| **Page** | **Section** | **Line** | **Type** | **Comment/ Rationale** | **Source of Comment (Name/Agency)** | **Suggested Disposition** | **Disposition**  **(Completed by Principal Editor)** |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **\*\* ALL COMMENT PAGE, SECTION, & LINE NUMBERS ARE WITH RESPECT TO CHANGES ACCEPTED VERSION \*\*** |  |  |  |
| 1-1 | 1.1 | a) 2 | ed | Word choice... "who" anthropomorphizes a non-human entity | David S. Berry / NASA | From: "... entities who use it"  To: "... entities that use it" |  |
| 1-1 | 1.2 | 4 | ed | Readability. The parenthetical phrase between "prediction" and "information" makes it choppy to read. | David S. Berry / NASA | From: "re-entry prediction (though it can be used post-facto as well) information exchange..."  To: "re-entry prediction information exchange (though it can be used post-facto as well)..." |  |
| 1-2 | 1.3 |  | ed | In line for Annex B, missing Oxford comma | David S. Berry / NASA | From: "...security, SANA and patent..."  To: "...security, SANA**,** and patent..." |  |
| 1-3 | 1.5 | 1 | ed | Repeated word. | David S. Berry / NASA | From: "The the extent..."  To: "To the extent..." |  |
| 1-5 | 1.6 | [7] | ed | Uses "UNOOSA"... you have used "UN OOSA" (with a space) in a few other places in the doc. | David S. Berry / NASA | Their website uses "UNOOSA" with no space, so I think that would be preferable... but if you want to have a space "UN OOSA", then use it in all instances. |  |
| 3-2 | 3.3 |  | ed/te | MESSAGE\_ID: Example only shows numeric character. | David S. Berry / NASA | Add an example that includes alpha characters. |  |
| 3-3 | Table 3-2 | 3 | ed | In comment line in the table, missing Oxford comma. | David S. Berry / NASA | From: "... celestial body it is orbiting and the time system..."  To: "... celestial body it is orbiting**,** and the time system..." |  |
| 3-5 | Table 3-2 |  | ed | N\_BODY\_PERTURBATIONS: Example implies comma separated list, text should specify it. | David S. Berry / NASA | From: "List of other bodies..."  To: "Comma separated list of other bodies..." or other equivalent phrase. |  |
| 3-8 | Table 3-3 |  | ed | IMPACT\_REF\_FRAME: SANA Registry cited used "Body-Fixed" vice "Body-fixed". | David S. Berry / NASA | From: "Body-fixed"  To: "Body-Fixed" |  |
| 3-10 | Table 3-3 |  | ed/te | Requirements language in the comment before the covariance matrix (at the bottom of the page). | David S. Berry / NASA | From: "... can be omitted..."  To: "... may be omitted..." |  |
| 3-11 | Table 3-3 |  | ed | SOLAR\_RAD\_COEFF missing word | David S. Berry / NASA | From: "Object radiation coefficient"  To: "Object solar radiation coefficient" |  |
| 3-13 | 3.5.5 |  | ed/te | I know this is only supposed to be a proofreading review, so "technical" comments are technically forbidden, however, I'm confused by this one. I started out being confused by part (a), since the mandatory keyword has units of "d" (days). The means of conveying short-term as opposed to medium/long-term is not well specified, since it appears to only allow a value in "days". The boundary of "short term" is not well defined ("the last few days (up to a few weeks)"), and 3.5.5(b) implies that the remaining orbital lifetime is only provided for long and medium-term predictions, thus it's not clear what should be in this mandatory keyword for a short-term re-entry prediction. I looked at the Test Report, and Test Case #5 has the following: "<ORBIT\_LIFETIME units="d">0.416666666666667</ORBIT\_LIFETIME>" which is clearly not medium or long term. Only Test Case #2 has a medium term value. | David S. Berry / NASA | It seems to me that 3.5.5 (b) was ignored by the experts who tested the standard, and that there is no permitted way to specify part (a) if the prediction is short-term. Maybe 3.5.5 can be shortened to "... shall be used to convey the remaining orbital lifetime." since that's what the test teams seem to have done. |  |
| 3-14 | 3.5.18 |  | ed | I think some editorial clarification of this specification may be in order... since there is only one keyword for "PROBABILITY\_OF\_LAND\_IMPACT", it's not clear what it means to say that "the probability of ground impact should be within 5 percent at the following four points for each confidence interval given". | David S. Berry / NASA | Please add text explaining what is meant here, and how it should be coded in an RDM. |  |
| 4-4 | 4.4.7.2 | 2 | ed | Awkward phrase "... the tags those specified...". | David S. Berry / NASA | From: "... the tags those specified..."  To: "... the tags specified..."  OR  To: "... those specified..." |  |
| 4-5 | Table 4-1 | last | ed | Missing period on "NOTE" in the "Definition" column. | David S. Berry / NASA | Add period after "4.16". |  |
| 4-5 | 4.5.1 | 3-4 | ed | The referral to ref [13] "(more details ... 4.3.5)" can be deleted since it doesn't really add anything more to what is stated in RDM 4.5.1 and 4.5.2. | David S. Berry / NASA | Delete if you wish. It's not WRONG, but you basically point the reader to something they don't really need. |  |
| 5-4 | 5.3.4 | (b) | ed | It's probably not necessary to indicate that uppercase units are not used (though I suppose they could be applicable to a User Defined Parameter). The resultant specification is simpler. | David S. Berry / NASA | From: existing text  To: "b) units shall be in lower case, exactly as indicated in tables 3-2 and 3-3; and" |  |
| A-3 | A2.1.4 | 1 | ed | Needs the CCSDS document number | David S. Berry / NASA | Add "508.1-B-1" in the row. |  |
| A-4 | table entry 19 | 1 | ed | Error in ICS feature description. | David S. Berry / NASA | From: "Time system user..."  To: "Time system used..." |  |
| A-5 | table entries 39, 40, 41 |  | ed | Item 39 "Feature" text looks like it should be on line 40; the current line 39 feature and line 40 feature seem like maybe they are the same thing? (or maybe not... depends upon the meaning of "EPOCH" in the previous and next messages... is it the epoch when the message was created? or the epoch of the state vector? Line 41 looks like it could be correct | David S. Berry / NASA | Check the "Feature" column for line items 39, 40, and 41 and correct as applicable. |  |
| C-2 | Figure C-2 |  | ed/te | In the section "Short term re-entry prediction results" of the sample RDM, near the top, the guidance provided in section 3.5.6 is not observed (specifically, the NOMINAL\_REENTRY\_EPOCH is not provided. | David S. Berry / NASA | Since it's only "should" guidance, this is not an error, but consider if an example like this would be something we want to provide... one could argue either way. |  |
| C-3 | Figure C-3 | 7 | ed | This sample was originally in Annex D (apparently) but, now it's in Annex C. | David S. Berry / NASA | From: "<COMMENT>... Annex D KVN Fig D-1..."  To: "<COMMENT>... Annex C KVN Fig C-1..." |  |
| C-3 | Figure C-3 |  |  | <OBJECT\_TYPE> is included in the sample, but it's not a mandatory keyword (as indicated in the caption). Perhaps the object type requirement changed along the way. | David S. Berry / NASA | Remove the <OBJECT\_TYPE> line from the sample. |  |
| C-3 | Figure C-4 | 7 | ed | This sample was originally in Annex D (apparently) but, now it's in Annex C. | David S. Berry / NASA | From: "<COMMENT>... Annex D KVN Fig D-2..."  To: "<COMMENT>... Annex C KVN Fig C-2..." |  |
| C-4 | Figure C-4 |  | ed | EPOCH\_TZERO: Is T09:00:00.00 in Figure C-2, but is T00:00:00.00 in Figure C-4 | David S. Berry / NASA | Not really an error, but could fix if you want Figure C-4 to match Figure C-2. |  |
| C-4 | Figure C-4 |  | ed | PREVIOUS\_MESSAGE\_ID and PREVIOUS\_MESSAGE\_EPOCH are different in Figure C-4 compared to Figure C-2 | David S. Berry / NASA | Not really an error, but could fix if you want Figure C-4 to match Figure C-2. (In this instance, there's a better case for fixing since the dates are in 2015 but the re-entry is in 2018.) |  |
| C-5 | Figure C-4 | 2 | ed | <COMMENT> on line 2 is different in Figure C-4 compared to Figure C-2 | David S. Berry / NASA | Add "Position/velocity" before "covariance matrix" in the comment. Not an error, but could fix if you want Figure C-4 to match Figure C-2. |  |
| C-5 | Figure C-4 | 7, 8 | ed/te | Invalid XML for CZ\_X and CZ\_Y. | David S. Berry / NASA | Move the end bracket ">" for CZ\_X and CZ\_Y to a position after the units endquote and the value. |  |
| C-5 | Figure C-4 |  | ed | Values for several of the tags between CX\_DOT\_X and CZ\_DOT\_Z are different in Figure C-4 compared to Figure C-2. | David S. Berry / NASA | Not really an error, but could fix if you want Figure C-4 to match Figure C-2. |  |
| C-5 | Figure C-4 |  | ed/te | Units are not included for the <WET\_MASS> and <DRAG\_AREA> | David S. Berry / NASA | Add units per 5.2.4.1 |  |
| C-5 | Figure C-4 |  | ed | In <odParameters> the <COMMENT> is different in Figure C-4 compared to Figure C-2. | David S. Berry / NASA | Not an error, but could fix if you want Figure C-4 to match Figure C-2. |  |
| C-5 | Figure C-4 |  | ed | <OBS\_AVAILABLE> AND <OBS\_USED> are present in Figure C-4, but not in Figure C-2. | David S. Berry / NASA | You could remove these keywords from Figure C-4, or add them to Figure C-2, if you want the two figures to match. |  |
| D-1 | Annex D |  | ed | Candidate acronyms to add: DOF, IADC, RMS, URL. These acronyms appear in the document but not in the acronyms annex. | David S. Berry / NASA | Consider adding. |  |
| E-1 | Annex E | RDM-0055 | ed | Missing Oxford comma in the requirement statement. | David S. Berry / NASA | From: "uncontrolled or unknown"  To: "uncontrolled**,** or unknown" |  |
| E-1 | Annex E | RDM-0060 | ed/te | The metadata section Table 3-2 doesn't specify the time format. | David S. Berry / NASA | Change the "Trace"  From: table 3-2  To: 5.3.3.5 |  |
| E-2 | Annex E | RDM-0070 | ed/te | I would add table 3-2 to the Trace since there are units on a couple of metadata items | David S. Berry / NASA | Add "table 3-2" to the "Trace" |  |
| E-2 | Annex E | RDM-0100 | ed/te | Given the "Rationale", I'm not sure how table 3-1 applies to the Trace | David S. Berry / NASA | Change the Trace to remove table 3-1 |  |
| E-2 | Annex E | RDM-0110 | ed/te | I think there are substantial elements of consistency in all tables 3-1 through 3-3 | David S. Berry / NASA | Change the Trace to add table 3-1 and table 3-3 |  |
| E-2 | Annex E | RDM-0190 | ed | awkward phrase in "Rationale" | David S. Berry / NASA | From: "how reliable is the data"  To: "the reliability of the data" |  |