| **Page** | **Section** | **Line** | **Type** | **Comment/ Rationale** | **Source of Comment (Name/Agency)** | **Suggested Disposition** | **Disposition**  **(Completed by Principal Editor)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1-2 | 1.3 | N/A | te | Recall that we added a corrigendum regarding the use of the term "nutation" to the ADM in this section. | David S. Berry / NASA | Copy the corrigendum regarding nutation into this section. |  |
| 2-1 | 2.2.2 | last | ed | "Orbit Parameter Message" is used without specifying the acronym; then the acronym is later used in the document. | David S. Berry / NASA | From: "Orbit Parameter Message (reference [7])"  To: "Orbit Parameter Message (OPM) (reference [7])" |  |
| 2-2 | 2.3.3 | last | ed | "Orbit Ephemeris Message" is used without specifying the acronym (similar to OPM topic above). | David S. Berry / NASA | From: "Orbit Ephemeris Message (reference [7])"  To: "Orbit Ephemeris Message (OEM) (reference [7])" |  |
| 3-1 | 3.1.1 | 7 | ed | End parenthesis without matching beginning parenthesis. | David S. Berry / NASA | Remove unnecessary end parenthesis.  From: "maneuver planning data, if applicable, )"  To: "maneuver planning data, if applicable, " |  |
| 3-1 | 3.1.3 |  | te | The section contains a requirement on the Working Group that an originator cannot really affect if they are compliant with the standard. The ADM document is built to implement the stated requirement; the originator has no control. | David S. Berry / NASA | Delete the second statement: "It shall be easily readable by both humans and computers.". This is a requirement on the Nav WG for the design of the ADM data structure, not on an APM originator. |  |
| 3-1 | 3.1.4 |  | te | Unenforceable "shall" statement | David S. Berry / NASA | From: "The APM file naming scheme shall be agreed..."  To: "The APM file naming scheme should be agreed..." |  |
| 3-2 | Table 3-1 |  | ed/te | CREATION\_DATE: unnecessary repetition of date format rules. | David S. Berry / NASA | We've been migrating to putting the formatting rules in one place.  From: existing text  To: "File creation date/time in UTC (for format  specification, see 5.6.9)" |  |
| 3-2 | Table 3-1 |  | te | ORIGINATOR: Add more info explaining the source of the value. | David S. Berry / NASA | From: "... should come from the SANA Registry."  To: "... should come from the 'Abbreviation' column in the 'Organizations' registry of the SANA Registry (https://sanaregistry.org/r/organizations )." |  |
| 3-2 | Table 3-1 |  | ed | MESSAGE\_ID: The last 3 cells of the row are left shifted by one cell (example indicator is missing, the example is in the wrong column, the "Mandatory" indicator is in the wrong column, the keyword is repeated in the last column). | David S. Berry / NASA | Fix accordingly. |  |
| 3-3 | Table 3-2 |  | ed | OBJECT\_NAME: Description refers to "international designators" instead of "names" | David S. Berry / NASA | From: "use international designators from"  To: "use names from" |  |
| 3-3 | Table 3-2 |  | ed | OBJECT\_NAME: should have a reference | David S. Berry / NASA | Add "(reference [2])" |  |
| 3-3 | Table 3-2 |  | te | OBJECT\_NAME: Annex F indicates that the value should be in an ICD if not in UNOOSA, but it's not mentioned here. | David S. Berry / NASA | Add something to the effect that if the value is not taken from UNOOSA, then it should be specified in an ICD. |  |
| 3-3 | Table 3-2 |  | ed | OBJECT\_ID: Description refers to "names" instead of "international designators" | David S. Berry / NASA | From: "use names from"  To: "use international designators from" |  |
| 3-3 | Table 3-2 |  | ed | OBJECT\_ID: should have a reference | David S. Berry / NASA | Add "(reference [2])" |  |
| 3-3 | Table 3-2 |  | te | OBJECT\_ID: Annex F indicates that the value should be in an ICD if not in UNOOSA, but it's not mentioned here. | David S. Berry / NASA | Add something to the effect that if the value is not taken from UNOOSA, then it should be specified in an ICD. |  |
| 3-3 | Table 3-2 |  | ed | Empty table row at bottom | David S. Berry / NASA | Remove empty table row. |  |
| 3-4 | 3.2.4.1 | 2-3 | ed | The listing of logical blocks is not in the order they are in the table. | David S. Berry / NASA | Consider putting them in the order in which they appear in the table. |  |
| 3-4 | 3.2.4.1 | 3 | te | Question based on my ignorance... is it clear that "spacecraft parameters" implies the inertia matrix? | David S. Berry / NASA | If so, ignore this. If not, indicate something like "spacecraft inertia parameters". |  |
| 3-4 | N/A |  | te | Somewhere in this section you need a requirement that "At least one logical block shall appear in an APM." | David S. Berry / NASA | Add such a requirement; it could be made part of 3.2.4.3. |  |
| 3-4 | 3.2.4.3 |  | te | The statement as written is unclear... "as many logical blocks as necessary" to do what? | David S. Berry / NASA | Clarify. |  |
| 3-4 | 3.2.4.4 |  | te | This statement mystifies me. Since the APM is an attitude state at epoch, why would one need repeated logical blocks? (Exception is maneuver block in APM version 1, and assume the same for APM version 2). | David S. Berry / NASA | Clarify. |  |
| 3-4 | N/A |  | te | Somewhere in this section it should be stated that there is no one mandatory logical block for an APM, but if a logical block is chosen, all elements marked 'mandatory' for that logical block must be present. This was not an issue in the APM version 1, since the quaternion was required. It becomes necessary now that the quaternion is no longer required. | David S. Berry / NASA | Add as 3.2.4.5? or maybe 3.2.4.2 and push the others down one step? |  |
| 3-4 | Table 3-3 |  | ed | EPOCH: replace "&" character with word "and". | David S. Berry / NASA | Fix |  |
| 3-4 | Table 3-3 |  | ed/te | Move the COMMENT that appears just before QUAT\_START to just after QUAT\_START. | David S. Berry / NASA | Moving the COMMENT makes it clear that the comments apply to the quaternion, and is consistent with other standards that have COMMENTs right after the start of sections. |  |
| 3-4 | Table 3-3 |  | ed | Last row in the table on this page is empty | David S. Berry / NASA | Remove the empty row. |  |
| 3-5 | Table 3-3 |  | ed/te | Move the COMMENT that appears just before EULER\_START to just after EULER\_START. | David S. Berry / NASA | Moving the COMMENT makes it clear that the comments apply to the Euler angles, and is consistent with other standards that have COMMENTs right after the start of sections. |  |
| 3-5  3-6 | Table 3-3 |  | ed/te | Move the COMMENT that appears just before ANGVEL\_START to just after ANGVEL\_START. | David S. Berry / NASA | Moving the COMMENT makes it clear that the comments apply to the angular velocity, and is consistent with other standards that have COMMENTs right after the start of sections. |  |
| 3-6 | Table 3-3 |  | te | The ANGVEL block still has a "DATA\_TYPE" keyword that has been removed from other logical blocks | David S. Berry / NASA | Remove "DATA\_TYPE" in the ANGVEL block. |  |
| 3-6 | Table 3-3 |  | ed/te | Move the COMMENT that appears just before SPIN\_START to just after SPIN\_START. | David S. Berry / NASA | Moving the COMMENT makes it clear that the comments apply to the spin data, and is consistent with other standards that have COMMENTs right after the start of sections. |  |
| 3-7 | Table 3-3 |  | ed/te | Move the COMMENT that appears just before INERTIA\_START to just after INERTIA\_START. | David S. Berry / NASA | Moving the COMMENT makes it clear that the comments apply to the inertia data, and is consistent with other standards that have COMMENTs right after the start of sections. |  |
| 3-7 | Table 3-3 |  | ed | IXY, IXZ, IYZ Descriptions... replace "&" character with "and" | David S. Berry / NASA | Fix |  |
| 3-7 | Table 3-3 |  | ed | In description of the Maneuver block, the word "obligatory" appears. | David S. Berry / NASA | From: "obligatory"  To: "mandatory" |  |
| 3-7 | Table 3-3 |  | ed/te | Move the COMMENT that appears just before MANEUVER\_START to just after MANEUVER\_START. | David S. Berry / NASA | Moving the COMMENT makes it clear that the comments apply to the maneuver data, and is consistent with other standards that have COMMENTs right after the start of sections. |  |
| 3-8 | 3.2.6.1 |  | ed/te | This section should be moved to 3.2.2 | David S. Berry / NASA | Relates to APM Header. |  |
| 3-8 | 3.2.6.2 |  | ed/te | This section should be moved to 3.2.2 | David S. Berry / NASA | Relates to APM Header. |  |
| 3-8 | 3.2.6.3 |  | ed/te | This section should be moved to 3.2.2 | David S. Berry / NASA | Relates to APM Header. |  |
| 3-8 | 3.2.6.4 |  | ed | Use of forbidden word :-) | David S. Berry / NASA | From: "obligatory"  To: "mandatory" |  |
| 3-9 | Figure 3-1 |  | ed | "CCSDS\_APM\_VERS = 1.0" is used | David S. Berry / NASA | Change to "CCSDS\_APM\_VERS = 2.0" |  |
| 3-10 | Figure 3-2 |  | ed | "CCSDS\_APM\_VERS = 1.0" is used | David S. Berry / NASA | Change to "CCSDS\_APM\_VERS = 2.0" |  |
| 3-10 | Figure 3-2 |  | ed | "DATA\_TYPE" keyword is used (now obsolete) | David S. Berry / NASA | Remove the line. |  |
| 3-11 | Figure 3-3 |  | ed | "CCSDS\_APM\_VERS = 1.0" is used | David S. Berry / NASA | Change to "CCSDS\_APM\_VERS = 2.0" |  |
| 3-11 | Figure 3-3 |  | ed/te | Comments for logical blocks appear outside the logical block (QUAT, INERTIA, MANEUVER) | David S. Berry / NASA | Move COMMENT statements that apply to logical blocks after the "\*\_START" keywords |  |
| 3-11 | Figure 3-3 |  | ed | REF\_FRAME\_A and REF\_FRAME\_B keywords have 2 values | David S. Berry / NASA | Fix |  |
| 3-11 | Figure 3-3 |  | ed/te | QUAT logica block ends with "DATA\_STOP" | David S. Berry / NASA | From: DATA\_STOP  To: QUAT\_STOP |  |
| 3-11 | Figure 3-3 |  | ed/te | Inertia block begins with "DATA\_START" and contains a "DATA\_TYPE" keyword | David S. Berry / NASA | Change "DATA\_START" to "INERTIA\_START" and remove the "DATA\_TYPE" keyword. |  |
| 3-11 | Figure 3-3 |  | ed/te | Inertia block ends with "QUAT\_STOP" keyword | David S. Berry / NASA | Change "QUAT" to "INERTIA". |  |
| 3-11 | Figure 3-3 |  | ??? | Question from ignorance: Is it odd to have a maneuver reference frame based on an instrument frame? (in this case, "INSTRUMENT\_A") | David S. Berry / NASA | Apologies for ignorance... |  |
| 4-12 | 4.1.2 |  | te | The section contains a requirement on the Working Group that an originator cannot really affect if they are compliant with the standard. The ADM document is built to implement the stated requirement; the originator has no control. | David S. Berry / NASA | Delete the second statement: "It shall be easily readable by both humans and computers.". This is a requirement on the Nav WG for the design of the ADM data structure, not on an APM originator. |  |
| 4-12 | 4.1.3 |  | te | Unenforceable "shall" statement | David S. Berry / NASA | From: "The file naming scheme shall be agreed..."  To: "The AEM file naming scheme should be agreed..." |  |
| 4-14 | Table 4-2 |  | ed/te | CREATION\_DATE: unnecessary repetition of date format rules. | David S. Berry / NASA | We've been migrating to putting the formatting rules in one place.  From: existing text  To: "File creation date/time in UTC (for format  specification, see 5.6.9)" |  |
| 4-14 | Table 4-2 |  | te | ORIGINATOR: Add more info explaining the source of the value. | David S. Berry / NASA | From: "... should come from the SANA Registry."  To: "... should come from the 'Abbreviation' column in the 'Organizations' registry of the SANA Registry (https://sanaregistry.org/r/organizations )." |  |
| 4-14 | Table 4-2 |  | te | MESSAGE\_ID: was added to APM, but is missing from the AEM. | David S. Berry / NASA | Consider adding the MESSAGE\_ID to AEM |  |
| 4-15 | Table 4-3 |  | ed | OBJECT\_NAME: Description refers to "international designators" instead of "names" | David S. Berry / NASA | From: "use international designators from"  To: "use names from" |  |
| 4-15 | Table 4-3 |  | ed | OBJECT\_NAME: should have a reference | David S. Berry / NASA | Add "(reference [2])" |  |
| 4-15 | Table 4-3 |  | te | OBJECT\_NAME: Annex F indicates that the value should be in an ICD if not in UNOOSA, but it's not mentioned here. | David S. Berry / NASA | Add something to the effect that if the value is not taken from UNOOSA, then it should be specified in an ICD. |  |
| 4-15 | Table 4-3 |  | ed | OBJECT\_ID: Description refers to "names" instead of "international designators" | David S. Berry / NASA | From: "use names from"  To: "use international designators from" |  |
| 4-15 | Table 4-3 |  | ed | OBJECT\_ID: should have a reference | David S. Berry / NASA | Add "(reference [2])" |  |
| 4-15 | Table 4-3 |  | te | OBJECT\_ID: Annex F indicates that the value should be in an ICD if not in UNOOSA, but it's not mentioned here. | David S. Berry / NASA | Add something to the effect that if the value is not taken from UNOOSA, then it should be specified in an ICD. |  |
| 4-16 | Table 4-3 |  | ed | TIME\_SYSTEM: incomplete document name. | David S. Berry / NASA | From: Navigation Definitions and Conventions  To: Navigation Data - Definitions and Conventions |  |
| 4-16 | Table 4-3 |  | te | USEABLE\_START\_TIME & USEABLE\_STOP\_TIME. A correction was put into ODM Version 2 that you may want to consider. | David S. Berry / NASA | See the text in the ODM Version 2 OEM for these 2 keywords in metadata, also see ODM V2 text in section 5.2.4.4 |  |
| 4-16 | Table 4-3 |  | ed | The row in the table after ATTITUDE\_TYPE is empty | David S. Berry / NASA | Remove the empty row. |  |
| 4-16 | Table 4-3 |  | te | RATE\_FRAME: I think this keyword is obsolete in the ADM version 2. Euler angle rates are no longer included in the AEM. | David S. Berry / NASA | Delete RATE\_FRAME row from the table. |  |
| 4-17 | 4.2.3.3 |  | ed | I suggest moving this section to before Table 4-3; situated as it is it could get lost. | David S. Berry / NASA | Consider moving section before Table 4-3 |  |
| 4-17 | 4.2.4.1 |  | ed/te | I think this line is superfluous | David S. Berry / NASA | Consider removing |  |
| 4-18 | Table 4-4 |  | ed/te | I think the first "ATTITUDE\_TYPE" section of this table (quaternion real portion in first component) is obsolete. | David S. Berry / NASA | Remove the entire section. |  |
| 4-18 | Table 4-4 |  | ed | There are two empty rows in the table. | David S. Berry / NASA | Remove empty rows. |  |
| 4-18 | 4.2.5.3 |  | te | You may want to add a "NOTE" after this section indicating that units do not appear in the ephemeris line, just the data values. | David S. Berry / NASA | Consider. |  |
| 4-19 | 4.2.5.3 |  | te | The "deg/s" line is missing the data elements ANGLE\_1\_DOT, ANGLE\_2\_DOT, ANGLE\_3\_DOT | David S. Berry / NASA | Add to deg/s line |  |
| 4-19 | 4.2.5.5.1 |  | te | This text will need to be revised if the text for USEABLE\_START\_TIME and USEABLE\_STOP\_TIME is modified per the previous comment (see above). | David S. Berry / NASA | Consider |  |
| 4-20 | 4.2.6.1 |  | ed/te | This section should be moved to 4.2.2 | David S. Berry / NASA | Relates to AEM Header. |  |
| 4-20 | 4.2.6.2 |  | ed/te | This section should be moved to 4.2.2 | David S. Berry / NASA | Relates to AEM Header. |  |
| 4-20 | 4.2.6.3 |  | ed/te | This section should be moved to 4.2.2 | David S. Berry / NASA | Relates to AEM Header. |  |
| 4-20 | 4.2.6.4 |  | ed | Use of forbidden word :-) | David S. Berry / NASA | From: "obligatory"  To: "mandatory" |  |
| 4-20 | 4.2.6.5 |  | ed | This section should be moved to 4.2.3 | David S. Berry / NASA | Relates to AEM Metadata |  |
| 4-20 | 4.2.6.6 |  | ed | This section should be moved to 4.2.3 | David S. Berry / NASA | Relates to AEM Metadata |  |
| 4-20 | 4.2.6 |  | ed | If all the above moves are made, the section will be empty. You could add a statement similar to that of 3.2.6.4, or delete the section. | David S. Berry / NASA | Consider. |  |
| N/A | N/A |  | te | Somewhere in Section 4 do you need to include a statement similar to that in 3.2.5.2.1? It is implied in 2.3.3, but that section is non-normative. | David S. Berry / NASA | Consider. |  |
| 4-21 | 4.3 |  | ed | Title should be plural since there are two examples (cf. 3.3) | David S. Berry / NASA | From: AEM EXAMPLE  To: AEM EXAMPLES |  |
| 4-21 | Figure 4-1 |  | ed | "CCSDS\_AEM\_VERS = 1.0" is used | David S. Berry / NASA | Change to "CCSDS\_AEM\_VERS = 2.0" |  |
| 4-21 | Figure 4-1 |  | te | The times in both metadata blocks shown for USEABLE\_START\_TIME are not shown in the data, but should be. | David S. Berry / NASA | Add points in the Data Sections of the example that match the USEABLE\_START\_TIME data, OR change the USEABLE\_START\_TIMEs to points that are in the data. |  |
| 4-21 | Figure 4-1 |  | ed/te | Second metadata section includes obsolete keyword "QUATERNION\_TYPE" | David S. Berry / NASA | Delete the line. |  |
| 4-21 | Figure 4-1 |  | ed/te | The last components of the second and third quaternions in the second data section violate the condition established in Annex C, section C2. | David S. Berry / NASA | Fix (remove negative sign?) |  |
| 4-22 | Figure 4-2 |  | ed | "CCSDS\_AEM\_VERS = 1.0" is used | David S. Berry / NASA | Change to "CCSDS\_AEM\_VERS = 2.0" |  |
| 5-2 | 5.5.7 |  | ed | Use of forbidden word :-) | David S. Berry / NASA | From: "obligatory"  To: "mandatory" |  |
| 5-2 | 5.5.7 |  | ed/te | The second sentence in this section (from "Exceptions...") is obsolete, I believe. | David S. Berry / NASA | Remove second sentence. |  |
| 5-2 | 5.5.8 |  | ed/te | There are quite a few more exceptions to KVN in the new ADM: QUAT\_START, QUAT\_STOP, etc. | David S. Berry / NASA | Either list them all or indicate the first word with an asterisk, e.g., \*\_START, \*\_STOP. |  |
| 5-2 | 5.6.3 |  | ed | You may want to add a "NOTE" after 5.6.3 explaining why blank spaces are shown in the example, which appears to be a contradiction of 5.6.2 that immediately precedes it. | David S. Berry / NASA | Consider. |  |
| 5-4 | 5.7.2.1 |  | ed | Consider adding a refer back to section 4.2.5.3 | David S. Berry / NASA | Add "See 4.2.5.3." |  |
| 5-4 | 5.8.1.3 |  | ed | The text in this section appears to be in a smaller font than surrounding text | David S. Berry / NASA | Check and fix if applicable. |  |
| Annex A, 5-2 | A1.1 | 2 | ed | Name the specification | David S. Berry / NASA | From: "[Specification]"  To: "The Attitude Data Messages" |  |
| Annex A, 5-4 | A2.1.4 | 1 | ed | Add the CCSDS document number | David S. Berry / NASA | Add 504.0-B-2 |  |
| Annex A, 5-4 | A2.2 |  | te | Eventually the table will need to be filled out. | David S. Berry / NASA | Can defer... but not forever! |  |
| B-2 | B3 |  | ed/te | Obsolete frame related keywords are used. | David S. Berry / NASA | Delete: "Q\_FRAME\_\*, EULER\_FRAME\_\*, and SPIN\_FRAME\_\* in an APM, and"  From: "REF\_FRAME\_\* in an AEM"  To: "REF\_FRAME\_\* in an APM or AEM |  |
| B-3 | B4 | 1 | ed/te | Incomplete keyword | David S. Berry / NASA | From: "FRAME\_\*"  To: "REF\_FRAME\_\*" |  |
| C-4 | C2 |  | ed/te | Maybe the quaternion should be shown in vector notation since what is shown here is presumed to be the only style used in the ADM | David S. Berry / NASA | Consider. |  |
| C-5 | C2 |  | te | Contains the statement "The real component (qc) of the quaternion shall...". The annex is labeled "Informative", but you cannot have "shall" statements in an informative annex. | David S. Berry / NASA | Suggest moving this statement into Section 3 (APM) and Section 4 (AEM). There is an obvious place in Table 3-3; not so obvious in Section 4 (maybe in section 4.2.5.5?) |  |
| C-5 | C3 | 4 | ed | Lack of "Oxford Comma" | David S. Berry / NASA | From: "Y-axis or Z-axis"  To: "Y-axis, or Z-axis" |  |
| C-6 | C4 | 1 | ed | Inconsistent capitalization | David S. Berry / NASA | From: "Frame A or frame B"  To: "frame A or frame B" (or both caps). Just be consistent. |  |
| C-6 | C5 |  | ed | Redundant statement | David S. Berry / NASA | From: "The following assumption is assumed:"  To: "The following is assumed:" |  |
| C-6 | C6 |  | ed/te | The inertia tensor is shown with numeric elements, but the APM uses letters. | David S. Berry / NASA | Make the inertia tensor consistent with terminology used in the APM Table 3-3 |  |
| D-7 | APM Changes |  | ed | Row 1 of the table is blank, and the indexes of the table rows start with 2. | David S. Berry / NASA | Remove row 1 and renumber the rows OR  copy rows 2 - 10 up one row and remove row 10. |  |
| D-7 | APM Changes |  | ed | In row 10, there are references to DATA\_START and DATA\_STOP that are no longer applicable. | David S. Berry / NASA | From: "DATA\_S"  To: "\*\_S |  |
| D-7 | APM Changes |  | te | Should mention that MESSAGE\_ID was added. | David S. Berry / NASA | Add to table. |  |
| D-7 | APM Changes |  | te | Should mention that many frame related keywords were simplified to just "REF\_FRAME\_A" and "REF\_FRAME\_B" | David S. Berry / NASA | Add to table that Q\_FRAME, EULER\_FRAME, RATE\_FRAME, SPIN\_FRAME were removed from the APM. |  |
| D-7 | APM Changes |  | te | Should mention that the attitude direction was removed, and now it's always A to B (no more B2A) | David S. Berry / NASA | Add to table. |  |
| D-8 | AEM Changes |  | te | Should mention that MESSAGE\_ID was added (if in fact it was... it's not in table 4-2). | David S. Berry / NASA | Add to table if the MESSAGE\_ID was added. |  |
| D-8 | AEM Changes |  | te | Should mention that the QUATERNION\_TYPE was removed. | David S. Berry / NASA | Add to table. |  |
| D-8 | AEM Changes |  | te | Should mention the other changes in the ephemeris type (QUATERNION/RATE removed, QUATERNION\_ANGVEL added, EULER\_ANGLE/RATE removed, EULER\_ANGLE/ANGVEL added, | David S. Berry / NASA | Change table accordingly. |  |
| E-2 | E2, Table E-1 |  | te | I think the requirement that starts "Identification of the center of attitude motion..." is indicated wrong in the table. They are marked "N", but should be "Y" because there is a keyword in the Metadata sections of APM and AEMfor the center name. If we didn't have those keywords, then "N" would be applicable. | David S. Berry / NASA | From: "N" for APM and "N" for AEM  To: "Y" for APM and "Y" for AEM |  |
| E-2 | E2, Table E-1 |  | te | Last requirement should be removed because the standard has no file naming requirement. It's outside the purview of the WG really. | David S. Berry / NASA | Remove the last requirement. |  |
| E-2 | E2, Table E-1 |  | ed | There are no numbers on the requirements, which makes them difficult to refer to. | David S. Berry / NASA | Consider adding a far left column with a requirement number. |  |
| E-3 | E2, Table E-2 |  | ed | There are no numbers on the requirements, which makes them difficult to refer to. | David S. Berry / NASA | Consider adding a far left column with a requirement number. |  |
| E-3 | E2, Table E-3 |  | te | The first requirement in the list seems odd to me... could we define the orientation of a natural body with an APM or AEM? | David S. Berry / NASA | Apologies for ignorance. |  |
| E-3 | E2, Table E-3 |  | ed | There are no numbers on the requirements, which makes them difficult to refer to. | David S. Berry / NASA | Consider adding a far left column with a requirement number. |  |
| F-1 | Table F-1 |  | ed | This version of APM doesn't have any format requirements for the ORIGINATOR | David S. Berry / NASA | Remove Row 5 of table. |  |
| F-1 | Table F-1 | Row 7 | ed | There is no mention of an ICD in section 3.2.4 | David S. Berry / NASA | From: 3.2.4  To: Annex B |  |
| F-1 | Table F-1 | Row 8 | ed/te | There is no mention of SPIN\_ANGLE in 3.2.4, and I can't find any language about conventions for the values of the SPIN\_ANGLE in the document. | David S. Berry / NASA | From: 3.2.4  To: Remove??? |  |
| F-1 | Table F-1 | Row 11 | ed | There is a footnote that is no longer applicable. | David S. Berry / NASA | Remove the footnote after "XML". |  |
| F-1 | Table F-1 | Row 12 | ed/te | There is no mention of the purported "ICD Item" in the body of the standard. | David S. Berry / NASA | Consider adding the requirement to an applicable document section. |  |
| F-1 | Table F-1 | Row 13 | ed/te | The previous text of Row 13 was inexplicably removed... it related to "If angles are in radians..." | David S. Berry / NASA | Restore row 13 (see section 5.6.1 which was the apparent basis for the original item). |  |
| F-1 | Table F-1 | Row 17 | ed/te | The language in B4 is different than is characterized in Row 17 | David S. Berry / NASA | From: "...if different from those specified in annex B"  To: "...if local frame". |  |
| G-1 | Annex G | CCIR | ed | Acronym not used in document. | David S. Berry / NASA | Remove |  |
| G-1 | Annex G | TDM | ed | Acronym not used in document. | David S. Berry / NASA | Remove |  |
| H-1 | Annex H | [H1] | ed | This will become a reference for Section 1.5 when the XML material is added. | David S. Berry / NASA | In preparation for adding the XML content, move to Section 1.5 |  |
| H-1 | Annex H | N/A | ed | The "Part 1" of reference [H1] will also be applicable in Section 1.5 when the XML material is added. | David S. Berry / NASA | In preparation for adding the XML content, add to Section 1.5 "Henry S. Thompson, et al., eds. XML Schema Part 1: Structures. 2nd ed. W3C  Recommendation. N.p.: W3C, October 2004. <http://www.w3.org/TR/2004/RECxmlschema-  1-20041028/>" |  |
| H-1 | Annex H | [H2] | ed/te | This reference is not applicable to the document. | David S. Berry / NASA | Remove reference. |  |
| I-2 | A1.2 | 3 | ed/te | Copy paste error. | David S. Berry / NASA | From: "... collision avoidance analyses and potential..."  To: "...conveying planned spacecraft attitudes and potential..." OR other text you think more applicable. |  |
| I-4 | A2 | 1 | ed/te | Change to conform to CCSDS regulation | David S. Berry / NASA | From: "Navigation Working Group chair"  To: "Area or Working Group responsible for maintenance of the ADM at the time of the request" |  |
| I-4 | A2 |  | te | Addition to the list of items maintained on the SANA Registry | David S. Berry / NASA | Add a list item: "Values for the ORIGINATOR keyword." |  |