| **Pg** | **Sec** | **Para** | **Line** | **Type** | **Comment/ Rationale** | **Reviewer (Name/Agency)** | **Suggested Disposition** | **Final Disposition**  **(Do Not Fill In)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| N/A | 4.x | N/A | N/A | te | Somewhere in Chapter 4 there should be a statement that the XML tags/values shall be composed of ASCII characters. | David Berry / NASA/JPL | Add suggested statement in appropriate place in Chapter 4. . Add to trace on requirement NHM-P05 |  |
| 4-1 | 4.3 | All | All | ed | Logically I think this section should precede what is now numbered as 4.2 | David Berry / NASA/JPL | Consider moving the section. |  |
| 4-1 | 4.2.2 | 1 | 2 | ed | Unnecessary reiteration of "KVN" | David Berry / NASA/JPL | From: "... correspondence between KVN keywords in the KVN and XML implementations..."  To: "... correspondence between keywords in the KVN and tags in the XML implementations..." |  |
| 4-1 | 4.2.2 | 1 | 3 | ed | Clarification... | David Berry / NASA/JPL | From: "The 'CCSDS\_NHM\_VERS' shall appear as XML attributes rather than as XML elements."  To: " The 'CCSDS\_NHM\_VERS' keyword and its value shall appear as XML attributes rather than an XML element." |  |
| 4-1 | 4.2.3 | 1 | 3 | ed | Typo... sentence lacks a period. | David Berry / NASA/JPL | End sentence with a period. |  |
| 4-1 | 4.2.4 | 1 | 2 | ed | Suggestion. | David Berry / NASA/JPL | Add "<defineSet>" to "<header>, <segment>" |  |
| 4-1 4-2 | 4.3 | Fig 4-1 | N/A | ed | Figure breaks over the two pages. | David Berry / NASA/JPL | Add blank lines at bottom of 4-1 or a page break to get the figure all on one page. |  |
| 4-2 | 4.4 | Title | N/A | ed | Use of indefinite article | David Berry / NASA/JPL | From: "A NHM/XML"  To: "An NHM/XML"  NOTE: I conferred with the CCSDS Editor on this item and the following item. |  |
| 4-2 | 4.4.3.1 | 1 | 1 | ed | Use of indefinite article | David Berry / NASA/JPL | From: "A NHM instantiation..."  To: "An NHM instantiation..." |  |
| 4-3 | 4.4.3.4  4.4.3.5 | All | All | ed | Placement of these two sections. I think the material in these two sections really doesn't belong with "BEGINNING THE INSTANTIATION..." | David Berry / NASA/JPL | Consider moving them to a new Section 4.2, or at the end of Chapter 4 (section 4.5). |  |
| 4-3 | 4.4.3.7 | 1, 2 | 1 | ed | The two lines in these paragraphs don't need to be separated. | David Berry / NASA/JPL | Suggest moving "The 'version'..." immediately following the first sentence in 4.4.3.7. |  |
| 4-4 | 4.4.6.1 | 1 | 1 | ed | Typo. | David Berry / NASA/JPL | From: "Data SectionMetadata Section..."  To: "Metadata Section..." |  |
| 4-4 | 4.4.6.3 | 1 | 1-2 | te | I think the statement as written is not quite accurate. | David Berry / NASA/JPL | From: existing text  To: Each NHM/XML Metadata Section shall include at least one <defineSet></defineSet> construct which is used to provide a set of descriptive information about an instrument in the Data Section. |  |
| 4-4 | 4.4.6.3 | 1 | 3,4 | te | The XML example is part of the XML schema language (which users wouldn't write), but should be part of the instantiation. (NOTE: I missed this in my prior quick review... sorry!) | David Berry / NASA/JPL | Delete the "<xsd:element... />. Not really necessary here. |  |
| 404 | 4.4.6.4 | 1 | 1 | ed, te | Consistency | David Berry / NASA/JPL | From: "...required Define Keyword..."  To: "... required DEFINE keyword..." |  |
| 4-4 | 4.4.6.4 | 2 | All | ed, te | This XML example is part of the XML schema language, which users wouldn't write. (NOTE: I missed this in my prior quick review of the text in this section... sorry!) | David Berry / NASA/JPL | From: existing.  To:  <defineSet>  <DEFINE>mnemonic</DEFINE>  <COMMENT>text</COMMENT>  <FRAME>SENSOR</FRAME>  <CALCURVE>0 2.5</CALCURVE>  </defineSet>  In the example you can fill in an appropriate mnemonic keyword and comment. |  |
| 4-5 | 4.4.7 | 1 | 1 | ed | Typo. | David Berry / NASA/JPL | From: "Data SectionMetadata Section..."  To: "Metadata Section..." |  |
| 4-5 | 4.4.7 | 3 | 2 | ed | Sentence appears to end with a colon due to the fact that the Figure referred to is on the next page. | David Berry / NASA/JPL | From: "...figure 4-2:"  To: "...figure 4-2." |  |
| 4-5 | 4.4.7 | 3 | All | ed, te | I think the statement as written is not quite accurate. | David Berry / NASA/JPL | From: existing text  To: Each NHM/XML Data Section shall include at least one <hardwareDataRecord></hardwareDataRecord> construct which is used to provide a set of measurements from one of the instruments described in the Metadata Section. |  |
| 4-6 | Figure 4-2 | Part 1 |  | ed, te | There is a subtlety in the keywords of the <hardwareDataRecord> that will be easier to discuss at the face-to-face, but basically, due to the statement in Section 4.2.1, I think the <MNEMONIC> tag should be <mnemonic>, and the <EPOCH> tag should be <epoch>. | David Berry / NASA/JPL | Schedule for discussion at London. |  |
| 4-7 | Table 4-1 | <defineSet> | Definition | ed, te | States that the <defineSet> **defines** comments, but it does not, though it may **contain** them. | David Berry / NASA/JPL | From: "Defines a Mnemonic Keyword, optional descriptive comments, an ..."  To: "Defines a Mnemonic Keyword, a reference frame, and a calibration curve. May also include descriptive comments." |  |
| 6-1 | 6.1 | 1 | 1 | ed, te | Refers to section 3, which doesn't define syntax | David Berry / NASA/JPL | From: "...shall observe the syntax described in 3.2. through 3.3."  To: "... shall observe the syntax described in this chapter." |  |
| 6-2 | 6.3.4, 6.3.6 | All | All | ed | These two sections refer to text values, but they are separated by the discussion of time tag values. | David Berry / NASA/JPL | Put the two sections dealing with text values next to each other. There are several ways to accomplish this; choose your preference for order of text and time tag values. |  |
| 6-2 | 6.3.5 | 1 | 1 | ed, te | Reference to "in UTC" overly restricts the value range given in Annex A. | David Berry / NASA/JPL | From: "... a time tag in UTC, values..."  To: "... a time tag, values..." |  |
| 6-2 | 6.3.5 | NOTE | All | ed, te | The use of a NOTE here is puzzling. Either both allowed formats should be described (i.e., both year/month/day and year/day of year), or neither (by referring to the formats in 5.4.12). The NOTE seems to imply that only the year/month/day is allowed. | David Berry / NASA/JPL | Consider change suggested in "Comment/Rationale". |  |
| 6-2 | 6.4 | 1 | 1 | ed, te | Seems like the <<TBD>> should be replaced by text similar to that in | David Berry / NASA/JPL | Suggested text to replace "<<TBD>>" (similar to what's in section 5.5): " Units are not explicitly displayed in the NHM. The units associated with values in the NHM should be taken from the appropriate SANA registry (see Annex C) or defined in an ICD." |  |
| F-3 ff | All | All | All | ed | The example is OK, but perhaps doesn't need to be so long. The example was one developed to test the NHM schema, so it includes all possible combinations of FRAME and CALCURVE. This is fine, and easy to check because it's automated, but not all of it is necessary to get the point across. (NOTE: Since I did this example myself, I apologize for inflicting this comment upon you!) | David Berry / NASA/JPL | Consider a shorter XML example. |  |
| F-3 F-4 | XML Metadata |  |  | ed, te | I have to say I prefer the older "<MNEMONIC>" metadata keyword (now replaced by "<DEFINE>"). This is related to my comments above regarding page 4-6. The XML "<defineSet>" makes it clear to me that "<MNEMONIC>" is the appropriate tag for defining the mnemonic keyword... this is not so apparent in the KVN metadata section. Using "<MNEMONIC>" in the metadata also provides a clear link to the data in the Data Section. | David Berry / NASA/JPL | Suggest for discussion at London meetings. |  |
| H-1 | N/A | 3 | 1 | ed, te | Overly categorical statement. | David Berry / NASA/JPL | Add "may" to the statement to allow options.  From: "It is expected that the data in various messages not be exclusive."  To: "It is expected that the data in various messages may not be exclusive." |  |
| H-1 | N/A | 3 | 2 | ed, te | Overly categorical statement. | David Berry / NASA/JPL | Change "will" to "could".  From: "... both the Attitude NHM and the Health and Safety Monitoring NHM will contain..."  To: "... both the Attitude NHM and the Health and Safety Monitoring NHM could contain..." |  |
| H-1 | N/A | 5 | 2 | te | Unreasonable expectation? | David Berry / NASA/JPL | The asserted expectation that "identical (or at least similar) forms will be used for corresponding data from different missions" may not be a reasonable expectation. We should discuss this at London. |  |
| H-2 | NHM-P05 | N/A | N/A | te | Lacks a trace to XML in section 4 | David Berry / NASA/JPL | Add trace to ASCII requirement in Section 4. |  |
| H-3 | NHM-D04 | N/A | N/A | te | The "Requirement" uses "shall", which is consistent with section 3.1.5. However, it is labelled as a "Desirable Characteristic" when it should be a "Primary Requirement". | David Berry / NASA/JPL | Move the "NHM-D04" row into the table of Primary Requirements and re-number the Primary Requirements accordingly. |  |
| Annex H | N/A | N/A | N/A | te | Missing Requirement: There should be a requirement to clearly identify the object to which the data applies. A similar requirement is in all Nav WG standards. | David Berry / NASA/JPL | Add such a requirement. |  |
| Annex H | N/A | N/A | N/A | te | Missing Requirement: There should be a requirement to clearly identify the instrument to which the data applies. | David Berry / NASA/JPL | Add such a requirement. |  |
| Annex H | N/A | N/A | N/A | te | Missing Requirement: There should be a requirement stating that an XML representation must be provided. A similar requirement is in most/all Nav WG standards. | David Berry / NASA/JPL | Add such a requirement (rationale is that CCSDS CMC required such a representation for Navigation WG standards). |  |
| Annex H | N/A | N/A | N/A | te | Missing Requirement: There should be a requirement statement that motivated you to design the dynamic mnemonic keyword mechanism. | David Berry / NASA/JPL | Add such a requirement. |  |
| Annex H | N/A | N/A | N/A | te | Missing Requirement: There should be a requirement to provide a reference frame for applicable data. A similar requirement is in all Nav WG standards. | David Berry / NASA/JPL | Add such a requirement. |  |
| Annex H | N/A | N/A | N/A | te | Missing Requirement: There should be a requirement stating the need to provide calibration information for the instruments. | David Berry / NASA/JPL | Add such a requirement. |  |
| Annex H | N/A | N/A | N/A | te | Missing Requirement: It seems that there should be some type of requirement relating to units. A similar requirement is in all Nav WG standards. (NOTE: I think units could be a big problem for implementers of the NHM, so we should think about this carefully). | David Berry / NASA/JPL | Add such a requirement. |  |
| Annex H | N/A | N/A | N/A | te | Missing Requirement: There should be a requirement stating the need to provide calibration information for the instruments. | David Berry / NASA/JPL | Add such a requirement. |  |