**NPR 7120.5F Compliance Matrix**

*NPR 7120.5F Effective Date: 8-3-21*

Additional information on the Compliance Matrix is available in NPR 7120.5F Appendix C and on the Agency Tailoring Website which includes many additional resources (<https://appel.nasa.gov/npr-7120-5-tailoring-resources>).

**Template Instructions**

**The Compliance Matrix lists:**

1. The paragraph reference.
2. The NPR 7120.5 requirement statement.
3. The “requirement owner” (the organization or individual responsible for the requirement).
4. Whether tailoring authority for the requirement is delegated or held at HQ.
5. The organization or individual to whom the requirement applies (MDAA, CD, PM).
6. A “comply?” column to describe applicability or intent to tailor.
7. The “justification” column to justify the rationale for tailoring and how tailoring is to be applied.
8. The “approval” column when signatures are required to approve tailoring.

**The “Requirement Owner” column** designates which organization is responsible for maintaining the requirement for the Agency. The head of the requirement owner’s organization has the authority for approving tailoring unless this authority has been formally delegated.

**The “Delegated” column** indicates whether the HQ’s requirement owner has delegated or retained approval authority for tailoring of the requirement.

1. “Yes” in the “Delegated” column indicates that tailoring authority has been delegated by the requirement owner.
2. “No” in the “Delegated” column indicates that tailoring authority has been retained by the requirement owner.
3. Check the Agency Tailoring Web site for the POC who can provide the name of the HQ person with tailoring approval authority or the organization to which the authority is delegated.
4. If the “Delegated” column is blank, programs and projects should:

(1) Check the Agency Tailoring Web site for information on delegation by the requirement owner and/or

(2) Check the Agency Tailoring Web site for the HQ requirement owner’s POC and work with the POC to determine if tailoring authority has been retained or delegated.

**The next three columns (“MDAA,” “CD,” and “PM”)** designate to whom the requirement applies. An “A” in the column indicates applicability. Programs and projects do not need to address requirements that are not applicable to “PM.”

**The “Comply?” column** is filled in by the program or project to identify the program’s or project’s approach to the requirement. The project inserts an “FC” for “fully compliant,” “T” for “tailored,” or “NA” for a requirement that is “non-applicable,” per Section 3.5.3. (See Appendix A for the definition of a Non-Applicable Requirement.)

**The column titled “Justification”** documents the rationale for tailoring, documents how the requirement will be tailored, or justifies why the requirement is not applicable. It is expected that much of the rationale will already have been developed in retrievable program and/or project records and can simply be referenced (in an appropriate, accessible form). The level of documentation should be commensurate with the significance of departure from the norm and is determined by the requirement owner or as delegated. In the case where evaluation indicates that the tailoring of a requirement increases risk, evidence of official acceptance of that risk should be provided as referenced in retrievable program or project records. Columns in the Compliance Matrix can be adjusted to accommodate the necessary information.

**The “Approval” column** is used to indicate approval for tailored requirements. The name, title, and signature of the responsible authority (requirement owner or delegate) in this column indicates that approval and any required concurrences have been obtained. The requirement owner consults with the other organizations that were involved in the establishment of the specific requirement and obtains the concurrence of those organizations having a substantive interest.

1. The name, title, and signature of the responsible authority indicating approval of tailoring is required only for tailored requirements, i.e., those requirements with a “T” in the “Comply” column. This is not required for requirements with “NA” in the “Comply” column.
2. For requirements for which tailoring authority has been retained, program and project managers should work with the HQ requirement owners’ POCs to obtain the names of individuals with tailoring approval authority.
3. For requirements that have been delegated, program and project managers should work with the delegated representative or with the HQ requirement owners’ POCs to obtain information specific to the delegated authorities.

Redundant signatures are not required in the “Approval” column of the Compliance Matrix, if the requirement owner is already a required signatory (e.g., MDAA, Center Director, program manager, and project manager) on the Formulation Agreement, Program Plan, or Project Plan. An example of this would be OCE requirements that have been delegated to the Center Director. In this case, a separate signature by the Center Director is not required in the “Approval” column since the Center Director is a signatory on the plan. However, if tailoring was proposed for a requirement by an owner who isn’t normally a signatory on the Formulation Agreement, Program Plan, or Project Plan (e.g., OSMA), the program or project manager should obtain the signature of the approving official in the “Approval” column of the Compliance Matrix prior to submitting the Formulation Agreement, Program Plan, or Project Plan for final signature.

**I-Table Product Requirements**

I-Table products marked as Requirements (R) in the I-Tables are listed at the end of the Compliance Matrix. See NPR 7120.5F Appendix I, Section I.1 for information on I-Table Requirements and I-Table Best Practices:

**“Product Owner and Requirement or Best Practice:**

b. Products listed in the I-Tables are either requirements or best practices.

c. “R” in the Product Owner/Requirement or Best Practice column indicates that a product is a requirement. Products that are requirements are included in the Compliance Matrix in Appendix C.

d. “BP” in the Product Owner/Requirement or Best Practice column indicates that the product is considered a best practice. The expectation is that the product will be developed per the I-Table as part of normal program management activities.”

**NOTE: I-Table Product Best Practices are not included in the Compliance Matrix.**

These products are listed below the Compliance Matrix for convenience.

**NPR 7120.5F Compliance Matrix**

| **Para #** | **NPR 7120.5 Requirement Statement** | **Require-ment Owner** | **Dele-gated** | **MD AA** | **CD**  | **PM** | **Com-ply?** | **Justification**  | **Approval** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2.1.1.2 | Regardless of the structure of a program or project meeting the criteria of Section P.2, this NPR shall apply to the full scope of the program or project and all the activities under it.  | OCE | No |  |  | A |  |  |  |
| 2.1.3.1 | Projects are Category 1, 2, or 3 and shall be assigned to a category based initially on: (1) the project life-cycle cost (LCC) estimate, the inclusion of significant radioactive material, and whether or not the system being developed is for human space flight; and (2) the priority level, which is related to the importance of the activity to NASA, the extent of international participation (or joint effort with other government agencies), the degree of uncertainty surrounding the application of new or untested technologies, and spacecraft/payload development risk classification. | OCE | No | A |  |  |  |  |  |
| 2.1.3.2 | For Category 1 projects, the assignment of a project to a Center or implementing organization shall be with the concurrence of the NASA AA.  | OCE | No | A |  |  |  |  |  |
| 2.1.4.1 | Programs and projects with a LCC or initial capability cost (see Section 2.4.1.3.b) greater than $250M shall be managed by program and project managers who have been certified in compliance with Office of Management and Budget (OMB)’s promulgated Federal acquisition program/project management certification requirements. | OCE | No | A |  |  |  |  |  |
| 2.2.1 | Program and project managers shall follow their appropriate life cycle, which includes life-cycle phases; life-cycle gates and major events, including KDPs; major life-cycle reviews (LCRs); principal documents that govern the conduct of each phase; and the process of recycling through Formulation when program changes warrant such action. | OCE | Yes |  |  | A |  |  |  |
| 2.2.2 | Program and project managers shall organize the work required for each phase using a product-based WBS developed in accordance with the Program and Project Plan templates (appendices G and H). | OCE | Yes |  |  | A |  |  |  |
| 2.2.3 | The documents shown on the life-cycle figures and described below shall be prepared in accordance with the templates in appendices D, E, F, G, and H. | OCE | Yes |  |  | A |  |  |  |
| 2.2.4 | Each program and project shall perform the LCRs and KDPs identified in its respective life-cycle figure in accordance with NPR 7123.1, applicable Center practices, and the requirements of this document.  | OCE | Yes |  |  | A |  |  |  |
| 2.2.5 | Program or project managers and an independent Standing Review Board (SRB) shall conduct the System Requirements Review (SRR), System Definition Review (SDR)/ Mission Definition Review (MDR), Preliminary Design Review (PDR), Critical Design Review (CDR), System Integration Review (SIR), Operational Readiness Review (ORR), and PIR LCRs in figures 2-2, 2-3, 2-4, and 2-5. | OCE | No |  |  | A |  |  |  |
| 2.2.5.1 | The Conflict of Interest (COI) procedures detailed in the NASA Standing Review Board Handbook shall be strictly adhered to. | OGC | No | A | A | A |  |  |  |
| 2.2.5.2 | The portion of the LCRs conducted by the SRB shall be convened by the Convening Authorities in accordance with Table 2-2.  | OCE | No | A | A | A |  |  |  |
| 2.2.5.3 | The program or project manager, the SRB chair, and the Center Director (or designated Engineering Technical Authority (ETA) representative) shall mutually assess the program’s or project’s expected readiness for the LCR and report any disagreements to the Decision Authority for final decision. | OCE | No |  | A | A |  |  |  |
| 2.2.6 | In preparation for these LCRs, the program or project manager shall generate the appropriate documentation per the Appendix I tables of this document, NPR 7123.1, and Center practices, as necessary, to demonstrate that the program’s or project’s definition and associated plans are sufficiently mature to execute the follow-on phase(s) with acceptable technical, safety, and programmatic risk. | OCE  | No |  |  | A |  | *Note: I-Table product requirements are listed at the end of the Compliance Matrix.* |  |
| 2.2.8 | Projects, single-project programs (and other programs at the discretion of the MDAA) with a life-cycle cost (LCC) or initial capability cost (see Section 2.4.1.3.b) estimated to be greater than $250M shall perform earned value management (EVM) and comply with EIA-748, Standard for Earned Value Management Systems for all portions of work including in-house and contracted portions of the project.  | OCFO-SID | No | A |  | A |  |  |  |
| 2.2.8.1 | Program and project managers with programs and projects subject to EVM shall utilize the NASA EVM Capability Process for in-house work.  | OCFO-SID | No |  |  | A |  |  |  |
| 2.2.8.2 | EVM system requirements for contracted work shall be applied to suppliers in accordance with the NASA Federal Acquisition Regulation (FAR) Supplement, independent of phase and the $250M threshold ([https://www.hq.nasa.gov/office/procurement/regs/NFS.pdf](https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.hq.nasa.gov%2Foffice%2Fprocurement%2Fregs%2FNFS.pdf&data=04%7C01%7C%7Cd5dbf15cb6f744d616d508d88b280bc0%7C84df9e7fe9f640afb435aaaaaaaaaaaa%7C1%7C0%7C637412351388444081%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=keFZicIaOXPgTpjbMBQT4LFH2k9Skv%2FMkA1osCH9j0Y%3D&reserved=0).).  | OCFO-SID | No | A |  | A |  |  |  |
| 2.2.8.3 | Mission Directorates shall conduct an IBR in preparation for KDP C and for major changes that significantly impact the cost and schedule baseline.  | OCFO-SID | No | A |  | A |  |  |  |
| 2.2.8.4 | EVMS surveillance shall be conducted on contracts and programs and projects with in-house work to ensure continued compliance with EIA-748, Standard for Earned Value Management Systems. | OCFO-SID | No | A |  | A |  |  |  |
| 2.2.10 | Program and project managers shall complete and maintain a Compliance Matrix (see Appendix C) for this NPR and attach it to the Formulation Agreement for projects in Formulation and/or the Program or Project Plan.  | OCE | No |  |  | A |  |  |  |
| 2.2.11 | Single-project programs and projects shall develop a Project Protection Plan that addresses NASA-STD-1006, Space System Protection Standard in accordance with NPR 1058.1, Enterprise Protection Program.  | OCE | No |  |  | A |  |  |  |
| 2.3.1 | Each program and project shall have a Decision Authority the Agency’s responsible individual who determines whether and how the program or project proceeds through the life cycle and the key program or project cost, schedule, and content parameters that govern the remaining life-cycle activities.  | OCE | No | A |  |  |  |  |  |
| 2.3.1.1 | The MDAA shall inform the NASA AA and Administrator via email on all Agency Baseline Commitments (ABCs) per the following: inform the NASA AA on ABCs for single-project programs and projects with a LCC or initial capability cost (see Section 2.4.1.3.b) greater than $250M; and inform the NASA Administrator on ABCs for all single-project programs and projects with a LCC or initial capability cost greater than $1B and all Category 1 projects. (See Section 2.4.1.5 for more information on ABCs.) | OCE | No | A |  |  |  |  |  |
| 2.3.2 | Each program and project shall have a governing PMC. | OCE | No | A |  |  |  |  |  |
| 2.3.4 | The Center Director (or designee) shall oversee programs and projects usually through the CMC, which monitors and evaluates all program and project work (regardless of category) executed at that Center.  | OCE | No |  | A |  |  |  |  |
| 2.3.5 | Following each LCR, the independent SRB chair and the program or project manager shall brief the applicable management councils on the results of the LCR to support the councils’ assessments.  | OCE | No | A | A | A |  |  |  |
| 2.4.1 | The decisions by the Decision Authority on whether and how the program or project proceeds into the next phase shall be summarized and recorded in the Decision Memorandum signed at the conclusion of the governing PMC by all parties with supporting responsibilities, accepting their respective roles.  | OCE | No | A |  |  |  |  |  |
| 2.4.1.1 | The Decision Memorandum shall describe the constraints and parameters within which the Agency, the program manager, and the project manager will operate; the extent to which changes in plans may be made without additional approval; any additional actions that came out of the KDP; and the supporting data (i.e., the cost and schedule datasheet) that provide further details.  | OCE | No | A |  | A |  |  |  |
| 2.4.1.2 | A divergence from the Management Agreement that any party identifies as significant shall be accompanied by an amendment to the Decision Memorandum. | OCE | No | A |  | A |  |  |  |
| 2.4.1.3 | During Formulation, the Decision Memorandum shall establish a target LCC or initial capability cost range (and schedule range, if applicable) as well as the Management Agreement addressing the schedule and resources required to complete Formulation.  | OCFO-SID | No | A |  | A |  |  |  |
| 2.4.1.3 a | For single-project programs and projects with a LCC or initial capability cost greater than or equal to $1B, the Decision Memorandum shall establish a high and low value for cost and schedule with the corresponding JCL value at KDP B. | OCFO-SID | No | A |  | A |  |  |  |
| 2.4.1.5 | All single-project program managers and project managers shall document the Agency’s LCC estimate or initial capability cost estimate and other parameters in the Decision Memorandum for Implementation (KDP C), and this becomes the ABC. | OCFO-SID | No | A |  | A |  |  |  |
| 2.4.1.5.a | For all single-project programs and projects with a definite Phase E end point, the Agency’s LCC estimate and other parameters shall become the ABC. | OCFO-SID | No | A |  | A |  |  |  |
| 2.4.1.5.b | For single-project programs and projects that plan continuing operations and production, including integration of capability upgrades, with an unspecified Phase E end point, the initial capability cost estimate and other parameters shall become the ABC.  | OCFO-SID | No | A |  | A |  |  |  |
| 2.4.1.7 | Tightly coupled programs shall document their LCC estimate in accordance with the scope defined in the FAD or PCA, and other parameters in their Decision Memorandum at KDP I and update it at subsequent KDPs. | OCFO-SID | No | A |  | A |  |  |  |
| 2.4.1.8 | Programs or projects shall be rebaselined when: (1) the estimated development cost exceeds the ABC development cost by 30 percent or more (for projects over $250M, also that Congress has reauthorized the project); (2) the NASA AA judges that events external to the Agency make a rebaseline appropriate; or (3) the NASA AA judges that the program or project scopedefined in the ABC has been changed or the project has been interrupted.  | OCFO-SID | No | A |  | A |  |  |  |
| 2.4.2 | The program or project shall document the basis of estimate (BOE) for cost estimates and planned schedules in retrievable program or project records. | OCFO-SID | No |  |  | A |  |  |  |
| 2.4.3.1 a. | Single-project programs with an estimated LCC under $1B and projects with an estimated LCC greater than $250M and under $1B shall provide a range of cost and a range for schedule, each range (with confidence levels identified for the low and high values of the range) established by a probabilistic analysis and based on identified resources and associated uncertainties by fiscal year.  | OCFO-SID | No |  |  | A |  |  |  |
| 2.4.3.1 b. | Single-project programs and projects with an estimated LCC greater than or equal to $1B shall develop a JCL and provide a high and low value for cost and schedule with the corresponding JCL value (e.g., 50 percent, 70 percent). | OCFO-SID | No |  |  | A |  |  |  |
| 2.4.3.2 | At KDP C, single-project programs (regardless of LCC) and projects with an estimated LCC greater than $250M shall develop a cost-loaded schedule and perform a risk-informed probabilistic analysis that produces a JCL.  | OCFO-SID | No |  |  | A |  |  |  |
| 2.4.3.3 | At CDR, single-project programs and projects with an estimated LCC greater than or equal to $1B shall update their KDP C JCL and communicate the updated JCL values for the ABC and Management Agreement to the APMC for informational purposes.  | OCFO-SID | No |  |  | A |  |  |  |
| 2.4.3.4 | At KDP D, single-project programs and projects with an estimated LCC greater than or equal to $1B shall update their JCL if current reported development costs have exceeded the development ABC cost by 5 percent or more and document the updated JCL values for the ABC and Management Agreement in the KDP D Decision Memorandum. | OCFO-SID | No |  |  | A |  |  |  |
| 2.4.3.5 | When a single-project program (regardless of LCC) or project with an estimated LCC greater than $250M is rebaselined, a JCL shall be calculated and evaluated as a part of the rebaselining approval process. | OCFO-SID | No | A |  | A |  |  |  |
| 2.4.4.1 | At KDP B, Mission Directorates shall plan and budget single-project programs and projects with an estimated LCC greater than or equal to $1B based on a 70 percent JCL or as approved by the Decision Authority.  | OCFO-SID | No | A |  |  |  |  |  |
| 2.4.4.2 | At KDP C, Mission Directorates shall plan and budget single-project programs (regardless of LCC) and projects with an estimated LCC greater than $250M based on a 70 percent JCL or as approved by the Decision Authority. | OCFO-SID | No | A |  |  |  |  |  |
| 2.4.4.3 | At KDP B and KDP C, any JCL approved by the Decision Authority at less than 70 percent shall be justified and documented in a Decision Memorandum. | OCFO-SID | No | A |  |  |  |  |  |
| 2.4.4.4 | At KDP C, Mission Directorates shall ensure funding for single-project programs (regardless of LCC) and projects with an estimated LCC greater than $250M is consistent with the Management Agreement and in no case less than the equivalent of a 50 percent JCL or as approved by the Decision Authority. | OCFO-SID | No | A |  |  |  |  |  |
| 2.4.4.5 | At KDP C, any funding approved by the Decision Authority that is inconsistent with the Management Agreement or less than 50 percent JCL shall be justified and documented in a Decision Memorandum. | OCFO-SID | No | A |  |  |  |  |  |
| 2.4.5 | Tightly coupled, loosely coupled, and uncoupledprograms shall provide analysis of the program’s risk posture to the governing PMC as each new project reaches KDP B and C or when a project’s ABC is rebaselined. | OCFO-SID | No | A |  | A |  |  |  |
| 3.3.1 | Programs and projects shall follow the Technical Authority (TA) process established in this Section 3.3. | OCE | No | A | A | A |  |  |  |
| 3.4.1 | Programs and projects shall follow the Formal Dissent process in this Section 3.4. | OCE | No | A | A | A |  |  |  |
| 3.5.1 | Programs and projects shall follow the tailoring process in this Section 3.5. | OCE | No | A | A | A |  |  |  |
| 3.5.5 | A request for a permanent change to a prescribed requirement in an Agency or Center document that is applicable to all programs and projects shall be submitted as a “change request” to the office responsible for the requirement policy document unless formally delegated elsewhere. | OCE | No | A | A | A |  |  |  |
| 3.6.1 | Center Directors negotiating reimbursable space flight work with another agency shall propose NPR 7120.5 as the basis by which it will perform the space flight work. | OCE | No |  | A |  |  |  |  |
| 3.7.1 | Each program and project shall perform and document an assessment to determine an approach that maximizes the use of SI.  | OCE | No |  |  | A |  |  |  |
| **I-Table Product Requirements** |
|  | **Table I-1 Uncoupled and Loosely Coupled Program Milestone Products and Control Plans Maturity Matrix** |  |  |  |  |  |  |  |  |
| Table I-1 | 1. FAD [Baseline at SRR] [Required per NPR 7120.5] | OCE | No | A |  | A |  |  |  |
| Table I-1 | 2. PCA [Baseline at KDP I] [Required per NPR 7120.5] | OCE | No | A |  |  |  |  |  |
| Table I-1 | 3. Program Plan [Baseline at SDR] [Required per NPR 7120.5] | OCE | No | A | A | A |  |  |  |
| Table I-1 | 3.a. Mission Directorate requirements and constraints [Baseline at SRR] [Required per NPR 7123.1] | OCE | Yes | A |  | A |  |  |  |
| Table I-1 | 3.b. Traceability of program-level requirements on projects to the Agency strategic goals and Mission Directorate requirements and constraints [Baseline at SDR] [Required per NPR 7123.1] | OCE | Yes | A |  | A |  |  |  |
| Table I-1 | 3.c. Documentation of driving ground rules and assumptions on the program [Baseline at SDR] [Required per NPR 7120.5] | OCE | Yes | A |  | A |  |  |  |
| Table I-1 | 4. Interagency and international agreements [Baseline at SDR] | OCE | Yes | A |  | A |  |  |  |
| Table I-1 | 5. ASM Decision Memorandum or ASM meeting summary [additional information in NPD 1000.5] | OCE | Yes | A |  | A |  |  |  |
| Table I-1 | 6. Risk mitigation plans and resources for significant risks [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-1 | 7. Documented Cost and Schedule Baselines [Baseline at SDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-1 | 8. Documentation of Basis of Estimate (cost and schedule) [Baseline at SDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-1 | 9. Documentation of performance against plan/baseline, including status/closure of formal actions from previous KDP [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-1 | 10. Industrial Base and Supply Chain Risk Management (SCRM) Strategy and Status [Baseline at SDR] [Required per NPR 8735.2] | OSMA | No |  |  | A |  |  |  |
|  | **Program Plan Control Plans**  |  |  |  |  |  |  |  |  |
| Table I-1 | 1. Technical, Schedule, and Cost Control Plan [Baseline at SDR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-1 | 2. Safety and Mission Assurance Plan [Baseline at SDR] [Required per NPRs 8705.2 and 8705.4] | OSMA | Yes |  |  | A |  |  |  |
| Table I-1 | 3. Risk Management Plan [Baseline at SDR] [Required per NPR 8000.4]  | OSMA | Yes |  |  | A |  |  |  |
| Table I-1 | 4. Acquisition Strategy [Baseline at SDR] [Required per NPD 1000.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-1 | 6. Systems Engineering Management Plan [Baseline at SDR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-1 | 7. System Security Plan [Baseline at SDR] [Required per NPR 2810.1] | OCIO | No |  |  | A |  |  |  |
| Table I-1 | 8. Review Plan [Baseline at SRR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-1 | 9. NEPA Compliance Documentation [Baseline at SDR] [Required per NPR 8580.1] | OSI-EMD | No |  |  | A |  |  |  |
| Table I-1 | 10. Configuration Management Plan [Baseline at SDR] [Required per NPR 7120.5; additional information in NPR 7123.1 and SAE/EIA 649] | OCE | Yes |  |  | A |  |  |  |
| Table I-1 | 11. Security Plan [Baseline at SDR] [Required per NPR 1040.1 and NPR 1600.1] | OPS | No |  |  | A |  |  |  |
| Table I-1 | 12. Technology Transfer (formerly Export) Control Plan [Baseline at SDR] [Required per NPR 2190.1]  | OIIR | No |  |  | A |  |  |  |
| Table I-1 | 15. Quality Assurance Surveillance Plan [Baseline at SDR] [Required per NPR 8735.2 and NASA FAR Supplement part 1837.604] | OSMA | Yes |  |  | A |  |  |  |
|  | **Table I-2 Tightly Coupled Program Milestone Products Maturity Matrix** |  |  |  |  |  |  |  |  |
| Table I-2 | 1. FAD [Baseline at SRR] [Required per NPR 7120.5] | OCE | No | A |  | A |  |  |  |
| Table I-2 | 2. PCA [Baseline at PDR] [Required per NPR 7120.5] | OCE | No | A |  |  |  |  |  |
| Table I-2 | 3. Program Plan [Baseline at SDR] [Required per NPR 7120.5] | OCE | No | A | A | A |  |  |  |
| Table I-2 | 3.a. Mission Directorate requirements and constraints [Baseline at SRR] [Required per NPR 7123.1] | OCE | Yes | A |  | A |  |  |  |
| Table I-2 | 3.b. Traceability of program-level requirements on projects to the Agency strategic goals and Mission Directorate requirements and constraints [Baseline at SDR] [Required per NPR 7123.1] | OCE | Yes | A |  | A |  |  |  |
| Table I-2 | 3.c. Documentation of driving ground rules and assumptions on the program [Baseline at SDR] [Required per NPR 7120.5] | OCE | Yes | A |  | A |  |  |  |
| Table I-2 | 4. Interagency and international agreements [Baseline at SDR] | OCE | Yes | A |  | A |  |  |  |
| Table I-2 | 5. ASM Decision Memorandum or ASM meeting summary [additional information in NPD 1000.5] | OCE | Yes | A |  | A |  |  |  |
| Table I-2 | 6. Risk mitigation plans and resources for significant risks [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-2 | 7. Documented Cost and Schedule Baselines [Baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-2 | 8. Documentation of Basis of Estimate (cost and schedule) [Baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-2 | 9. CADRe [Baseline at SRR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-2 | 10. Shared Infrastructure, Staffing, and Scarce Material Requirements and Plans  | OCE | Yes |  |  | A |  |  |  |
| Table I-2 | 11. Documentation of performance against plan/baseline, including status/closure of formal actions from previous KDP [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-2 | 12. Industrial Base and Supply Chain Risk Management (SCRM) Strategy and Status [Baseline at SDR] [Required per NPR 8735.2] | OSMA | No |  |  | A |  |  |  |
|  | **Table I-3 Tightly Coupled Program Plan Control Plans Maturity Matrix** |  |  |  |  |  |  |  |  |
| Table I-3 | 1. Technical, Schedule, and Cost Control Plan [Baseline at SDR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-3 | 2. Safety and Mission Assurance Plan [Baseline at SDR] [Required per NPRs 8705.2 and 8705.4] | OSMA | Yes |  |  | A |  |  |  |
| Table I-3 | 3. Risk Management Plan [Baseline at SDR] [Required NPR 8000.4] | OSMA | Yes |  |  | A |  |  |  |
| Table I-3 | 4. Acquisition Strategy [Baseline at SDR] [Required per NPD 1000.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-3 | 6. Systems Engineering Management Plan [Baseline at SDR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-3 | 7. Verification and Validation Plan [Baseline at PDR] [Required per NPR 7120.5, additional information in NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-3 | 8. System Security Plan [Baseline at CDR] [Required per NPR 2810.1] | OCIO | No |  |  | A |  |  |  |
| Table I-3 | 9. Review Plan [Baseline at SRR] [Required per NPR 7120.5]  | OCE | Yes |  |  | A |  |  |  |
| Table I-3 | 10. Missions Operations Plan [Baseline at ORR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-3 | 11. NEPA Compliance Documentation [Baseline at PDR] [Required per NPR 8580.1] | OSI-EMD | No |  |  | A |  |  |  |
| Table I-3 | 12. Integrated Logistics Support Plan [Baseline at PDR] [Required per NPD 7500.1] | OSI-LMD | No |  |  | A |  |  |  |
| Table I-3 | 14. Configuration Management Plan [Baseline at SDR] [Required per NPR 7120.5; additional information in NPR 7123.1 and SAE/EIA 649] | OCE | Yes |  |  | A |  |  |  |
| Table I-3 | 15. Security Plan [Baseline at PDR] [Required per NPR 1040.1 and NPR 1600.1] | OPS | No |  |  | A |  |  |  |
| Table I-3 | 16. Technology Transfer (formerly Export) Control Plan [Baseline at PDR] [Required per NPR 2190.1] | OIIR | No |  |  | A |  |  |  |
| Table I-3 | 19. Human Rating Certification Package [Initial at SRR; certified at MRR/FRR] [Required per NPR 8705.2] | OSMA | No |  |  | A |  |  |  |
| Table I-3 | 20. Quality Assurance Surveillance Plan [Baseline at SDR] [Required per NPR 8735.2 and NASA FAR Supplement part 1837.604] | OSMA | Yes |  |  | A |  |  |  |
| Table I-3 | 21. Orbital Collision Avoidance Plan [Baseline at PDR] [Required per NID 7120.132] | OCE | No |  |  | A |  |  |  |
| Table I-3 | 22. Human Systems Integration Plan [Baseline at SRR] [additional information in NASA/SP-20210010952 NASA HSI Handbook and NPR 7123.1] | OCE-OSMA-OCHMO1 | No |  |  | A |  |  |  |
|  | **Table I-4 Project Milestone Products Maturity Matrix** |  |  |  |  |  |  |  |  |
|  | **Headquarters and Program Products** |  |  |  |  |  |  |  |  |
| Table I-4 | 1. FAD [Baseline at MCR] [Required per NPR 7120.5] | OCE | No | A |  | A |  |  |  |
| Table I-4 | 2. Program Plan [Baseline at MCR] [Required per NPR 7120.5] | OCE | No | A |  | A |  |  |  |
| Table I-4 | 2.a. Applicable Agency strategic goals [Baseline at MCR] [Required per NPR 7123.1] | OCE | Yes | A |  | A |  |  |  |
| Table I-4 | 2.b. Documentation of program-level requirements and constraints on the project (from the Program Plan) and stakeholder expectations, including mission objectives/goals and mission success criteria [Baseline at SRR] [Required per NPR 7123.1] | OCE | Yes | A |  | A |  |  |  |
| Table I-4 | 2.c. Documentation of driving mission, technical, and programmatic ground rules and assumptions [Baseline at SDR/MDR] [Required per NPR 7120.5] | OCE | Yes | A |  | A |  |  |  |
| Table I-4 | 3. Partnerships and interagency and international agreements [Baseline U.S. partnerships and agreements at SDR/MDR; Baseline International agreements at PDR] | OCE | Yes | A |  | A |  |  |  |
| Table I-4 | 4. ASM Decision Memorandum or ASM meeting summary [additional information in NPD 1000.5] | OCE | Yes | A |  | A |  |  |  |
| Table I-4 | 5. Mishap Preparedness and Contingency Plan [Baseline at SMSR] [Required per NPR 8621.1] | OSMA | Yes | A |  | A |  |  |  |
|  | **Project Technical Products** |  |  |  |  |  |  |  |  |
| Table I-4 | 1. Concept Documentation [Approve at MCR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 2. Mission, Spacecraft, Ground, and Payload Architectures [Baseline mission and spacecraft architecture at SRR; Baseline ground and payload architectures at SDR/MDR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 3. Project-Level, System, and Subsystem Requirements [Baseline project-level and system-level requirements at SRR; Baseline subsystem requirements at PDR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 4. Design Documentation [Baseline at CDR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 5. Operations Concept Documentation [Baseline at PDR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 6. Technology Readiness Assessment Documentation [Required per NPR 7120.5 Appendix F FA Template] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 7. Engineering Development Assessment Documentation [Required per NPR 7120.5 Appendix F FA Template] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 8. Heritage Assessment Documentation [Required per NPR 7120.5 Appendix F FA Template] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 9. Systems Safety Analyses (e.g., safety data packages) [Baseline at CDR][Required per NPR 8715.3] | OSMA | Yes |  |  | A |  |  |  |
| Table I-4 | 10. Payload Safety Process Deliverables [Baseline at SIR] [Required per NPR 8715.7] | OSMA | Yes |  |  | A |  |  |  |
| Table I-4 | 11. Verification and Validation Report [Baseline at MRR/FRR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 12. Operations Handbook [Baseline at ORR] [additional information in NPR 7120.5 Appendix A] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 13. Orbital Debris Assessment Report [Final at SMSR] [Required per NPR 8715.6]  | OSMA | No | A |  | A |  |  |  |
| Table I-4 | 14. End of Mission Plans [Baseline at SMSR] [Required per NPR 8715.6; additional information in NASA-STD-8719.14, App B] | OSMA | Yes | A |  | A |  |  |  |
| Table I-4 | 16. Decommissioning/Disposal Plan [Baseline at DR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 17. Industrial Base and Supply Chain Risk Management (SCRM) Strategy and Status [Baseline at PDR] [Required per NPR 8735.2] | OSMA | No |  |  | A |  |  |  |
| Table I-4 | 18. Criticality Identification Method for Hardware [Baseline at PDR] [Required per NPR 8735.2]  | OSMA | No |  |  | A |  |  |  |
|  | **Project Management, Planning, and Control Products** |  |  |  |  |  |  |  |  |
| Table I-4 | 1. Formulation Agreement [Baseline for Phase A at MCR; Baseline for Phase B at SDR/MDR] [Required per NPR 7120.5] | OCE | Yes | A | A | A |  |  |  |
| Table I-4 | 2. Project Plan [Baseline at PDR] [Required per NPR 7120.5] | OCE | Yes | A | A | A |  |  |  |
| Table I-4 | 3. Documentation of performance against Formulation Agreement (see #1 above) or against plans for work to be accomplished during Implementation life-cycle phase, including performance against baselines and status/closure of formal actions from previous KDP [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 4. Project Baselines [Baseline at PDR]  | N/A | N/A |  |  |  |  |  |  |
| Table I-4 | 4.a. Top technical, cost, schedule and safety risks, risk mitigation plans, and associated resources [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 4.b. Staffing requirements and plans [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-4 | 4c.i. Infrastructure requirements and plans [Required per NPR 9250.1, NPD 8800.14, and NPR 8820.2]Business case analysis for infrastructure [Required per NPR 8800.15.] | OSI-FRED | No |  |  | A |  |  |  |
| Table I-4 | 4.c.ii. Capitalization Determination Form (CDF) (NASA Form 1739) [Required per NPR 9250.1] | OCFO | No |  |  | A |  |  |  |
| Table I-4 | 4.d. Schedule [Baseline Integrated Master Schedule at PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-4 | 4.e. Cost Estimate [Baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-4 | 4.f. Basis of Estimate (cost and schedule) [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-4 | 4.g. Confidence Level(s) and supporting documentation [Baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-4 | 4.h. External Cost and Schedule Commitments [Baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No | A |  | A |  |  |  |
| Table I-4 | 4.i. CADRe [Baseline at SRR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-4 | 4.j. PMB [Baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
|  | **Table I-5 Project Plan Control Plans Maturity Matrix** |  |  |  |  |  |  |  |  |
| Table I-5 | 1. Technical, Schedule, and Cost Control Plan [Baseline at SDR/MDR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-5 | 2. Safety and Mission Assurance Plan [Baseline at SRR] [Required per NPRs 8705.2 and 8705.4] | OSMA | Yes |  |  | A |  |  |  |
| Table I-5 | 3. Risk Management Plan [Baseline at SRR] [Required per NPR 8000.4] | OSMA | Yes |  |  | A |  |  |  |
| Table I-5 | 4. Acquisition Strategy [Baseline at SRR] [Required per NPD 1000.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-5 | 6. Systems Engineering Management Plan [Baseline at SRR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-5 | 7. System Security Plan [Baseline at CDR] [Required per NPR 2810.1] | OCIO | No |  |  | A |  |  |  |
| Table I-5 | 8. Software Management Plan(s) [Baseline at SDR/MDR] [Required per NPR 7150.2; additional information in NASA-STD-8739.8] | OCE | No |  |  | A |  |  |  |
| Table I-5 | 9. Verification and Validation Plan [Baseline at PDR] [Required per NPR 7120.5, additional information in NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-5 | 10. Review Plan [Baseline at SRR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-5 | 11. Mission Operations Plan [Baseline at ORR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-5 | 12. NEPA Compliance Documentation [Baseline at SDR/MDR] [Required per NPR 8580.1] | OSI-EMD | No |  |  | A |  |  |  |
| Table I-5 | 13. Integrated Logistics Support Plan [Baseline at PDR] [Required per NPD 7500.1] | OSI-LMD | No |  |  | A |  |  |  |
| Table I-5 | 15. Integration Plan [Baseline at PDR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-5 | 16. Configuration Management Plan [Baseline at SRR] [Required per NPR 7120.5; additional information in NPR 7123.1 and SAE/EIA 649] | OCE | Yes |  |  | A |  |  |  |
| Table I-5 | 17. Security Plan [Baseline at PDR] [Required per NPR 1040.1 and NPR 1600.1] | OPS | No |  |  | A |  |  |  |
| Table I-5 | 18. Project Protection Plan [Baseline at PDR] [Required per NPR 1058.1; additional information in NASA-STD-1006] | OCE | No |  |  | A |  |  |  |
| Table I-5 | 19. Technology Transfer (formerly Export) Control Plan [Baseline at PDR] [Required per NPR 2190.1] | OIIR | No |  |  | A |  |  |  |
| Table I-5 | 21. Human Rating Certification Package [Initial at SRR; certified at MRR/FRR] [Required per NPR 8705.2] | OSMA | No |  |  | A |  |  |  |
| Table I-5 | 22. Planetary Protection Plan [Baseline at PDR] [Required per NPD 8020.7 and NPR 8020.12] | OSMA | No |  |  | A |  |  |  |
| Table I-5 | 23. Nuclear Launch Authorization Plan [Baseline at SDR/MDR] [additional information in NPR 8715.3] | OSMA | No |  |  | A |  |  |  |
| Table I-5 | 24. Range Safety Risk Management Process Documentation [Baseline at SIR] [Required per NPR 8715.5] | OSMA | Yes |  |  | A |  |  |  |
| Table I-5 | 26. Quality Assurance Surveillance Plan [Baseline at SDR] [Required per NPR 8735.2 and NASA FAR Supplement part 1837.604] | OSMA | Yes |  |  | A |  |  |  |
| Table I-5 | 27. Orbital Collision Avoidance Plan [Baseline at PDR] [Required per NID 7120.132] | OCE | No |  |  | A |  |  |  |
| Table I-5 | 28. Human Systems Integration Plan [Baseline at SRR] [additional information in NASA/SP-20210010952 NASA HSI Handbook and NPR 7123.1] | OCE-OSMA-OCHMO1 | No |  |  | A |  |  |  |
|  | **Table I-6 Single-Project Program Milestone Products Maturity Matrix** |  |  |  |  |  |  |  |  |
| Table I-6 | 1. FAD [Baseline at MCR] [Required per NPR 7120.5] | OCE | No | A |  | A |  |  |  |
| Table I-6 | 2. PCA [Baseline at PDR] [Required per NPR 7120.5] | OCE | No | A |  |  |  |  |  |
| Table I-6 | 3. Traceability of Agency strategic goals and Mission Directorate requirements and constraints to program/project-level requirements and constraints[Baseline at SRR] [Required per NPR 7123.1] | OCE | Yes | A |  | A |  |  |  |
| Table I-6 | 4. Documentation of driving mission, technical, and programmatic ground rules and assumptions [Baseline at SDR/MDR] [Required per NPR 7120.5] | OCE | Yes | A |  | A |  |  |  |
| Table I-6 | 5. Partnerships and inter-agency and international agreements [Baseline U.S. partnerships and agreements at SDR/MDR; Baseline international agreements at PDR] | OCE | Yes | A |  | A |  |  |  |
| Table I-6 | 6. ASM Decision Memorandum or ASM meeting summary [additional information in NPD 1000.5] | OCE | Yes | A |  | A |  |  |  |
| Table I-6 | 7. Mishap Preparedness and Contingency Plan [Baseline at SMSR] [Required per NPR 8621.1] | OSMA | Yes | A |  | A |  |  |  |
|  | **Single-Project Program Technical Products** |  |  |  |  |  |  |  |  |
| Table I-6 | 1. Concept Documentation [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 2. Mission, Spacecraft, Ground, and Payload Architectures [Baseline mission and spacecraft architecture at SRR; baseline ground and payload architectures at SDR/MDR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 3. Project-Level, System, and Subsystem Requirements [Baseline project-level and system-level requirements at SRR; baseline subsystem requirements at PDR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 4. Design Documentation [Baseline at CDR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 5. Operations Concept Documentation [Baseline at PDR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 6. Technology Readiness Assessment Documentation [Required per NPR 7120.5 Appendix F FA Template] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 7. Engineering Development Assessment Documentation [Required per NPR 7120.5 Appendix F FA Template] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 8. Heritage Assessment Documentation [Required per NPR 7120.5 Appendix F FA Template] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 9. Systems Safety Analyses (e.g., safety data packages) [Baseline at CDR][Required per NPR 8715.3] | OSMA | Yes |  |  | A |  |  |  |
| Table I-6 | 10. Payload Safety Process Deliverables [Baseline at SIR] [Required per NPR 8715.7] | OSMA | Yes |  |  | A |  |  |  |
| Table I-6 | 11. Verification and Validation Report [Baseline at MRR/FRR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 12. Operations Handbook [Baseline at ORR] [additional information in NPR 7120.5 Appendix A] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 13. Orbital Debris Assessment Report [Final at SMSR] [Required per NPR 8715.6] | OSMA | No | A |  | A |  |  |  |
| Table I-6 | 14. End of Mission Plans [Baseline at SMSR] [Required per NPR 8715.6; additional information in NASA-STD-8719.14, App B] | OSMA | Yes | A |  | A |  |  |  |
| Table I-6 | 16. Decommissioning/Disposal Plan [Baseline at DR] [Required per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 17. Industrial Base and Supply Chain Risk Management (SCRM) Strategy and Status [Baseline at PDR] [Required per NPR 8735.2] | OSMA | No |  |  | A |  |  |  |
| Table I-6 | 18. Criticality Identification Method for Hardware [Baseline at PDR] [Required per NPR 8735.2] | OSMA | No |  |  | A |  |  |  |
|  | **Single-Project Program Management, Planning, and Control Products** |  |  |  |  |  |  |  |  |
| Table I-6 | 1. Formulation Agreement [Baseline for Phase A at MCR; baseline for Phase B at SDR/MDR] [Required per NPR 7120.5] | OCE | Yes | A | A | A |  |  |  |
| Table I-6 | 2. Program Plan [Baseline at PDR] [Required per NPR 7120.5] | OCE | No | A | A | A |  |  |  |
| Table I-6 | 3. Project Plan [Baseline at PDR] [Required per NPR 7120.5] | OCE | Yes | A | A | A |  |  |  |
| Table I-6 | 4. Documentation of performance against Formulation Agreement (see #1 above) or against plans for work to be accomplished during Implementation life-cycle phase, including performance against baselines and status/closure of formal actions from previous KDP [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 5. Project Baselines [Baseline at PDR] | N/A | N/A |  |  |  |  |  |  |
| Table I-6 | 5.a. Top technical, cost, schedule and safety risks, risk mitigation plans, and associated resources [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 5.b. Staffing requirements and plans [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-6 | 5.c.i. Infrastructure requirements and plans [Required per NPR 9250.1, NPD 8800.14, and NPR 8820.2]Business case analysis for infrastructure [Required per NPR 8800.15.] | OSI-FRED | No |  |  | A |  |  |  |
| Table I-6 | 5.c.ii. Capitalization Determination Form (CDF) (NASA Form 1739) [Required per NPR 9250.1] | OCFO | No |  |  | A |  |  |  |
| Table I-6 | 5.d. Schedule [Baseline Integrated Master Scheduleat PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-6 | 5.e. Cost Estimate (Risk-Informed or Schedule-Adjusted Depending on Phase) [Risk-informed and schedule-adjusted baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-6 | 5.f. Basis of Estimate (cost and schedule) [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-6 | 5.g. Confidence Level(s) and supporting documentation [Baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
| Table I-6 | 5.h. External Cost and Schedule Commitments [Baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No | A |  | A |  |  |  |
| Table I-6 | 5.i. CADRe [Baseline at SRR] [Required per NPR 7120.5]  | OCFO-SID | No |  |  | A |  |  |  |
| Table I-6 | 5.j. PMB [Baseline at PDR] [Required per NPR 7120.5] | OCFO-SID | No |  |  | A |  |  |  |
|  | **Table I-7 Single-Project Program Plan Control Plans Maturity Matrix** |  |  |  |  |  |  |  |  |
| Table I-7 | 1. Technical, Schedule, and Cost Control Plan [Baseline at SDR/MDR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-7 | 2. Safety and Mission Assurance Plan [Baseline at SRR] [Required per NPRs 8705.2 and 8705.4] | OSMA | Yes |  |  | A |  |  |  |
| Table I-7 | 3. Risk Management Plan [Baseline at SRR] [Required per NPR 8000.4] | OSMA | Yes |  |  | A |  |  |  |
| Table I-7 | 4. Acquisition Strategy [Baseline at SRR] [Required per NPD 1000.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-7 | 6. Systems Engineering Management Plan [Baseline at SRR] [per NPR 7123.1] | OCE | Yes |  |  | A |  |  |  |
| Table I-7 | 7. System Security Plan [Baseline at CDR] [Required per NPR 2810.1] | OCIO | No |  |  | A |  |  |  |
| Table I-7 | 8. Software Management Plan(s) [Baseline at SDR/MDR] [Required per NPR 7150.2; additional information in NASA-STD-8739.8] | OCE | No |  |  | A |  |  |  |
| Table I-7 | 9. Verification and Validation Plan [Baseline at PDR] [Required per NPR 7120.5, additional information in NPR 7123.1 | OCE | Yes |  |  | A |  |  |  |
| Table I-7 | 10. Review Plan [Baseline at SRR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-7 | 11. Mission Operations Plan [Baseline at ORR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-7 | 12. NEPA Compliance Documentation [Baseline at SDR/MDR] [Required per NPR 8580.1]  | OSI-EMD | No |  |  | A |  |  |  |
| Table I-7 | 13. Integrated Logistics Support Plan [Baseline at PDR] [Required per NPD 7500.1] | OSI-LMD | No |  |  | A |  |  |  |
| Table I-7 | 15. Integration Plan [Baseline at PDR] [Required per NPR 7120.5] | OCE | Yes |  |  | A |  |  |  |
| Table I-7 | 16. Configuration Management Plan [Baseline at SRR] [Required per NPR 7120.5; additional information in NPR 7123.1 and SAE/EIA 649] | OCE | Yes |  |  | A |  |  |  |
| Table I-7 | 17. Security Plan [Baseline at PDR] [Required per NPR 1040.1 and NPR 1600.1] | OPS | No |  |  | A |  |  |  |
| Table I-7 | 18. Project Protection Plan [Baseline at PDR] [Required per NPR 1058.1; additional information in NASA-STD-1006] | OCE | No |  |  | A |  |  |  |
| Table I-7 | 19. Technology Transfer (formerly Export) Control Plan [Baseline at PDR] [Required per NPR 2190.1] | OIIR | No |  |  | A |  |  |  |
| Table I-7 | 21. Human Rating Certification Package [Initial at SRR; certified at MRR/FRR] [Required per NPR 8705.2] | OSMA | No |  |  | A |  |  |  |
| Table I-7 | 22. Planetary Protection Plan [Baseline at PDR] [Required per NPD 8020.7 and NPR 8020.12] | OSMA | No |  |  | A |  |  |  |
| Table I-7 | 23. Nuclear Launch Authorization Plan [Baseline at SDR/MDR] [additional information in NPR 8715.3]  | OSMA | No |  |  | A |  |  |  |
| Table I-7 | 24. Range Safety Risk Management Process Documentation [Baseline at SIR] [Required per NPR 8715.5] | OSMA | Yes |  |  | A |  |  |  |
| Table I-7 | 26. Quality Assurance Surveillance Plan [Baseline at SDR] [Required per NPR 8735.2 and NASA FAR Supplement part 1837.604] | OSMA | Yes |  |  | A |  |  |  |
| Table I-7 | 27. Orbital Collision Avoidance Plan [Baseline at PDR] [Required per NID 7120.132] | OCE | No |  |  | A |  |  |  |
| Table I-7 | 28. Human Systems Integration Plan [Baseline at SRR] [additional information in NASA/SP-20210010952 NASA HSI Handbook and NPR 7123.1] | OCE-OSMA-OCHMO1 | No |  |  | A |  |  |  |

1 The Human Systems Integration Plan requirement is owned by the three TA offices OCHMO, OCE and OSMA. OCE is the POC for this requirement and will coordinate verifications and relief from requirements with all TAs as necessary.

**I-Table Product Best Practices**

“BP” in the “Product Owner/Requirement or Best Practice” column of an I-Table indicates that the product is considered a best practice. These I-Table products are not requirements, but the expectation is that the products will be developed per the I-Table as part of normal program or project management activities.

Table I-1 Uncoupled and Loosely Coupled Program - Milestone Products and Control Plans Maturity Matrix – Best Practices

| Products | Product Owner/Requirement or Best Practice | Formulation | Implementation |
| --- | --- | --- | --- |
| KDP I1 | KDP II - n |
| SRR | SDR | PIR |
| **Program Plan Control Plans** |  |  |  |  |
| 5. Technology Development Plan [additional information in NPR 7500.2, NPR 7123.1, and NPR 7120.5] | OCE/BP | Preliminary | Baseline |  |
| 13. Communications Plan [additional information in NPR 7120.5] | OComm/BP | Preliminary | Baseline |  |
| 14. Knowledge Management Plan [additional information in NPD 7120.4 and NPD 7120.6] | OCE/BP | Preliminary | Baseline |  |

Table I-3 Tightly Coupled Program Plan Control Plans Maturity Matrix – Best Practices

|  (See Appendix GTemplate for Control Plan Details.) | Product Owner/Requirement or Best Practice | Formulation | Implementation |
| --- | --- | --- | --- |
| KDP 0 | KDP I | KDP II | KDP III | KDP n |
| SRR | SDR | PDR | CDR | SIR | ORR | MRR/FRR | DR |
| 5. Technology Development Plan [additional information in NPR 7500.2, NPR 7123.1, and NPR 7120.5] | OCE/BP | Preliminary | Baseline | Update |  |  |  |  |  |
| 13. Science Data Management Plan [additional information in NPD 2200.1 and NPRs 2200.2, 1441.1, and 8020.12] | SMD/BP |  |  | Preliminary  |  |  | Baseline  | Update |  |
| 17. Communications Plan [additional information in NPR 7120.5] | OComm/BP | Preliminary |  | Baseline | Update |  | Update |  |  |
| 18. Knowledge Management Plan [additional information in NPD 7120.4 and NPD 7120.6] | OCE/BP | Preliminary | Baseline | Update | Update |  |  |  |  |

Table I-4 Project Milestone Products Maturity Matrix – Best Practices

| Products | Product Owner/Requirement or Best Practice | Pre-Phase AKDP A | Phase AKDP B | Phase BKDP C | Phase CKDP D | Phase DKDP E | Phase EKDP F | Phase F |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MCR | SRR |  SDR/MDR | PDR |  CDR |  SIR | ORR | MRR/FRR | DR | DRR |
| **Project Technical Products** |
| 15. Final Mission Report [additional information in NPR 7120.5 Appendix A] | OCE/BP |  |  |  |  |  |  |  |  |  | Final |
| 19. Hardware Quality Data Management Analytics [additional information in NPR 8735.2] | OSMA/BP | Preliminary | Update | Update | Baseline | Update | Update | Update | Update |  |  |

Table I-5 Project Plan Control Plans Maturity Matrix – Best Practices

|  (See Appendix H Template for Control Plan Details.) | Product Owner/Requirement or Best Practice | Pre-Phase A | Phase AKDP B | Phase BKDP C | Phase CKDP D | Phase DKDP E | Phase EKDP F |
| --- | --- | --- | --- | --- | --- | --- | --- |
| MCR | SRR | SDR/MDR | PDR | CDR | SIR | ORR | MRR/ FRR | DR |
| 5. Technology Development Plan (may be part of Formulation Agreement) [additional information in NPR 7500.2, NPR 7123.1, and NPR 7120.5] | OCE/BP | Baseline | Update | Update | Update |  |  |  |  |  |
| 14. Science Data Management Plan [additional information in NPD 2200.1 and NPRs 2200.2, 1441.1, and 8020.12] | SMD/BP |  |  |  | Preliminary  |  |  | Baseline | Update |  |
| 20. Knowledge Management Plan [additional information in NPD 7120.4 and NPD 7120.6] | OCE/BP | Approach for managing during Phase A1 |  | Preliminary | Baseline | Update |  |  |  |  |
| 25. Communications Plan [additional information in NPR 7120.5] | OComm/BP |  | Preliminary |  | Baseline | Update |  | Update |  |  |

Table I-6 Single-Project Program Milestone Products Maturity Matrix – Best Practices

| Products | Product Owner/Require-ment or Best Practice | Pre-Phase AKDP A | Phase AKDP B | Phase BKDP C | Phase CKDP D | Phase DKDP E | Phase EKDP F | Phase F |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| MCR | SRR |  SDR/MDR | PDR |  CDR |  SIR | ORR | MRR/FRR | DR | DRR |
| Headquarters Products1 |
| **Single-Project Program Technical Products2** |
| 15. Final Mission Report [additional information in NPR 7120.5 Appendix A] | OCE/BP |  |  |  |  |  |  |  |  |  | Final |
| 19. Hardware Quality Data Management Analytics [additional information in NPR 8735.2] | OSMA/BP | Preliminary | Update | Update | Baseline | Update | Update | Update | Update |  |  |

Table I-7 Single-Project Program Plan Control Plans Maturity Matrix – Best Practices

|  (See Templates in Appendices G and H for Control Plan Details) | Product Owner/Requirement or Best Practice | Pre-Phase A | Phase AKDP B | Phase BKDP C | Phase CKDP D | Phase DKDP E | Phase EKDP F |
| --- | --- | --- | --- | --- | --- | --- | --- |
| MCR | SRR | SDR/MDR | PDR | CDR | SIR | ORR | MRR/ FRR | DR |
| 5. Technology Development Plan (may be part of Formulation Agreement) [additional information in NPR 7500.2, NPR 7123.1, and NPR 7120.5] | OCE/BP | Baseline | Update | Update | Update |  |  |  |  |  |
| 14. Science Data Management Plan [additional information in NPD 2200.1 and NPRs 2200.2, 1441.1, and 8020.12] | SMD/BP |  |  |  | Preliminary  |  |  | Baseline | Update |  |
| 20. Knowledge Management Plan [additional information in NPD 7120.4 and NPD 7120.6] | OCE/BP | Approach for managing during Phase A1 |  | Preliminary | Baseline | Update |  |  |  |  |
| 25. Communications Plan [additional information in NPR 7120.5] | OComm/BP |  | Preliminary |  | Baseline | Update |  | Update |  |  |