| **Page** | **Section** | **Line** | **Type** | **Comment/ Rationale** | **Source of Comment (Name/Agency)** | **Suggested Disposition** | **Disposition**  **(Completed by Principal Editor)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| N/A | N/A | N/A | N/A | ALL PAGE/SECTION/LINE NUMBERS RELATIVE TO "CHANGES ACCEPTED" VERSION | David S. Berry / NASA | N/A | N/A |
| 6-43 | 6.2.9.1  6.2.9.2  6.2.9.3 |  | ed | These sections all refer to Table 6-5, but the applicable table is 6-11 | David S. Berry / NASA | From: Table 6-5  To: Table 6-11 |  |
| 6-44 | 6.2.9.4 |  | ed | This section refers to Table 6-5, but the applicable table is 6-11 | David S. Berry / NASA | From: Table 6-5  To: Table 6-11 |  |
| 6-44 | Table 6-11 |  | ed/te | PERT\_CENTER NAME: we say the center could be another spacecraft, however, we don't have spacecraft in our "Orbit Centers" SANA registry.  (NOTE: we do show "ISS" in the Example values in this table, so if we remove spacecraft, then we would need to remove this example value as well.) | David S. Berry / NASA | We should discuss at Mountain View... do we remove "or another spacecraft" from the options for the value? or expand the "Orbit Centers" registry to include spacecraft? (probably undesirable) or do we refer to the "Spacecraft Identifiers" registry for that value? or do we point to UNOOSA? |  |
| 6-44 | Table 6-11 | N/A | ed/te | PERT\_CENTER\_NAME keyword Description: general note... the parenthetical "(and note the procedure... use case)." should be moved into the Annex B, Section B2, and removed from the table. | David S. Berry / NASA | Please move the parenthetical note to the Annex B. (This one and all the others in the document.) |  |
| 6-44 | Table 6-11 | N/A | te | PERT\_CENTER\_NAME: Is there a reason why this wouldn't just be the orbit center? We already have N\_BODY\_PERTURBATIONS listed. | David S. Berry / NASA | Discuss at Mountain View. |  |
| 6-44 | Table 6-11 | N/A | te | ATMOSPHERIC\_MODEL: you raise the question of making the values SANA entries. | David S. Berry / NASA | Discuss at Mountain View. We will want to be consistent with the CDM and RDM as well. |  |
| 6-44 | Table 6-11 | N/A | te | GRAVITY\_MODEL: you raise the question of making the values SANA entries. | David S. Berry / NASA | Discuss at Mountain View. We will want to be consistent with the CDM and RDM as well. |  |
| 6-44 | Table 6-11 | N/A | te | EQUATORIAL\_RADIUS: Units are in meters, but should be kilometers. | David S. Berry / NASA | From: Units = "m"  To: Units = "km" |  |
| 6-44 | Table 6-11 |  | ed/te | N\_BODY\_PERTURBATIONS: we say these could include another spacecraft, however, we don't have spacecraft in our "Orbit Centers" SANA registry.  (NOTE: we do show "ISS" in the Example values in this table, so if we remove spacecraft, then we would need to remove this example value as well.) | David S. Berry / NASA | We should discuss at Mountain View... do we remove "or another spacecraft" from the options for the value? or expand the "Orbit Centers" registry to include spacecraft? (probably undesirable) or do we refer to the "Spacecraft Identifiers" registry for that value? or do we point to UNOOSA? |  |
| 6-45 | Table 6-11 | 3 | ed | INTERP\_METHOD\_SPWX: In this line there is a list of the various indices and proxies associated with space weather. They are separated by spaces, but commas would be better. | David S. Berry / NASA | Make the list of indices and proxies a comma separated list. |  |
| 6-46 | Table 6-11 |  | ed | FIXED\_F10P7: In the "units" column, there is a notation for the Solar Flux Units "W/m2\*Hz". This is different from all other similar SFU notations in Table 6-11, which are "W/m\*\*2\*Hz". This notation is consistent with 7.6.1.1(e). Unfortunately, due to the "Units" column width, this displays as:  W/(m\*  \*2\*Hz)  which is hard to read. | David S. Berry / NASA | From: "W/m2\*Hz"  To: "W/m\*\*2\*Hz"  Possibly consider narrowing the "Examples of Values" column and widening the "Units" column. |  |
| 6-46 | Table 6-11 |  | ed | FIXED\_M10P7: In the notes at the bottom of the table cell, there are a couple of odd text strings, one of which I think I know what was intended, the other not. | David S. Berry / NASA | From: "core--- o---wing"  To: "core-to-wing"  From: "NOAA---16, ---17, ---18"  To (I think): "NOAA-16, -17, -18". |  |
| 6-44 thru  6-47 | Table 6-11 |  | ed/te | Perturbations section general comment. It might be useful to identify those items that are only useful in Earth orbit and those that are useful in any orbit. | David S. Berry / NASA | Consider. A single sentence in each cell could do it, or alternatively, the table could be divided into two sections: "Any Orbit" and "Earth Orbit Only" |  |
| 6-48 | 6.2.10.1  6.2.10.2  6.2.10.3  6.2.10.4 |  | ed | These sections all refer to Table 6-6, but the applicable table is 6-12 | David S. Berry / NASA | From: Table 6-6  To: Table 6-12 |  |
| 6-48 | 6.2.10.7 | 3-5 | ed/te | Phrase starting with "depending..." through the end of the specification seems unnecessary given the first 3 lines up to the word "depending". Also, the parenthetical remark "(i.e., ..)" actually seems to contradict the first line of the section. | David S. Berry / NASA | Remove phrase starting with "depending". |  |
| 6-48 | 6.2.10.8 |  | ed/te | States that '"Track" is defined in Section 1.6', however, the term defined is "sensor track", and it is defined in Section 1.5. | David S. Berry / NASA | From: "Track"  To: "sensor track"  From: 1.6  To: 1.5 |  |
| 6-48 | 6.2.10.10 |  | ed/te | Wording to indicate a recommendation (per Sec 1.6) | David S. Berry / NASA | From: "... it is recommended that a corresponding perturbations section be included..."  To: "... a corresponding perturbations section should be included..." |  |
| 6-48 | 6.2.10.10 |  | ed | I think the NOTE immediately following this section would be better placed right after the section title (i.e., after 6.2.10) or right after section 6.2.10.1). Right after the title is best. | David S. Berry / NASA | Move "NOTE" to position between 6.2.10 and 6.2.10.1 |  |
| 6-48 | 6.2.10.10 |  | ed | In the NOTE, might as well spell out the full word "COVARIANCE". | David S. Berry / NASA | From: COVAR  To: COVARIANCE |  |
| 6-50 | Table 6-12 |  | te | DAYS\_SINCE\_FIRST\_OBS, DAYS\_SINCE\_LAST\_OBS, RECOMMENDED\_OD\_SPAN, ACTUAL\_OD\_SPAN: These all state that the number of days is "(defined by the SEC\_PER\_DAY duration in the OCM metadata section)", but this contradicts the length of day specified in 6.2.10.7 (i.e, 86400 seconds). | David S. Berry / NASA | Resolve contradiction. I favor the 86400 per 6.2.10.7 because it's the most plausible case (at least for the first 5 years of the OCM, and probably much longer). |  |
| 6-51 | Table 6-12 |  | te | CONSIDER\_PARAMS: This keyword appears twice. The first instance appears to have the correct Description. The Description for the second instance suggests a keword such as "MEASUREMENT\_UPD\_INTV" or something like that. | David S. Berry / NASA | Select a new keyword name for second instance of CONSIDER\_PARAMS keyword. |  |
| 6-52 | Table 6-12 |  | ed | There is a sentence in the middle of the description that seems out of place. | David S. Berry / NASA | Consider removing the sentence "Orbit determine event times are in double precision days." from the middle of the Description text. |  |
| 6-53 | 6.2.11.5 | 2 | ed | This section refers to Table 6-12, but the applicable table is 6-13 | David S. Berry / NASA | From: Table 6-12  To: Table 6-13 |  |
| 6-53 | Table 6-13 |  | ed/te | COMMENT: The Description text contradicts 6.2.11.4 | David S. Berry / NASA | Either delete 6.2.11.4 (my preference) or re-word the Description to reflect 6.2.11.4. |  |
| 6-53 | Table 6-13 |  | ed | COMMENT: The Description text has two opening parentheses but only one closing parenthesis. | David S. Berry / NASA | Either delete 6.2.11.4 (my preference) or re-word the Description to reflect 6.2.11.4. |  |
| 6-53 | Tables  6-2 through 6-7,  6-10 through  6-13 |  | ed | COMMENT: I just noticed this after reading over it many times in P2.37 and P2.38... last table in the document. Subject/verb agreement in the Description... subject "set" is singular, verb "are" is plural. Can either make the subject plural or the verb singular. | David S. Berry / NASA | From: "a contiguous set of one or more comment lines are allowed"  To: "a contiguous set of one or more comment lines is allowed"  or  To: "one or more comment lines are allowed" |  |
| 6-53 | Table 6-13 |  | te | (USER-DEFINED): Note that the formation of the user defined keyword is different in the OPM and OMM. | David S. Berry / NASA | Please consider making the formation of the user defined keywords consistent with that defined in the OPM and OMM. |  |
| 6-53 | 6.3 |  | ed | Says example OCMs are "in G-1", but for consistency with other document sections, "in Annex G" would be preferred. | David S. Berry / NASA | From: "in G-1"  To: "in Annex G" |  |
| 7-0 | 7.2 | 1 | ed | Word choice, also missing Oxford comma. | David S. Berry / NASA | From: "(OPM, OMM, OEM or OCM)"  To: "(OPM, OMM, OEM, and OCM)" |  |
| 7-0 | 7.2 | 2 | ed | May want to include final subsection in the specification. | David S. Berry / NASA | From: "through 7.7"  To: "through 7.8" |  |
| 7-1 | 7.4.1.5 | 1 | ed | Word choice (per section 1.6) | David S. Berry / NASA | From: "lines can contain"  To: "lines may contain" |  |
| 7-1 | 7.4.1.5 |  | te | Note that this specification really applies throughout the ODM (see 7.3.5), so it's somewhat redundant and could be deleted. | David S. Berry / NASA | Consider deleting. |  |
| 7-1 | 7.4.1.7 |  | ed | Section reference has changed. | David S. Berry / NASA | From: 6.2.5  To: 6.2.6 |  |
| 7-1 | 7.4.1.9 |  | ed | Section reference looks garbled (this might be a mashup of page number and section number) | David S. Berry / NASA | From: 6-316.2.8  To: 6.2.8 |  |
| 7-2 | 7.5.2 |  | ed/te | This specification should be deleted because it conflicts with 7.5.7 and is not consistent with prior issues of the ODM. | David S. Berry / NASA | You have flagged this "To discuss", which is fine, so let's do that at Mountain View. But for consistency it should be deleted. I have previously provided the rationale for 7.5.7. |  |
| 7-2 | 7.5.2 |  | ed | If this requirement survives the consensus process, the reference for comment formatting should be fixed. Also, it can be placed at 7.5.7, which should correct other issues associated with inserting a new requirement when there are existing references. | David S. Berry / NASA | From: 6.2.5  To: 7.7 |  |
| 7-3 | 7.5.11 |  | ed/te | Refers to the TIME\_SYSTEM keyword, which I believe should be the proper specification. However, if the multiple time systems introdued in P2.38 survive the consensus process, then this specification must be re-written. | David S. Berry / NASA | As noted elsewhere, I think the proper solution to the issue is to replace \*\_TIME\_SYSTEM with simply TIME\_SYSTEM. To my mind there is no necessity to introduce the additional complexity of having multiple time systems in a single OCM. |  |
| 7-4 | 7.6.1.1 | 3 | ed/te | List of tables containing units should be revised. | David S. Berry / NASA | From: 5-3  To: 6-3  NOTE: Table 5-3 doesn't have any unit specs in it, Table 6-3 does. |  |
| 7-4 | 7.6.3.1 |  | te | While it is true that the units in an OCM orbit state data line are based on degrees, kilometers, and seconds, the units for any given element in the orbit state component is not apparent except as it is represented in the Orbital Elements SANA Registry. | David S. Berry / NASA | It might be better to refer the reader to the units specification as it exists in the Orbital Elements SANA Registry. |  |
| 7-5 | 7.6.3.2 |  | te | While it is true that the units in an OCM covariance matrix data line are based on degrees, kilometers, and seconds, the units for any given element in the covariance matrix component is not apparent except as it is represented in the Orbital Elements or Covariance Matrices SANA Registry. | David S. Berry / NASA | It might be better to refer the reader to the units specification as it exists in the Orbital Elements or Covariance Matrices SANA Registry. |  |
| 7-5 | 7.6.3.3 |  | te | While it is true that the units in an OCM state transition matrix data line are based on degrees, kilometers, and seconds, the units for any given element in the state transition matrix component is not apparent except as it is represented in the Orbital Elements or Covariance Matrices SANA Registry. | David S. Berry / NASA | It might be better to refer the reader to the units specification as it exists in the Orbital Elements or Covariance Matrices SANA Registry. |  |
| 7-5 | 7.6.3.4 |  | ed | This section is obsolete due to removal of the ephemeris compression section. | David S. Berry / NASA | Delete 7.6.3.4 |  |
| 7-5 | 7.6.3.5 | 1 | ed/te | Referring the reader to section 6.2 might not be sufficiently specific. | David S. Berry / NASA | Add "Tables 6-4 through 6-12" after "Section 6.2" |  |
| 7-6 | 7.7.9 | 3 | ed | Refers to "Ephemeris Compression", which has been removed from the OCM. | David S. Berry / NASA | Delete phrase "Ephemeris Compression" |  |
| 7-6 | 7.7.9 | 4-5 | ed | It might help the OCM creator to provide more specific guidance on placement of comments. | David S. Berry / NASA | From: "(generally at the top of each section)"  To: "(generally at the top of each section, following the \*\_START section delimiting keyword)" |  |
| 7-7 | 7.8.1 |  | ed | In "Version Number" column, center the values (as shown in the first 2 table entries). | David S. Berry / NASA | Consider. |  |
| 7-8 | 7.8.2.4 | 2 | ed/te | Table list should be revised. | David S. Berry / NASA | Remove "table 6-8, table 6-9" since they have no keywords.  Add "table 6-12, table 6-13" since they do have keywords. |  |
| 8-9  thru  8-20 | 8\* |  | ed/te | I know Fran has provided some comments directly to you on the XML; I requested that he review Section 8. However, he made some suggestions I'd like to discuss with the group. Reason is one of the drawbacks of putting the XML into the various standards... now they can diverge. While some divergence may be necessary and/or supportable, I'd prefer to minimize the ripple effect. | David S. Berry / NASA | Let's discuss Fran's comments Mountain View. |  |
| A-3 | A2.4 |  | ed/te | Version shown is a draft version; there is no risk in putting the eventual Production version here. | David S. Berry / NASA | From: P2.38  To: 3 |  |
| B-1 | B1 | 1 | ed | Subject/verb agreement. | David S. Berry / NASA | From: "The set of acceptable values... are provided..."  To: "The set of acceptable values ... is provided..."  Alternatively:  From: same as above  "Acceptable values ... are provided..." |  |
| B-1 | B1 |  | ed/te | The reference chaining construct here may not be readily apparent to an ODM user, e.g., in Table 3-1, we refer them to Annex B, Section B1, which is fine. However, in B1 we then further direct the user to "normative reference [B-1]". Since references are in Section 1.7, and [B-1] is not present there, the user could get confused. It might be better in Section B1 to refer them specifically to Section B9. (Makes the reference chaining clearer.) | David S. Berry / NASA | From: "... provided in ANNEX B normative reference [B-1]."  To: "... provided in ANNEX B, Section B9, normative reference [B-1]." |  |
| B-1 | B2 |  | ed/te | Similar reference chaining comment as for Section B1 and reference [B-1]. | David S. Berry / NASA | Consider. |  |
| B-1 | B2 | 1, 4 | ed | Subject/verb agreement. | David S. Berry / NASA | From: "The set of acceptable values... are provided..."  To: "The set of acceptable values ... is provided..."  Alternatively:  From: same as above  "Acceptable values ... are provided..." |  |
| B-1 | B2 | 4 | ed | Contains reference to "EC\_CENTER\_NAME", which is no longer in the OCM. | David S. Berry / NASA | Delete "EC\_CENTER\_NAME" reference. |  |
| B-1 | B2 | para2, line 1 | ed/te | Removal of "Note" from normative statement; subject/verb agreement. | David S. Berry / NASA | From: "Note that this values..."  To: "These values..." |  |
| B-2 | B3 |  | ed/te | Similar reference chaining comment as for Section B1 and reference [B-1] | David S. Berry / NASA | Consider. |  |
| B-2 | B3 | 1 | ed | Subject/verb agreement. | David S. Berry / NASA | From: "The set of acceptable values... are provided..."  To: "The set of acceptable values ... is provided..."  Alternatively:  From: same as above  "Acceptable values ... are provided..." |  |
| B-2 | B4 |  | ed/te | Similar reference chaining comment as for Section B1 and reference [B-1] | David S. Berry / NASA | Consider. |  |
| B-2 | B4 | 1,2 | ed | Subject/verb agreement. | David S. Berry / NASA | From: "The set of non-orbit-relative... are provided..."  To: "The set of non-orbit-relative ... is provided..." |  |
| B-2 | B5 | 1 | ed/te | Normative language... can=>may | David S. Berry / NASA | From: "... covariance data can be specified..."  To: "... covariance data may be specified..." |  |
| B-2 | B5 |  | ed/te | Similar reference chaining comment as for Section B1 and reference [B-1] | David S. Berry / NASA | Consider. |  |
| B-2 | B6 | 1 | ed | Subject/verb agreement. | David S. Berry / NASA | From: "An additional set... are acceptable..."  To: "An additional set... is acceptable..." |  |
| B-2 | B6 |  | ed/te | Similar reference chaining comment as for Section B1 and reference [B-1] | David S. Berry / NASA | Consider. |  |
| B-2 | B7 | 1 | ed | Subject/verb agreement. | David S. Berry / NASA | From: "The set of acceptable values... are provided..."  To: "The set of acceptable values ... is provided..."  Alternatively:  From: same as above  "Acceptable values ... are provided..." |  |
| B-2 | B7 |  | ed/te | Similar reference chaining comment as for Section B1 and reference [B-1] | David S. Berry / NASA | Consider. |  |
| B-2 | B7 | para4, line 1 | ed/te | It might be good to try to eliminate the double negative (non/not) contained in this specification. | David S. Berry / NASA | Consider:  "When employing inertial element sets, inertial reference frames must be specified." or something like that. This also suggests we may need to modify the "Orbital Elements" registry to definitively state whether or not an element set is inertial or not. |  |
| B-3 | B7 |  | ed/te | Companion to previous comment. | David S. Berry / NASA | Consider:  "When employing non-inertial element sets, non-inertial reference frames must be specified." or something like that.  Alternatively: "When employing non-inertial element sets, inertial reference frames shall not be specified." Yes, this contains a double negative too, but it seems easier to me to understand. |  |
| B-3 | B8 | 1 | ed/te | Normative language... can=>may | David S. Berry / NASA | From: "... covariance data can be specified..."  To: "... covariance data may be specified..." |  |
| B-3 | B8 |  | ed/te | Similar reference chaining comment as for Section B1 and reference [B-1] | David S. Berry / NASA | Consider. |  |
| B-3 | B9 | [B-1] |  | In general I think we want people to try to use the "Abbreviation" column in the cited registry... however, a lot of them do not have an abbreviation assigned. | David S. Berry / NASA | After the link, consider adding "(preferably the 'Abbreviation' column, if specified)" |  |
| B-3 | B9 | [B-4] |  | Link refers to "absolute\_reference\_frames", but Section A2 of our source document refers to "celestial\_body\_reference\_fames". | David S. Berry / NASA | Discuss at Mountain View if name change to "absolute\_reference\_frames" is necessary and/or desirable, respond accordingly. It might make sense given "Orbit-Relative Reference Frames". |  |