| **Pg** | **Sec** | **Para** | **Line** | **Type** | **Comment/ Rationale** | **Reviewer (Name/Agency)** | **Suggested Disposition** | **Final Disposition**  **(Do Not Fill In)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A-1 | Glossary | n/a | n/a | Ge, ed | 14 of the 29 items in the Glossary are already fully defined in 2.2 General Definitions | Patrick Zimmerman / NASA / JSC | What is the reasoning or rationale for the duplication of information? How were the items in the Glossary chosen? (e.g. why is range, range-rate included but not angle?) Bigger question: is a glossary really needed? |  |
| A-1 | Control | 1 | 1 | Ed | Not in alphabetical order | Patrick Zimmerman / NASA / JSC | Move after ‘Bias’ in listing |  |
| A-1 | Doppler Shift | 1 | 2 | ed, te | Additional clarification | Patrick Zimmerman / NASA / JSC | From: “transmitter and receiver”  To: “transmitter with respect to the receiver” |  |
| A-1 | Ephemeris | n/a | n/a | ed, te | An ephemeris is used for more than just satellites, such as spacecraft (or celestial bodies) | Patrick Zimmerman / NASA / JSC | Consider adding ‘or spacecraft’ into definition |  |
| A-1 | GPS | 1 | 1 | Ed | Not clear why GPS is called out in Glossary | Patrick Zimmerman / NASA / JSC | Consider removing from list |  |
| A-1 | Ground-to-flight | 1 | 1 | Ed | Two things: not alphabetic. Sentence structure does not match other definitions | Patrick Zimmerman / NASA / JSC | Move prior to Ground-to-ground  Consider changing to “The set of exchanges between a non-spacecraft participant and any one spacecraft participant.” |  |
| A-2 | Navigation | 1 | 2 | Ed | Use of orientation instead of attitude, since attitude is the defined term | Patrick Zimmerman / NASA / JSC | From: “…, orientation and maneuver”  To: “…, attitude and maneuver” |  |
| A-2 | Orbit | 1 | 1 | ed, te | Additional clarification | Patrick Zimmerman / NASA / JSC | “Celestial body in space" is redundant.  Perhaps something like “Typically the trajectory or path followed by a spacecraft or satellite about a central body.” |  |
| A-2 | Range | 1 | 1 | ed | Not bolded. | Patrick Zimmerman / NASA / JSC | Term should be bold for consistency. |  |
| A-2 | Range Rate | 1 | 2 | Ed | Definition too restrictive. Range rate is also often determined by the range difference over a delta time | Patrick Zimmerman / NASA / JSC | Remove “Range rate is determined by measuring the Doppler shift of the satellite beacon carrier”. Or modify to state: “One method of determining range rate is by…” |  |
| A-2 | Tracking Station | 1 | 2 | Ed | Some tracking stations do not communicate with the spacecraft, such as C-band skin trackers, and simply provide tracking data measurements | Patrick Zimmerman / NASA / JSC | Modify. Perhaps “Space or ground-based facility used to track and/or communicate with a spacecraft.” |  |
| A-2 | Maneuver | N/A | N/A | te | Missing term | Patrick Zimmerman / NASA / JSC | Consider adding **Maneuver,** with definition, as it is specifically called out as a piece of Navigation data (similar to how attitude is defined) |  |
| B-2 | N/A | N/A | N/A | ed, te | SI not used in document | Patrick Zimmerman / NASA / JSC | Consider removing term from list. |  |
| B-1, B-2 | N/A | N/A | N/A | ed, te | Not clear why certain nav constellations are included: GLONASS, GPS, NAVSTAR | Patrick Zimmerman / NASA / JSC | Consider removing terms from list. |  |
| B-1, B-2 | N/A | N/A | N/A | Ed | Missing acronyms used in document: SOHO, CSTS, Delta DOR, ICD, ASCII, FAX, NORAD | Patrick Zimmerman / NASA / JSC | Consider adding terms to list |  |
| 1-3 | 1.5 | N/A | N/A | Ed | Item [10] appears to have errors | Patrick Zimmerman / NASA / JSC | Verify date of Keystone conference. (likely 2006? not 26?) |  |
| 1-3 | 1.5 | N/A | N/A | ed | Both [14] and [15] are listed for the same item, but [14] is never used in the document | Patrick Zimmerman / NASA / JSC | Remove [15] and adjust and correct all higher numbered references in table and in document |  |
| 1-3 | 1.5 | N/A | N/A | Ed | Numerous books listed as “Issue N” | Patrick Zimmerman / NASA / JSC | Fill in Issue #’s where possible |  |
| 1-4 | 1.5 | N/A | N/A | Ed | Item [20] is in-line with item [19] | Patrick Zimmerman / NASA / JSC | Add carriage return |  |
| 2-5 | 2 | N/A | N/A | Ed | Item [23] from prior section showing up as section title | Patrick Zimmerman / NASA / JSC | Move item into prior section |  |
| 3-13 | 3.3 | 7 | All | Ge | Not clear why the ODM section specifically calls out such extensive member agency usage, whereas no other section has this detail? | Patrick Zimmerman / NASA / JSC | Consider the intent of the document and the benefit of the details in this paragraph. If details of Message usage are deemed desirable for this document, then perhaps more examples can be provided throughout.  If needed, I can provide some summary information for additional uses of implementation of ODMs, TDMs and CDMs in our NASA JSC operations. |  |