**General Instructions**

* The Cost Analysis Requirements Description (CARD) describe the key technical, programmatic, and operational characteristics of a SWP program to support the preparation of initial cost estimates, budget projections and Program Objective Memorandum (POM) inputs. While detailed information is helpful to the cost estimator, it is recognized that the level of detail and certainty provided will depend on the maturity of the program.
* In completing the various sections of this document, liberal reference to other program documents should be made to minimize restating large portions and to provide clear avenues for cost estimators to gain additional insight into the program.
* The below sections represent the general information that should be made available to cost estimators to assist them in their efforts to create an initial cost estimate for Software Pathway programs.
* The use of the tabular CARD format is still encouraged for data that lends itself to the tabular format (software licenses, metrics by release/iteration, PMO time-phased staffing, etc.). The format for program-specific CARD submissions should be worked with the lead analysts from the SCA and OSD CAPE.

**Program Description**

This section should outline the problem statement that drove the initiation of the program to provide important context to the cost estimator. Was the program initiated to improve timeliness of decision-making using data analytics? Was it to improve the usability of the legacy system? Was it to move capabilities to the cloud and reduce the hardware footprint?  Where possible, this description should reference the Capability Needs Statement (CNS) or Software Initial Capabilities Document (SW-ICD) which supports the program.

Any available details on the system’s key elements and strategies should also be included. This includes the following information any of which can be provided separately in an excel spreadsheet (as applicable/needed):

* **Acquisition Strategy**. Provide high-level details on the proposed strategy for the program. How will the program be procuring the development talent for the program? Will a government-owned SW factory be used? Will a single vendor or multiple vendors be used for the development? Will there be a lead system integrator? Note any key risks that estimators should consider for costing purposes.
* **Hardware/Hosting Infrastructure**. Provide details on the hardware requirements and expected software development environment to help inform some of the expected fixed costs for the program.
* **Integration Lab Requirements**. Detail any integration lab or mod/sim capabilities that will be needed to execute the program to adequately inform the additional costs that will be required to stand-up and/or maintain this infrastructure.
* **Software Licenses**. Detail to the extent possible what licenses will be used on the program to help inform the costs associated with the development infrastructure. Will this be a more standard configuration using an existing enterprise services contracts or will this be comprised of a program-unique configuration?
* **Operational Environment**. Provide any details about the operational environment that may drive costs for fielding capability.
* **Cybersecurity/Program Protection**. Provide any details on expected cybersecurity activities outside of the DevSecOps pipeline and general cyber testing events that would drive program costs.
* **Reuse Strategy**. Articulate if this is intended to primarily be a greenfield solution or is expected to reuse significant portions of existing code.
* **Expected Number of Users**. Provide any details on the number of users expected to employ delivered capability by year at a minimum and by release if applicable.
* **Training Strategy**. Provide any details on the planned training approach such as expected occurrence, length/type of events and what types of training materials will likely need to be developed and approved.
* **PMO Staffing**. Provide any details on the expected staffing levels to inform the SE/PM costs. Clarify if there will be any organic developers supporting the program.
* **Test & Evaluation**. Articulate any high-level details on the testing approach, including operational acceptance, planned for the program to accurately capture expected costs. The focus should be on events that will require external resources and costs outside of the normal suite of automated tools.

**Performance Characteristics**

This section should capture the key software capabilities needed to achieve the operational requirements. These should be high-level groupings of enduring needs which will be met over a series of software releases. If replacing a legacy system, provide any available details on expected additional functionality, any legacy retirement timelines, and alignment with other system(s), or support to upcoming operations).

Example: The XX program requires access to an integrated data environment with user-centered applications to improve readiness and reduce lifecycle costs. The system is required to provide

capability 1, capability 2, capability 3, and capability 4. The system should minimize XX workload and improve the ability for operators to access courses of action to enable rapid decision-making.

**Interfaces**

This section should outline any major systems, services, and networks with which the software solution must maintain interoperability. Provide references to documents with any additional details of specific interfaces to help inform the cost estimator about the complexity of the system.

**Similar System**

This section should identify any existing systems the program office is aware of that would provide cost estimators with a point of reference for sizing and complexity.

**Performance Metrics**

This section should describe the minimum set of high-level metrics planned for the operational program. Metrics should be able to address the frequency with which quality software is delivered into operation, user satisfaction with that software, and delivered quality, among other areas. Metrics should measure key elements that would impose risks on the program to help the cost estimator understand which risk factors have the potential to impact cost in future updates.

**Development Methodology and Metrics**

This section should identify key development processes and metrics that will be used to manage the major activities of the program. Provide a summary of how releases will be sized to permit rapid testing and deployment while also delivering value-added capability. Identify the program deployment frequency goal that supports the budget request. Detail how release development will be tracked to ensure that all planned features are delivered or deferred ones are captured for replanning. Identify the process that will be used to correlate individual releases to meeting higher-level objectives as detailed in the CNS/SW-ICD.

**Program Roadmap**

This section should provide a summary of the vision and direction of expected product offerings over the next 18 months of the program.  It should describe the goals and features of each planned software iteration with the expectation that it will be dynamically updated as user needs change and priorities are adjusted. While this artifact is not required until entry of the Execution Phase, any details that can be provided to the cost estimator will be helpful for them to understand the content and complexity of the program to develop the initial cost estimate.