,59

H:\scia\timing\timeline_set_01_V30\tl_01_43_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2689	Version =	V3.0
DURATION <s>=	505,23828125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	1	nad01	709	2,77	2,77	83,56	86,33
2	1	nad01	21392	83,56	86,33	83,56	169,89
3	1	nad01	21392	83,56	169,89	83,56	253,46
4	1	nad01	21392	83,56	253,46	83,56	337,02
5	1	nad01	21392	83,56	337,02	83,56	420,58
6	1	nad01	21392	83,56	420,58	83,56	504,14
7	End of Timeline	End of Timeline	21392	83,56			
8	End of Timeline	End of Timeline	0				
9	End of Timeline	End of Timeline	0				
10	End of Timeline	End of Timeline	0				
11	End of Timeline	End of Timeline	0				
12	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	129061		504,14	0,09	504,24

H:\scia\timing\timeline_set_01_V30\tl_01_44_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2753	Version =	V3.0
DURATION <s>=	588,80078125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	2	nad02	709	2,77	2,77	83,56	86,33
2	1	nad01	21392	83,56	86,33	83,56	169,89
3	1	nad01	21392	83,56	169,89	83,56	253,46
4	1	nad01	21392	83,56	253,46	83,56	337,02
5	1	nad01	21392	83,56	337,02	83,56	420,58
6	1	nad01	21392	83,56	420,58	83,56	504,14
7	1	nad01	21392	83,56	504,14	83,56	587,71
8	End of Timeline	End of Timeline	21392	83,56			
9	End of Timeline	End of Timeline	0				
10	End of Timeline	End of Timeline	0				
11	End of Timeline	End of Timeline	0				
12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
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63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	150453		587,71	0,09	587,80

H:\scia\timing\timeline_set_01_V30\tl_01_45_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2817	Version =	V3.0
DURATION <s>=	672,36328125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	2	nad02	709	2,77	2,77	83,56	86,33
2	2	nad02	21392	83,56	86,33	83,56	169,89
3	1	nad01	21392	83,56	169,89	83,56	253,46
4	1	nad01	21392	83,56	253,46	83,56	337,02
5	1	nad01	21392	83,56	337,02	83,56	420,58
6	1	nad01	21392	83,56	420,58	83,56	504,14
7	1	nad01	21392	83,56	504,14	83,56	587,71
8	1	nad01	21392	83,56	587,71	83,56	671,27
9	End of Timeline	End of Timeline	21392	83,56			
10	End of Timeline	End of Timeline	0				
11	End of Timeline	End of Timeline	0				
12	End of Timeline	End of Timeline	0				
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16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
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19	End of Timeline	End of Timeline	0				
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27	End of Timeline	End of Timeline	0				
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39	End of Timeline	End of Timeline	0				
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41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
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54	End of Timeline	End of Timeline	0				
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57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
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60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	171845		671,27	0,09	671,36

H:\scia\timing\timeline_set_01_V30\tl_01_46_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2881	Version =	V3.0
DURATION <s>=	755,92578125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	3	nad03	709	2,77	2,77	83,56	86,33
2	2	nad02	21392	83,56	86,33	83,56	169,89
3	2	nad02	21392	83,56	169,89	83,56	253,46
4	1	nad01	21392	83,56	253,46	83,56	337,02
5	1	nad01	21392	83,56	337,02	83,56	420,58
6	1	nad01	21392	83,56	420,58	83,56	504,14
7	1	nad01	21392	83,56	504,14	83,56	587,71
8	1	nad01	21392	83,56	587,71	83,56	671,27
9	1	nad01	21392	83,56	671,27	83,56	754,83
10	End of Timeline	End of Timeline	21392	83,56			
11	End of Timeline	End of Timeline	0				
12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
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17	End of Timeline	End of Timeline	0				
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19	End of Timeline	End of Timeline	0				
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21	End of Timeline	End of Timeline	0				
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25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
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51	End of Timeline	End of Timeline	0				
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59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	193237		754,83	0,09	754,93

H:\scia\timing\timeline_set_01_V30\tl_01_47_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	2945	Version =	V3.0
DURATION <s>=	839,48828125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	3	nad03	709	2,77	2,77	83,56	86,33
2	3	nad03	21392	83,56	86,33	83,56	169,89
3	2	nad02	21392	83,56	169,89	83,56	253,46
4	2	nad02	21392	83,56	253,46	83,56	337,02
5	1	nad01	21392	83,56	337,02	83,56	420,58
6	1	nad01	21392	83,56	420,58	83,56	504,14
7	1	nad01	21392	83,56	504,14	83,56	587,71
8	1	nad01	21392	83,56	587,71	83,56	671,27
9	1	nad01	21392	83,56	671,27	83,56	754,83
10	1	nad01	21392	83,56	754,83	83,56	838,39
11	End of Timeline	End of Timeline	21392	83,56			
12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
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22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
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27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
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39	End of Timeline	End of Timeline	0				
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42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
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48	End of Timeline	End of Timeline	0				
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59	End of Timeline	End of Timeline	0				
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61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	214629		838,39	0,09	838,49

H:\scia\timing\timeline_set_01_V30\tl_01_48_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	3009	Version =	V3.0
DURATION <s>=	908,04687500	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	4	nad04	709	2,77	2,77	68,56	71,33
2	3	nad03	17551	68,56	71,33	83,56	154,89
3	3	nad03	21392	83,56	154,89	83,56	238,45
4	2	nad02	21392	83,56	238,45	83,56	322,02
5	2	nad02	21392	83,56	322,02	83,56	405,58
6	1	nad01	21392	83,56	405,58	83,56	489,14
7	1	nad01	21392	83,56	489,14	83,56	572,70
8	1	nad01	21392	83,56	572,70	83,56	656,27
9	1	nad01	21392	83,56	656,27	83,56	739,83
10	1	nad01	21392	83,56	739,83	83,56	823,39
11	1	nad01	21392	83,56	823,39	83,56	906,95
12	End of Timeline	End of Timeline	21392	83,56			
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
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25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
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34	End of Timeline	End of Timeline	0				
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46	End of Timeline	End of Timeline	0				
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57	End of Timeline	End of Timeline	0				
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59	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	232180		906,95	0,09	907,05

H:\scia\timing\timeline_set_01_V30\tl_01_49_01.xls		MOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	3073	Version =	V3.0
DURATION <s>=	970,66796875	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	30	limb03	709	2,77	2,77	62,62	65,39
2	4	nad04	16031	62,62	65,39	68,56	133,95
3	3	nad03	17551	68,56	133,95	83,56	217,51
4	3	nad03	21392	83,56	217,51	83,56	301,07
5	2	nad02	21392	83,56	301,07	83,56	384,64
6	2	nad02	21392	83,56	384,64	83,56	468,20
7	1	nad01	21392	83,56	468,20	83,56	551,76
8	1	nad01	21392	83,56	551,76	83,56	635,32
9	1	nad01	21392	83,56	635,32	83,56	718,89
10	1	nad01	21392	83,56	718,89	83,56	802,45
11	1	nad01	21392	83,56	802,45	83,56	886,01
12	1	nad01	21392	83,56	886,01	83,56	969,57
13	End of Timeline	End of Timeline	21392	83,56			
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
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25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
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42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
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49	End of Timeline	End of Timeline	0				
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57	End of Timeline	End of Timeline	0				
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61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	248211		969,57	0,09	969,67

H:\scia\timing\timeline_set_01_V30\tl_01_50_01.xls		SOC_end_ecl_beg_limb_nadir_sq1		Table start ID =	3137	Version =	V3.0
DURATION <s>=	3874,75390625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	1	nad01	16031	62,62	253,25	83,56	336,82
6	30	limb03	21392	83,56	336,82	62,62	399,44
7	2	nad02	16031	62,62	399,44	83,56	483,00
8	30	limb03	21392	83,56	483,00	62,62	545,62
9	3	nad03	16031	62,62	545,62	83,56	629,18
10	31	limb04	21392	83,56	629,18	62,62	691,80
11	4	nad04	16031	62,62	691,80	68,56	760,36
12	32	limb05	17551	68,56	760,36	62,62	822,98
13	5	nad05	16031	62,62	822,98	68,56	891,54
14	32	limb05	17551	68,56	891,54	62,62	954,16
15	6	nad06	16031	62,62	954,16	68,56	1022,72
16	32	limb05	17551	68,56	1022,72	62,62	1085,34
17	6	nad06	16031	62,62	1085,34	68,56	1153,90
18	32	limb05	17551	68,56	1153,90	62,62	1216,52
19	6	nad06	16031	62,62	1216,52	68,56	1285,08
20	32	limb05	17551	68,56	1285,08	62,62	1347,70
21	6	nad06	16031	62,62	1347,70	68,56	1416,26
22	32	limb05	17551	68,56	1416,26	62,62	1478,88
23	6	nad06	16031	62,62	1478,88	68,56	1547,44
24	32	limb05	17551	68,56	1547,44	62,62	1610,06
25	7	nad07	16031	62,62	1610,06	68,56	1678,62
26	32	limb05	17551	68,56	1678,62	62,62	1741,24
27	7	nad07	16031	62,62	1741,24	68,56	1809,80
28	32	limb05	17551	68,56	1809,80	62,62	1872,42
29	7	nad07	16031	62,62	1872,42	68,56	1940,98
30	32	limb05	17551	68,56	1940,98	62,62	2003,60
31	7	nad07	16031	62,62	2003,60	68,56	2072,16
32	32	limb05	17551	68,56	2072,16	62,62	2134,78
33	7	nad07	16031	62,62	2134,78	68,56	2203,34
34	32	limb05	17551	68,56	2203,34	62,62	2265,96
35	6	nad06	16031	62,62	2265,96	68,56	2334,52
36	32	limb05	17551	68,56	2334,52	62,62	2397,14
37	6	nad06	16031	62,62	2397,14	68,56	2465,70
38	31	limb04	17551	68,56	2465,70	62,62	2528,32
39	6	nad06	16031	62,62	2528,32	68,56	2596,88
40	31	limb04	17551	68,56	2596,88	62,62	2659,50
41	6	nad06	16031	62,62	2659,50	68,56	2728,06
42	31	limb04	17551	68,56	2728,06	62,62	2790,68
43	5	nad05	16031	62,62	2790,68	68,56	2859,24
44	30	limb03	17551	68,56	2859,24	62,62	2921,86
45	5	nad05	16031	62,62	2921,86	68,56	2990,42
46	30	limb03	17551	68,56	2990,42	62,62	3053,04
47	4	nad04	16031	62,62	3053,04	68,56	3121,60
48	3	nad03	17551	68,56	3121,60	83,56	3205,16
49	3	nad03	21392	83,56	3205,16	83,56	3288,72
50	2	nad02	21392	83,56	3288,72	83,56	3372,29
51	2	nad02	21392	83,56	3372,29	83,56	3455,85
52	1	nad01	21392	83,56	3455,85	83,56	3539,41
53	1	nad01	21392	83,56	3539,41	83,56	3622,97
54	1	nad01	21392	83,56	3622,97	83,56	3706,54
55	1	nad01	21392	83,56	3706,54	83,56	3790,10
56	1	nad01	21392	83,56	3790,10	83,56	3873,66
57	End of Timeline	End of Timeline	21392	83,56			
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	991657		3873,66	0,09	3873,75

H:\scia\timing\timeline_set_01_V30\tl_01_51_01.xls		sub_beg_ecl_beg_limb_nadir_sq1		Table start ID =	3201	Version =	V3.0
DURATION <s>=	2048,56640625	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	32	limb05	17551	68,56	293,59	62,62	356,21
7	6	nad06	16031	62,62	356,21	68,56	424,77
8	32	limb05	17551	68,56	424,77	62,62	487,39
9	6	nad06	16031	62,62	487,39	68,56	555,95
10	31	limb04	17551	68,56	555,95	62,62	618,57
11	6	nad06	16031	62,62	618,57	68,56	687,13
12	31	limb04	17551	68,56	687,13	62,62	749,75
13	6	nad06	16031	62,62	749,75	68,56	818,31
14	31	limb04	17551	68,56	818,31	62,62	880,93
15	5	nad05	16031	62,62	880,93	68,56	949,49
16	30	limb03	17551	68,56	949,49	62,62	1012,11
17	5	nad05	16031	62,62	1012,11	68,56	1080,67
18	30	limb03	17551	68,56	1080,67	62,62	1143,29
19	4	nad04	16031	62,62	1143,29	68,56	1211,85
20	3	nad03	17551	68,56	1211,85	83,56	1295,41
21	3	nad03	21392	83,56	1295,41	83,56	1378,97
22	2	nad02	21392	83,56	1378,97	83,56	1462,54
23	2	nad02	21392	83,56	1462,54	83,56	1546,10
24	1	nad01	21392	83,56	1546,10	83,56	1629,66
25	1	nad01	21392	83,56	1629,66	83,56	1713,22
26	1	nad01	21392	83,56	1713,22	83,56	1796,79
27	1	nad01	21392	83,56	1796,79	83,56	1880,35
28	1	nad01	21392	83,56	1880,35	83,56	1963,91
29	1	nad01	21392	83,56	1963,91	83,56	2047,47
30	End of Timeline	End of Timeline	21392	83,56			
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	524153		2047,47	0,09	2047,57

H:\scia\timing\timeline_set_01_V30\tl_01_52_01.xls		SOC_end_sub_beg_limb_nadir_sq2		Table start ID =	3265	Version =	V3.0
DURATION <s>=	1763,27734375	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	1	nad01	16031	62,62	190,63	83,56	274,20
5	30	limb03	21392	83,56	274,20	62,62	336,82
6	1	nad01	16031	62,62	336,82	83,56	420,38
7	30	limb03	21392	83,56	420,38	62,62	483,00
8	2	nad02	16031	62,62	483,00	83,56	566,56
9	30	limb03	21392	83,56	566,56	62,62	629,18
10	3	nad03	16031	62,62	629,18	83,56	712,75
11	31	limb04	21392	83,56	712,75	62,62	775,37
12	4	nad04	16031	62,62	775,37	68,56	843,93
13	32	limb05	17551	68,56	843,93	62,62	906,55
14	5	nad05	16031	62,62	906,55	68,56	975,11
15	32	limb05	17551	68,56	975,11	62,62	1037,73
16	6	nad06	16031	62,62	1037,73	68,56	1106,29
17	32	limb05	17551	68,56	1106,29	62,62	1168,91
18	6	nad06	16031	62,62	1168,91	68,56	1237,46
19	32	limb05	17551	68,56	1237,46	62,62	1300,09
20	6	nad06	16031	62,62	1300,09	68,56	1368,64
21	32	limb05	17551	68,56	1368,64	62,62	1431,27
22	6	nad06	16031	62,62	1431,27	68,56	1499,82
23	32	limb05	17551	68,56	1499,82	62,62	1562,45
24	6	nad06	16031	62,62	1562,45	68,56	1631,00
25	32	limb05	17551	68,56	1631,00	62,62	1693,63
26	7	nad07	16031	62,62	1693,63	68,56	1762,18
27	End of Timeline	End of Timeline	17551	68,56			
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	451119		1762,18	0,09	1762,28

H:\scia\timing\timeline_set_01_V30\tl_01_53_01.xls		SOC_end_ecl_beg_limb_nadir_sq2		Table start ID =	3329	Version =	V3.0
DURATION <s>=	3874,75390625	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, sec)	State TT (relative, ct)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	1	nad01	16031	62,62	190,63	83,56	274,20
5	30	limb03	21392	83,56	274,20	62,62	336,82
6	1	nad01	16031	62,62	336,82	83,56	420,38
7	30	limb03	21392	83,56	420,38	62,62	483,00
8	2	nad02	16031	62,62	483,00	83,56	566,56
9	30	limb03	21392	83,56	566,56	62,62	629,18
10	3	nad03	16031	62,62	629,18	83,56	712,75
11	31	limb04	21392	83,56	712,75	62,62	775,37
12	4	nad04	16031	62,62	775,37	68,56	843,93
13	32	limb05	17551	68,56	843,93	62,62	906,55
14	5	nad05	16031	62,62	906,55	68,56	975,11
15	32	limb05	17551	68,56	975,11	62,62	1037,73
16	6	nad06	16031	62,62	1037,73	68,56	1106,29
17	32	limb05	17551	68,56	1106,29	62,62	1168,91
18	6	nad06	16031	62,62	1168,91	68,56	1237,46
19	32	limb05	17551	68,56	1237,46	62,62	1300,09
20	6	nad06	16031	62,62	1300,09	68,56	1368,64
21	32	limb05	17551	68,56	1368,64	62,62	1431,27
22	6	nad06	16031	62,62	1431,27	68,56	1499,82
23	32	limb05	17551	68,56	1499,82	62,62	1562,45
24	6	nad06	16031	62,62	1562,45	68,56	1631,00
25	32	limb05	17551	68,56	1631,00	62,62	1693,63
26	7	nad07	16031	62,62	1693,63	68,56	1762,18
27	32	limb05	17551	68,56	1762,18	62,62	1824,80
28	7	nad07	16031	62,62	1824,80	68,56	1893,36
29	32	limb05	17551	68,56	1893,36	62,62	1955,98
30	7	nad07	16031	62,62	1955,98	68,56	2024,54
31	32	limb05	17551	68,56	2024,54	62,62	2087,16
32	7	nad07	16031	62,62	2087,16	68,56	2155,72
33	32	limb05	17551	68,56	2155,72	62,62	2218,34
34	7	nad07	16031	62,62	2218,34	68,56	2286,90
35	32	limb05	17551	68,56	2286,90	62,62	2349,52
36	6	nad06	16031	62,62	2349,52	68,56	2418,08
37	32	limb05	17551	68,56	2418,08	62,62	2480,70
38	6	nad06	16031	62,62	2480,70	68,56	2549,26
39	31	limb04	17551	68,56	2549,26	62,62	2611,88
40	6	nad06	16031	62,62	2611,88	68,56	2680,44
41	31	limb04	17551	68,56	2680,44	62,62	2743,06
42	6	nad06	16031	62,62	2743,06	68,56	2811,62
43	31	limb04	17551	68,56	2811,62	62,62	2874,24
44	5	nad05	16031	62,62	2874,24	68,56	2942,80
45	30	limb03	17551	68,56	2942,80	62,62	3005,42
46	5	nad05	16031	62,62	3005,42	68,56	3073,98
47	30	limb03	17551	68,56	3073,98	62,62	3136,60
48	4	nad04	16031	62,62	3136,60	68,56	3205,16
49	3	nad03	17551	68,56	3205,16	83,56	3288,72
50	3	nad03	21392	83,56	3288,72	83,56	3372,29
51	2	nad02	21392	83,56	3372,29	83,56	3455,85
52	2	nad02	21392	83,56	3455,85	83,56	3539,41
53	1	nad01	21392	83,56	3539,41	83,56	3622,97
54	1	nad01	21392	83,56	3622,97	83,56	3706,54
55	1	nad01	21392	83,56	3706,54	83,56	3790,10
56	1	nad01	21392	83,56	3790,10	83,56	3873,66
57	End of Timeline	End of Timeline	21392	83,56			
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	991657		3873,66	0,09	3873,75

H:\scia\timing\timeline_set_01_V30\tl_01_54_01.xls		sub_beg_ecl_beg_limb_nadir_sq2		Table start ID =	3393	Version =	V3.0
DURATION <s>=	2033,56250000	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	7	nad07	7286	28,46	31,23	68,56	99,79
3	32	limb05	17551	68,56	99,79	62,62	162,41
4	7	nad07	16031	62,62	162,41	68,56	230,97
5	32	limb05	17551	68,56	230,97	62,62	293,59
6	7	nad07	16031	62,62	293,59	68,56	362,15
7	32	limb05	17551	68,56	362,15	62,62	424,77
8	6	nad06	16031	62,62	424,77	68,56	493,33
9	32	limb05	17551	68,56	493,33	62,62	555,95
10	6	nad06	16031	62,62	555,95	68,56	624,51
11	31	limb04	17551	68,56	624,51	62,62	687,13
12	6	nad06	16031	62,62	687,13	68,56	755,69
13	31	limb04	17551	68,56	755,69	62,62	818,31
14	6	nad06	16031	62,62	818,31	68,56	886,87
15	31	limb04	17551	68,56	886,87	62,62	949,49
16	5	nad05	16031	62,62	949,49	68,56	1018,05
17	30	limb03	17551	68,56	1018,05	62,62	1080,67
18	5	nad05	16031	62,62	1080,67	68,56	1149,23
19	30	limb03	17551	68,56	1149,23	62,62	1211,85
20	4	nad04	16031	62,62	1211,85	68,56	1280,41
21	3	nad03	17551	68,56	1280,41	83,56	1363,97
22	3	nad03	21392	83,56	1363,97	83,56	1447,53
23	2	nad02	21392	83,56	1447,53	83,56	1531,09
24	2	nad02	21392	83,56	1531,09	83,56	1614,66
25	1	nad01	21392	83,56	1614,66	83,56	1698,22
26	1	nad01	21392	83,56	1698,22	83,56	1781,78
27	1	nad01	21392	83,56	1781,78	83,56	1865,34
28	1	nad01	21392	83,56	1865,34	83,56	1948,91
29	1	nad01	21392	83,56	1948,91	83,56	2032,47
30	End of Timeline	End of Timeline	21392	83,56			
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	520312		2032,47	0,09	2032,56

H:\scia\timing\timeline_set_01_V30\tl_01_55_01.xls		ecl_beg_ecl_end_cal_orbit_daily		Table start ID =	3457	Version =	V3.0
DURATION <s>=	1340,86328125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <deg>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	27	nae02	709	2,77	2,77	83,56	86,33
2	27	nae02	21392	83,56	86,33	83,56	169,89
3	27	nae02	21392	83,56	169,89	83,56	253,46
4	27	nae02	21392	83,56	253,46	83,56	337,02
5	27	nae02	21392	83,56	337,02	83,56	420,58
6	27	nae02	21392	83,56	420,58	83,56	504,14
7	27	nae02	21392	83,56	504,14	83,56	587,71
8	27	nae02	21392	83,56	587,71	83,56	671,27
9	27	nae02	21392	83,56	671,27	83,56	754,83
10	27	nae02	21392	83,56	754,83	83,56	838,39
11	27	nae02	21392	83,56	838,39	83,56	921,96
12	27	nae02	21392	83,56	921,96	83,56	1005,52
13	27	nae02	21392	83,56	1005,52	83,56	1089,08
14	27	nae02	21392	83,56	1089,08	83,56	1172,64
15	27	nae02	21392	83,56	1172,64	83,56	1256,21
16	27	nae02	21392	83,56	1256,21	83,56	1339,77
17	End of Timeline	End of Timeline	21392	83,56			
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
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63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	342981		1339,77	0,09	1339,86

H:\scia\timing\timeline_set_01_V30\tl_01_56_01.xls		ecl_beg_ecl_end_cal_weekly_monthly		Table start ID =	3521	Version =	V3.0
DURATION <s>=	1215,64453125	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <deg>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000
State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	46	dcc01	709	2,77	2,77	9,98	12,75
2	63	dcc02	2555	9,98	12,75	34,98	47,73
3	67	dcc03	8955	34,98	47,73	204,97	252,70
4	46	dcc01	52473	204,97	252,70	9,98	262,68
5	59	lsc01	2555	9,98	262,68	21,57	284,26
6	63	dcc02	5523	21,57	284,26	34,98	319,24
7	67	dcc03	8955	34,98	319,24	204,97	524,21
8	46	dcc01	52473	204,97	524,21	9,98	534,19
9	27	nae02	2555	9,98	534,19	83,56	617,75
10	27	nae02	21392	83,56	617,75	83,56	701,32
11	63	dcc02	21392	83,56	701,32	34,98	736,30
12	67	dcc03	8955	34,98	736,30	204,97	941,27
13	46	dcc01	52473	204,97	941,27	9,98	951,25
14	61	lwc01	2555	9,98	951,25	23,35	974,60
15	63	dcc02	5977	23,35	974,60	34,98	1009,58
16	67	dcc03	8955	34,98	1009,58	204,97	1214,55
17	End of Timeline	End of Timeline	52473	204,97			
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	310925		1214,55	0,09	1214,64

H:\scia\timing\timeline_set_01_V30\tl_01_57_01.xls		SOC_end_sub_beg_cal_monthly_spec_orb1		Table start ID =	3585	Version =	V3.0
DURATION <s>=	1766,01171875	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <>=	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	28	limb01	709	2,77	2,77	62,62	65,39
2	29	limb02	16031	62,62	65,39	62,62	128,01
3	29	limb02	16031	62,62	128,01	62,62	190,63
4	30	limb03	16031	62,62	190,63	62,62	253,25
5	59	lsc01	16031	62,62	253,25	21,57	274,83
6	1	nad01	5523	21,57	274,83	83,56	358,39
7	30	limb03	21392	83,56	358,39	62,62	421,01
8	2	nad02	16031	62,62	421,01	83,56	504,57
9	30	limb03	21392	83,56	504,57	62,62	567,20
10	3	nad03	16031	62,62	567,20	83,56	650,76
11	31	limb04	21392	83,56	650,76	62,62	713,38
12	59	lsc01	16031	62,62	713,38	21,57	734,95
13	4	nad04	5523	21,57	734,95	68,56	803,51
14	32	limb05	17551	68,56	803,51	62,62	866,13
15	5	nad05	16031	62,62	866,13	68,56	934,69
16	32	limb05	17551	68,56	934,69	62,62	997,31
17	6	nad06	16031	62,62	997,31	68,56	1065,87
18	32	limb05	17551	68,56	1065,87	62,62	1128,49
19	59	lsc01	16031	62,62	1128,49	21,57	1150,07
20	6	nad06	5523	21,57	1150,07	68,56	1218,63
21	32	limb05	17551	68,56	1218,63	62,62	1281,25
22	6	nad06	16031	62,62	1281,25	68,56	1349,80
23	32	limb05	17551	68,56	1349,80	62,62	1412,43
24	6	nad06	16031	62,62	1412,43	68,56	1480,98
25	32	limb05	17551	68,56	1480,98	62,62	1543,61
26	59	lsc01	16031	62,62	1543,61	21,57	1565,18
27	6	nad06	5523	21,57	1565,18	68,56	1633,74
28	32	limb05	17551	68,56	1633,74	62,62	1696,36
29	7	nad07	16031	62,62	1696,36	68,56	1764,92
30	End of Timeline	End of Timeline	17551	68,56			
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
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39	End of Timeline	End of Timeline	0				
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61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	451819		1764,92	0,09	1765,01

H:\scia\timing\timeline_set_01_V30\tl_01_58_01.xls		sub_beg_MOC_beg_cal_monthly_orb1		Table start ID =	3649	Version =	V3.0
DURATION <s>=	862,55078125	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	60	sscs01	709	2,77	2,77	28,46	31,23
2	32	limb05	7286	28,46	31,23	62,62	93,85
3	7	nad07	16031	62,62	93,85	68,56	162,41
4	32	limb05	17551	68,56	162,41	62,62	225,03
5	7	nad07	16031	62,62	225,03	68,56	293,59
6	59	lsc01	17551	68,56	293,59	21,57	315,16
7	32	limb05	5523	21,57	315,16	62,62	377,79
8	6	nad06	16031	62,62	377,79	68,56	446,34
9	32	limb05	17551	68,56	446,34	62,62	508,96
10	6	nad06	16031	62,62	508,96	68,56	577,52
11	31	limb04	17551	68,56	577,52	62,62	640,14
12	59	lsc01	16031	62,62	640,14	21,57	661,72
13	6	nad06	5523	21,57	661,72	68,56	730,28
14	31	limb04	17551	68,56	730,28	62,62	792,90
15	6	nad06	16031	62,62	792,90	68,56	861,46
16	End of Timeline	End of Timeline	17551	68,56			
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
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29	End of Timeline	End of Timeline	0				
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36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
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49	End of Timeline	End of Timeline	0				
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57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	220533		861,46	0,09	861,55

H:\scia\timing\timeline_set_01_V30\tl_01_59_01.xls		MOC_end_ecl_beg_cal_monthly_spec_orb1		Table start ID =	3713	Version =	V3.0
DURATION <s>=	821,57812500	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FB	GEO_TYPE =	n/a	GEO_NUM <> =	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	5	nad05	709	2,77	2,77	68,56	71,33
2	59	lsc01	17551	68,56	71,33	21,57	92,90
3	5	nad05	5523	21,57	92,90	68,56	161,46
4	59	lsc01	17551	68,56	161,46	21,57	183,04
5	4	nad04	5523	21,57	183,04	68,56	251,59
6	61	lwc01	17551	68,56	251,59	23,35	274,94
7	3	nad03	5977	23,35	274,94	83,56	358,50
8	2	nad02	21392	83,56	358,50	83,56	442,07
9	59	lsc01	21392	83,56	442,07	21,57	463,64
10	1	nad01	5523	21,57	463,64	83,56	547,20
11	63	dcc02	21392	83,56	547,20	34,98	582,18
12	67	dcc03	8955	34,98	582,18	204,97	787,16
13	46	dcc01	52473	204,97	787,16	9,98	797,14
14	61	lwc01	2555	9,98	797,14	23,35	820,48
15	End of Timeline	End of Timeline	5977	23,35			
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
21	End of Timeline	End of Timeline	0				
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62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	210044		820,48	0,09	820,58

H:\scia\timing\timeline_set_01_V30\tl_01_60_01.xls		SOC_end_sub_beg_cal_monthly_spec_orb2_orb3		Table start ID =	3777	Version =	V3.0
DURATION <s>=	1773,35937500	DTX0 <s>=	n/a	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	NF_FL	GEO_TYPE =	n/a	GEO_NUM <> =	n/a	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	63	dcc02	709	2,77	2,77	34,98	37,75
2	67	dcc03	8955	34,98	37,75	204,97	242,72
3	46	dcc01	52473	204,97	242,72	9,98	252,70
4	63	dcc02	2555	9,98	252,70	34,98	287,68
5	67	dcc03	8955	34,98	287,68	204,97	492,66
6	46	dcc01	52473	204,97	492,66	9,98	502,64
7	63	dcc02	2555	9,98	502,64	34,98	537,62
8	67	dcc03	8955	34,98	537,62	204,97	742,59
9	46	dcc01	52473	204,97	742,59	9,98	752,57
10	63	dcc02	2555	9,98	752,57	34,98	787,55
11	67	dcc03	8955	34,98	787,55	204,97	992,52
12	46	dcc01	52473	204,97	992,52	9,98	1002,50
13	63	dcc02	2555	9,98	1002,50	34,98	1037,48
14	67	dcc03	8955	34,98	1037,48	204,97	1242,46
15	46	dcc01	52473	204,97	1242,46	9,98	1252,44
16	63	dcc02	2555	9,98	1252,44	34,98	1287,42
17	67	dcc03	8955	34,98	1287,42	204,97	1492,39
18	46	dcc01	52473	204,97	1492,39	9,98	1502,37
19	63	dcc02	2555	9,98	1502,37	34,98	1537,35
20	67	dcc03	8955	34,98	1537,35	204,97	1742,32
21	46	dcc01	52473	204,97	1742,32	9,98	1752,30
22	46	dcc01	2555	9,98	1752,30	9,98	1762,29
23	46	dcc01	2555	9,98	1762,29	9,98	1772,27
24	End of Timeline	End of Timeline	2555	9,98			
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
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57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	453700		1772,27	0,09	1772,36

H:\scia\timing\timeline_set_01_V30\tl_01_61_01.xls		sub_beg_ecl_beg_cal_monthly_spec_orb2		Table start ID =	3841	Version =	V3.0
DURATION <s>=	2031,79296875	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	58	sscp01	709	2,77	2,77	28,46	31,23
2	63	dcc02	7286	28,46	31,23	34,98	66,21
3	67	dcc03	8955	34,98	66,21	204,97	271,18
4	46	dcc01	52473	204,97	271,18	9,98	281,16
5	63	dcc02	2555	9,98	281,16	34,98	316,14
6	67	dcc03	8955	34,98	316,14	204,97	521,12
7	46	dcc01	52473	204,97	521,12	9,98	531,10
8	63	dcc02	2555	9,98	531,10	34,98	566,08
9	67	dcc03	8955	34,98	566,08	204,97	771,05
10	46	dcc01	52473	204,97	771,05	9,98	781,03
11	63	dcc02	2555	9,98	781,03	34,98	816,01
12	67	dcc03	8955	34,98	816,01	204,97	1020,98
13	46	dcc01	52473	204,97	1020,98	9,98	1030,96
14	63	dcc02	2555	9,98	1030,96	34,98	1065,95
15	67	dcc03	8955	34,98	1065,95	204,97	1270,92
16	46	dcc01	52473	204,97	1270,92	9,98	1280,90
17	63	dcc02	2555	9,98	1280,90	34,98	1315,88
18	67	dcc03	8955	34,98	1315,88	204,97	1520,85
19	46	dcc01	52473	204,97	1520,85	9,98	1530,83
20	63	dcc02	2555	9,98	1530,83	34,98	1565,81
21	67	dcc03	8955	34,98	1565,81	204,97	1770,79
22	46	dcc01	52473	204,97	1770,79	9,98	1780,77
23	63	dcc02	2555	9,98	1780,77	34,98	1815,75
24	67	dcc03	8955	34,98	1815,75	204,97	2020,72
25	46	dcc01	52473	204,97	2020,72	9,98	2030,70
26	End of Timeline	End of Timeline	2555	9,98			
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	519859		2030,70	0,09	2030,79

H:\scia\timing\timeline_set_01_V30\tl_01_62_01.xls		sub_beg_ecl_beg_cal_monthly_spec_orb3		Table start ID =	3905	Version =	V3.0
DURATION <s>=	2041,69921875	DTX0 <s>=	18,25000000	DTX1 <s>=	11,00000000	DTX2 <s>=	12,73000000
SCHED_TYPE =	SF_FI	GEO_TYPE =	azimuth	GEO_NUM <deg>=	269,77	FOV_CHECK =	YES
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	53	sscp02	709	2,77	2,77	28,46	31,23
2	63	dcc02	7286	28,46	31,23	34,98	66,21
3	67	dcc03	8955	34,98	66,21	204,97	271,18
4	46	dcc01	52473	204,97	271,18	9,98	281,16
5	63	dcc02	2555	9,98	281,16	34,98	316,14
6	67	dcc03	8955	34,98	316,14	204,97	521,12
7	46	dcc01	52473	204,97	521,12	9,98	531,10
8	63	dcc02	2555	9,98	531,10	34,98	566,08
9	69	lsd01	8955	34,98	566,08	89,58	655,66
10	67	dcc03	22932	89,58	655,66	204,97	860,63
11	46	dcc01	52473	204,97	860,63	9,98	870,61
12	63	dcc02	2555	9,98	870,61	34,98	905,59
13	67	dcc03	8955	34,98	905,59	204,97	1110,56
14	46	dcc01	52473	204,97	1110,56	9,98	1120,54
15	63	dcc02	2555	9,98	1120,54	34,98	1155,52
16	70	lwd01	8955	34,98	1155,52	90,32	1245,84
17	67	dcc03	23122	90,32	1245,84	204,97	1450,82
18	46	dcc01	52473	204,97	1450,82	9,98	1460,80
19	63	dcc02	2555	9,98	1460,80	34,98	1495,78
20	67	dcc03	8955	34,98	1495,78	204,97	1700,75
21	46	dcc01	52473	204,97	1700,75	9,98	1710,73
22	63	dcc02	2555	9,98	1710,73	34,98	1745,71
23	67	dcc03	8955	34,98	1745,71	204,97	1950,68
24	46	dcc01	52473	204,97	1950,68	9,98	1960,66
25	63	dcc02	2555	9,98	1960,66	34,98	1995,64
26	46	dcc01	8955	34,98	1995,64	9,98	2005,63
27	63	dcc02	2555	9,98	2005,63	34,98	2040,61
28	End of Timeline	End of Timeline	8955	34,98			
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	522395		2040,61	0,09	2040,70

H:\scia\timing\timeline_set_01_V30\tl_01_63_01.xls		ecl_beg_ecl_end_ADC_cal		Table start ID =	3969	Version =	V3.0
DURATION <s>=	46,06250000	DTX0 <s>=	-135,00000000	DTX1 <s>=	n/a	DTX2 <s>=	n/a
SCHED_TYPE =	SF_FI	GEO_TYPE =	elevation_backward	GEO_NUM <> =	28,50	FOV_CHECK =	NO
RATE_TYPE =	LOW	DTX3 <s>=	n/a	DTX4 <s>=	n/a	TL_PAD <s>=	1,00000000

State Running Index	State ID	State Description	State TT (relative, ct)	State TT (relative, sec)	Start Time (absolute, sec) T1 +	State Duration (sec)	End Time (absolute, sec) T1 +
		T/L setup			0	2,77	
1	65	adc01	709	2,77	2,77	42,20	44,97
2	End of Timeline	End of Timeline	10803	42,20			
3	End of Timeline	End of Timeline	0				
4	End of Timeline	End of Timeline	0				
5	End of Timeline	End of Timeline	0				
6	End of Timeline	End of Timeline	0				
7	End of Timeline	End of Timeline	0				
8	End of Timeline	End of Timeline	0				
9	End of Timeline	End of Timeline	0				
10	End of Timeline	End of Timeline	0				
11	End of Timeline	End of Timeline	0				
12	End of Timeline	End of Timeline	0				
13	End of Timeline	End of Timeline	0				
14	End of Timeline	End of Timeline	0				
15	End of Timeline	End of Timeline	0				
16	End of Timeline	End of Timeline	0				
17	End of Timeline	End of Timeline	0				
18	End of Timeline	End of Timeline	0				
19	End of Timeline	End of Timeline	0				
20	End of Timeline	End of Timeline	0				
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22	End of Timeline	End of Timeline	0				
23	End of Timeline	End of Timeline	0				
24	End of Timeline	End of Timeline	0				
25	End of Timeline	End of Timeline	0				
26	End of Timeline	End of Timeline	0				
27	End of Timeline	End of Timeline	0				
28	End of Timeline	End of Timeline	0				
29	End of Timeline	End of Timeline	0				
30	End of Timeline	End of Timeline	0				
31	End of Timeline	End of Timeline	0				
32	End of Timeline	End of Timeline	0				
33	End of Timeline	End of Timeline	0				
34	End of Timeline	End of Timeline	0				
35	End of Timeline	End of Timeline	0				
36	End of Timeline	End of Timeline	0				
37	End of Timeline	End of Timeline	0				
38	End of Timeline	End of Timeline	0				
39	End of Timeline	End of Timeline	0				
40	End of Timeline	End of Timeline	0				
41	End of Timeline	End of Timeline	0				
42	End of Timeline	End of Timeline	0				
43	End of Timeline	End of Timeline	0				
44	End of Timeline	End of Timeline	0				
45	End of Timeline	End of Timeline	0				
46	End of Timeline	End of Timeline	0				
47	End of Timeline	End of Timeline	0				
48	End of Timeline	End of Timeline	0				
49	End of Timeline	End of Timeline	0				
50	End of Timeline	End of Timeline	0				
51	End of Timeline	End of Timeline	0				
52	End of Timeline	End of Timeline	0				
53	End of Timeline	End of Timeline	0				
54	End of Timeline	End of Timeline	0				
55	End of Timeline	End of Timeline	0				
56	End of Timeline	End of Timeline	0				
57	End of Timeline	End of Timeline	0				
58	End of Timeline	End of Timeline	0				
59	End of Timeline	End of Timeline	0				
60	End of Timeline	End of Timeline	0				
61	End of Timeline	End of Timeline	0				
62	End of Timeline	End of Timeline	0				
63	End of Timeline	End of Timeline	0				
64	End of Timeline	End of Timeline	0				
		T/L Cleanup	11512		44,97	0,09	45,06

Annex 2: Timeline Sequence for one Repeat Cycle

The example mission scenario sequence for one complete ENVISAT repeat cycle of 501 orbits (35 days) presented in issue 3 of TN I [RD 2] is translated here into the corresponding sequence of timelines. It is obvious that most of the orbits (scenario orbit_no_moon) can be run with only a small number of timelines. Complex timeline sequences do only occur when the moon shall be observed or when calibration orbits are executed.

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
1	11	95	no	n/a	orbit_no_moon	1,50,63,55
2	12	96	no	n/a	orbit_no_moon	1,53,63,55
3	13	97	no	n/a	orbit_no_moon	1,50,63,55
4	14	98	no	n/a	orbit_no_moon	1,53,63,55
5	1	1	no	n/a	orbit_no_moon	1,50,63,55
6	2	2	no	n/a	orbit_no_moon	1,53,63,55
7	3	3	no	n/a	orbit_no_moon	1,50,63,55
8	4	4	no	n/a	orbit_no_moon	1,53,63,55
9	5	5	no	n/a	orbit_no_moon	1,50,63,55
10	6	6	no	n/a	orbit_no_moon	1,53,63,55
11	7	7	no	n/a	orbit_no_moon	1,50,63,55
12	8	8	no	n/a	orbit_no_moon_weekly_calibration_1	2,3,8,52,54,63,56
13	9	9	no	n/a	orbit_no_moon_weekly_calibration_2	2,4,5,6,50,63,56
14	10	10	no	n/a	orbit_no_moon	1,53,63,55
15	11	11	no	n/a	orbit_no_moon	1,50,63,55
16	12	12	no	n/a	orbit_no_moon	1,53,63,55
17	13	13	no	n/a	orbit_no_moon	1,50,63,55
18	14	14	no	n/a	orbit_no_moon	1,53,63,55
19	1	15	no	n/a	orbit_no_moon	1,50,63,55
20	2	16	no	n/a	orbit_no_moon	1,53,63,55
21	3	17	no	n/a	orbit_no_moon	1,50,63,55
22	4	18	no	n/a	orbit_no_moon	1,53,63,55
23	5	19	no	n/a	orbit_no_moon	1,50,63,55
24	6	20	no	n/a	orbit_no_moon	1,53,63,55
25	7	21	no	n/a	orbit_no_moon	1,50,63,55
26	8	22	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
27	9	23	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
28	10	24	no	n/a	orbit_no_moon	1,53,63,55
29	11	25	no	n/a	orbit_no_moon	1,50,63,55
30	12	26	no	n/a	orbit_no_moon	1,53,63,55
31	13	27	no	n/a	orbit_no_moon	1,50,63,55
32	14	28	no	n/a	orbit_no_moon	1,53,63,55
33	1	29	no	n/a	orbit_no_moon	1,50,63,55
34	2	30	no	n/a	orbit_no_moon	1,53,63,55
35	3	31	no	n/a	orbit_no_moon	1,50,63,55
36	4	32	no	n/a	orbit_no_moon	1,53,63,55
37	5	33	no	n/a	orbit_no_moon	1,50,63,55
38	6	34	no	n/a	orbit_no_moon	1,53,63,55
39	7	35	no	n/a	orbit_no_moon	1,50,63,55
40	8	36	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
41	9	37	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
42	10	38	no	n/a	orbit_no_moon	1,53,63,55
43	11	39	no	n/a	orbit_no_moon	1,50,63,55
44	12	40	no	n/a	orbit_no_moon	1,53,63,55
45	13	41	no	n/a	orbit_no_moon	1,50,63,55
46	14	42	no	n/a	orbit_no_moon	1,53,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
47	1	43	no	n/a	orbit_no_moon	1,50,63,55
48	2	44	no	n/a	orbit_no_moon	1,53,63,55
49	3	45	no	n/a	orbit_no_moon	1,50,63,55
50	4	46	no	n/a	orbit_no_moon	1,53,63,55
51	5	47	no	n/a	orbit_no_moon	1,50,63,55
52	6	48	no	n/a	orbit_no_moon	1,53,63,55
53	7	49	no	n/a	orbit_no_moon	1,50,63,55
54	8	50	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
55	9	51	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
56	10	52	no	n/a	orbit_no_moon	1,53,63,55
57	11	53	no	n/a	orbit_no_moon	1,50,63,55
58	12	54	no	n/a	orbit_no_moon	1,53,63,55
59	13	55	no	n/a	orbit_no_moon	1,50,63,55
60	14	56	no	n/a	orbit_no_moon	1,53,63,55
61	1	57	no	n/a	orbit_no_moon	1,50,63,55
62	2	58	no	n/a	orbit_no_moon	1,53,63,55
63	3	59	no	n/a	orbit_no_moon	1,50,63,55
64	4	60	no	n/a	orbit_no_moon	1,53,63,55
65	5	61	no	n/a	orbit_no_moon	1,50,63,55
66	6	62	no	n/a	orbit_no_moon	1,53,63,55
67	7	63	no	n/a	orbit_no_moon	1,50,63,55
68	8	64	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
69	9	65	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
70	10	66	no	n/a	orbit_no_moon	1,53,63,55
71	11	67	no	n/a	orbit_no_moon	1,50,63,55
72	12	68	no	n/a	orbit_no_moon	1,53,63,55
73	13	69	no	n/a	orbit_no_moon	1,50,63,55
74	14	70	no	n/a	orbit_no_moon	1,53,63,55
75	1	71	no	n/a	orbit_no_moon	1,50,63,55
76	2	72	no	n/a	orbit_no_moon	1,53,63,55
77	3	73	no	n/a	orbit_no_moon	1,50,63,55
78	4	74	no	n/a	orbit_no_moon	1,53,63,55
79	5	75	no	n/a	orbit_no_moon	1,50,63,55
80	6	76	no	n/a	orbit_no_moon	1,53,63,55
81	7	77	no	n/a	orbit_no_moon	1,50,63,55
82	8	78	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
83	9	79	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
84	10	80	no	n/a	orbit_no_moon	1,53,63,55
85	11	81	no	n/a	orbit_no_moon	1,50,63,55
86	12	82	no	n/a	orbit_no_moon	1,53,63,55
87	13	83	no	n/a	orbit_no_moon	1,50,63,55
88	14	84	no	n/a	orbit_no_moon	1,53,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
89	1	85	no	n/a	orbit_no_moon	1,50,63,55
90	2	86	no	n/a	orbit_no_moon	1,53,63,55
91	3	87	no	n/a	orbit_no_moon	1,50,63,55
92	4	88	no	n/a	orbit_no_moon	1,53,63,55
93	5	89	no	n/a	orbit_no_moon	1,50,63,55
94	6	90	no	n/a	orbit_no_moon	1,53,63,55
95	7	91	no	n/a	orbit_no_moon	1,50,63,55
96	8	92	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
97	9	93	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
98	10	94	no	n/a	orbit_no_moon	1,53,63,55
99	11	95	no	n/a	orbit_no_moon	1,50,63,55
100	12	96	no	n/a	orbit_no_moon	1,53,63,55
101	13	97	no	n/a	orbit_no_moon	1,50,63,55
102	14	98	no	n/a	orbit_no_moon	1,53,63,55
103	1	1	no	n/a	orbit_no_moon	1,50,63,55
104	2	2	no	n/a	orbit_no_moon	1,53,63,55
105	3	3	no	n/a	orbit_no_moon	1,50,63,55
106	4	4	no	n/a	orbit_no_moon	1,53,63,55
107	5	5	no	n/a	orbit_no_moon	1,50,63,55
108	6	6	no	n/a	orbit_no_moon	1,53,63,55
109	7	7	no	n/a	orbit_no_moon	1,50,63,55
110	8	8	no	n/a	orbit_no_moon_weekly_calibration_1	2,3,8,52,54,63,56
111	9	9	no	n/a	orbit_no_moon_weekly_calibration_2	2,4,5,6,50,63,56
112	10	10	no	n/a	orbit_no_moon	1,53,63,55
113	11	11	no	n/a	orbit_no_moon	1,50,63,55
114	12	12	no	n/a	orbit_no_moon	1,53,63,55
115	13	13	no	n/a	orbit_no_moon	1,50,63,55
116	14	14	no	n/a	orbit_no_moon	1,53,63,55
117	1	15	no	n/a	orbit_no_moon	1,50,63,55
118	2	16	no	n/a	orbit_no_moon	1,53,63,55
119	3	17	no	n/a	orbit_no_moon	1,50,63,55
120	4	18	no	n/a	orbit_no_moon	1,53,63,55
121	5	19	no	n/a	orbit_no_moon	1,50,63,55
122	6	20	no	n/a	orbit_no_moon	1,53,63,55
123	7	21	no	n/a	orbit_no_moon	1,50,63,55
124	8	22	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
125	9	23	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
126	10	24	no	n/a	orbit_no_moon	1,53,63,55
127	11	25	no	n/a	orbit_no_moon	1,50,63,55
128	12	26	no	n/a	orbit_no_moon	1,53,63,55
129	13	27	no	n/a	orbit_no_moon	1,50,63,55
130	14	28	no	n/a	orbit_no_moon	1,53,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
131	1	29	no	n/a	orbit_no_moon	1,50,63,55
132	2	30	no	n/a	orbit_no_moon	1,53,63,55
133	3	31	no	n/a	orbit_no_moon	1,50,63,55
134	4	32	no	n/a	orbit_no_moon	1,53,63,55
135	5	33	no	n/a	orbit_no_moon	1,50,63,55
136	6	34	no	n/a	orbit_no_moon	1,53,63,55
137	7	35	no	n/a	orbit_no_moon	1,50,63,55
138	8	36	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
139	9	37	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
140	10	38	no	n/a	orbit_no_moon	1,53,63,55
141	11	39	no	n/a	orbit_no_moon	1,50,63,55
142	12	40	no	n/a	orbit_no_moon	1,53,63,55
143	13	41	no	n/a	orbit_no_moon	1,50,63,55
144	14	42	no	n/a	orbit_no_moon	1,53,63,55
145	1	43	no	n/a	orbit_no_moon	1,50,63,55
146	2	44	no	n/a	orbit_no_moon	1,53,63,55
147	3	45	no	n/a	orbit_no_moon	1,50,63,55
148	4	46	no	n/a	orbit_no_moon	1,53,63,55
149	5	47	no	n/a	orbit_no_moon	1,50,63,55
150	6	48	no	n/a	orbit_no_moon	1,53,63,55
151	7	49	no	n/a	orbit_no_moon	1,50,63,55
152	8	50	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
153	9	51	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
154	10	52	no	n/a	orbit_no_moon	1,53,63,55
155	11	53	no	n/a	orbit_no_moon	1,50,63,55
156	12	54	no	n/a	orbit_no_moon	1,53,63,55
157	13	55	no	n/a	orbit_no_moon	1,50,63,55
158	14	56	no	n/a	orbit_no_moon	1,53,63,55
159	1	57	no	n/a	orbit_no_moon	1,50,63,55
160	2	58	no	n/a	orbit_no_moon	1,53,63,55
161	3	59	no	n/a	orbit_no_moon	1,50,63,55
162	4	60	no	n/a	orbit_no_moon	1,53,63,55
163	5	61	no	n/a	orbit_no_moon	1,50,63,55
164	6	62	no	n/a	orbit_no_moon	1,53,63,55
165	7	63	no	n/a	orbit_no_moon	1,50,63,55
166	8	64	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
167	9	65	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
168	10	66	no	n/a	orbit_no_moon	1,53,63,55
169	11	67	no	n/a	orbit_no_moon	1,50,63,55
170	12	68	no	n/a	orbit_no_moon	1,53,63,55
171	13	69	no	n/a	orbit_no_moon	1,50,63,55
172	14	70	no	n/a	orbit_no_moon	1,53,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
173	1	71	no	n/a	orbit_no_moon	1,50,63,55
174	2	72	no	n/a	orbit_no_moon	1,53,63,55
175	3	73	no	n/a	orbit_no_moon	1,50,63,55
176	4	74	no	n/a	orbit_no_moon	1,53,63,55
177	5	75	no	n/a	orbit_no_moon	1,50,63,55
178	6	76	no	n/a	orbit_no_moon	1,53,63,55
179	7	77	no	n/a	orbit_no_moon	1,50,63,55
180	8	78	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
181	9	79	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
182	10	80	no	n/a	orbit_no_moon	1,53,63,55
183	11	81	no	n/a	orbit_no_moon	1,50,63,55
184	12	82	no	n/a	orbit_no_moon	1,53,63,55
185	13	83	no	n/a	orbit_no_moon	1,50,63,55
186	14	84	no	n/a	orbit_no_moon	1,53,63,55
187	1	85	no	n/a	orbit_no_moon	1,50,63,55
188	2	86	no	n/a	orbit_no_moon	1,53,63,55
189	3	87	no	n/a	orbit_no_moon	1,50,63,55
190	4	88	no	n/a	orbit_no_moon	1,53,63,55
191	5	89	no	n/a	orbit_no_moon	1,50,63,55
192	6	90	no	n/a	orbit_no_moon	1,53,63,55
193	7	91	no	n/a	orbit_no_moon	1,50,63,55
194	8	92	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
195	9	93	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
196	10	94	no	n/a	orbit_no_moon	1,53,63,55
197	11	95	no	n/a	orbit_no_moon	1,50,63,55
198	12	96	no	n/a	orbit_no_moon	1,53,63,55
199	13	97	no	n/a	orbit_no_moon	1,50,63,55
200	14	98	no	n/a	orbit_no_moon	1,53,63,55
201	1	1	no	n/a	orbit_no_moon	1,50,63,55
202	2	2	no	n/a	orbit_no_moon	1,53,63,55
203	3	3	no	n/a	orbit_no_moon	1,50,63,55
204	4	4	no	n/a	orbit_no_moon	1,53,63,55
205	5	5	no	n/a	orbit_no_moon	1,50,63,55
206	6	6	no	n/a	orbit_no_moon	1,53,63,55
207	7	7	no	n/a	orbit_no_moon	1,50,63,55
208	8	8	no	n/a	orbit_no_moon_weekly_calibration_1	2,3,8,52,54,63,56
209	9	9	no	n/a	orbit_no_moon_weekly_calibration_2	2,4,5,6,50,63,56
210	10	10	no	n/a	orbit_no_moon	1,53,63,55
211	11	11	no	n/a	orbit_no_moon	1,50,63,55
212	12	12	no	n/a	orbit_no_moon	1,53,63,55
213	13	13	no	n/a	orbit_no_moon	1,50,63,55
214	14	14	no	n/a	orbit_no_moon	1,53,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
215	1	15	no	n/a	orbit_no_moon	1,50,63,55
216	2	16	no	n/a	orbit_no_moon	1,53,63,55
217	3	17	no	n/a	orbit_no_moon	1,50,63,55
218	4	18	no	n/a	orbit_no_moon	1,53,63,55
219	5	19	no	n/a	orbit_no_moon	1,50,63,55
220	6	20	no	n/a	orbit_no_moon	1,53,63,55
221	7	21	no	n/a	orbit_no_moon	1,50,63,55
222	8	22	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
223	9	23	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
224	10	24	no	n/a	orbit_no_moon	1,53,63,55
225	11	25	no	n/a	orbit_no_moon	1,50,63,55
226	12	26	no	n/a	orbit_no_moon	1,53,63,55
227	13	27	no	n/a	orbit_no_moon	1,50,63,55
228	14	28	no	n/a	orbit_no_moon	1,53,63,55
229	1	29	no	n/a	orbit_no_moon	1,50,63,55
230	2	30	no	n/a	orbit_no_moon	1,53,63,55
231	3	31	no	n/a	orbit_no_moon	1,50,63,55
232	4	32	no	n/a	orbit_no_moon	1,53,63,55
233	5	33	no	n/a	orbit_no_moon	1,50,63,55
234	6	34	no	n/a	orbit_no_moon	1,53,63,55
235	7	35	no	n/a	orbit_no_moon	1,50,63,55
236	8	36	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
237	9	37	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
238	10	38	no	n/a	orbit_no_moon	1,53,63,55
239	11	39	no	n/a	orbit_no_moon	1,50,63,55
240	12	40	no	n/a	orbit_no_moon	1,53,63,55
241	13	41	no	n/a	orbit_no_moon	1,50,63,55
242	14	42	no	n/a	orbit_no_moon	1,53,63,55
243	1	43	no	n/a	orbit_no_moon	1,50,63,55
244	2	44	no	n/a	orbit_no_moon	1,53,63,55
245	3	45	no	n/a	orbit_no_moon	1,50,63,55
246	4	46	no	n/a	orbit_no_moon	1,53,63,55
247	5	47	no	n/a	orbit_no_moon	1,50,63,55
248	6	48	no	n/a	orbit_no_moon	1,53,63,55
249	7	49	no	n/a	orbit_no_moon	1,50,63,55
250	8	50	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
251	9	51	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
252	10	52	no	n/a	orbit_no_moon	1,53,63,55
253	11	53	no	n/a	orbit_no_moon	1,50,63,55
254	12	54	no	n/a	orbit_no_moon	1,53,63,55
255	13	55	no	n/a	orbit_no_moon	1,50,63,55
256	14	56	no	n/a	orbit_no_moon	1,53,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
257	1	57	no	n/a	orbit_no_moon	1,50,63,55
258	2	58	no	n/a	orbit_no_moon	1,53,63,55
259	3	59	no	n/a	orbit_no_moon	1,50,63,55
260	4	60	no	n/a	orbit_no_moon	1,53,63,55
261	5	61	no	n/a	orbit_no_moon	1,50,63,55
262	6	62	no	n/a	orbit_no_moon	1,53,63,55
263	7	63	no	n/a	orbit_no_moon	1,50,63,55
264	8	64	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
265	9	65	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
266	10	66	no	n/a	orbit_no_moon	1,53,63,55
267	11	67	no	n/a	orbit_no_moon	1,50,63,55
268	12	68	no	n/a	orbit_no_moon	1,53,63,55
269	13	69	no	n/a	orbit_no_moon	1,50,63,55
270	14	70	no	n/a	orbit_no_moon	1,53,63,55
271	1	71	no	n/a	orbit_no_moon	1,50,63,55
272	2	72	no	n/a	orbit_no_moon	1,53,63,55
273	3	73	no	n/a	orbit_no_moon	1,50,63,55
274	4	74	no	n/a	orbit_no_moon	1,53,63,55
275	5	75	no	n/a	orbit_no_moon	1,50,63,55
276	6	76	no	n/a	orbit_no_moon	1,53,63,55
277	7	77	no	n/a	orbit_no_moon	1,50,63,55
278	8	78	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
279	9	79	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
280	10	80	no	n/a	orbit_no_moon	1,53,63,55
281	11	81	no	n/a	orbit_no_moon	1,50,63,55
282	12	82	no	n/a	orbit_no_moon	1,53,63,55
283	13	83	no	n/a	orbit_no_moon	1,50,63,55
284	14	84	no	n/a	orbit_no_moon	1,53,63,55
285	1	85	no	n/a	orbit_no_moon	1,50,63,55
286	2	86	no	n/a	orbit_no_moon	1,53,63,55
287	3	87	no	n/a	orbit_no_moon	1,50,63,55
288	4	88	no	n/a	orbit_no_moon	1,53,63,55
289	5	89	no	n/a	orbit_no_moon	1,50,63,55
290	6	90	no	n/a	orbit_no_moon	1,53,63,55
291	7	91	no	n/a	orbit_no_moon	1,50,63,55
292	8	92	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
293	9	93	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
294	10	94	no	n/a	orbit_no_moon	1,53,63,55
295	11	95	no	n/a	orbit_no_moon	1,50,63,55
296	12	96	no	n/a	orbit_no_moon	1,53,63,55
297	13	97	no	n/a	orbit_no_moon	1,50,63,55
298	14	98	no	n/a	orbit_no_moon	1,53,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
299	1	1	no	n/a	orbit_no_moon	1,50,63,55
300	2	2	no	n/a	orbit_no_moon	1,53,63,55
301	3	3	no	n/a	orbit_no_moon	1,50,63,55
302	4	4	no	n/a	orbit_no_moon	1,53,63,55
303	5	5	no	n/a	orbit_no_moon	1,50,63,55
304	6	6	no	n/a	orbit_no_moon	1,53,63,55
305	7	7	no	n/a	orbit_no_moon	1,50,63,55
306	8	8	no	n/a	orbit_no_moon_weekly_calibration_1	2,3,8,52,54,63,56
307	9	9	no	n/a	orbit_no_moon_weekly_calibration_2	2,4,5,6,50,63,56
308	10	10	no	n/a	orbit_no_moon	1,53,63,55
309	11	11	no	n/a	orbit_no_moon	1,50,63,55
310	12	12	no	n/a	orbit_no_moon	1,53,63,55
311	13	13	no	n/a	orbit_no_moon	1,50,63,55
312	14	14	no	n/a	orbit_no_moon	1,53,63,55
313	1	15	no	n/a	orbit_no_moon	1,50,63,55
314	2	16	yes	316,0	orbit_moon	1,13-24,10,38-49,63,55
315	3	17	yes	316,8	orbit_no_moon	1,50,63,55
316	4	18	yes	317,6	orbit_moon	1,13-24,10,38-49,63,55
317	5	19	yes	318,4	orbit_no_moon	1,50,63,55
318	6	20	yes	319,2	orbit_moon	1,13-24,10,38-49,63,55
319	7	21	yes	320,0	orbit_no_moon	1,50,63,55
320	8	22	yes	320,9	orbit_moon_daily_calibration_1	2,3,8,25,36-37,9,11,12,38-49,63,55
321	9	23	yes	321,7	orbit_no_moon_daily_calibration_2	2,4,50,63,55
322	10	24	yes	322,5	orbit_moon	1,13-24,10,38-49,63,55
323	11	25	yes	323,3	orbit_no_moon	1,50,63,55
324	12	26	yes	324,1	orbit_moon	1,13-24,10,38-49,63,55
325	13	27	yes	324,9	orbit_no_moon	1,50,63,55
326	14	28	yes	325,7	orbit_moon	1,13-24,10,38-49,63,55
327	1	29	yes	326,5	orbit_no_moon	1,50,63,55
328	2	30	yes	327,3	orbit_moon	1,13-24,10,38-49,63,55
329	3	31	yes	328,1	orbit_no_moon	1,50,63,55
330	4	32	yes	329,0	orbit_moon	1,13-24,10,38-49,63,55
331	5	33	yes	329,8	orbit_no_moon	1,50,63,55
332	6	34	yes	330,6	orbit_moon	1,13-24,10,38-49,63,55
333	7	35	yes	331,4	orbit_no_moon	1,50,63,55
334	8	36	yes	332,2	orbit_moon_daily_calibration_1	2,3,8,25,36-37,9,11,12,38-49,63,55
335	9	37	yes	333,0	orbit_no_moon_daily_calibration_2	2,4,50,63,55
336	10	38	yes	333,8	orbit_moon	1,13-24,10,38-49,63,55
337	11	39	yes	334,6	orbit_no_moon	1,50,63,55
338	12	40	yes	335,4	orbit_moon	1,13-24,10,38-49,63,55
339	13	41	yes	336,2	orbit_no_moon	1,50,63,55
340	14	42	yes	337,0	orbit_moon	1,13-24,10,38-49,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
341	1	43	yes	337,9	orbit_no_moon	1,50,63,55
342	2	44	yes	338,7	orbit_moon	1,13-24,10,38-49,63,55
343	3	45	yes	339,5	orbit_no_moon	1,50,63,55
344	4	46	yes	340,3	orbit_moon	1,13-24,10,38-49,63,55
345	5	47	yes	341,1	orbit_no_moon	1,50,63,55
346	6	48	yes	341,9	orbit_moon	1,13-24,10,38-49,63,55
347	7	49	yes	342,7	orbit_no_moon	1,50,63,55
348	8	50	yes	343,5	orbit_moon_daily_calibration_1	2,3,8,25,36-37,9,11,12,38-49,63,55
349	9	51	yes	344,3	orbit_no_moon_daily_calibration_2	2,4,50,63,55
350	10	52	yes	345,1	orbit_moon	1,13-24,10,38-49,63,55
351	11	53	yes	346,0	orbit_no_moon	1,50,63,55
352	12	54	yes	346,8	orbit_moon	1,13-24,10,38-49,63,55
353	13	55	yes	347,6	orbit_no_moon	1,50,63,55
354	14	56	yes	348,4	orbit_moon	1,13-24,10,38-49,63,55
355	1	57	yes	349,2	orbit_no_moon	1,50,63,55
356	2	58	yes	350,0	orbit_moon	1,13-24,10,38-49,63,55
357	3	59	yes	350,8	orbit_moon	1,13-24,10,38-49,63,55
358	4	60	yes	351,5	orbit_moon	1,13-24,10,38-49,63,55
359	5	61	yes	352,3	orbit_moon	1,13-24,10,38-49,63,55
360	6	62	yes	353,1	orbit_moon	1,13-24,10,38-49,63,55
361	7	63	yes	353,8	orbit_moon	1,13-24,10,38-49,63,55
362	8	64	yes	354,6	orbit_moon_daily_calibration_1	2,3,8,25,36-37,9,11,12,38-49,63,55
363	9	65	yes	355,4	orbit_moon_daily_calibration_2	2,4,25,36-37,10,38-49,63,55
364	10	66	yes	356,2	orbit_moon	1,13-24,10,38-49,63,55
365	11	67	yes	356,9	orbit_moon	1,13-24,10,38-49,63,55
366	12	68	yes	357,7	orbit_moon	1,13-24,10,38-49,63,55
367	13	69	yes	358,5	orbit_moon	1,13-24,10,38-49,63,55
368	14	70	yes	359,2	orbit_moon	1,13-24,10,38-49,63,55
369	1	71	yes	360,0	orbit_moon	1,13-24,10,38-49,63,55
370	2	72	yes	0,8	orbit_moon	1,13-24,10,38-49,63,55
371	3	73	yes	1,5	orbit_moon	1,13-24,10,38-49,63,55
372	4	74	yes	2,3	orbit_moon	1,13-24,10,38-49,63,55
373	5	75	yes	3,1	orbit_moon	1,13-24,10,38-49,63,55
374	6	76	yes	3,8	orbit_moon	1,13-24,10,38-49,63,55
375	7	77	yes	4,6	orbit_moon	1,13-24,10,38-49,63,55
376	8	78	yes	5,4	orbit_moon_daily_calibration_1	2,3,8,25,36-37,9,11,12,38-49,63,55
377	9	79	yes	6,2	orbit_moon_daily_calibration_2	2,4,25,36-37,10,38-49,63,55
378	10	80	yes	6,9	orbit_moon	1,13-24,10,38-49,63,55
379	11	81	yes	7,7	orbit_moon	1,13-24,10,38-49,63,55
380	12	82	yes	8,5	orbit_moon	1,13-24,10,38-49,63,55
381	13	83	yes	9,2	orbit_moon	1,13-24,10,38-49,63,55
382	14	84	yes	10,0	orbit_moon	1,13-24,10,38-49,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
383	1	85	yes	10,8	orbit_no_moon	1,50,63,55
384	2	86	yes	11,6	orbit_moon	1,13-24,10,38-49,63,55
385	3	87	yes	12,4	orbit_no_moon	1,50,63,55
386	4	88	yes	13,2	orbit_moon	1,13-24,10,38-49,63,55
387	5	89	yes	14,0	orbit_no_moon	1,50,63,55
388	6	90	yes	14,9	orbit_moon	1,13-24,10,38-49,63,55
389	7	91	yes	15,7	orbit_no_moon	1,50,63,55
390	8	92	yes	16,5	orbit_moon_daily_calibration_1	2,3,8,25,36-37,9,11,12,38-49,63,55
391	9	93	yes	17,3	orbit_no_moon_daily_calibration_2	2,4,50,63,55
392	10	94	yes	18,1	orbit_moon	1,13-24,10,38-49,63,55
393	11	95	yes	18,9	orbit_no_moon	1,50,63,55
394	12	96	yes	19,7	orbit_moon	1,13-24,10,38-49,63,55
395	13	97	yes	20,5	orbit_no_moon	1,50,63,55
396	14	98	yes	21,3	orbit_moon	1,13-24,10,38-49,63,55
397	1	1	yes	22,1	orbit_no_moon	1,50,63,55
398	2	2	yes	23,0	orbit_moon	1,13-24,10,38-49,63,55
399	3	3	yes	23,8	orbit_no_moon	1,50,63,55
400	4	4	yes	24,6	orbit_moon	1,13-24,10,38-49,63,55
401	5	5	yes	25,4	orbit_no_moon	1,50,63,55
402	6	6	yes	26,2	orbit_moon	1,13-24,10,38-49,63,55
403	7	7	yes	27,0	orbit_no_moon	1,50,63,55
404	8	8	yes	27,8	orbit_monthly_calibration_1	2,3,8,57,58,9,11,12,59,63,56
405	9	9	yes	28,6	orbit_monthly_calibration_2	2,4,7,60,61,63,56
406	10	10	yes	29,4	orbit_monthly_calibration_3	2,5,6,60,62,63,56
407	11	11	yes	30,2	orbit_moon	1,13-24,10,38-49,63,55
408	12	12	yes	31,0	orbit_no_moon	1,50,63,55
409	13	13	yes	31,9	orbit_moon	1,13-24,10,38-49,63,55
410	14	14	yes	32,7	orbit_no_moon	1,50,63,55
411	1	15	yes	33,5	orbit_moon	1,13-24,10,38-49,63,55
412	2	16	yes	34,3	orbit_no_moon	1,50,63,55
413	3	17	yes	35,1	orbit_moon	1,13-24,10,38-49,63,55
414	4	18	yes	35,9	orbit_no_moon	1,50,63,55
415	5	19	yes	36,7	orbit_moon	1,13-24,10,38-49,63,55
416	6	20	yes	37,5	orbit_no_moon	1,50,63,55
417	7	21	yes	38,3	orbit_moon	1,13-24,10,38-49,63,55
418	8	22	yes	39,1	orbit_moon_daily_calibration_1	2,3,8,25,36-37,9,11,12,38-49,63,55
419	9	23	yes	40,0	orbit_no_moon_daily_calibration_2	2,4,50,63,55
420	10	24	yes	40,8	orbit_moon	1,13-24,10,38-49,63,55
421	11	25	yes	41,6	orbit_no_moon	1,50,63,55
422	12	26	yes	42,4	orbit_moon	1,13-24,10,38-49,63,55
423	13	27	yes	43,2	orbit_no_moon	1,50,63,55
424	14	28	yes	44,0	orbit_moon	1,13-24,10,38-49,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
425	1	29	no	n/a	orbit_no_moon	1,50,63,55
426	2	30	no	n/a	orbit_no_moon	1,53,63,55
427	3	31	no	n/a	orbit_no_moon	1,50,63,55
428	4	32	no	n/a	orbit_no_moon	1,53,63,55
429	5	33	no	n/a	orbit_no_moon	1,50,63,55
430	6	34	no	n/a	orbit_no_moon	1,53,63,55
431	7	35	no	n/a	orbit_no_moon	1,50,63,55
432	8	36	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
433	9	37	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
434	10	38	no	n/a	orbit_no_moon	1,53,63,55
435	11	39	no	n/a	orbit_no_moon	1,50,63,55
436	12	40	no	n/a	orbit_no_moon	1,53,63,55
437	13	41	no	n/a	orbit_no_moon	1,50,63,55
438	14	42	no	n/a	orbit_no_moon	1,53,63,55
439	1	43	no	n/a	orbit_no_moon	1,50,63,55
440	2	44	no	n/a	orbit_no_moon	1,53,63,55
441	3	45	no	n/a	orbit_no_moon	1,50,63,55
442	4	46	no	n/a	orbit_no_moon	1,53,63,55
443	5	47	no	n/a	orbit_no_moon	1,50,63,55
444	6	48	no	n/a	orbit_no_moon	1,53,63,55
445	7	49	no	n/a	orbit_no_moon	1,50,63,55
446	8	50	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
447	9	51	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
448	10	52	no	n/a	orbit_no_moon	1,53,63,55
449	11	53	no	n/a	orbit_no_moon	1,50,63,55
450	12	54	no	n/a	orbit_no_moon	1,53,63,55
451	13	55	no	n/a	orbit_no_moon	1,50,63,55
452	14	56	no	n/a	orbit_no_moon	1,53,63,55
453	1	57	no	n/a	orbit_no_moon	1,50,63,55
454	2	58	no	n/a	orbit_no_moon	1,53,63,55
455	3	59	no	n/a	orbit_no_moon	1,50,63,55
456	4	60	no	n/a	orbit_no_moon	1,53,63,55
457	5	61	no	n/a	orbit_no_moon	1,50,63,55
458	6	62	no	n/a	orbit_no_moon	1,53,63,55
459	7	63	no	n/a	orbit_no_moon	1,50,63,55
460	8	64	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
461	9	65	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
462	10	66	no	n/a	orbit_no_moon	1,53,63,55
463	11	67	no	n/a	orbit_no_moon	1,50,63,55
464	12	68	no	n/a	orbit_no_moon	1,53,63,55
465	13	69	no	n/a	orbit_no_moon	1,50,63,55
466	14	70	no	n/a	orbit_no_moon	1,53,63,55

Relative Orbit Number	Orbit Number (14)	Orbit Number (98)	Moon Visibility	Lunar Azimuth (deg)	Orbit Scenario	Timeline Sequence
467	1	71	no	n/a	orbit_no_moon	1,50,63,55
468	2	72	no	n/a	orbit_no_moon	1,53,63,55
469	3	73	no	n/a	orbit_no_moon	1,50,63,55
470	4	74	no	n/a	orbit_no_moon	1,53,63,55
471	5	75	no	n/a	orbit_no_moon	1,50,63,55
472	6	76	no	n/a	orbit_no_moon	1,53,63,55
473	7	77	no	n/a	orbit_no_moon	1,50,63,55
474	8	78	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
475	9	79	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
476	10	80	no	n/a	orbit_no_moon	1,53,63,55
477	11	81	no	n/a	orbit_no_moon	1,50,63,55
478	12	82	no	n/a	orbit_no_moon	1,53,63,55
479	13	83	no	n/a	orbit_no_moon	1,50,63,55
480	14	84	no	n/a	orbit_no_moon	1,53,63,55
481	1	85	no	n/a	orbit_no_moon	1,50,63,55
482	2	86	no	n/a	orbit_no_moon	1,53,63,55
483	3	87	no	n/a	orbit_no_moon	1,50,63,55
484	4	88	no	n/a	orbit_no_moon	1,53,63,55
485	5	89	no	n/a	orbit_no_moon	1,50,63,55
486	6	90	no	n/a	orbit_no_moon	1,53,63,55
487	7	91	no	n/a	orbit_no_moon	1,50,63,55
488	8	92	no	n/a	orbit_no_moon_daily_calibration_1	2,3,8,52,54,63,55
489	9	93	no	n/a	orbit_no_moon_daily_calibration_2	2,4,50,63,55
490	10	94	no	n/a	orbit_no_moon	1,53,63,55
491	11	95	no	n/a	orbit_no_moon	1,50,63,55
492	12	96	no	n/a	orbit_no_moon	1,53,63,55
493	13	97	no	n/a	orbit_no_moon	1,50,63,55
494	14	98	no	n/a	orbit_no_moon	1,53,63,55
495	1	1	no	n/a	orbit_no_moon	1,50,63,55
496	2	2	no	n/a	orbit_no_moon	1,53,63,55
497	3	3	no	n/a	orbit_no_moon	1,50,63,55
498	4	4	no	n/a	orbit_no_moon	1,53,63,55
499	5	5	no	n/a	orbit_no_moon	1,50,63,55
500	6	6	no	n/a	orbit_no_moon	1,53,63,55
501	7	7	no	n/a	orbit_no_moon	1,50,63,55

Table 8: Schematic Sequence of Timeline Sequences in one ENVISAT Repeat Cycle