

BUSINESS PROCESS MEMORANDUM (BPM) NO. 24-01

TO: Mission Directorate Resource Management Officers & Deputy Associate Administrators for Management

FROM: Craig McArthur, DCFO for Strategic Insights and Budget, OCFO

SUBJECT: CADRe Execution Update & Waiver

DATE: May 7, 2024

1.0 Purpose

The purpose of this memorandum is to document the tailored implementation approach for the Cost Analysis Data Requirement (CADRe) in the remainder of Fiscal Year (FY) 2024 and 2025. This memo provides a blanket tailoring for CADRe for all NASA Procedural Requirements 7120.5 projects that have/expect to have a CADRe deliverable in FY2024 and/or FY2025. See Section 3 below for rationale for tailored implementation approach. This tailored implementation approach also provides Mission Directorates, Centers, and Project ample time to embed anticipated FY 2026 CADRe resources within their budget planning.

2.0 CADRe Background

The CADRe program has enabled NASA to maintain a repository of historical programmatic cost, schedule, and technical information across all NASA flight projects and to successfully implement several GAO and OMB recommendations by injecting more discipline in our cost estimates. It has been a project requirement by NPR 7120.5F for flight projects for nearly two decades and historically subsidized by OCFO/SIB. CADRes are incorporated into the One NASA Cost Engineering (ONCE) database to facilitate cost engineering and cost estimation tool development. It consists of three parts: Part A is general descriptive information; Part B provides technical data; and Part C contains project cost data, schedule data, and risk lists. The cumulative impact of having CADRes collected at multiple reviews for every mission across all flight projects has empowered NASA to conduct high fidelity project life cycle cost and schedule estimates resulting in more advanced programmatic practices and analysis tools.

3.0 CADRe Emerging Issue

Since the inception of CADRe in 2005, OCFO/SIB has subsidized the creation of the CADRe document with project-provided data, in a standardized and efficient process that has fundamentally improved the state of the art of programmatic analysis across NASA. However, recent Agency emphasis on aligning mission costs to their applicable project, coupled with years of institutional budget reductions, led OCFO to determine in 2024 that it needed to shift the subsidization model for CADRe requirements. Per NPR 7120.5F, the responsibility for completing the CADRe rightfully resides with the MDs/Programs/Projects. Given the late timing of the decision, mission directorates voiced concerns about their ability to implement in the year of execution.

3.0 CADRe Transition Period FY2024-FY2025

To alleviate further potential disruptions related to this decision, OCFO has implemented a 2-year transition period. During FY2024 and FY2025, OCFO authorizes tailoring of the CADRe requirement 7120.5F compliance matrix (Appendix C. Compliance Matrix and Tailoring Guidance, Table I-2 9.0 CADRe, Table I-4 4i CADRe, Table I-6 5i CADRe) where OCFO/SIB will accept project data collection & caching at each milestone, which will be considered adequate to satisfy CADRe requirement during the transition period. This applies to all milestone events not already covered by any remaining OCFO/SIB transition funding. This will ensure valuable project data is collected and stored for future analysis by the

entire PP&C community without requiring the entire written CADRe report. A representative list of source documents needed to assemble a CADRe is provided below which are already provided to Standing Review Board (SRB) at each site review. Projects are encouraged to leverage the SRBs in-situ to collect data in parallel for the key milestone reviews (SRR, PDR, CDR, SIR, LRD, or similar). Projects will still need to sign off on completed tailored CADRe data. After data is cached, a memorandum of completeness will be signed by three parties: 1) Project will sign to ensure that data capture is consistent with current project position; 2) SRB Programmatic analyst will sign to ensure that data formats are usable and to ensure completeness of useable data; and 3) SIB will sign to document that intent of CADRe requirement is met. Memorandum of Completeness signatures will be documented with cached data. The tailored CADRe requirement is not considered complete until this Memorandum of Completeness is signed.

4.0 CADRe in FY2026 & Beyond

Flight projects and the PP&C community are the primary beneficiary of CADRe, as they use it to conduct analysis to build estimates for future analogous projects. There is a sustained need for CADRe for the following reasons:

- CADRe follows federal government best practices to provide a technical baseline document which serves as a common reference point to perform current and future cost & schedule analysis activities.
- The Chief Acquisition Officer intent memo emphasizes the importance of understanding historical mission costs, schedule drivers, and risks.
- CADRe remains a requirement in NPR 7120.5F for each KDP milestone.

Beginning in FY2026, the tailoring of the CADRe requirement expires, and MDs/Programs/Projects will assume funding & responsibility for completing traditional CADRe reports. The FY26 PPBE process is available this summer to request necessary CADRe funding for FY26 & beyond. CADRe preparation can be centralized at MD level or completed on a project-by-project basis, and OCFO/SIB will provide consultation as needed to help provide efficiency, lessons learned, and utilize the latest in data automation where possible. Additionally, OCFO/SIB shall continue to fund all institutional costs associated with maintaining the CADRe database (ONCE) and provide CADRe policy support.

In support of the transition, OCFO is currently working on updating policy guidance to reflect the shift in responsibility, as well as examining possibilities for streamlining and automation.

5.0 Key Personnel Contacts

Please work with your programs and projects to ensure milestone documentation is made available for use and archiving by OCFO/SIB during the FY2024-FY2025 transition period, as well as making appropriate PPBE plans for funding CADRe in FY2026 and beyond. If you have any questions or need additional information, please contact me at j.craig.mcarthur@nasa.gov.

OCFO/SIB Points of Contact

DCFO, Strategic Insights and Budget: J. Craig McArthur, j.craig.mcarthur@nasa.gov

CADRe Lead: Eric Plumer, eric.plumer-1@nasa.gov

Branch Chief, Strategic Planning & Reporting, Jenny Russell, jennifer.b.russell@nasa.gov

Senior Leader for Programmatic Analysis, Charles Hunt, charles.d.hunt@nasa.gov

Attachment:

List of representative documents already provided to SRBs at milestone reviews.

Documents for CADRe Part A:

- Project Plan
- Acquisition Plan
- Concept of Operations
- System Engineering Mgt Plan (SEMP)
- Architecture Description Document
- Risk Mitigation Plan
- Software Management Plan
- Concept Study Proposal (if applicable)
- Milestone Briefing Packages (SRR, PDR, CDR, etc.)

Documents for CADRe Part B:

- Master Equipment Lists (MEL)
- Power Equipment Lists (PEL)
- Other Mass Property Reports
- Software Metrics (Source Lines of Code or other)
- Technical Performance Measures (TPMs)
- Documented TRLs and assumptions

Documents for CADRe Part C:

- Project Life Cycle Cost Estimate LCCE (WBS, FY, Phase)
- Risk 5X5s and Risk Registers
- WBS Dictionary
- Schedules (Gantt Charts and IMS- MS Project Files)
- Work Force (FTEs and WYEs)

CADRes already in-progress to be completed as originally planned.

- Dragonfly PDR
- Gateway KDP-I
- GLIMR CDR
- JPSS-3 SIR
- Libera CDR
- NISAR LRD
- PACE LRD
- PREFIRE LRD
- Psyche LRD