| **Page** | **Section** | **Line** | **Type** | **Comment/ Rationale** | **Source of Comment (Name/Agency)** | **Suggested Disposition** | **Disposition****(Completed by Principal Editor)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **NOTE: ALL PAGE REFERENCES ARE WITH RESPECT TO THE "CHANGES TRACKED" VERSION OF THE DRAFT.** |  |  |  |
| iii-iv | Foreword | All | ed | Note: The CCSDS Editor maintains the current list of all observer agencies, etc., so we don't have to worry about that. | David S. Berry / NASA | You can ignore changes to this page in the future. |  |
| vi | Table of Contents & Table of Figures |  | ed | The Table of Contents and Table of Figures should be re-done in each draft. The current Table of Figures references the NHM and SMM, | David S. Berry / NASA | Re-do the Table of Contents and Table of Figures for each draft. |  |
| 1-1 | 1.1 | 6-7 | te/ed | The phrase "the definitions and conventions associated with inter-Agency cross-support situations involving the transfer of navigation data" might apply more to the OTHER Green Book. Much of the front matter in this document was copied from that document. | David S. Berry / NASA | Consider whether or not this part of the sentence applies to this document. If not, delete it. If it applies, OK to retain. |  |
| 1-2 | 1.3 | 2 | ed | Suggested word addition. | David S. Berry / NASA | From: "definition of terms"To: "definition of key terms" or "definition of fundamental terms" |  |
| 1-3 | 1.4 | [19] & [20] | ed | Note that the web pages for these two references resolve to "https://" links. The "http://" works, but is converted to "https://" by my browser. This comment also applies to p.4-17, sec 4.5.1. | David S. Berry / NASA | From: http://To: https:// |  |
| 2-1 | 2.2.2 | "Orbit", line 1 | ed | Word choice. | David S. Berry / NASA | From: "... around a large central body..."To: '... around a larger central body..." NOTE: the body is not necessarily "large", but with respect to the spacecraft it is. |  |
| 2-1 | 2.2.2 | "Orbit", line 4 | ed/te | Word choices | David S. Berry / NASA | From: "... orbiting the large central body through space."To: "... around the central body through space." |  |
| 2-1 | 2.2.2 | "Attitude", line 3 | ed/te | Unnecessary repetition | David S. Berry / NASA | From: "... depends on the attitude stabilization mode ..."To: "... depends on the stabilization mode ..."Since we are already talking about attitude, and the word "attitude" has already been used in the sentence, "attitude stabilization mode" feels redundant. |  |
| 2-3 | 2.2.3 | 2-3 | ed | Sentence flow. | David S. Berry / NASA | From: "... observations from navigation hardware and orbit and attitude parameters or ephemeris...To: "... observations from orbit parameters, attitude parameters, and ephemeris ...NOTE: The beginning of this phrase refers to "navigation hardware" which may be a holdover from the NHM days. |  |
| 2-3 | 2.2.3 | third from bottom | ed | Unnecessary, diminishing word | David S. Berry / NASA | From: "... process is just the result ..." To: "... process is the result ..." |  |
| 3-2 | 3.2 | first full para, last line | ed | Missing indefinite article. | David S. Berry / NASA | From: "... referred to as complex."To: "... referred to as **a** complex." |  |
| 3-4 | 3.3.2(b) | 4 | ed  | Word choice. Uses "protocol", when "format" would be better... in CCSDS, the word "protocol" is generally used for command/telemetry standards. | David S. Berry / NASA | From: "... each with its own protocol"To: "... each with its own format" |  |
| 4-1 | 4.1 | para 4 | ed/te | This paragraph states what will be described by the NEM, but not the RDM. | David S. Berry / NASA | Consider either adding a very brief (commensurate length) statement about what will be provided by the RDM, or removing the statement about what will be provided by the NEM. |  |
| 4-2 | 4.1 | CDM (mid page) | ed/te | Better description of relationship | David S. Berry / NASA | From: "... different space objects at different times"To: "... two space objects at their time of closest approach". |  |
| 4-2 | 4.1 | PRM (mid page) | ed/te | Bettter description of content | David S. Berry / NASA | From: "... at one or more times"To: "... at one or more future times" |  |
| 4-2 | 4.1 | RDM (mid page) | ed/te | Word choice | David S. Berry / NASA | From: "The RDM contains information that defines..."To: "The RDM contains information that describes..." |  |
| 4-4 | 4.2.1 | end para 2 | te | More TDM users | David S. Berry / NASA | Add at end "ESA has also supported China's Chang-E-2 mission and Russia's Phobos-Grunt mission with TDMs. |  |
| 4-5 | 4.2.2 | last para | te | This paragraph mentions the ODM revisions.  | David S. Berry / NASA | Consider adding a similar paragraph to the TDM section 4.2.1 and the ADM section 4.2.3 |  |
| 4-6 | 4.2.3 | para 2, line 4 | ed | Typo. | David S. Berry / NASA | From: "The recipient need to have..."To: "The recipient needs to have..." |  |
| 4-7 | 4.2.4 | line 2 | ed | Word choice | David S. Berry / NASA | From: "... a CDM gets..."To: "... a CDM is..." |  |
| 4-7 | 4.2.4 | line 3-4 | ed  | Add acronym. | David S. Berry / NASA | From: "... Conjunction Assessment Risk Analysis."To: "... Conjunction Assessment Risk Analysis (CARA)." |  |
| 4-7 | 4.2.4 | 2nd full para, line 1 | ed | Missing word. | David S. Berry / NASA | From: "... final product of CA results and intended..."To: "... final product of CA results and **is** intended..." |  |
| 4-7 | 4.2.4 | last para, line 1 | ed | Typo. | David S. Berry / NASA | From: "... primary means on notifying...To: "... primary means of notifying ..." |  |
| 4-9 | 4.3.1 | 2nd full para, line 3 | ed | Removing redundancy, improving flow. | David S. Berry / NASA | From: "It contains the specifications for an RDM designed for..."To: "It contains specifications for ..." |  |
| 4-11 | 4.3.2 |  | ed/te | I would add a bit more on the NEM. Suggested disposition here contains material from the Concept document. | David S. Berry / NASA | Consider adding after the existing text material from the NEM Concept Paper that is at the bottom of this CRM (so situated to facilitate understanding of formatting, etc.) |  |
| B-1 |  |  | ed | I would remove "FDC" because it is not used in the document (it appeared in earlier draft versions of the Green Book) | David S. Berry / NASA | Consider removing. |  |
| B-2 |  |  | ed | I would remove "NWG" and "OC" because they are not used in the document (they might have appeared in earlier draft versions of the Green Book) | David S. Berry / NASA |  |  |
| B-1 |  |  | ed | I would remove "WG" because it is not used in the document (it might have appeared in earlier draft versions of the Green Book) | David S. Berry / NASA | Consider removing. |  |

See Comment at p.4-11 relevant to the following material:

Satellite operational activities require the exchange of different kinds of data. In addition to the classical data types of orbit, attitude, and measurements that can be handled by the corresponding CCSDS standards, orbital events are another data type for which no standard currently exists. Orbital events (and more precisely predicted orbital events) constitute a major data type used in control centers for operations. Orbital events describe when and possibly how some situations (generally related to a satellite) occur. An orbital event describes when and possibly how a certain situation related to one (or maybe several) satellite(s) occur(s).

Typical events are for instance:

- when a satellite enters/leaves the Earth shadow or penumbra (i.e. beginning / end of eclipses),

- when the satellite becomes visible/invisible from some Earth ground station with a given elevation (ground station visibilities AOS/LOS),

- more generally, when some geometric condition is met (in relation to onboard sensors, celestial bodies, possibly other satellites, …),

- when some orbit parameter has some specific values (satellite crosses the Equator),

- and so on…