

TRADOC



Capability Production Document (CPD) Writer's Guide CDTM Compliant

Version 3.11

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The proponent for this guide is the U.S. Army Capabilities Integration Center (ARCIC) Operations, Plans and Policy Division (ATFC-O). This guide is one of a series of web-based publications available at <https://www.us.army.mil/suite/kc/5232873> and the ARCIC Portal at <https://cac.arcicportal.army.mil/ext/jcids/default.aspx>. Users are encouraged to send comments using MS Word Track Changes approved by a COL (O-6) or equivalent to stephen.dwyer@us.army.mil. Updates will be uploaded as changes become necessary.

Summary of Changes

Version 3.1

- Updated to reflect changes in CJCSI 3170.01H & JCIDS Manual
 - Modified CPD format and limits CPD to no more than 40 pages for the main body (paragraphs 1-16) + Appendix A
 - Executive Summary is no more than 1 page
 - Energy and Training added as mandatory KPPs
- Updated CDTM guidance
- Added checklist of CPD revisions that must be made after exporting document from CDTM that addresses inconsistencies between JCIDS policy and CDTM. **It will remain in effect until CDTM is updated.**

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CPD Instructions and Template

NOTE: This version of the CPD Writer's Guide is based upon the instructions outlined in the CJCSI 3170.01H, Joint Capabilities Integration and Development System, 10 Jan 12, the online [Manual for the Operation of the Joint Capabilities Integration and Development System](#), 19 Jan 12 (JCIDS Manual), and applicable Army and TRADOC regulations. This is supplemental information and not intended to replace or replicate the JCIDS Manual in its entirety.

I. Capability Development Tracking and Management (CDTM)

a. On 06 June 2011, the Joint Staff directed that by 30 June 2011, Capability Development Tracking and Management (CDTM) web-based tool will be required for all capability documents (ICD, CDD, CPD, and DCR/DICR), except above SECRET documents, entering into the Knowledge Management/Decision Support (KM/DS) database.

b. In 2010 the Vice Chairman Joint Chiefs of Staff (VCJCS) directed the transformation of Joint Capabilities Integration and Development System (JCIDS) capabilities document creation from a document-centric process to a data-centric process to enable data sharing and system interoperability. To accomplish this, the VCJCS directed the development of the CDTM tool.

c. The CDTM system supports the JCIDS goal of making the currently document-centric capability development process more data-centric. CDTM is a tool used by authors, editors and reviewers of capability documents. The software presents a series of “wizard” screens that guide the user through capability document creation, step-by-step. CDTM enables customized workflow and access control for documents in work, and does not allow users access to the data until the document owner grants permission. At any time, the software will automatically create a formatted Microsoft Word version of the capability document for review purposes.

d. When a document owner determines a CPD is ready for review and validation, CDTM automates transfer of a Microsoft Word version of the document to the KM/DS system for further processing. After document transfer, the document data is exposed to all CDTM users through search functionality.

e. CDTM is a document development environment. The ARCIC JCIDS Portal, Capabilities and AROC Management System (CAMS) and KM/DS remain the authoritative databases where all staffing occurs. Capability documents submitted to ARCIC for validation, HQDA for staffing (CAMS), or Joint Staffing necessitate exporting from CDTM to a Microsoft Word document for submission and staffing.

f. **CDTM takes us “Back to the Future.”** There have been problems encountered during joint staffing that necessitate using Microsoft Office 97-2003 compliant files (i.e., .doc, .xls, .ppt vice docx, xlsx, and pptx). All exported and embedded file formats must be Microsoft Office 97-2003 compliant. **Ensure all files supporting an action are submitted in this format.** CDTM output also uses this construct.

g. CDTM is accessed through a web browser using the Non-secure Internet Protocol Router Network (NIPRNET) or SECRET Internet Protocol Router Network (SIPRNET).

- (1) NIPRNet: <https://cdtm.js.mil> (will prompt you for a CAC)
- (2) SIPRNet: <https://cdtm.js.smil.mil>

h. New CDTM users can request an account from the ***Request New Account*** link. **Note:** If you are a KM/DS user, you should not request a new CDTM account from CDTM. Instead, request a CDTM account from the KM/DS profile page. Doing this will link your CDTM and KM/DS accounts, eliminating the need to remember another password and will provide a more seamless user experience.

(1) Follow these steps to request your account *if you are not currently a KM/DS user*:

- Navigate to ***CDTM Home Page***
- Click ***Request Account*** link
- Fill out all fields in the ***Request New Account*** page
- Your password must be at least 14 characters, and must contain 2 upper case letters, 2 lower case letters, 2 special characters and 2 numeric characters
- Press ***Submit for Approval*** button

(2) An approval request is sent automatically to the CDTM administrator. Your CDTM administrator will review and approve the request. Once approved, an email will be sent to you with your username. You will be able to log into CDTM once your account is approved.

i. The CDTM tool will be updated to remain consistent with the JCIDS Manual. In the event of any discrepancies between the Manual and the CDTM tool, the JCIDS Manual is to be considered the authoritative source.

II. Considerations

a. The CPD is the primary means of proposing the operational performance attributes at a system level necessary for the acquisition community to produce a single increment of a specific system. It presents performance attributes, including key performance parameters (KPPs) and Key System Attributes (KSAs), to guide the Production and Development of the current increment. If the plan requires a single step to satisfy the full capability requirement, the KPPs and KSAs will apply to the entire system(s). Each increment must provide a safe, operationally effective, suitable, and useful capability solution in the intended environment, commensurate with the investment.

(1) The most significant difference between the CDD and the CPD is the refinement of threshold and objective values for KSAs, KPPs, and additional performance attributes previously identified in the CDD or other source document. CPD KPPs must be inserted

verbatim into the performance section of the acquisition strategy and the Acquisition Program Baseline (APB). The Systems Engineering Plan (SEP) then documents Technical Performance Measures (TPMs) which are necessary to achieve the KPPs and KSAs. Metrics, criteria and desired test and evaluation strategy developed for the Test and Evaluation Master Plan (TEMP) and refined during the Engineering and Manufacturing Development (EMD) phase are updated as necessary to support MS C and initial operational test and evaluation. The metrics and criteria are based on validated performance criteria in the CPD. Each production threshold listed in the CPD depicts the minimum performance that the PM is expected to deliver for an increment's IOC or FOC based on the system design subsequent to the critical design review (CDR).

(2) A CDD may be resubmitted for revalidation in lieu of a CPD in cases where the CDD accurately reflects the performance of the system to be delivered at low-rate initial production.

(3) Because a CPD is finalized after CDR and after the majority of capability development, it is normally not appropriate to introduce new capability requirements at this point. New capability requirements should be included in the next increment in an evolutionary program or in a future modification or upgrade if no additional increments are planned.

b. The CPD must include appropriate detail of an ICD and/or CDD with respect to the identified capability requirements and associated capability gaps. Add other information that would normally be in an ICD and/or CDD as required to support the documentation in the CPD.

c. The development of the CPD is guided by applicable ICDs, the CDD; the reference architecture (i.e. –DOD Information Enterprise Architecture (IEA); International Cooperation; Joint Architecture Reference Model; Joint Information Environment Operational Reference Model (JIE ORA); Service, Combatant Command (CCMD), or other DOD Component Enterprise Architecture; etc.) and the solution architecture; Analysis of Alternatives (AoA) and/or supporting analytical results; developmental and operational test results; and the CDR. (In certain cases, a CDD or CPD may be generated without an associated ICD – typically when there has already been demonstration of the capability solution in an operational environment, such as from successful JUONs or JEONs transitioning for enduring use, successful JCTDs or Experiments, or any similar activity with a positive assessment of operational utility. In these cases, the CDD and CPD must capture the intent of the ICD in terms of the capability requirements and capability gaps to be satisfied, in addition to the solution related details of the CDD and CPD.)

d. CPD Development and Documentation

(1) A CPD typically applies to a single increment of a single system or System of Systems (SoS). When the CPD is part of an Family of Systems (FoS) approach, the CPD will identify the validated ICD or other source document, AoA and/or supporting analyses results, and any related CDDs and/or CPDs that are necessary to deliver the required capability

solution and to allow the required program synchronization. There may be cases where the validation authority decides it is appropriate to use a combined CPD to describe closely interdependent systems that provide the desired capability solution.

(2) Apply lessons learned during the EMD phase, lessons learned from previous increments, risk reduction activities, assessments (for JCTDs, qualified prototype projects, and quick-reaction technology projects), experimentation, test and evaluation, modeling and simulation, capability and schedule tradeoffs and affordability analysis in the delivery of the capability solution. The KPPs previously defined in a CDD may be refined (with a rationale provided) and should be tailored to the proposed system to be procured. (e.g., range, probability of kill, platform survivability, etc.)

(3) Prepare the CPD in coordination and collaboration with the appropriate DOD components, agencies, and Functional Capabilities Board (FCB). Collaborate with Sponsors of related CDDs and/or CPDs that are required in FoS and SoS solutions, particularly those generated from a common ICD.

e. For rapidly fielded capability solutions transitioning from the Urgent/Emergent to the Deliberate requirements and acquisition processes, submit a CPD for validation ahead of a MS C decision if additional development is not necessary for production and sustainment of the enduring capability solution. The supporting assessment for the rapidly fielded capability solution will be provided to the studies repository prior to submitting the associated CPD for staffing and validation.

f. Resource Informed. In today's resource-constrained environment, the Army must exercise wise stewardship of every dollar it manages. A key element of that stewardship is to develop and use sound business practices throughout all requirement and resourcing processes. If there are not sufficient resources to execute the EMD phase, or a viable strategy to get resourcing, then the CPD will not be approved.

(1) Determine if adequate resources are available to develop the capability as envisioned in the CPD prior to writing the document. There is no pot of "new money" waiting for a claimant. In fact, it is likely that some other approved effort or efforts will be decremented (or killed) as the result of your proposal.

(2) The AoA is not an adequate substitute for a cost-benefit analysis (C-BA). TRADOC requires a C-BA in addition to an AoA prior to CG, TRADOC validation of the CPD.

g. **Considering and Conducting Trades.** The main reason trades are considered is to ensure proposals are resource informed to achieve optimal warfighting capabilities, and integrated DOTMLPF and/or system performance attributes (outcomes) within relevant constraints and with acceptable operational risk.

(1) The most difficult thing for the capability developer to do is to understand all the things they should consider when making effective trades (refer to the CPD Trades

Considerations Checklist for examples). The magnitude of effort required to accomplish beneficial and sound trades must not be minimized. Trades should be evaluated across the DOTMLPF domains to determine the tactical, operational, and strategic impacts of any trades in a holistic fashion. The effect of a change in one domain must be considered, as well as the second and third order effects on other domains, other interdependent systems, and other warfighting organizations, both Army and Joint. Trades must be analytically based, analytically sound and risk informed. Additionally, they must consider the integration of joint and other service capabilities.

(2) At the CPD phase, trades should focus on defining an increment of affordable, feasible, achievable, measureable, and testable capabilities needed by the warfighters to support the EMD phase of an acquisition program. When trading, consider: Organizational Impacts, Functional Impacts, Operational Risk (Internal – e.g., Army dependence on its own Service capabilities; External – e.g., Joint Integration and dependence on external capabilities (Joint, Intergovernmental, Interagency and Multinational)), Levels of Integration, Resource Availability (dollars, personnel, etc.), and Technical Feasibility (technical readiness), when trading Performance, Cost, and Schedule.

(3) CPD Trades Considerations Checklist. This checklist is not intended to be a step by step guide for developing and documenting trades, there are too many variables to adequately cover all possible situations. The purpose of this checklist is to provide capability developers an illustrative list of things they should consider during the JCIDS process.



CPD Trades
Considerations.doc

Insert 1: CPD Trades Considerations

III. CPD Format

a. The CPD format is mandated by the JCIDS Manual and is built into the CDTM online tool. CDTM will be updated to remain consistent with the JCIDS Manual. In the event of any discrepancies between the Manual and the CDTM tool, the Manual is to be considered the authoritative source.

b. Each subparagraph should be numbered to facilitate correlation, traceability, and ease of identifying issues during staffing. **Use scientific paragraph numbering.** The use of conventional alpha-numeric numbering is not CDTM compliant.

Special Note: Sub-Paragraph Numbering within the CDTM Wizard.

Within the CDTM Wizard environment, the system will automatically number each “paragraph” for your document. However, it will **NOT** number each sub-paragraph after the second level. You must **MANUALLY** number each sub-paragraph (Tier Level 3 and below) when you type in the narrative.

c. The body of a CPD – consisting of the 16 primary sections and Appendix A – shall be no more than **40 pages long**. (NOTE: There are five required appendices.)

d. Log in.

(1) Navigate to CDTM (on either SIPR or NIPR) using one of the URLs provided above. In the *User Name* field, enter the username you received in your confirmation email. (Your username is not case-sensitive). In the Password field, enter your password exactly as you set it when you requested an account, as it is case-sensitive. Click the **Log in** button. CDTM will automatically direct you to your Home Page.

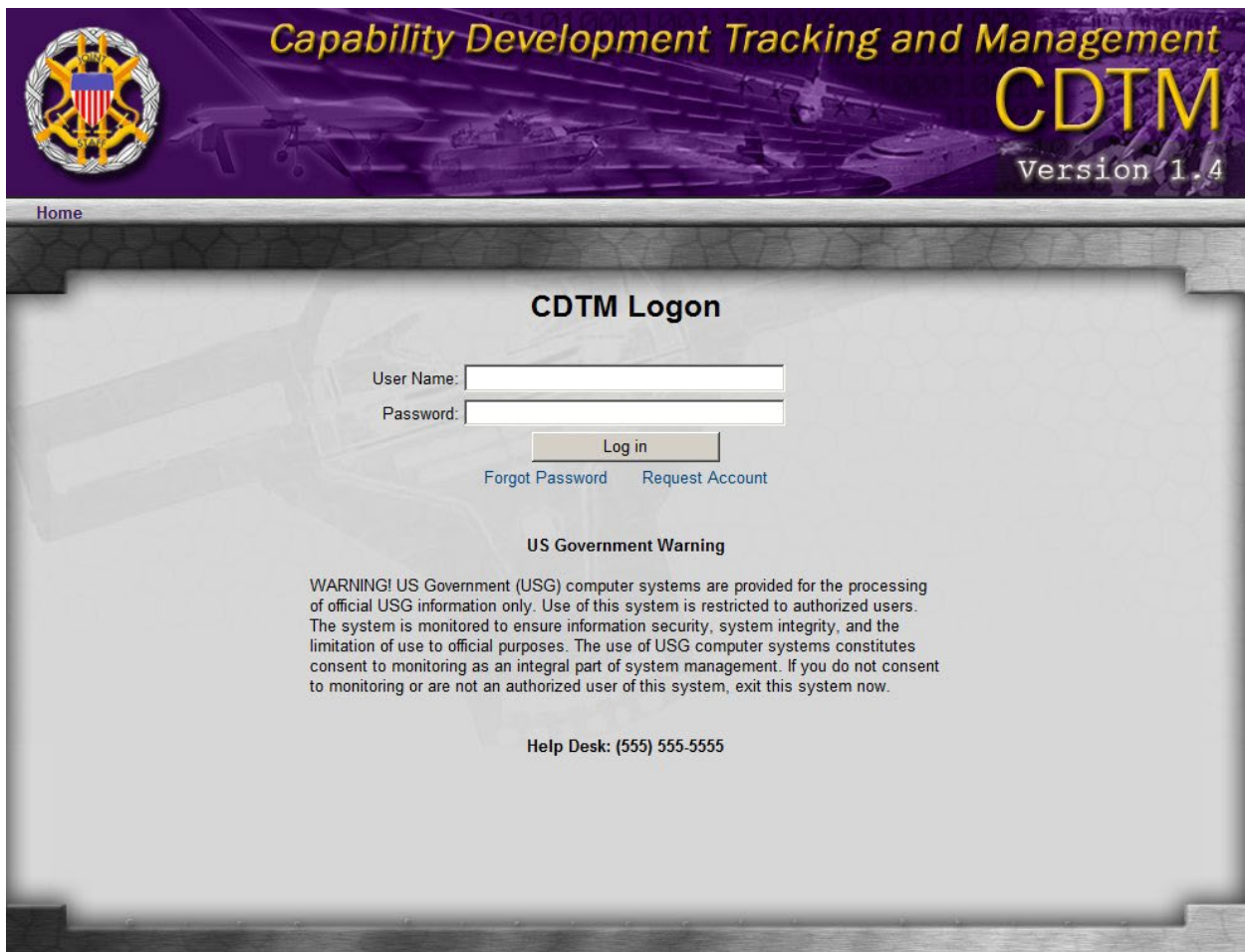


Figure 1: CDTM Log-In Screen

(2) On the NIPR network, a user may utilize their CAC to automatically log into CDTM. In order to do so, their CAC credentials must first be synchronized with their CDTM account. To do this, first follow the instructions above to create and log into your CDTM account with a password. Then, you will need to synchronize your CAC by going to *My Profile* and then clicking the *CAC Synchronization* link. Click *Associate* and your CAC information will be associated with your CDTM username.

Figure 1: CDTM Create a New CPD

IV. CPD Preparation and CDTM Wizard

a. The Capability Production Document (CPD) Wizard operates in exactly the same manner as the CDD wizard, with minor differences in the data fields. To access the CPD wizard, highlight **New** on the taskbar and select **CPD**. The first page of the CPD wizard is the import page. If you are importing information from an existing document, click **Import**, and enter the subsequent document number. If you are not entering information from an existing document, click the **Begin Wizard** button. When you begin the Wizard process in CPD, you will automatically be directed to the General Information page.

(1) In order to use data from an existing document, it must be in Legacy, Submitted, or Approved status. If you are importing information from an existing document, click **Import**, and enter the source document number, all or part of the document title, and/or select the document type from the drop-down list. Then click the "**Search**" button.. To import data from your selected source document, click the "Import" hyperlink associated to the document. CDTM will then present you a list of sections for import. All sections are checked by default. If you do NOT want to import certain sections, uncheck them. Click **Import**. CDTM then launches the appropriate document wizard for the type of document you selected, all filled in with the selected data sections. This is a completely new copy of the data that you may edit. The original document that you imported from will remain unchanged.

(2) If you are not entering information from an existing document, click the **Begin Wizard** button. When you begin the Wizard process in CPD, you will automatically be directed to the General Information page.

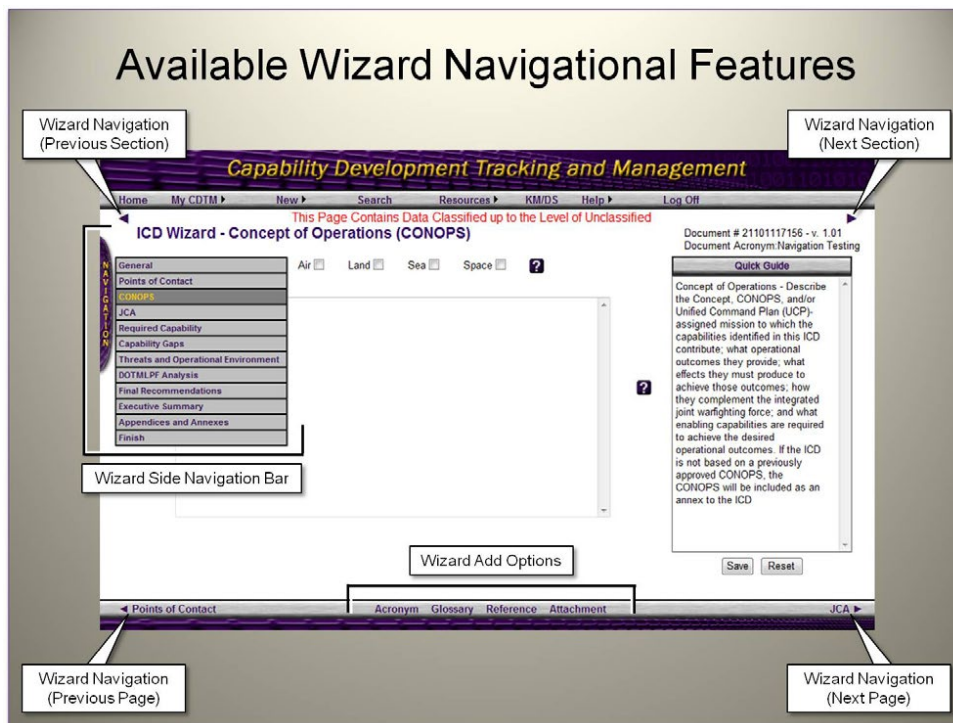
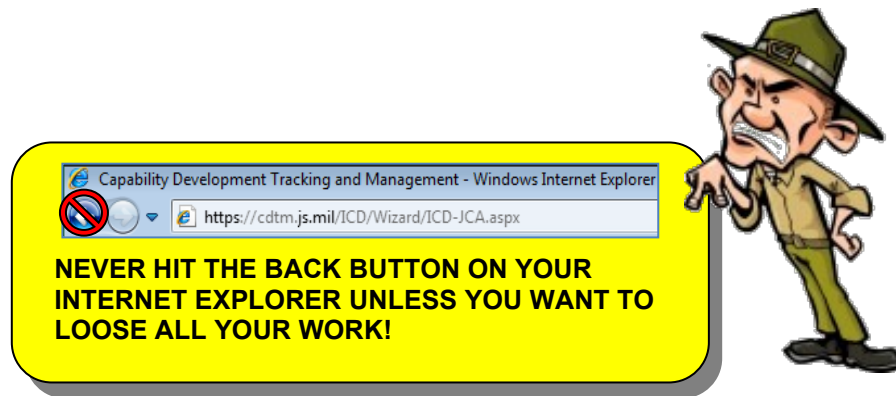


Figure 2: Wizard Navigational Features

b. The CDTM Wizard has a “Wizard Side Navigation Bar” located on the left side of the screen to enable you to easily enter your documents and navigate to the different sections. A slim vertical purple Navigation bar appears on the left side of the screen throughout the wizards. Hover the mouse over this bar to show the section menu. Click a section to jump right to that section in the wizard. You may navigate and fill in the wizard screens in any order. CDTM will save your changes before leaving the screen you were on.

c. CDTM has simplified page-to-page navigation within the wizard’s document creation process. Click on the title of the previous (or next) menu option at the bottom left and right corners of each page for immediate navigation to the previous (or next) page. There are also previous and next arrows (with no titles) at the top left and right of each wizard page.



d. After you import or begin the wizard, at any time you can view and edit your document using the links from the CDTM Home Page and *My Files*. Hypertext links are implemented within the CDTM application as standardized blue underlined words. Generally, links serve as a navigator to additional unique windows, pages or locations.

e. It is important to remember that per DOD requirements, an account login session will expire (or “timeout”) after twenty minutes of inactivity. When a session is close to expiration, you will automatically be prompted with a message asking if you wish to extend your session. Selecting no, or not answering within one minute CDTM Login page will cause the session to end, and no work on that page will be saved. If a session management timeout occurs, all work conducted from the last save is permanently lost. **ALWAYS SAVE YOUR WORK IF YOU ARE GOING TO LEAVE YOUR DESK.**

f. To save, simply select the save button or use the Wizard Navigation Buttons when creating a wizard. Work is automatically saved as you move from page to page within the wizards. Note that work is NOT automatically saved if you use the Main Menu to leave the wizard.

g. The JCIDS Manual requires certain appendices for every JCIDS document: an Acronym List, a Reference List, a Glossary, and a list of attachments. CDTM automatically builds these appendices for you. You can add entries for these appendices in any order, at any time. Select any of the *Wizard Add Options* (Acronym, Glossary, Reference, Attachment) to

add data for your appendices. To see a full list of the appendix items you have added and see how it is shaping up, refer to the *Appendices and Annexes* page of your CDD document wizard. This section will also allow you to edit or remove acronyms or references. Attachments can only be removed.

(1) The *Acronym* option allows you to add a new acronym to the document's acronym section. An acronym section is dynamically created at the end of the finished document. CDTM provides a warning notice to ensure each finished document does not contain duplicate acronyms.

(2) The *Glossary* option allows you to add a glossary term and definition to the document's glossary section. Glossary terms may be added in any order and CDTM will alphabetize them for you.

(3) When selected, the *Reference* option will provide a process to include relevant references to the document's reference section. A reference section is dynamically created at the end of the finished document. The user can reorder Glossary entries using the up and down arrow icons next to each entry.

(4) The *Attachment* option gives you the ability to add attachments to the document's attachment section. An attachment section is dynamically created at the end of the finished document. Attachments are listed in the order that they have been attached. CDTM prohibits duplicate attachments in the same document. As a security consideration, attachments generally may not exceed 20MB in size (each attachment, not total). If you have a larger document to attach and need an exception, please call the CDTM help desk and they will temporarily lift the restriction so that you may upload your attachment. Attachments are not printed in the document output, but references to the documents are listed. When a CDD is submitted to KM/DS, all attachments are included with the submitted package as separate files.

h. Classification marking.

(1) All appropriate fields have a dropdown selection to allow you to select a classification for the data in that field. As a security feature, CDTM does not allow selection of a classification higher than the active domain. For example, you cannot select "Secret" when working on the NIPRNet domain. Per DoD portion marking standards, you should continue to enter portion markings in the paragraphs in addition to choosing a classification for the data element. For example, if you select "S" in the dropdown menu (for Secret) and you enter text into the field, you should place an (S) portion marking next to all paragraphs classified as Secret. The purpose of the dropdowns is to enable CDTM to determine overall classification of the document, not to automate the classification and portion markings at the paragraph level.

(2) Also available is the “+” icon next to every narrative field. This allows you to add Handling and Non-DoD Instructions such as //FOUO or //NOFORN//REL to a document. It also allows you to add External Network Location information when portions of the document are located on a different network.

i. The Review function performs a check on all fields in the wizard and alerts you if anything appears to be missing or out of sync. Access the Review from the side Navigation menu. You can run the Review at any time, as many times as you desire. The review checks that the overall classification of the document equals the highest classification of any subsection (SIPRnet only). Review also provides you a list of:

- Errors in your document (e.g. missing information in a mandatory field and the "NA" button has not been clicked).
- Warnings if there is no information in non-mandatory fields (e.g. Glossary, Appendices, Reference, Acronyms, etc).
- Validation pass notifications for all section that have no validation issues.
- Informational line item counts for Attachments, References, Glossary, and Acronyms.

j. To create a Microsoft Word, PDF or HTML version of your document, click **Finish** from the left Navigation menu. Change the desired document format if you wish (Microsoft Word is the default) and click the **View Document** button. You will get a green message “Document creation was successful” with a hyperlink below it that says “Click here for document: (document title).” Click the link. CDTM will prompt with the message “Do you want to open or save this file?” Click **Open**. A fully formatted version of the document will open on your computer. This is how the document would look if were submitted to KM/DS. Note that this document is dynamically assembled from data in the database, and is not saved on the server. You may run the document creation process at any time, as many times as you wish.

V. General Information 1 of 2

V. General Information

a. **Capability Production Document Title** – Create a unique title for the CPD, starting with the phrase “Capability Production Document for”.

b. **Document Short Name or Acronym** – Provide a short title or acronym that will provide a common reference for the CPD.

Figure 3: General Information 1 of 2

c. **Joint Potential Designator** (now called the **Joint Staffing Designator (JSD)**) – Select the JSD as determined by the Gatekeeper from the drop-down list. The JSD is a designation assigned by the J8 Gatekeeper to specify JCIDS validation, approval and interoperability expectations. Appropriate validation authority entries correspond to JSD entries with JCID Manual descriptions below:

Figure 4 Joint Staffing Designator

- **JROC Interest** – “JROC” is the validation authority. Applied to all documents describing ACAT I/IA programs, Joint DCRs, and those that have a potentially significant impact on interoperability (interagency, allied/partner nation, coalition, etc.). All documents will be evaluated for Joint Staff endorsements during staffing. FCBs will review for Interagency/Allied/partner nation equity and perform Joint prioritization of the new capability requirements. The document will be made available via KM/DS staffing for comment. Comment adjudication for comments unrelated to joint endorsements or certifications must be completed to the satisfaction of the validation authority. Comments adjudication related to joint endorsements and certifications must be completed to the satisfaction of the endorsing or certifying organization.
- **JCB Interest** – “Joint Capabilities Board” is the validation authority. Applied to all documents describing ACAT II and below programs that have a potentially significant impact on interoperability (Interagency/Allied/partner nation, coalition, etc.). JCB Interest is the minimum JSD for any documents where (a) the Sponsor is a CCMD, or (b) the document is an information system (IS) ICD. All documents will be evaluated for Joint Staff endorsements during staffing. FCBs will review for Interagency/Allied/partner nation equity and perform Joint prioritization of the new capability requirements. The document will be made available via KM/DS staffing for comment. Comment adjudication for comments unrelated to joint endorsements or certifications must be completed to the

satisfaction of the validation authority. Comments adjudication related to joint endorsements and certifications must be completed to the satisfaction of the endorsing or certifying organization.

- Joint Integration – “US Army” is the validation authority. Applied to all documents describing ACAT II and below programs, which require one or more joint endorsements or certifications, but are below the level of JCB Interest. All weapons and munitions will be designated Joint Integration as a minimum. All documents will be evaluated for joint endorsements and certifications. FCBs will review for Interagency/Allied/partner nation equity and perform Joint prioritization of the new capability requirements. The document will be made available via KM/DS staffing for comment. Comment adjudication is at the discretion of the Sponsor for comments unrelated to joint endorsements or certifications. Comments adjudication related to joint endorsements and certifications must be completed to the satisfaction of the endorsing or certifying organization.
- Joint Information – “US Army” is the validation authority. Applied to all documents describing ACAT II and below programs, which do not need Joint Staff endorsements, and are below the level of JCB Interest. FCBs will review for Interagency/Allied/partner nation equity and perform Joint prioritization of the new capability requirements. The document will be made available via KM/DS staffing for comment. Comment adjudication is at the discretion of the Sponsor.
- Independent – “US Army” is the validation authority. Applied to documents describing all other programs. The documents are not staffed through the Joint community for comment, but FCBs will update Joint prioritization for any new capability requirements within their JCA portfolios. As Independent documents are not staffed to external organizations for comment, no comment adjudication is required.
- Joint Impact **do not use** as this is not in the current approved JCIDS Manual.
- None is used when there will be no JSD designated.
- TBD can be used if current JSD has not been assigned.
- DOTmLPF **do not use** as this is not in the current approved JCIDS Manual.

d. **Validation Authority** – The Validation Authority is dependent upon the JSD assigned by the Joint Staff Gatekeeper during staffing. For a description of each designation see [CJCSI 3170.01H, Joint Capabilities Integration and Development System](#). Appropriate validation authority entries correlate to JPD entries as shown below:

- JROC Interest - “JROC” is the validation authority
- JCB Interest - “Joint Capabilities Board” is the validation authority
- Joint Integration – “US Army” is the validation authority
- Joint Information – “US Army” is the validation authority



Figure 6: Validation Authority Menu

- Independent – “US Army” is the validation authority

e. **Approval Authority** – Fill in based on the JSD assigned. For additional information on approval authority see [CJCSI 3170.01H](#). Once the approval authority has been determined, insert one of the following in the space provided:

- “JROC” – for ACAT I and programs designated as JROC Interest.
- “Joint Capabilities Board” – for ACAT II and below programs designated as JCB interest.
- “US Army” – for ACAT II and below programs that are not JROC or JCB Interest Programs.

f. **Increment** – “Increment: 1.0” is the correct entry unless you are working on a follow-on increment of a previously developed capability.



A rectangular box with a thin black border. The top part contains the text "Increment" in a small font. Below it is a larger text input field containing the number "1.0".

Figure 7: Increment Box

g. **ACAT Level** – Insert the likely Acquisition Category (ACAT) based on the forecast cost of the system or previous milestone decisions. For a description of each category see [AR 70-1, Army Acquisition Policy, Table 3-1](#).

h. **Milestone Decision Authority (MDA)** – The MDA is dependent upon the ACAT. For additional information on MDA designation see [DODI 5000.02, Operation of the Defense Acquisition System](#), Enclosure 3, table 1 or [AR 70-1, Army Acquisition Policy, Chapter 3, Table 3-1](#). Select the Milestone Decision Authority (MDA) from the drop-down list. Generally accepted guidance follows:



A screenshot of a drop-down menu titled "Milestone Decision Authority". The menu is open, showing a list of options. The first option, "US Army", is highlighted in blue. Other options include "United States Coast Guard", "United States Forces Command", "US Africa Command", "US Air Force", "US Army Aviation Warfighting Center", "US Army National Simulation Center", "US Army Progr Executive Office for S", "US Army Program Executive Office- A", "US Central Command", and "US European Command".

Figure 8: Milestone Decision Authority Menu

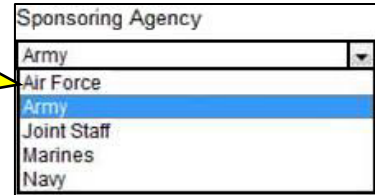
(a) **ACAT I** - The MDA is either the Defense Acquisition Executive (DAE) who is dual-hatted as the Under Secretary of Defense for Acquisition, Technology and Logistics (USD AT&L) or the Army Acquisition Executive (AAE), also referred to as the Assistant Secretary of the Army for Acquisition, Technology and Logistics (ASA(ALT)).

(b) **ACAT II & III** – Generally, MDA is delegated by the AAE to the managing Program Executive Officer (PEO) unless the program has been designated “special interest”. The AAE may delegate milestone decision authority to any of the PEOs listed below:

- US Army
- PEO Ammunition (AMMO)
- PEO Intelligence, Electronic Warfare and Sensors (IEWS)
- US Army PEO-Simulation, Training & Instrumentation (STRI)
- US Army Program Executive Office – Aviation (AVN)

- PEO Combat Support and Combat Service Support (CS&CSS)
- JPEO Chemical and Biological Defense (CBD)
- PEO Command, Control, and Communications Tactical (C3T)
- PEO Enterprise Information System (EIS)

i. **Sponsoring Agency** – Always select “Army” as the sponsoring agency.



j. **Prepared for Milestone C Decision** – Check the Materiel Development Decision (MDD) if this capability document supports the MDD or enter the type of acquisition decision point this capability document addresses.

Figure 9: Sponsoring Agency Menu

VI. General Information 2 of 2



Figure 10: Second General Information Screen

a. **Suspense Date** – You may enter the date that that this document must be completed, but it has no impact on the processing of the document.

b. **Predecessor Document Type** - Select the document type from which this CPD is derived from the drop-down list. Then click the “*Add Predecessor Document*” to select a predecessor document. Only the CDTM-resident documents of the type selected will be visible to choose. You must repeat the procedure if other document types are identified as predecessor documents.

c. **Add Predecessor Document** - Click this button to add predecessor document files. To select predecessor documents:

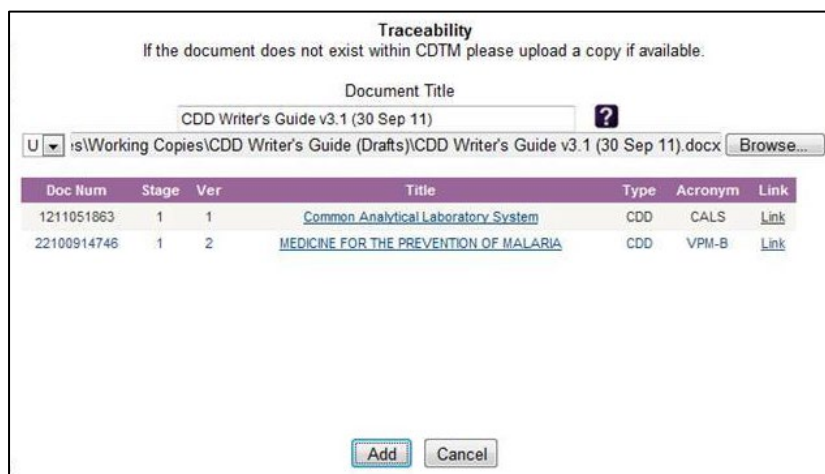


Figure 11: Traceability Screenshot

- Select the type of document on the "*Predecessor Document Type*" drop down list
- If the document exists in CDTM, the file will be visible in the selection list. Click the "*Link*" icon adjacent to the title to add the document as a predecessor document.
- If linking to a document outside of CDTM, click the browse button, then select the document you wish to link to as a predecessor document. Be sure to indicate the document's classification.
- If the document is not available, enter the document's title in the "*Title*" field.

Special Note: Draft Version Number in CDTM.

Every document automatically receives a unique identifier or "Version Number" in CDTM. You do not have to manually input this number. Use the unique number to identify your file name.

VII. Points of Contact

Points of Contact

Points of Contact (POC) - Enter the Points of Contact for the CPD. You may add as many as are required by clicking the "Add Point of Contact" button at the bottom of the page. *All staffing post-ARCIC Validation (ARSTAF & Joint Staff) takes place on SIPRNET and staffing comments will be returned to the proponent/document sponsor on SIPRNET. It is imperative that the proponent/document sponsor be prepared to operate in a SIPRNET environment.*

Figure 12: Points of Contact Example Menu

- a. POCs should cover the primary writer/editor at the proponent, the ARCIC lead action officer, and a Program Manager representative if available/appropriate.
- b. **Ensure at least two proponent level POCs are listed.**
- c. Each POC must be added individually. There is no mass “cut and paste” option.
- d. **Include both NIPRNET and SIPRNET addressees** for POCs. CDTM does not prompt you to put both the NIPR and SIPR email addresses in the same box. Just separate the two with a semi-colon and label them as follows:

NIPR: joe.tentpeg@us.army.mil; SIPR: joe.tentpeg@us.army.smil.mil

1.0 Capability Discussion

1.0 Capability Discussion

Capability Discussion - Discuss how this CPD fills the capability gap identified by predecessor CDDs and/or other predecessor documents

1.1 Summary - Cite validated ICDs, CDDs and/or other applicable source documents (e.g., military utility assessments (MUAs)). Provide an overview of the capability requirements and associated capability gaps in terms of relevant range of military operations and the timeframe under consideration. Update the ICD or CDD description of the expected joint mission environments. Describe the system capability and how it relates to the capability defined in

the ICD or substitute documents. Define the capabilities provided by the system using the common lexicon used to describe capability requirements and capability gaps in the ICD. Discuss how the capability increment defined in the CPD contributes to satisfying the validated capability requirements and closing associated capability gaps.

1.2 Discuss Operating Environment - Discuss the operating environment of the system. Address how the capability solution will be employed on the battlefield and where it will be employed and/or based.

1.3 JCA Narrative - Provide a short narrative as to how this CPD applies to this JCA Tier.

FoS or SoS - Does this relate to a FoS or a SoS? If so, click the "Yes" radio button. (Clicking the "No" button will suppress the FoS and SoS data-entry screens and will not be included in the final CPD product.) If the CPD is part of an FoS or SoS solution, identify the source ICD and related CDDs and CPDs. Discuss any integrating DOTmLPP-P changes or required synchronization for SoS solutions in paragraph 7.

Choose JCA(s) - Select the relevant Joint Capability Areas (JCA) that this capability gap addresses. You must select to JCA tiers 1 and 2. You may select to the lowest JCA tier if desired and the granularity of that level of detail adds value to the discussion.

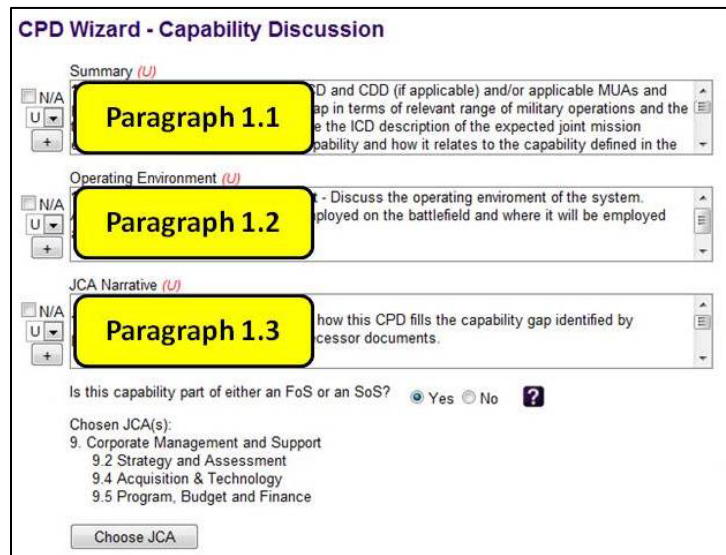


Figure 13: Para 1.0 Capability Discussion Screenshot

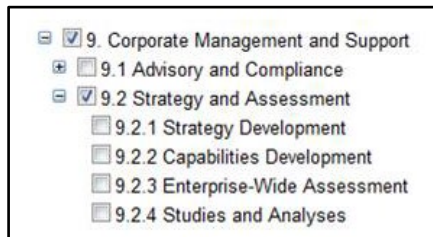


Figure 14: JCA Selection Menu Example

2.0 Analysis Summary

2.0 Analysis Summary

Summarize all Analyses - Summarize all analyses performed (i.e., AoA and/or other support analysis) conducted to determine the system attributes and to identify the KPPs. Include the alternatives, objective, criteria, and assumptions. Provide a description of the analysis methodology and the analysis results in an appendix.

2.1 Recommendation and Conclusion - Provide logical conclusions and recommendations based on an analysis of the facts and data.

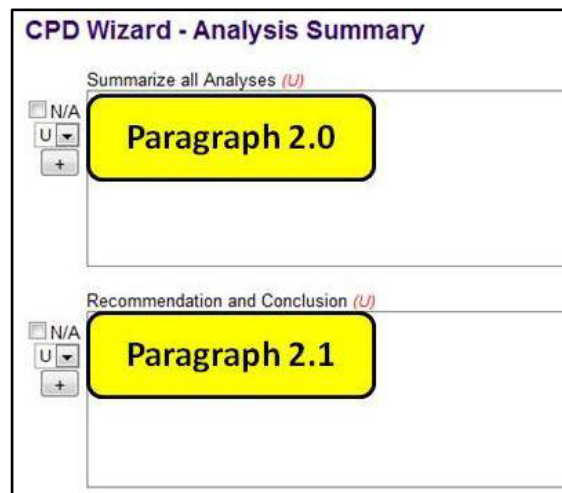


Figure 15: Para 2.0 Analysis Summary Screenshot

3.0 CONOPS Summary

3.0 Concept of Operations (CONOPS) Summary

Click the appropriate check box(es) as to whether this concept of operations pertains to the air, land, sea, cyber and/or space battlespace.

Describe:

- The relevant part of the Joint Concepts, CONOPS, and/or Unified Command Plan (UCP)-assigned mission to which the capability solution contributes;
- The operational outcomes it provides;
- The effects it must produce to achieve those operational outcomes;
- How it complements the integrated joint warfighting force;
- The enabling capabilities required to achieve its desired operational outcomes along with any interdependencies between existing and planned capability solutions.

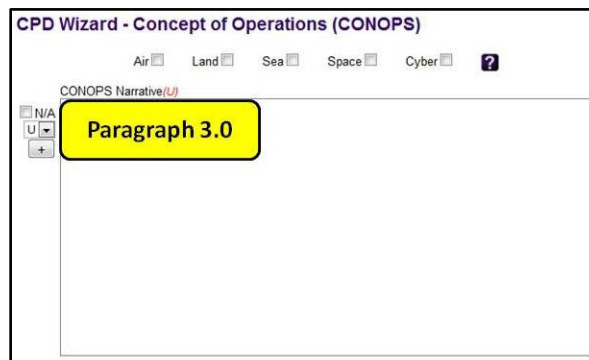


Figure 16: Para 3.0 CONOPS Screenshot

4.0 Threat Summary

4.0 Threat Summary

Summarize the projected threat environment and the specific threat capabilities to be countered to ensure the capability gap can be mitigated. Include the nature of the threat, threat tactics, and projected threat capabilities (both lethal and nonlethal) over time. Use the threat summary from the predecessor CDD document, if one exists. The text can be edited as necessary.

4.1 Threat Environment - The projected threat environment and the specific threat capabilities to be countered to ensure the capability gap can be mitigated. Include the nature of the threat, threat tactics, and projected threat capabilities (both lethal and non-lethal) over time.

4.2 Threat Support – Summarize the organizational resources that provided threat support (kinetic and non-kinetic) to capability development efforts.

4.3 DIA Validated Threat – Programs designated as ACAT I/ID (or potential ACAT I/ID) must incorporate DIA-validated threat references. All other programs may use Service intelligence center-approved products and data. Contact the DIA Defense Warning Office, Acquisition Support Division for assistance:

- DSN: 428-4521;
- SIPRNET: <http://www.dia.smil.mil/admin/di/dwo/POC.shtml>, or
- JWICS: <http://www.dia.ic.gov/admin/di/dwo/Link.shtml>.

CPD Wizard - Threat Summary

Threat Summary (U)
N/A U + Paragraph 4.0

Threat Environment (U)
N/A U + Paragraph 4.1

Threat Support (U)
N/A U + Paragraph 4.2

DIA Validated Threat (Service Intelligence Data) (U)
N/A U + Paragraph 4.3

Figure 17: Para 4.0 Threat Summary Screenshot

Note: For assistance in framing the threat against a specific capability, contact your local threat office or the TRADOC G-2 for assistance or you can contact the DIA Defense Warning Office, Acquisition Support Division for assistance at DSN 428-0788; SIPRNET: <http://www.dia.smil.mil/admin/di/dwo/dwo3.html>.



During staffing, documents with JSDs of JROC Interest, JCB Interest, and Joint Integration will be subject to Defense Warning Office (DWO) threat validation in accordance with [CJCSI 3312.01B, Joint Military Intelligence Requirements Certification](#).

5.0 Program Summary

5.0 Program Summary

Provide a summary of the overall program strategy for reaching full capability and the relationship between the production increment addressed by the current CPD and any other increments of the program. Detail the acquisition plan for this and future increments for this capability development.

5.1 Acquisition Support - Carefully address the considerations (e.g., technologies to be developed, other

systems in an FoS or SoS, inactivation of legacy systems) that are driving the incremental delivery plan. For follow-on increments, discuss any updates to the program strategy to reflect lessons learned from previous increments, changes in JOpsC, CONOPS, or the DOD Enterprise Architecture and the solution architecture or other pertinent information. Identify known external dependencies and associated risks. In addition, provide an update on the acquisition status of previous increments. For information systems identify the organization or body that will provide oversight and management of the delivery of the capabilities.

5.2 Acquisition Summary - A summary of the overall program strategy for reaching full capability and the relationship between the increments addressed by the current CPD and any other increments of the program. The timing of delivery of each increment is important.

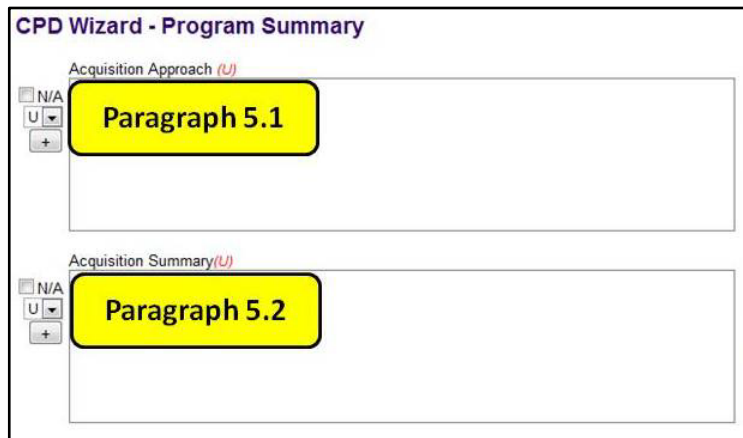


Figure 18: Para 5.0 Program Summary Screenshot

6.0 Production KPPs, KSAs, and additional performance attributes


A CPD provides authoritative, testable capability requirements, in terms of KPPs, KSAs, and additional performance attributes, for the Production and Deployment (P&D) phase of an acquisition program, and is an entrance criteria item necessary for each MS C acquisition decision.

a. **Development of KPPs and KSAs.** You will designate appropriate attributes as KPPs and KSAs. For JROC Interest and JCB Interest documents, the JCB/JROC may designate additional attributes as KPP or KSA on the recommendation of the FCBs.

(1) The following questions should be answered in the affirmative before a performance attribute is selected as a KPP for the increment being defined:

- (a) Is the attribute a necessary component of one of the six “mandatory” KPPs listed above, or is it essential for providing the required capabilities?
- (b) Does it contribute to significant improvement in warfighting capabilities, operational effectiveness, and/or operational suitability?
- (c) Is it achievable and affordable (total life-cycle costs)?
- (d) Is it measurable and testable?
- (e) Are the definition of the attribute and the recommended threshold and objective values reflective of fiscal constraints, applicable technology maturity, timeframe the capability is required, and supported by analysis?
- (f) Is the Sponsor willing to consider restructuring the program if the attribute is not met?

b. For additional guidance on designation of KPP, see Appendix B to Enclosure B of the JCIDS Manual. Avoid over specification of KPPs/KSAs, or inclusion of technical specifications as KPPs/KSAs, unless essential to addressing a specific capability gap. **Limit KPPs to no more than three above the mandatory KPPs; KSAs to no more than five; and additional performance attributes, to no more than fifteen.** *KPPs and KSAs are major cost drivers and potential program killers. While some requirements are so critical to the operational force that we cannot live without them, great care must be taken as we decide how many of these mandatory requirements are in the CPD.* Establishing and scrutinizing these goals will encourage developers to articulate only those attributes that are key and essential to closing the gap to a prudent level of risk, not the entire gap.



Gatekeeper Goal is to:

- Limit **KPPs** to no more than **3** above the mandatory KPPs
- Limit **KSAs** to no more than **5**
- Limit **APAs** to no more than **15**

c. Provide a description of each attribute and list each attribute in a separate numbered subparagraph. Present each attribute in output-oriented, measurable, and testable terms. For each attribute, provide a development threshold value representing the value below which performance is unacceptable. Provide objective values for attributes when the increased performance level provides significant increases in operational utility. If the objective and the threshold values are the same, indicate this by including the statement “Threshold = Objective.” The PM may use this information to provide incentives for the developing contractor or to weigh capability tradeoffs between threshold and objective values. When there are multiple capability increments and the threshold changes between increments, clearly identify the threshold for each increment.

d. **Limit supporting rationale to no more than one paragraph.** Include rationale for each, in terms of ISCs supported or as being derived from other requirements, and cite any existing analytic references. When appropriate, the description should include any unique operating environments for the system. Rationale should be a clear operational statement that links the required capability to the metric specified in the threshold and objective. This should result in a meaningful reduction in the size of the documents and possibly the cost of the system.

e. Correlate each KPP and KSA to the capability requirements defined in the ICD and the Tier 1 and 2 JCAs to which they contribute directly.

f. Provide any additional information that the Program Manager (PM) should consider. If the CPD is describing a SoS solution, it must describe the attributes for the SoS level of performance and any unique attributes for each of the constituent systems. If the CPD is describing multiple increments, clearly identify which attributes apply to each increment.

g. Provide tables summarizing specified KPPs, KSAs, and additional performance attributes in threshold/objective format, as illustrated below.

Tier 1 & Teier 2 JCAs	Key Performance Parameter	Development Threshold	Development Objective
	KPP1	Value	Value
	KPP2	Value	Value
	KPP3	Value	Value

Table 1: Example of KPP Table

Tier 1 & Teier 2 JCAs	Key System Attribute	Development Threshold	Development Objective
	KSA1	Value	Value
	KSA2	Value	Value
	KSA3	Value	Value

Table 2: Example of KSA Table

Additional Performance Attribute	Development Threshold	Development Objective
Attribute 1	Value	Value
Attribute 2	Value	Value

Table 3: Example of Additional Performance Attribute Table

h. CDTM uses a third party COTS product called Syncfusion to provide rich text support, including support for simple tables. You will note that certain formatting features are NOT available in the Rich Text Editor. These include text coloring and font support, as well as justification.

(1) To add a table, position the cursor where you want the table to be added and click the Insert Table button (the third button from the left on the second row of the Rich Text Editor toolbar). Specify the number of rows and columns for the table. A table is created with an X in each cell. You may then fill in your table data.

(2) You can copy and paste tables into the editor, however, the results are unpredictable because the component does not support the breadth of formatting options available in Microsoft Word. Recommend that you do not import tables from Word as they will not be able to be seen in the final version of the document. Import any text from a Word

document as “Rich Text” then Bold, Italicize, or create tables using the available tools within CDTM.



GATEKEEPER GUIDANCE

You **MUST** limit your supporting rationale to **NO MORE** than one paragraph. Rationale should be a clear operational statement that links the required capability to the metric specified in the threshold and objective. This should result in a meaningful reduction in the size of the documents and possibly the cost of the system.

i. Present each attribute in output-oriented, measurable, and testable terms. For each attribute, provide a production threshold value representing the value below which performance is unacceptable. Provide objective values for attributes when the increased performance level provides significant increases in operational utility. If the threshold and objective values are the same, indicate this by including the statement “threshold = objective.” The PM may use this information to provide incentives for the production contractor to enhance performance through production improvements.

Mandatory & Selectively Applied KPPs KPPs

Paragraph 6 in the current CDTM Wizard is structured as follows:

Mandatory and Selectively Applied Key Performance Parameters (KPPs) - Utilize this checklist complete mandatory and other selectively applied KPP documents necessary for this CPD. Click on the *Edit* link adjacent to the KPP you require under the *Modify* column to open the input forms for the KPP. The thresholds and objectives are provided on this screen for convenient reference on completed KPPs.

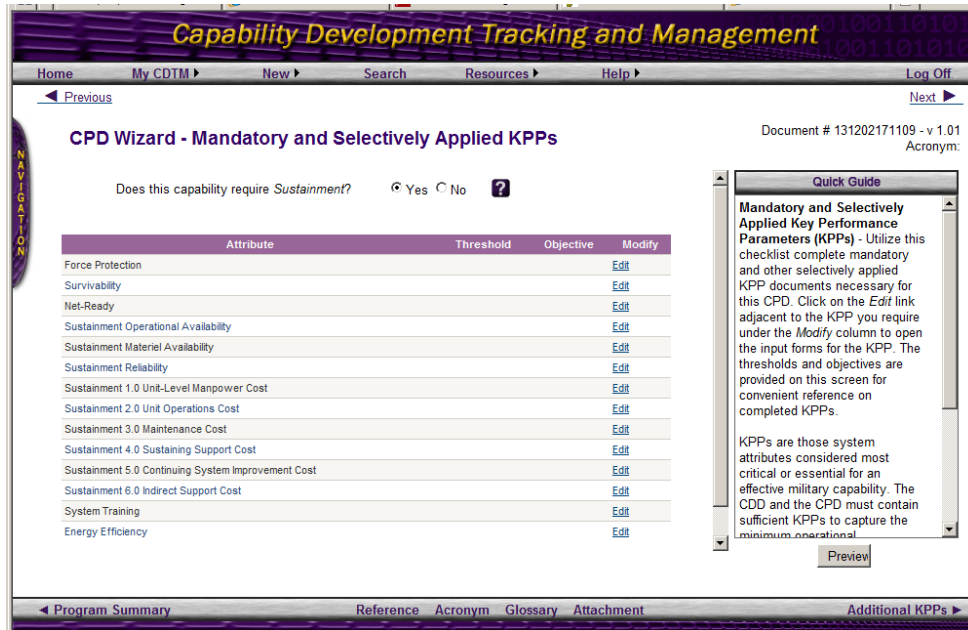


Figure 19: Para 6.1 Mandatory and Selectively Applied KPPs Screenshot

KPPs are those system attributes considered most critical or essential for an effective military capability. The CDD and the CPD must contain sufficient KPPs to capture the minimum operational effectiveness, suitability, and sustainment attributes needed to achieve the overall desired capabilities for the system (or systems if the CDD/CPD describes an SoS) during the applicable increment. Failure to meet a CDD or CPD KPP threshold may result in a reevaluation or reassessment of the program or a modification of the production increments.

CPD Wizard - Mandatory & Selectively Applied KPPs

Force Protection

Force Protection (FP). The FP KPP is applicable to all documents addressing a manned system, or system designed to enhance personnel survivability, when these systems will be used in an asymmetric threat environment. Although a FP KPP may include many of the same attributes as those that contribute to the Survivability KPP, the intent of the FP KPP is to address protection of the system operator or other personnel rather than protection of the system itself (Survivability). The Protection FCB will assess the FP KPP, or your justification of why the FP KPP is not applicable, for any document with a JSD of JROC or JCB Interest. Additional guidance on the FP KPP is provided in Appendix C to Enclosure B of the JCIDS Manual.

CPD Wizard - Mandatory & Selectively Applied KPPs
Survivability

Survivability. The Survivability KPP is applicable to all documents addressing a manned system, and may be applicable to documents addressing an unmanned system. The intent of the Survivability KPP includes reducing a system’s likelihood of being engaged by hostile fire, through attributes such as speed, maneuverability, detectability, and countermeasures; reducing the system’s vulnerability if hit by hostile fire, through attributes such as armor and redundancy of critical components; and allowing the system to survive and continue to operate in a chemical, biological, radiological, and nuclear (CBRN) environment, if required. The Protection FCB will assess the Survivability KPP, or our justification of why the Survivability KPP is not applicable, for any document with a JSD of JROC or JCB Interest. Additional guidance on the Survivability KPP is provided in Appendix D to Enclosure B of the JCIDS Manual.

CPD Wizard - Mandatory & Selectively Applied KPPs
Net-Ready

Net-Ready (NR). The NR-KPP is applicable to all documents addressing IS and National Security Systems (NSS) used in the automated acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of DOD data or information regardless of classification or sensitivity. The NR-KPP is not applicable to documents addressing systems that do not communicate with external ones, including IS systems in accordance with DODD 4630.05, [CJCSI 6212.01E](#), and DODI 4630.8. The intent of the NR-KPP is to ensure new IS fits into the existing DOD architectures and infrastructure to the maximum extent practicable.

The NR-KPP identifies operational, net-centric requirements in terms of threshold and objective values for measures of effectiveness (MOEs) and measures of performance (MOPs). The NR-KPP covers all communication, computing, and electromagnetic spectrum requirements involving information elements among producer, sender, receiver, and consumer. Information elements include the information, product, and service exchanges. These exchanges enable successful completion of the warfighter mission or joint business processes. The NR-KPP identified in the CDD or CPD will also be used in the Information Support Plan (ISP) to identify support required from external IS. When identified as applicable for a given capability requirement, the NR-KPP is required for all program increments. The NR-KPP includes three attributes derived through a three step process of mission analysis, information analysis, and systems engineering. These attributes are then documented in solution architectures developed according to the current DOD Architecture Framework (DODAF). The attributes depict how planned or operational IS:

- a. Attribute 1. Supports military operations,
- b. Attribute 2. Is entered and managed on the network, and

c. Attribute 3. Effectively exchanges information.

The following table summarizes the NR-KPP attributes and their associated metrics in terms of a standardized framework and data sources to leverage when developing attributes and their threshold and objective values.

NR-KPP Development Step	NR-KPP Attribute	Attribute Details	Measures	Sample Data Sources	MOE/MOP
Mission Analysis	Support to Military Operations	Military Operation (e.g., Mission areas or mission threads)	MOEs used to determine the success of the military operation	JMETL, JMT, UJTL, and METL	MOE
			Conditions under which the military operations must be executed		
		Operational tasks required by the military operations	MOPs used to determine activity performance	JMETL, JMT, UJTL, and METL	MOP
			Conditions under which the activity must be performed		
Information Analysis	Entered and managed on the network	Which networks do the netcentric military operations require	MOP for entering the network	N/A	MOP
			MOP for management in the network	N/A	MOP
	Effectively exchanges information	Information produced and consumed by each Military operation and operational task	MOP to ensure information exchanges are: Continuous Survivable Interoperable Secure Operationally Effective	DODAF OV-3, Operational Resource Flow Matrix	MOP
Systems Engineering and Architecture	Supports all 3 attributes	Ensures that IS satisfies the attribute requirements	Provides traceability from the IS MOPs to the derived operational requirements	OVs and SVs	N/A

Table 4: NR- KPP Development

Provide MOEs and MOPs to evaluate IS's ability to meet the threshold and objective or initial minimum values when testing the system for joint interoperability certification.

Interoperability Issues. Analyze and identify potential interoperability issues early in the IS's life cycle and identify joint interfaces through systems engineering and architecture development. IS architecture in JCIDS documents is developed according to the current DODAF. In addition, the architecture must align with Joint Mission Threads (JMTs), Joint

Common System Functional List (JCSFL), DOD IEA, and the Joint Information Environment Operational Reference Model (JIE ORA) to identify potential interoperability disconnects with interdependent systems or services as well as detailed information exchange and information sharing strategies.

Compliance. Determine whether IS complies with network operations (NETOPS) for the Global Information Grid (GIG) direction, GIG 2.0 goals and characteristics, and is integrated into system development, in accordance with JROCM 095-09.

Spectrum Requirements. To obtain a NR-KPP certification, all IS must comply with spectrum management and E3 direction. The spectrum requirements process includes Joint, DOD, national, and international policies and procedures for the management and use of the electromagnetic spectrum. The spectrum requirements process is detailed in [CJCSI 6212.01E](#) and details on compliance available [NR-KPP Manual Wiki Page](#).

The C4/Cyber FCB will assess the NR-KPP, or your justification of why the NR-KPP is not applicable, for your CPD with a JSD of JROC Interest, JCB Interest, or Joint Integration, and provide NR-KPP certification in accordance with CJCSI 6212.01E. Additional guidance on the NR-KPP is provided in Appendix F to Enclosure B of the JCIDS Manual and on the [NR-KPP Manual Wiki Page](#) and in [CJCSI 6212.01E](#).

Table 5: Example of a completed NR-KPP

NR-KPP Attribute	Key Performance Parameter	Threshold	Objective
Support to military operations	Mission: Tracking and locating (Finding, Fixing, Finishing) High-Value Target (HVT)		
	Measure: Timely, actionable dissemination of acquisition data for HVT	10 minutes	Near-real-time
	Conditions: Targeting quality data to the neutralizing/tracking entity	Area denial of HVT activities	HVT tracked, neutralized
	Mission Activities: Find HVT		
Enter and be managed in the network	Measure: Location accuracy	100 meter circle	25 meter circle
	Conditions: Individual differentiation	Identify armed/ not armed	Identify individual
	Network: SIPRNET		
Enter and be managed in the network	Measure: Time to connect to an operational network from power up	2 minutes	1 minute
	Conditions: Network connectivity	99.8	99.9

NR-KPP Attribute	Key Performance Parameter	Threshold	Objective
	Network: NIPRNET		
	Measure: Time to connect to an operational network from power up	2 minutes	1 minute
		99.8	99.9
	Conditions: Network connectivity		
Exchange information	Information Element: Target Data		
	Measure: Dissemination of HVT biographic and physical data	10 seconds	5 seconds
	Measure: Receipt of HVT data	Line of Sight (LOS)	Beyond LOS
	Measure: Latency of data	5 seconds	2 seconds
	Measure: Strength of encryption	NSA certified type 1	NSA certified type 1
	Conditions: Tactical/Geopolitical	Permissive environment	Non-permissive environment

Sustainment KPP

Sustainment. The provision of logistics and personnel services necessary to maintain availability of materiel and support operations until mission accomplishment. The Sustainment KPP and two supporting KSAs (Reliability, Operation and Support (O&S) Cost) are applicable to all documents addressing potential ACAT I programs. ACAT II and below programs, with materiel solutions, shall include the Sustainment KPP or defined sustainment metrics. A Reliability, Availability, Maintainability, and Cost (RAM-C) report, as defined in the [DOD Guide Book, 1 Jun 2009, "Department of Defense Reliability, Availability, Maintainability, and Cost Rationale Report Manual"](#), will document the quantitative basis for the three elements of the sustainment KPP as well as the tradeoffs made with respect to system performance.

Sustainment is a key component of performance. The intent of the Sustainment KPP is to ensure that sustainment planning "upfront" enables the requirements and acquisition communities to provide a system with optimal availability and reliability to the warfighter at an affordable cost.

The value of the Sustainment KPP is derived from the operational capability requirements of the system, assumptions for its operational use, and the planned logistical support. For the PM to develop a complete capability solution for the warfighter, sustainment objectives must be established and performance of the entire system measured against those metrics.

The Logistics FCB, in coordination with the Joint Staff J-4 / Maintenance Division (J-4/MXD), will assess the Sustainment KPP, or our justification of why the Sustainment KPP is not applicable, for any document with a JSD of JROC or JCB Interest. Additional guidance on and assistance in developing the Sustainment KPP is provided in Appendix E to Enclosure B of the [JCIDS Manual](#) and in [DOD Guide Book, 1 Jun 2009, "Department of Defense Reliability, Availability, Maintainability, and Cost Rationale Report Manual"](#). For questions regarding the Sustainment KPP, please contact J-4/MXD at 703-614-0161. The methodology utilized to establish the Sustainment KPP will be reviewed and shall include sufficient supporting documentation.

Per DoD guidance, CDTM prompts for a detailed breakdown of sustainment information. If the Sustainment KPP does not apply, click the *No* radio button at the top of the page next to "Does this capability require Sustainment?" When you click *No*, the Sustainment prompts will be removed from the page and replaced with a single prompt to provide a justification. CDTM will prompt you before making this change to ensure you do not accidentally delete your Sustainment KPP data.

CPD Wizard - Mandatory & Selectively Applied KPPs
Sustainment - Operational Availability

Operational Availability - Operational Availability indicates the percentage of time that a system or group of systems within a unit are operationally capable of performing an assigned mission and can be expressed as (uptime / (uptime + downtime)). Development of the Operational Availability metric is a requirements manager responsibility

Determining the optimum value for Operational Availability requires a comprehensive analysis of the system and its planned use as identified in the CONOPS, including the planned operating environment, operating tempo, reliability alternatives, maintenance approaches, and supply chain solutions.

Review Criteria for Operational Availability:

- a. Is there evidence of a comprehensive analysis of the system and its planned use, including the planned operating environment, operating tempo, reliability and maintenance concepts, and supply chain solutions leading to the determination of the value? Are the analyses documented?
- b. Are specific definitions provided for failures, mission-critical systems, and criteria for counting assets as "up" or "down"? Are the values for failure rates supported by analysis?
- c. Is scheduled downtime which affects the CCMD identified and included? Does the analysis package support the downtime? Are data sources cited? How does the downtime value compare with that experienced by analogous systems?

d. Is downtime caused by failure addressed? Are the values used for failure rates supported by the analysis? Is there a specific definition established for failure?

e. Is the administrative and logistics downtime associated with failures addressed (e.g. - recovery time, diagnostics time, movement of maintenance teams to the work site, etc.)?

CPD Wizard - Mandatory & Selectively Applied KPPs
Sustainment - Material Availability

Material Availability - is the measure of the percentage of the total inventory of a system operationally capable, based on materiel condition, of performing an assigned mission. This can be expressed mathematically as the number of operationally available end items/total population. The total population of operational end items includes those in training, attrition reserve, pre-positioned, and temporarily in a non-operational materiel condition, such as for depot-level maintenance. The total life-cycle timeframe, from placement into operational service through the planned end of service life, must be included. This is often referred to as equipment readiness. Materiel Availability covers the total life-cycle timeframe, from placement into operational service through the planned end of service life. Development of the Materiel Availability metric is a program manager responsibility.

Review Criteria for Materiel Availability:

a. Is there evidence of a comprehensive analysis of the system and its planned use, including the planned operating environment, operating tempo, reliability alternatives, maintenance approaches, and supply chain solutions leading to the determination of the KPP value? Are the analysis assumptions documented?

b. Is the total population of end items being acquired for operational use documented?

c. Are specific definitions provided for failures, mission-critical systems, and criteria for counting assets as “up” or “down”? Are the failure rate values supported by analysis?

d. Does the metric clearly define and account for the intended service life, from initial placement into service through the planned removal from service? (A graphic representation (timeline) of the life-cycle profile is an effective way to present the data.)

e. What is the overall sustainment CONOPS? Is it consistent with other CONOPS, design reference missions, ISCs, etc. being supported? Is it traceable to the original capability requirements, or agreement with the warfighting community? What alternatives were considered? Have surge/deployment acceleration requirements been identified?

f. Is failure/down-time defined? Is planned downtime (all causes) identified and included? Does analysis data support the downtime? Are data sources cited? How does the downtime value compare with downtimes for analogous systems?

g. Are sources of data and processes to track the KPP across the life-cycle identified? What models are used to establish and track the KPP?

CPD Wizard - Mandatory & Selectively Applied KPPs
Sustainment - Reliability

Sustainment Reliability - Reliability is a measure of the probability that the system will perform without failure over a specific interval, under specified conditions. Reliability must be sufficient to support the warfighting capability requirements, within expected operating environments. Considerations of reliability must support both availability metrics. Development of the Reliability metric is a requirements manager responsibility.

Reliability may initially be expressed as a desired failure-free interval that can be converted to a failure frequency for use as a requirement (e.g., 95 percent probability of completing a 12-hour mission free from mission-degrading failure; 90 percent probability of completing 5 sorties without failure). Specific criteria for defining operating hours and failure criteria must be provided together with the reliability. Single-shot systems and systems for which other units of measure are appropriate must provide supporting analysis and rationale.

Reliability Review Criteria:

- a. Has the reliability metric been established at the system level? Is it traceable to the original capability requirements, or other performance agreement?
- b. Does the analysis clearly provide criteria for defining relevant failure?
- c. Does the analysis clearly define how time intervals will be measured?
- d. Does the analysis identify sources of baseline reliability data and any models being used? Is the proposed value consistent with comparable systems? Are sources of data and processes to track reliability across the lifecycle identified?
- e. Is the reliability value consistent with the intended operational use of the system (i.e., the CONOPs)?
- f. Is the reliability value consistent with the sustainment approach as presented in the operational availability metric?
- g. Is the reliability value improved relative to existing or analogous systems?
- h. For single-shot systems and systems for which units of measure other than time are used as the basis for measuring reliability, does the package clearly define the units, method of measuring or counting, and the associated rationale?

Operation & Support Cost KSA

Operations and Support (O&S) Cost metrics provide balance to the sustainment solution by ensuring that the O&S costs associated with availability and reliability are considered in making decisions. The O&S Cost KSA is to be completed using Base Year dollars.

For consistency and to capitalize on existing efforts in this area, the [Cost Assessment and Program Evaluation \(CAPE\) O&S Cost Estimating Structure](#) will be used in support of this KSA. As a minimum the following cost elements are required:

- 2.0 Unit Operations (2.1.1 (only) Energy (fuel, petroleum, oil, lubricants, electricity));
- 3.0 Maintenance (All);
- 4.0 Sustaining Support (All except 4.1, System Specific Training);
- 5.0 Continuing System Improvements (All).

Energy costs included in this O&S cost will be set using the base year price for every year of this assessment. Scenario based estimates for fully burdened cost of energy, including fuel and/or electric power will also be calculated and reported as part of this KSA. The guidance for developing the fully burdened cost of energy estimates can be found in section 3.1.6 of the [Defense Acquisition Guidebook](#).

Costs are to be included regardless of funding source or management control. The O&S value should cover the planned lifecycle timeframe, consistent with the timeframe and system population identified in the Materiel Availability metric. Sources of reference data, cost models, parametric cost estimating relationships, and other estimating techniques or tools must be identified in supporting analysis. Programs must plan for maintaining the traceability of costs incurred to estimates and must plan for testing and evaluation.

The proponent shall plan to monitor, collect, and validate operating and support cost data to support the O&S cost KSA. (Ref:OSD [Cost Analysis Improvement Group \(CAIG\) Cost-Estimating Guide](#), Oct 2007.) Development of the Ownership Cost metric is a program manager responsibility.

O&S Cost Review Criteria:

- a. Has the O&S Cost goal been defined for the system's life cycle?
- b. Does the analysis utilize the CAPE O&S cost element structure where applicable? (Specifically, which CAPE O&S cost elements?)
- c. Are sources of baseline cost data, cost estimating relationships, and cost models identified?

- d. Is the cost model consistent with the assumptions and conditions being used for materiel availability and materiel reliability?
- e. Is the cost metric traceable to the original capability requirements, or agreement with the warfighter?
- f. Are all required costs included, regardless of funding source or management control?
- g. Is the O&S cost KSA data consistent with the program's life cycle cost estimate (LCCE), Cost Analysis Requirements Data (CARD) and/or the CAPE independent cost estimate (ICE) if available for comparison?
- h. Does the analysis include to the process for monitoring, collecting, validating, and reporting O&S cost data?
- i. If the Energy KPP is being applied to the program, are the same ISCs and duty cycles being used for gauging energy logistics risk in that KPP as are being used for estimating the "Fully Burdened Cost of Energy" as part of the O&S Cost KSA? If the same ISCs were not used, was rationale provided?

CPD Wizard - Mandatory & Selectively Applied KPPs
Sustainment 1.0 Unit-Level Manpoer Cost

1.0 Unit Level Manpower Operating and Support Cost - includes the costs of all operator, maintenance, and other support manpower at operating units (or at maintenance and support units that are organizationally related and adjacent to the operating units). Unit-level manpower includes active and reserve military, government civilian, and contractor manpower costs. Manpower associated with general and indirect support, such as manpower supporting base level functions, are accounted for as indirect costs, item 6.0. In other words, manpower included in functions covered by indirect costs (item 6.0) is not regarded as unit-level manpower. While the cost elements in this category make the distinction between operators, maintainers, and other unit-level manpower, that distinction may not apply to all situations. For example, in O&S cost estimates for Navy ships, the ship manpower is typically estimated and documented for the entire crew as a whole, and is not broken down into operators, maintainers, and other support.

Provide threshold and objective for unit level manpower O&S cost, as well as a description, link to the supported JCA(s), supporting rationale, and associated estimated total life-cycle or ownership cost for unit level manpower.

CPD Wizard - Mandatory & Selectively Applied KPPs
Sustainment 2.0 Unit Operations– Cost

2.0 Unit Operations Operating and Support Cost - includes the unit-level consumption of operating materials such as fuel, electricity, expendable stores, training munitions and other operating materials. Also included are any unit-funded support activities; training devices or simulator operations that uniquely support an operational unit; temporary additional duty/temporary duty (TAD/TDY) associated with the unit’s normal concept of operations; and other unit funded services. Unit-funded service contracts for administrative equipment as well as unit-funded equipment and software leases are included in this portion of the estimate. Unit Operating costs provided through a system support contract should be separately identified from those provided organically. (Simulator costs that provide support to multiple units should be included in 4.1 Sustaining Support/System Specific Training.).

Provide threshold and objective for unit operations O&S cost, as well as a description, the supported JCA(s), supporting rationale, and associated estimated life-cycle or total ownership cost for unit operations.

CDD Wizard - Mandatory & Selectively Applied KPPs
Sustainment 3.0 Maintenance Cost

3.0 Maintenance Operating and Support Cost - includes the costs of labor (outside of the scope of unit-level) and materials at all levels of maintenance in support of the primary system, simulators, training devices, and associated support equipment. Where costs cannot be separately identified to distinct levels of maintenance, the category that represents the predominant costs should be used. Any maintenance costs provided through a system support contract should be separately identified within the appropriate cost element.

Provide threshold and objective for maintenance cost, as well as a description, the supported JCA(s), supporting rationale, and estimated total maintenance cost.

CPD Wizard – Mandatory & Selectively Applied KPPs
Sustainment 4.0 Sustaining Support Cost

4.0 Sustaining Operating and Support Cost – Cost of support activities other than maintenance that can be attributed to a system and are provided by organizations other than operating units. This category includes support services provided by centrally managed support activities external to the units that own the operating systems. It is intended that costs included in this category represent costs that can be identified to a specific system and exclude costs that must be arbitrarily allocated. Where a single cost element includes multiple types

of support, or where the support is provided by contractors, each should be separately identified in the cost estimate.

The continuing system improvements portion of an O&S estimate does not include all changes to a system developed subsequent to the initial delivered configuration. System improvements identified as part of an incremental evolutionary acquisition strategy or pre-planned product improvement program that are included in the acquisition cost estimate are not included in this portion of an O&S cost estimate. Any improvement of sufficient dollar value that it would qualify as a distinct Major Defense Acquisition Programs (MDAP) in its own right normally would not be included in this portion of the O&S cost estimate.

Provide threshold and objective for sustaining support cost of this capability, as well as a description, the supported JCA(s), supporting rationale, and estimated total sustaining support cost.

CPD Wizard - Mandatory KPPs – Sustainment:
Sustainment 5.0 Continuing System Improvement Cost

5.0 Continuing System Improvement Operating and Support Cost - includes the costs of hardware and software updates that occur after deployment of a system that improve a system's safety, reliability, maintainability, or performance characteristics to enable the system to meet its basic operational requirements throughout its life. These costs include government and contract labor, materials, and overhead costs. Costs should be separated into government and contractor costs within each cost element, if possible.

The continuing system improvements portion of an O&S estimate does not include all changes to a system developed subsequent to the initial delivered configuration. System improvements identified as part of an incremental evolutionary acquisition strategy or pre-planned product improvement program that are included in the acquisition cost estimate are not included in this portion of an O&S cost estimate. Any improvement of sufficient dollar value that it would qualify as a distinct Major Defense Acquisition Programs (MDAP) in its own right normally would not be included in this portion of the O&S cost estimate.

Provide threshold and objective for continuing system improvement cost of this capability, as well as description and rationale, the supported JCA(s), and estimated total life-cycle or ownership cost.

CDD Wizard - Mandatory KPPs – Sustainment:
Sustainment 6.0 Indirect Support Cost

6.0 Indirect Operating and Support Cost - are those installation and personnel support costs that cannot be directly related to the units and personnel that operate and support the system being analyzed. O&S cost analyses should include marginal indirect costs. The intention is to

include only the costs that would likely change if the action being analyzed (e.g., new system development, etc.) occurs.

Indirect support costs are more relevant in situations when total DOD manpower would change or when installations are affected (i.e., expanded, contracted, opened, or closed). Indirect support costs may also be relevant in analyses involving a choice between government and contracted support. In these cases it is important to compare the government and contracted alternatives on a comparable basis, including the relevant indirect costs of all alternatives

Provide threshold and objective for indirect support cost of this capability, as well as description and rationale, the supported JCA(s), and estimated total life-cycle or ownership cost.

NOTE: Training and Energy are mandatory KPPs and no longer ‘selectively applied’. CDTM will be updated to reflect changes in CJCSI 3170.01H and JCIDS Manual.

CPD Wizard - Mandatory & Selectively Applied KPPs System Training

Training. The Training KPP is applicable to all documents addressing potential ACAT I programs involving materiel solutions. The training KPP shall be considered for all systems under development where one of the major components of the system capability is dependent on operators, maintainers, and leaders to be properly trained to fully utilize the capability of the system. The intent of the Training KPP is to ensure that training requirements are properly addressed from the beginning of the acquisition process, in parallel with the planning and material development, and updated throughout the program’s Acquisition Life-Cycle. The Training KPP is required for MS B and C along with a detailed training plan that addresses full training requirements and associated cost data.

This addresses the historic problem where new systems are developed and fielded to address a gap in warfighter capability and training on the proper use was not completed for some period of time later. Training was either not a formal part of the resourced program or the training resources were traded away to supplement increased cost of the parent system. Training not planned and integrated early, has the potential to be one of the top cost drivers over a program’s life cycle. Therefore, to better mitigate cost growth of a program over that life cycle training shall be made available from the beginning of a program. The performance of any system is directly dependent on the training of the warfighters who operate and maintain the system. Ensure system training is addressed in the AoA and supporting analysis for subsequent acquisition phases and ensure projected training requirements and associated costs are appropriately addressed across the program life cycle. System Training Plans (STRAPs), developed and approved by the proponent sponsor, define training strategies, training support

and training resource requirements in support of new, improved and displaced systems per AR 350-1.

The principal attributes of training are proficiency level, time to proficiency, and training retention.

Metrics for training KPPs. Metrics are suggested below in terms of how time/schedule, performance, and resources/cost can be used with training KPPs.

- a. Time/Schedule metrics for training performance.
 - (1) Time required achieving initial capability on a system task (to standard).
 - (2) Time required to sustain proficiency on a system task (to standard);
 - (a) Time until skill proficiency is lost (skill decay)
 - (b) Frequency of training events to sustain proficiency
 - (3) Relative time required to achieve/sustain task proficiency in terms of hours, days, or weeks.
 - (4) Ability to deliver training capabilities on schedule
 - (a) Before initial fielding requirements
 - (b) Before initial institutional requirements
- b. Resources/Cost metrics for training performance.
 - (1) Land resources required to conduct training
 - (2) Ammunition resources required to conduct training
 - (3) Fuel/parts required to conduct training (in peacetime)
 - (4) Facilities required to conduct training
 - (5) Instructors required to conduct training
 - (6) Support personnel required to conduct training
 - (7) Bandwidth and satellite time required to conduct training
 - (8) Training Aids, Devices, Simulators, and Simulations required to conduct training
- c. Performance metrics for training performance.
 - (1) Objective defined as best performance achievable by training audience population with unlimited time and resources

(2) Threshold defined as best performance desired from training audience population with time constrained (consider 1 hour/1 day/1 week intervals)

(3) Interoperability with:

(a) Live, virtual and constructive training environments

(b) Combat Training Center (CTC) instrumentation systems

(4) Degree of embedded training capability versus appended/standalone training capabilities

(5) Deployment/transportability of training capabilities

(6) Flexibility/realism of training capability to adapt to changed training conditions:

(a) Weather/temperature/humidity

(b) Urban/suburban/rural

(c) Terrain (mountain, desert, woodland, coastal, swamp, etc.)

(7) Leadership and education. Leaders at all levels of employment are capable of utilizing the system to its full design capability in all contingencies.

With the incorporation of a Training KPP, programs must develop a Training KPP tailored to their program, or provide required justification regarding recommendation for its exclusion, as directed by the validation authority. The J-7 representative participating in the lead FCB, in coordination with USD(P&R)/TRS, will assess the Training KPP, or your justification of why the Training KPP is not applicable, for your CDD or CPD with a JSD of JROC or JCB Interest. Endorsement of the Training KPP will be provided as part of the J-7 DOTmLPP-P endorsement. Additional guidance on the Training KPP is provided in Appendix G to Enclosure B of the JCIDS Manual and Chapter 6 of AR 350-1.

CPD Wizard – Mandatory & Selectively Applied KPPs

Energy Efficiency

Energy. The Energy KPP is applicable to all documents addressing systems where the provision of energy, including both fuel and electric power, to the system impacts operational reach, or requires protection of energy infrastructure or energy resources in the logistics supply chain. The intent of the Energy KPP is to optimizing fuel and electric power demand in capability solutions as it directly affects the burden on the force to provide and protect critical energy supplies. The operational Energy metrics you identify in this CPD will ensure that supportable operational energy is addressed and achieved. The KPP includes fuel and electric power demand considerations in systems, including those for operating “off grid” for

extended periods when necessary, consistent with future force plans and Integrated Security Constructs (ISCs).

The value of the Energy KPP is derived from the operational requirements of the system, scenario-based assumptions for its operational use, and the planned logistical and force protection support to sustain it. In order for the PM to develop a complete system to provide warfighting capability, energy performance objectives must be established for the entire system measured against those metrics. Include operational energy demand and related energy logistics resupply risk considerations with the focus on mission success and mitigating the size of the logistics force within the ISCs. These assessments inform the setting of targets and thresholds for the energy efficiency where applicable. Consider energy delivery risk in irregular warfare, operations in austere or concealed settings, and other asymmetric environments, as well as operations in conventional campaigns.

The scenario analyses needed to set threshold and objective measures of energy usage by the system must include the logistics forces required as well as realistic threats and disruptions to those logistics. This interplay of combat and support forces, based on existing DOD Component and Joint planning factors and ISCs, will help identify the threshold and objective levels of unrefueled range and loiter required to be mission capable. From those ranges and mission profiles, the design, technology, cost and schedule trades between each variable that affects energy demand on-board (powerplant, weight, drag, electrical load, etc.) can be informed. The KPP metrics could be expressed as units of energy used per period of time (e.g. gallons per hour), or as the number of refueling required per period of time (e.g. tankings per hour). It is from these operational metrics that technical system metrics can be established.

This KPP differs from the Sustainment KPP in several ways. First, fuel delivery logistics have a uniquely large presence in the total force structure (tanker aircraft, oilers and fuel trucks) and in the battlespace. Second, fuel, in the large volumes US forces demand it, and, in the timeframe when new systems will come into the force, may become less readily available in the marketplace near where it is required for operations. Third, this Energy KPP does not address energy-related costs, but rather, the interaction of combat and support assets required to deliver military capability. The Sustainment KPP requires that the Fully Burdened Cost of Energy (FBCE) be calculated and considered within the O&S Cost KSA. Some of the same scenario-based analysis used to calculate the FBCE is the same as that for setting the Energy KPP threshold and objective.

a. Include fuel efficiency considerations in systems consistent with future force plans and approved planning scenarios. Include operational fuel demand and related fuel logistics resupply risk considerations with the focus on mission success and mitigating the size of the fuel logistics force within the given planning scenarios. These assessments will inform the setting of targets and thresholds for the fuel efficiency of materiel solutions. Consider fuel risk in irregular warfare scenarios, operations in austere or concealed settings, and other asymmetric environments, as well as conventional campaigns.

b. These assessments will inform the setting of targets and thresholds for the fuel efficiency of materiel solutions. Consider fuel risk in irregular warfare scenarios, operations in austere or concealed settings, and other asymmetric environments, as well as conventional campaigns.

c. If you have a program that involves a “fleet of vehicles” or a “fleet of equipment that consumes energy” (i.e. generators or heaters that use fuel), use the guide below to develop the Energy Efficiency KPP.



Energy Efficiency
KPP Development.pdf

Insert 2: Energy Efficiency KPP Development

The Logistics FCB, in coordination with the Joint Staff J-4 / Engineering Division (J-4/ED) and with advice from the Defense Energy Board as appropriate, will assess the Energy KPP, or your justification as to why the Energy KPP is not applicable, for your CPD with a JSD of JROC or JCB Interest. Additional guidance on the Energy KPP is provided in Appendix H to Enclosure B of the JCIDS Manual.

CPD Wizard - Additional KPP, KSA or Attribute

The **Additional KPP, KSA and Attribute** page lists a summary of all additional KPPs, KSAs and Attributes you have added to this document. To add more KPPs, KSAs or Attributes, click the *Add an Additional KPP, KSA, or Attribute* button.

Attribute	Title	Threshold	Objective	Order	Modify
KSA Other	Sample KSA Title	Here is the threshold	Threshold=Objective	↑ ↓	Edit Remove

The screenshot shows the 'CPD Wizard - Additional KPP, KSA or Attribute' form. At the top, there is a navigation bar with links for Home, My CDTM, New, Search, Resources, and Help. A 'Log Off' link is also present. Below the navigation bar, there are 'Previous' and 'Next' navigation buttons. The main title of the form is 'CPD Wizard - Additional KPP, KSA or Attribute'. On the right side, there is a 'Document # 131202291133 - v 1.01' and an 'Acronym:' field. The form contains several input fields: 'Title' with an 'Up' arrow, 'Attribute Type' (a dropdown menu set to 'KPP Other'), 'Threshold (U)' with 'N/A' and 'Up/Down' arrows, 'Objective (U)' with 'N/A' and 'Up/Down' arrows, and 'Description and Rationale (U)' with 'N/A' and 'Up/Down' arrows. There is a 'Chosen JCA(s): None Chosen' section with a 'Choose JCA' button. A 'Traceability' checkbox is located at the bottom left. On the right side, there is a 'Quick Guide' box with the text: 'Additional KPP, KSA or Attribute - Use this template to add additional KPPs, KSAs, or other attributes necessary to fully define this capability. You may add as many new entries as are necessary.' Below the Quick Guide are 'Save' and 'Reset' buttons. At the bottom of the form, there are links for 'Additional KPPs', 'Reference', 'Acronym', 'Glossary', and 'Attachment'.

Figure 20: Additional KPP, KSA or Attribute Screenshot

You may reorder your additional KPP, KSA or attributes by clicking the Up and Down arrows to move them up and down in the list. To make changes or add information for one of the KPPs/KSAs/Attributes in the list, click the **Edit** link. Clicking the **Remove** link will delete that KPP/KSA/Attribute.

CPD Wizard - Additional System Capabilities

[Add an Additional KPP or KSA](#)

Additional Non-Mandatory KPPs, KSAs and Other Attributes

Attribute	Title	Threshold	Objective	Order	Modify
Other Attribute	Additional Attribute #1 for CPD Writer's Guide	6.2.1 Threshold - Present each attribute in output-oriented, measurable and testable terms. For each attribute, provide a threshold and an objective value. When there are multiple increments and the threshold changes between increments, clearly identify the threshold for each increment. The PM will use this information to provide incentives for the developing contractor or to weigh capability tradeoffs between threshold and objective values. Expressing capabilities in this manner enables the systems engineering process to develop an optimal product. Suggested limit is 2000 characters.	6.2.1 Objective - If the objective and the threshold values are the same, indicate this by including the statement "Threshold=Objective." Suggested limit is 2000 characters.	↑ ↓	Edit Remove
Other Attribute	Additional Attribute #2 for CPD Writer's Guide	6.2.2 Threshold - Present each attribute in output-oriented, measurable and testable terms. For each attribute, provide a threshold and an objective value.	6.2.2 Objective - If the objective and the threshold values are the same, indicate this by including the statement "Threshold=Objective."	↑ ↓	Edit Remove
Other Attribute	Additional Attribute #3 for CPD Writer's Guide	6.2.3 Threshold - Present each attribute in output-oriented, measurable and testable terms. For each attribute, provide a threshold and an objective value. When there are multiple increments and the threshold changes between increments, clearly identify the threshold for each increment.	6.2.3 Objective - If the objective and the threshold values are the same, indicate this by including the statement "Threshold=Objective."	↑ ↓	Edit Remove

Figure 5: Additional System Capabilities Screenshot

If this capability is a weapon system:

CPD Wizard - Weapon Safety Issues – Weapon: Environmental Attributes
[Weapon Environmental Attributes](#)

Weapon Environmental Attributes - Includes the air, water, living things, built infrastructure, cultural resources, and the interrelationships that exist among them in regards to the environment(s) the weapon system will be expected to perform.

Provide a description of the environment that the weapons system will operate and also discuss the impact the weapon system will have on the environment.

CPD Wizard - Weapon Safety Issues – Weapon: Performance
[Weapon Performance Parameter](#)

Weapons Performance Parameter - For weapon programs, the joint mission environment attributes and performance parameters must be addressed as the basis for the weapon safety endorsement. Identify, as specifically as possible, all projected requirements necessary to

provide for safe weapon storage, handling, transportation, or use by joint forces throughout the weapon life cycle, to include required performance and descriptive, qualitative, or quantitative attributes.

Describe in detail what the expected performance the weapons system will be in the battlespace and the platform required to deliver the weapon.

CPD Wizard - Weapon Safety Issues – Weapon: Storage **Weapon Storage**

Weapon Storage - Consider how this weapon system will be stored.

Factor the logistics required for accessibility and proximity of weapon storage to the battlespace. Discuss use of hardened facilities, proximity of spare parts to deployed weapons systems, readiness maintenance on stored weapons systems, upgrades to on-board computer system modules, and other considerations for storing this weapons system.

CPD Wizard - Weapon Safety Issues – Weapon: Handling and Transport **Weapon Handling and Transport**

Weapons Handling and Transport - Describe in detail how this weapon system will be staged from the storage location to operational readiness in the battlespace.

Consider the need for additional security, specialized vehicles and equipment, cargo space required on military/commercial air, land or sea transport, maintenance required enroute, technical work needed to ready the weapon in the battlespace, and other key requirements for staging this system from its source to the place of need.

Weapons System Usage - Provide detailed information on the expected operational environment, the expected intensity of the weapon, and the desired effect on opposing combatant forces.

Consider the operational environment (high or low intensity combat), usage against a nation-state with fixed assets as opposed to non-state bad actors, what expected battle damage (decrease in enemy capabilities) this weapon will create for enemy combatants, the availability of delivery platforms, the refresh tempo for restoring the weapon system to operational readiness after use, and other key components for the use of this weapons system. Discuss why existing weapons systems cannot achieve the same objectives either through current use or modifications. Evaluate the mission supported by this capability to determine if CBRN survivability is required. If so, complete the due diligence required for a full CBRN KPP.

7.0 System of Systems (SoS) Synchronization

7.0 SoS Synchronization

In SoS solutions, the CPD sponsor is responsible for ensuring that related capability solutions, specified in other CDDs and CPDs, remain compatible and that the development is synchronized. These related capability solutions should tie to a common ICD, set of ICDs, or approved substitute(s). In cases where development of SoS capability solutions involves multiple solution Sponsors, a lead Sponsor should be identified to coordinate efforts across organizations.

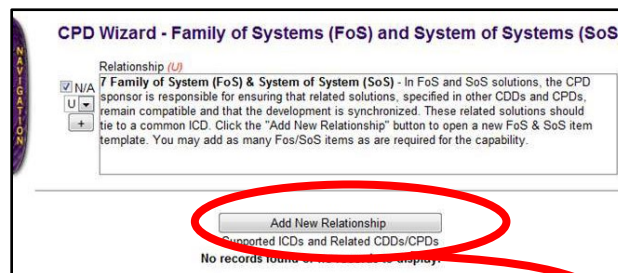
a. Discuss the relationship of the system described in this CPD to other systems contributing to satisfying the capability requirements. Discuss any overarching DOTmLPP-P changes needed to make the SoS an effective military capability solution in Section 14.

b. Provide a table that briefly describes the contribution this CPD makes to the fulfillment of capability requirements and closing of capability gaps described in the applicable ICDs, and the relationships to other CDDs and CPDs that also support these capability requirements, as illustrated in the table immediately below. Review all related ICDs, CDDs, and CPDs for applicability to the SoS addressed by this CPD. Also identify the primary JCAs (Tier 1 and 2) supported by this CPD. If the CPD is not based on validated capability requirements from an ICD, identify the validated source document.

Capability Requirement	CPD Contribution	Related CDDs	Related CPDs	Tier 1 & Tier 2 JCAs
ICD Capability Description #1 (Source Doc)	Brief Description of the Contribution	CDD Title	CPD Title	
ICD Capability Description #1 (Source Doc)	Brief Description of the Contribution	CDD Title	CPD Title	
Other JROC validated source document	Brief Description of the Contribution	CDD Title	CPD Title	

Table 6: Supported ICDs and Related CDDs or CPDs

Click the "Add New Relationship" button to open a new FoS & SoS item template. You may add as many FoS/SoS items as are required for the capability. No capability stands alone on the battlefield. Consider the relationship of the system described in the CPD to other systems contributing to the capability.



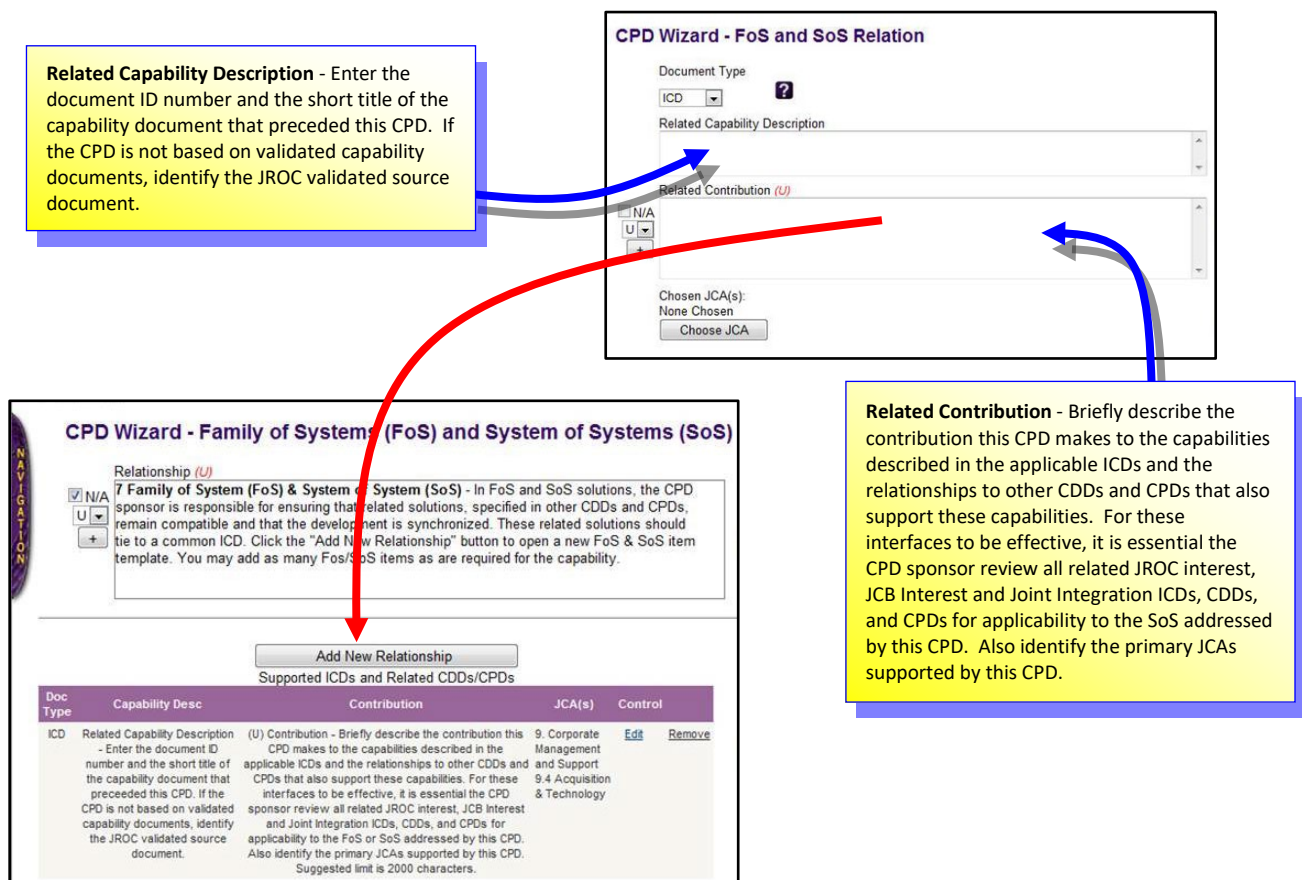


Figure 22: Para 7.0 SoS Screenshot

8.0 Spectrum Requirements

8.0 Spectrum Requirements (formerly IT & NSS)

To obtain NR KPP certification, all IS must comply with the spectrum management and electromagnetic environment effects (E3) direction. The spectrum supportability process includes joint, DOD, national and international policies and procedures for the management and use of the electromagnetic spectrum. The spectrum supportability process is detailed in [CJCSI 6212.01E](#) and details on compliance available at the [NR-KPP Manual Wiki Page](#).

For systems that do not receive or transmit information the writer must provide a brief explanation. (Example sentence: “XYZ does not receive or transmit information. Therefore, IT and NSS supportability are not applicable to the XYZ.”)

(Reference: DODI 4630.8, 30 June 2004, “Procedures for Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)”)

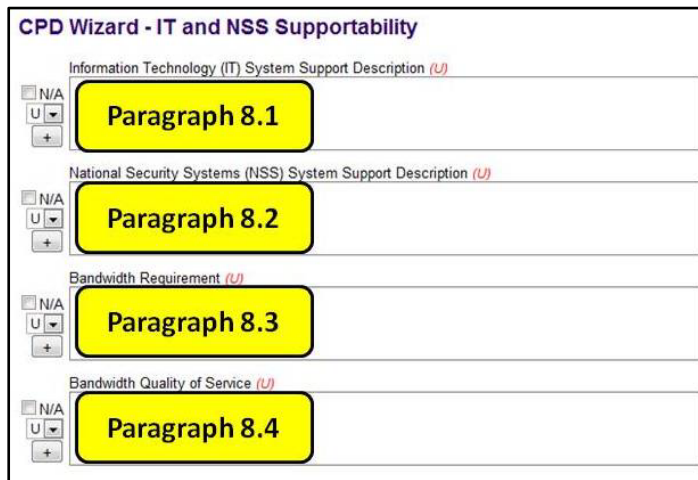


Figure 23: Para 8.0 IT and NSS Supportability Screenshot

8.1 IT System Support Description - For systems that receive or transmit information, provide an estimate of the expected bandwidth and quality of service requirements for support of the capability (on either a per-unit or an aggregate basis, as appropriate). This description must explicitly distinguish the IT and NSS support to be acquired as part of this program from IT and NSS support to be provided to the acquired system through other systems or programs (reference: DODI 4630.8, 30 June 2004, “Procedures for Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)”).

Sponsor will identify the communities of interest (reference: DODD 8320.2, 2 December 2004, “Data Sharing in a Net-Centric Department of Defense”) with which they are working to make the data secure for the capability, as well as, visible, accessible, and understandable to other users on the Global Information Grid (GIG).

8.2 NSS System Support Description - The NSS System Support Description must explicitly distinguish the IT and NSS support to be acquired as part of this program from IT and NSS support to be provided to the acquired system through other systems or programs.

8.3 Bandwidth Requirement - Provide an estimate of the expected bandwidth requirements for support of the capability (on either a per-unit or an aggregate basis, as appropriate). Full details will be derived from the associated or updated ISP for MS C and included in the CPD.

8.4 Bandwidth Quality of Service (QoS) - Provide an estimate of the expected quality of service requirements for support of the capability (on either a per-unit or an aggregate basis, as appropriate). Full details will be derived from the associated or updated ISP for MS C and included in the CPD.

9.0 Intelligence Supportability

9.0 Intelligence Supportability

Identify, as specifically as possible, all projected requirements for intelligence support throughout the expected acquisition life cycle in accordance with the format and content prescribed by [CJCSI 3312.01B, "Joint Military Intelligence Requirements Certification" 10 Jun 2010](#). During staffing, documents with JSDs of JROC Interest, JCB Interest, and Joint Integration will be subject to Joint Staff J-2 intelligence certification in accordance with CJCSI 3312.01B. Assistance is also available from J-2 Intelligence Requirements Certification Office (J2P/IRCO) for assistance (DSN 671-9539 or DSN 225-8085, SIPRNET - <http://www.dia.smil.mil/intel/j2/j2p/irco/main.html> or Joint Worldwide Intelligence Communications System (JWICS) - http://j2irco.dia.ic.gov/irco/open_docs.html).

For systems that do not produce, consume, process, or handle intelligence information, the writer must provide a brief explanation. (Example sentence: “XYZ does not produce, consume, process, or handle intelligence information. Therefore, it is not applicable to the *MBS*.”) **Place the statement in the first block, then check “N/A” for the remaining blocks.**

9.1 Intelligence Support to Development - In accordance with DODI 4630.8, Enclosure 4, and OASD(NII) memorandum for Secretaries of the Military Departments (setting forth interim change to DODI 4630.8), sponsors are required to prepare and update Information Support Plans (ISP) in conjunction with the JCIDS documents and within the JCIDS milestone decision framework.

The screenshot shows a web-based form titled "CPD Wizard - Intelligence (1 of 4)". On the left side, there is a vertical "NAVIGATION" bar. The form consists of four rows, each representing a different type of intelligence support. Each row has a title, a status indicator in parentheses, and a set of controls. The controls include a checkbox for "N/A", a dropdown menu with "U" selected, and a plus sign button. The rows are: "Intelligence Support to Development (U)", "Intelligence Support to Development and Testing (U)", "Intelligence Support to Operations (U)", and "Geospatial Intelligence Support (U)".

Figure 24: Para 9.0 Intelligence (1 of 4) Screenshot

9.2 Intelligence Support to Development and Testing - Identify specific intelligence support required during the development and testing phase.

9.3 Intelligence Support to Operations - Identify specific intelligence support required during operational sustainment.

9.4 Geospatial Intelligence Support (GEOINT) - The exploitation and analysis of imagery and geospatial information to describe, assess, and visually depict physical features and geographically referenced activities on Earth. The DOD functional manager for GEOINT is the National Geospatial-Intelligence Agency (NGA).

9.5 Targeting Support - Targeting is the process of selecting and prioritizing targets and matching the appropriate response to them, considering operational requirements and capabilities. The requirement for targeting support refers to a wide range of intelligence information, products, and services throughout all levels of warfare and, for the purposes of the intelligence certification, throughout all phases of the acquisition lifecycle. Sponsors must consider intelligence support to targeting if their program or capability will employ, or will rely upon the employment of, munitions (both kinetic and nonkinetic) because intelligence targeting support shortfalls may detrimentally affect the program or capability's successful development, on-time delivery schedule, and ultimately its operational status (i.e., intelligence support to targeting is a broad category that encompasses munitions and all associated programs or capabilities relying upon the munition).

9.6 Combat Search & Rescue - Combat Search and Rescue Intelligence Support (CSAR) is the specific task performed by rescue forces to recover distressed personnel during war or military operations other than war ([Joint Publication 3-50, "Personnel Recovery"](#)). Intelligence plays a vital role in planning and accomplishing CSAR operations because intelligence pertaining to the adversary's threat will have the greatest influence on search criteria and the method of recovery selected.

9.7 Joint Intelligence Preparation of the Operational Environment (JIPOE) - According to [Joint Publication 2-01.3 "Joint Intelligence Preparation of the Operational Environment"](#), JIPOE is the analytical process used by joint intelligence organizations to produce intelligence assessments, estimates, and other intelligence products in support of the joint force commander's (JFC's) decision-making process. The operational environment is the composite of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. Understanding the operational environment is fundamental to identifying the conditions required to achieve stated objectives; avoiding the effects that may hinder mission accomplishment (undesired effects); and assessing the impact of friendly, adversary, and other actors, as well as the local populace, on the commander's concept of operations (CONOPS) and progress toward attaining the military end state. A systems perspective of the operational environment strives to provide an understanding of significant relationships within interrelated political, military, economic, social, information, infrastructure, and other systems relevant to a specific joint operation. Among other benefits, this perspective helps intelligence analysts identify potential sources from which to gain indications and warning, and facilitates understanding the continuous and complex interaction of friendly, adversary, and neutral systems.

9.8 Warning Support - Military intelligence has the responsibility of communicating threat information to decision makers in order to avoid surprise. Avoiding surprise requires the timely dissemination of relevant information that causes a decision-maker to act in a way that prevents, avoids, or defeats an emerging threat. Warning support usually involves two steps:

- Identifying and defining a potential threat, and
- Monitoring the threat.

Warning support must be thought of as being necessary throughout all phases of acquisition lifecycle - from development to employment and sustainment.

9.9 Space Intelligence - Refers to intelligence information, infrastructure, or resources that provide space-specific intelligence analysis on foreign space capabilities ([Joint Publication 3-14, "Space Operations"](#)). The US military **continuously deploys space assets and space forces, enhancing military capability**. Joint Publication 3-14 establishes a framework for the use of space **capabilities and the integration of space operations into joint military operations**. Monitoring areas of interest **from space helps provide information on adversary location, disposition, and intent; aids in tracking, targeting, and engaging the adversary; and provides a means to assess these actions through tactical battle damage assessment (BDA) and operational combat assessment**. It also provides situational awareness, warning of attack, and feedback on how well US forces are affecting the adversary's understanding of the operational environment.

9.10 Intelligence Manpower - This category should be addressed if either the operational or support aspects of a program or the required support of a capability will require intelligence personnel for any and all phases (to include development, testing, training, and operation) of the acquisition lifecycle of a program. Depending on the maturity of the program, a Manpower Estimate or Manpower Estimate Report (MER) may have been completed; intelligence implications from that report should be included in the applicable CPD.

9.11 Intelligence Resource Support - This requirement category should be addressed if either the operational capabilities of the program or support capabilities will require, or depend upon, intelligence funding. In particular, if the program or capability will rely upon intelligence capabilities or systems that have not yet been provided dedicated funding, have not received necessary approvals to begin operations, or have not received approvals to remain operational, then these dependencies should be identified.

9.12 Collection Management Support - The requirement for collection management support refers to both management of collection assets and identification and management of intelligence information requirements. Generally speaking, the collection management process converts intelligence information requests into information requirements, validates the requirements (by ensuring the information is not already available), and then tasks collection assets to collect the validated information requirements. At the strategic and operational level, collection management support refers to the personnel, expertise, training, and the systems required to ensure intelligence collection assets (e.g., national, joint, coalition, multinational) are effectively employed to collect the information required. At the tactical level, collection

management support refers to the personnel, expertise, training, and systems required to ensure intelligence information requests are submitted through the appropriate channels, and that the information, once collected, is disseminated to the entity that made the original request and to all other end users requiring such information.

9.13 Signature Support - Refers to either the collection and measurement of unique, detectable characteristics (data) that describe or define specific equipment, events, or locations or the programs/algorithms required to make signature data useable. Signature data consists of the sum of data measurements associated with a specific adversary capability, system, or other type of target (equipment, location, event).

9.14 Counterintelligence Support - Refers to the process of gathering information on, and activities conducted to counter, adversary or other collection activities directed against US/allied forces, other intelligence activities, sabotage or terrorism conducted by, or on behalf of, foreign governments or elements thereof, foreign organizations, foreign persons or international terrorist entities. Counterintelligence support (CI support) refers to the intelligence information, infrastructure or resources used to educate acquisition communities on those threats. CI support also helps acquisition communities establish plans, tools, or techniques to protect designated science and technology information and critical program information from such threats.

9.15 Intelligence Training Requirements - Some programs may require intelligence personnel supporting a program or capability to receive specialized training to support part or all phases of a given program or the acquisition lifecycle of the capability. The training requirement may include training additional personnel in a new, unique training program that will be developed to support the program or capability. In either case, the requirement for specific training to support any phase of a program or the acquisition lifecycle of the capability must be identified, analyzed, and declared as soon as possible in the JCIDS process to permit sufficient lead time to develop personnel with the skills required to support the sponsor's program or capability.

9.16 Dissemination support - Although the movement toward net-centric environment has, to some extent, reduced the technical challenges related to information dissemination, intelligence infrastructure (such as intelligence networks, systems, and software) and intelligence resources (such as funded programs or manpower) nevertheless remain a critical (and necessary) means of information delivery. A measure of dissemination support is compliance with Intelligence Community (IC) and DOD data and data summary standards.

10.0 Weapons Safety Assurance

10.0 Weapon Safety Assurance (formerly Electromagnetic Environmental Effects (E3) and Spectrum Supportability)

Weapons Survivability - In accordance with JROCM 102-05, 20 May 2005, "Safe Weapons

NOTE: The CDTM Wizard labels paragraph 10 as "Weapons Survivability" but it prints out as "Electromagnetic Environmental Effects (E3) and Spectrum Supportability".

in Joint Warfighting Environments”, all munitions capable of being handled, transported, used, or stored by any Service in joint warfighting environments are considered to be joint weapons and require a joint weapons safety review in accordance with Appendix A to Enclosure D of the JCIDS Manual and JROCM 102-05, DODI 5000.69, and J8/Deputy Director for Force Protection (DDFP) Charter. The joint or multinational mission environment attributes and performance parameters must be addressed as the basis for the weapon safety endorsement. Identify, as specifically as possible, everything necessary to provide for safe weapon storage, handling, transportation, or use by joint forces throughout the weapon lifecycle, to include performance and descriptive, qualitative, or quantitative attributes. The CPD will address the following:

a. System Safety. Confirm the establishment of a System Safety Program (SSP) for the life cycle of the weapon system in accordance with DODD 5000.01 and MIL-STD-882. [DODI 5000.02](#) provides risk acceptance criteria for high, serious, medium, and low risks.

b. Insensitive Munitions. Confirm capability of resisting insensitive munitions (IM) threats per the established standardized IM protocols in accordance with JROCM 235-06 and MIL-STD-2105D. If munitions cannot meet all IM criteria, provide details of and rationale for proposed variances, for consideration during review for weapon safety endorsement.

c. Fuze Safety. Confirm compliance with the provisions of MIL-STD-1316E, “Fuze Engineering Safety Working Group (FESWG) requirements for the use of Logic Devices in the Implementation of Safety Features”, and FESWG Guideline for Qualification of Fuzes, Safety & Army (S&As), and Ignition Safety Device (ISEs). (Mr. Sidney Andrews, sidney.andrews@navy.mil.)

d. Explosive Ordnance Disposal. If munitions contain or deliver energetic material, confirm coordination with the Explosive Ordnance Disposal (EOD) research, development, test and evaluation (RDT&E) authority in accordance with [DODD 5160.62](#).

e. Demilitarization/Disposal. If the munitions contain or deliver energetic material, confirm that the weapon system has a Demilitarization and Disposal plan IAW with treaties, international agreements, Federal and state regulations and laws, and [DODI 500.02](#).

f. Laser Safety. If the munitions contain lasers, confirm that engineering design, protective equipment, administrative controls, or a combination thereof have been implemented in accordance with [DODI 6055.15](#), to protect and mitigate the risk to personnel from laser radiation to an acceptable level.

11.0 Technology and Manufacturing Readiness

11.0 Technology and Manufacturing Readiness

Discuss the program's critical technologies in accordance with [“DOD Technology Readiness Assessment Guidance”](#), specifically identifying any critical technologies linked to the

program's KPPs. Identify any manufacturing readiness challenges linked to the program's KPPs as cited in the Acquisition Strategy.

The Technology Readiness Assessment (TRA) is a formal, systematic; metrics based process and accompanying report that assesses the maturity of critical hardware and software technologies to be used in systems. It is conducted by an Independent Review Team (IRT) of subject matter experts (SMEs). A TRA is required by DODI 5000.02 for MDAPs at MS B (or at a subsequent Milestone if there is no MS B). Generally, TRAs are not required for MDAPs at MS C. The TRA planning process begins when the PM establishes a plan for conducting the TRA, typically after MS A. After the TRA plan is approved by the PEO and Component Acquisition Executive, it is provided to ASD(R&E) by the PM. The TRA should be finalized after Preliminary Design Review and at least 30 days before MS B.

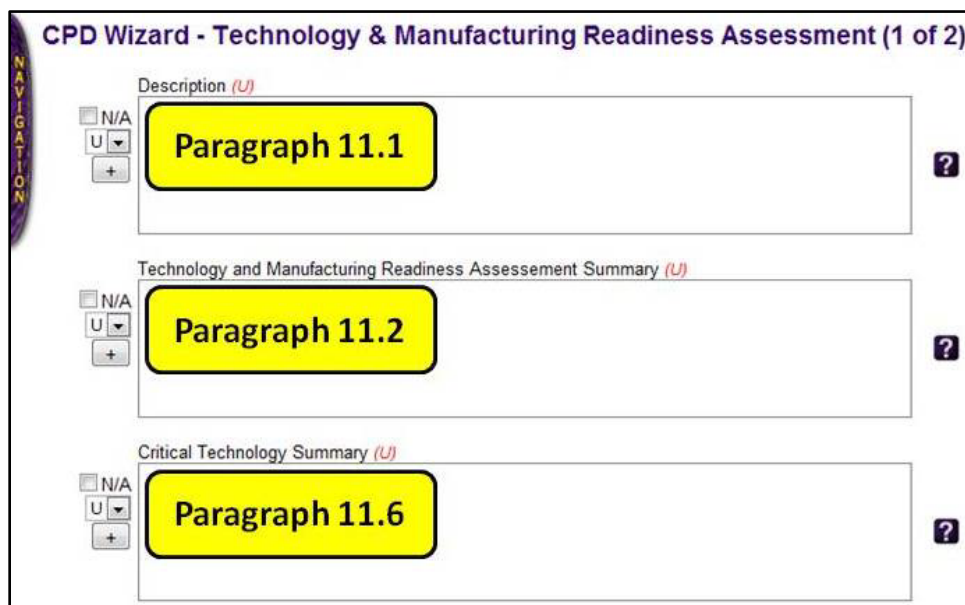


Figure 6: Para 11 TRA (1 of 2) Screenshot

11.1 Technical Readiness Assessment Description - Provide a short introduction that includes the program name, the system name if different from the program name, and the milestone or other decision point for which the TRA was performed. For example, “This document presents an independent TRA for the UH-60M helicopter program in support of the MS B decision. The TRA was performed at the direction of the Army S&T Executive.”

11.2 Technology and Manufacturing Readiness Assessment Summary - identify any critical technology elements linked to the program's key performance parameters. Identify who performed the technology readiness assessment, when it was accomplished, whether an independent technology readiness assessment is planned, and, if applicable, when the Deputy Under Secretary of Defense for Science and Technology (DUSD(S&T)) review of the program technology readiness assessment is planned. Specifically identify any manufacturing readiness challenges linked to the program's key performance parameters. Identify who performed the manufacturing readiness assessment, when it was accomplished, whether an

independent manufacturing readiness assessment is planned, and, if applicable, when the DUSD(S&T) review of the program manufacturing readiness assessment is planned.

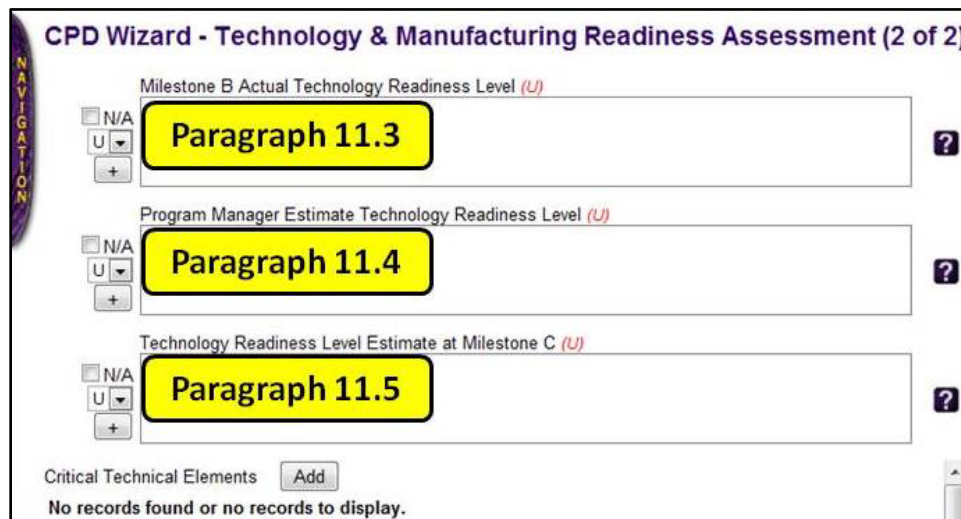


Figure 7: Para 11 TRA (2 of 2) Screenshot

11.3 Milestone B Actual Technical Readiness Assessment - Programs that enter the Engineering and Manufacturing Development (EMD) phase of the Defense Acquisition System and have immature technologies will incur cost growth and schedule slippage. Therefore, Title 10 United States Code (U.S.C.) Section 2366b requires, in part, that the MDA certify that the technology in MDAPs, including space MDAPS, has been demonstrated in a relevant environment (TRL 6) before Milestone B approval. MDAs for non-ACAT I programs may require TRAs for those programs when technological risk is present.

11.4 Program Managers' Estimate of Technical Readiness Level (TRL) Today - TRLs are not a measure of design validity. Rather, they indicate a level of maturity at the time of CTE measurement. They do not indicate the difficulty in achieving the next TRL level. CTEs should be identified and assessed under the assumption that the design—developed as part of the systems engineering approach—is adequate for the performance of the required functions.

11.5 Technology Readiness Level Estimate at Milestone C - MS C marks approval to enter low rate initiation production (LRIP) for hardware systems and suggested limited deployment in support of operational testing for MAIS programs or for software-intensive systems that have no production components. TRL 7 or higher is the expected state of technology maturity at Milestone C.

11.6 Critical Technology Summary - Discuss the program's critical technology elements in accordance with [“DOD Technology Readiness Assessment Guidance”](#).

Critical Technology Element Table - Select a Critical Technology Element from the pick-list or click the "Add New Critical Technology Element" button to open a new template.

12.0 Assets Required to Achieve FOC

Describe the types and quantities of assets required to attain FOC. Identify the operational units (including other DOD Components or government agencies, if appropriate) that will employ the capability and define the asset quantities (including spares, training, and support equipment, if appropriate) required to achieve FOC.

CPD Wizard - Asset Required to Achieve FOC

Asset Type Description (U)
 N/A U + Paragraph 12.1

Operational Units Employing Capability (U)
 N/A U + Paragraph 12.2

Initial Quantity Required: 1 Paragraph 12.3
Expected Date:

Asset Summary (U)
 N/A U + Paragraph 12.4

Figure 8: Para 12 Asset Required to Achieve FOC Screenshot

12.1 Asset Type Description - Describe the type of asset required to attain FOC.

12.2 Operational Units Employing the Asset - Identify the operational units (including other services or government agencies, if appropriate) that will employ the capability.

12.3 Quantity Required and Date Expected - Define the initial asset quantities (including initial spares and training and support equipment, if appropriate) needed to achieve FOC to achieve low rate initial production (LRIP). Enter the date that the asset is required to meet the FOC goal.

12.4 Asset Summary - Provide a summary of the asset required to achieve full operational capability.

13.0 Initial Operating Capability (IOC) and FOC Schedule Definitions

13.0 IOC and FOC Schedule Definitions

Define what actions, when complete, will constitute attainment of IOC and FOC of the current increment. Specify the target date for IOC and FOC attainment based on discussions and coordination with the acquisition community.

13.1 IOC Definition - Define what actions, when complete, will constitute attainment of the IOC of the current increment.

Target Date - Provide the date that all units and assets are to be ready to achieve the IOC. Indicate the quarter and the fiscal year of IOC.

13.2 FOC Definition - Define what actions, when complete, will constitute attainment of FOC of the current increment.

CPD Wizard - Schedule and IOC and FOC

Initial Operational Capability (IOC) Definition (U)

N/A
 U

Paragraph 13.1

Quarter Fiscal Year ?

Full Operational Capability (FOC) Definition (U)

N/A
 U

Paragraph 13.2

Quarter Fiscal Year ?

Figure 28: Para 13 Schedule and IOC and FOC Screenshot

Target Date - Provide the date that all units and assets are to be ready to achieve FOC. Indicate the quarter and the fiscal year of FOC.

14.0 Other DOTmLPF-P Considerations

14.0 Other DOTmLPF-P Considerations.

DOTmLPF-P – changes should be considered from two perspectives:

- 1 – **Enabling** - changes that enable the implementation, operations and support of the specific system;
- 2 – **Integrating** – changes that must be made to support integration of this system with existing capability solutions.

Clearly differentiate which kind of DOTmLPF-P changes are necessary.

- a. Discuss any additional DOTmLPF-P implications associated with fielding the system, to include those approaches that would impact CONOPS or plans within a CCMD area of responsibility. Describe the implications for all recommended changes.
- b. Highlight the status (timing and funding) of the other DOTmLPF-P considerations.
- c. Describe, at an appropriate level of detail, the key logistics criteria, such as system reliability, maintainability, transportability, and supportability that will help minimize the system's logistics footprint, enhance mobility, and reduce the total ownership cost. Also discuss energy demand impacts, including fuel and/or electrical power, if applicable.
- d. Detail any basing needs (forward and main operating bases, institutional training base, and depot requirements).
- e. Specify facility, shelter, supporting infrastructure, and Environment, Safety, and Occupational Health (ESOH) asset requirements, and the associated costs, availability, and acquisition MS schedule(s) related to supporting the system.
- f. Describe how the systems will be moved either to or within the theater. Identify any lift constraints.

CPD Wizard - DOTMLPF (1 of 2)

Summary (U)
 N/A
 U
 +
 Paragraph 14.0

Doctrine (U)
 N/A
 U
 +
 Paragraph 14.1

Organization (U)
 N/A
 U
 +
 Paragraph 14.2

Training (U)
 N/A
 U
 +
 Paragraph 14.3

CPD Wizard - DOTMLPF (2 of 2)

Materiel (U)
 N/A
 U
 +
 Paragraph 14.4

Leadership (U)
 N/A
 U
 +
 Paragraph 14.5

Personnel (U)
 N/A
 U
 +
 Paragraph 14.6

Facilities (U)
 N/A
 U
 +
 Paragraph 14.7

Policy Issues (U)
 N/A
 U
 +
 Paragraph 14.8

Figure 99: DOTMLPF 2-page Screenshot

NOTE: Use the question sets as examples to help you identify potential implications. YOU DO NOT have to answer each question. If other information comes to mind that has an impact but not covered in the provided sample questions, then address those issues under the appropriate subparagraph within paragraph 14.

14.1 Doctrine - The way we fight, e.g., emphasizing maneuver warfare combined air-ground campaigns. A fuller definition is "Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application."

Sample Question Set for Doctrine	
1	What doctrinal development work remains to support the institutionalization of this capability?
2	Which proponent(s) has the lead to develop this doctrine/TTP?
3	What are the timelines for the doctrine development?
4	What new TTPs or modification to existing TTPs have been done to support introduction of this capability to the force?
5	Was the TTP/doctrine work done within existing resources? What additional resource is required?
6	Are there any joint doctrine/TTP implications?

14.2 Organization - How we organize to fight; divisions, air wings, Marine-Air Ground Task Forces (MAGTFs), etc.

Sample Question Set for Organization	
1	What organization will operate this equipment? Does it require a new organization or a modification to a current organization? What changes are required for the TOE?
2	Does the proposed change warrant a Force Development Update (FDU)? If so, who will coordinate with ARCIC FDD?
3	Can an existing organizational task be changed to provide resources to execute this mission and what is the impact on the organization, if any?
4	What units will provide logistic support to these organizations? Will this require new units, or can existing maintenance/logistics organizations support this capability? Does the support organization require augmentation? Will this require Contractor Logistics Support (CLS)? What are the estimated costs (paragraph 16)?
5	What is the total potential requirement for new organizations?
6	Which organization is responsible to implement these changes?
7	Are there joint organizational considerations for employing this capability, e.g., would the combatant commander be better served by a joint-manned capability?
8	Does this capability suggest creation of a new Military Occupation Specialty (MOS) or Special Skill Identifier (SSI)? If so, what "describes" that new MOS or SSI

9	If a new MOS or SSI is not required, what MOS/SSI has the appropriate competencies to best employ this capability?
---	--

14.3 Training - How we prepare to fight tactically; basic training to advanced individual training, various types of unit training, joint exercises, etc. The approved STRAP is the comprehensive source of training detail and guidance used to develop this section.

Sample Question Set for Training	
1	Will training be executed by a contractor support team, by a mobile training team, by a unit training system or by a school? If conducted by some combination of these approaches, what will the schedule be for transitioning between the options? (STRAP, see paragraph 5)
2	What school(s) will take the lead to implement this training? (STRAP, see paragraph 6.1)
3	How many courses will be added to the curriculum? (STRAP, see paragraphs 6.1.1.2.2 & 7.1.1.2.2 & 8.1.1.2.2.)
4	Is there a joint training requirement (e.g., training for other Services)? (STRAP, see paragraphs 6.1.3.1.7 & 7.1.3.1.7 & 8.1.3.1.7)
5	Does this capability suggest creation of a new Military Occupation Specialty (MOS) or Special Skill Identifier (SSI)? If so, what “describes” that new MOS or SSI? And, what are the most critical training support requirements, timelines, and resources? (STRAP, see paragraph 2.0)
6	If a new MOS or SSI is not required, what MOS/SSI has the appropriate competencies to best employ this capability? (STRAP, see paragraph 2.0)
7	Are additional Army resources needed by the school to support training? If so, Paragraph 16 (STRAP, see paragraphs 6.1.3.3.1 & 7.1.3.3.1 & 8.1.3.3.1)
8	How many additional instructors are required to support the training? Is additional Army resourcing required? If so, Paragraph 16 (STRAP, see paragraphs 6.1.3.3.1 & 7.1.3.3.1 & 8.1.3.3.1)
9	Is additional Army resources required to support course development? If so, Paragraph 16 (STRAP, see paragraphs 6.1.3.3.1 & 7.1.3.3.1 & 8.1.3.3.1)
10	What Training Aids, Devices, Simulators, and Simulations (TADSS) will be required to support training? (STRAP, see paragraphs 6.1.1.3 & 7.1.1.3) What modifications to existing TADSS are required? What are the estimated costs? List in Paragraph 16. (STRAP, see paragraphs 6.1.3.3.1 & 7.1.3.3.1 & 8.1.3.3.1)
11	What additional facilities (storage, operations, and maintenance) are required to support new or modified TADSS (STRAP, see paragraphs 6.1.1.4 & 7.1.1.4) What are the estimated costs? List in Paragraph 16. (STRAP, see paragraphs 6.1.3.3.1 & 7.1.3.3.1 & 8.1.3.3.1)
12	Will training be required for support or maintenance personnel? Where will this training be conducted? (STRAP, see paragraphs 2 & 5)
13	What is the projected total cost and timelines for the training support required to field this capability in the Army? List in Paragraph 16. (STRAP, see paragraphs 6.1.3.3.1 & 7.1.3.3.1 & 8.1.3.3.1)
14	What is the projected total cost and timelines to support training for other Services? List in Paragraph 16. (STRAP, see paragraphs 6.1.3.3.1 & 7.1.3.3.1 & 8.1.3.3.1)

14.4 Materiel - All the "stuff" necessary to equip our forces, that is, weapons, spares, etc., so they can operate effectively. Describe, at an appropriate level of detail, the key logistics criteria, such as system reliability, maintainability, operational availability, and supportability

that will help minimize the system’s logistics footprint, enhance its mobility, and reduce the total ownership cost.

Sample Question Set for Material

1	Does this system require new (or modifications to current) materiel systems in order to enable the total capability, e.g., new C2 software for Army Battle Command System (ABCS) to accompany new sensor platform?
2	Will the acquisition of this capability result in other materiel impacts or special Package, Handling, and Storage (PHS) requirements (e.g., additional lines of ammunition, fuel, batteries, power sources, etc.)?
3	Are there ecological or hazardous waste issues that will result from this acquisition?
4	Can it be deployed within existing transportation assets, or does it require outsized/oversized lift capability?
5	Will other systems or subsystems have to be developed or modified to support this equipment (e.g., radio mounts/night vision equipment/crew served weapons mounts)?
6	Does this system operate on a network or frequency that will potentially interfere with other systems in the Army? Does it potentially interfere with systems in other Services?
7	Does the C2 for this system require an interface with existing C2 systems? What systems? What are the architecture requirements?
8	What is the cost associated with the materiel impacts of this system?
9	Should there be a formal review of the potential legal implications of using this technology? Who will coordinate for that review and on what timeline?
10	Do supporting organizations have proper and adequate numbers of support equipment, tools, TMDE, etc.?
11	Does the system transmit or receive information/data with other than ancillary C4ISR systems, i.e. SINCGARS, EPLRS, FBCB2, etc?
12	Which organization should take the lead to resolve these issues?
13	Are all integrated logistics support preparations in place for IOC and FOC?

Logistics. Use the guide below in crafting Logistics considerations.

NOTE: This should be considered an “a la carte” menu. Only choose those areas where you have something to say. Do not use the subparagraph heading followed by NA.



Logistics
Supportability Guide.c

Insert 3: Logistics Supportability Guide

Maintenance

Maintenance/Support Concept

<p>The maintenance concept. (Logistics Supportability Guide (LSG), see page 3, paragraph 1a) If CLS or ICS is initial source of system support. (LSG, see page 4, paragraph 1b) Level of Repair Analysis. (LSG, see paragraph 4, paragraph 1c) Provisioning Plan. (LSG, see page 4, paragraph 1d) Supportability Test & Evaluation Program. (LSG, see page 4-5, paragraph 1e) Performance Based Logistics (PBL) and Performance Based Agreements (PBA) Requirements. (LSG, see page 5, paragraph 1f)</p>
<p>Maintenance Manpower Support. Current vs. New MOS Requirements. (LSG, see page 6, paragraph 2a) Force Structure Implications. (LSG, see page 6, paragraph 2b) Table of Organization and Equipment (TO&E)/Modified TO&E (MTO&E) Changes. (LSG, see page 6, paragraph 2c) Supply, Ammunition, POL support requirements: (LSG, see page 6, paragraph 2d) Human Factors Engineering: (LSG, see page 6, paragraph 2e)</p>
<p>Supply Support: (LSG, see page 7, paragraph 3a)</p>
<p>Support Equipment Test, Measurement and Diagnostic Equipment (TMDE): (LSG, see page 8, paragraph 4a) Calibration requirements: (LSG, see page 8, paragraph 4b) Material Handling Equipment (MHE) or Container Handling Equipment (CHE) Requirements. (LSG, see page 8, paragraph 4c) Specialized or Standard Shelters: (LSG, see page 8, paragraph 4d) Vehicle Recovery: (LSG, see page 8, paragraph 4e) Standard or Unique Support Requirements (When Applicable). (LSG, see page 9 , paragraph 4g)</p>
<p>Technical Data. (Logistics Supportability Guide, see page 9, para 5 a)</p>
<p>Computer Resource Support: (LSG, see page 12, paragraph 7)</p>
<p>Facilities: (LSG, see pages 12-13, paragraph 8)</p>
<p>Packaging, Handling, Storage and Transportability Storage and Preservation: (LSG, see page 13, paragraph 9a) Containerization Requirements: (LSG, see page 13, paragraph 9b) Transportability Modes Analysis: (LSG, see page 14, paragraph 9c) Hazardous Materials Requirements: (LSG, see page 14, paragraph 9d) Other Special Handling Requirements: (LSG, see page 14, paragraph 9e)</p>
<p>Design Interface. Safety & Health Issues for Use and Maintenance: (LSG, see pages 14-15, paragraph 10a) Built in Test (BIT)/ Built In Test Equipment (BITE) Requirements: (LSG, see page 15, paragraph 10b) Standardization and Interoperability (LSG, see page 15, paragraph 10c)</p>
<p>Conditions Based Maintenance Plus (CBM+): (LSG, see pages 15-18, paragraph a-f).</p>
<p>Common Logistics Operating Environment (CLOE): (LSG, see pgs 18-20, paragraph g).</p>
<p>Life Cycle Sustainment (LCS) Metrics: (LSG, see page 20).</p>
<p>Reliability, Availability and Maintainability (RAM). Materiel Availability Key Performance Parameter (KPP): (LSG, see page 21, paragraph a) Materiel Reliability: (LSG, see page 21, paragraph b) Maintainability (Field Level): (LSG, see page 22, paragraph c) Maintenance Ratio: (LSG, see page 22, paragraph d) Maintainability (Sustainment Level): (LSG, see page 22, paragraph e) Platform Re-Generation (PRG): (LSG, see page 23, paragraph f)</p>

Platform Re-Generation-Maximum (PRG-M): (LSG, see page 23, paragraph g)

Corrosion Prevention and Control (CPC). CPC is a critical consideration in assuring the sustained performance, readiness, economical operation and service life of Army systems and equipment. It requires active consideration in the materiel development, acquisition, fielding, operation, and storage processes. CPC requires life cycle management planning and action in design, development, testing, fielding, training, and maintenance. The Product Manager for [XXXXXXXXX capability](#) is responsible for ensuring that a suitable corrosion prevention strategy is in place for the [XXXXXXXXX capability](#) in accordance with AR 750-59, Army Corrosion Prevention and Control Program.

Item Unique Identification (IUID). IUID is a DOD initiative that will enable easy access to information about DOD possessions that will make acquisition, repair, inventory, and deployment of items faster and more efficient. The implementation of IUID requirements means that qualifying items must be marked with a Unique Item Identifier (UII) in accordance with the DOD Guide to Uniquely Identifying Items. Specifically, MIL STD 130 <http://www.acq.osd.mil/dpap/pdi/uid/attachments/MIL-STD-130N-20080111.pdf> requires that all [XXXXXXXXX capability](#) qualifying components, to include legacy components that transition through organic depots, must be marked with a UII in the form of a machine readable 2D Data Matrix, the contents of which will be encoded in the syntax of ISO/IEC 15434 and the semantics of ISO/IEC 15418 or the Air Transport Association (ATA) Common Support Data Dictionary (CSDD). All 2D Data Matrix bar codes must meet the verification standards for mark quality as established in ISO 15415 and SAE AS9132.

Support Equipment. It is highly desirable that no new Test, Measurements and Diagnostic Equipment (TMDE) or Associated Support Items of Equipment (ASIOE) be required for the [XXXXXXXXX capability](#). TMDE (4348) and ASIOE requirements will be validated through the establishment of the maintenance concept. If required, new TMDE or ASIOE (compatible at field level with existing TMDE) will be funded, developed and fielded under the [XXXXXXXXX program](#) to include expanded BOIP fielding of the Maintenance Support Device (MSD).

14.5 Leadership and Education - How we prepare our leaders to lead the fight from squad leader to 4-star general/admiral; professional development.

Sample Question Set for Leadership and Education

1	What new leadership training is required (if any)?
2	What changes to existing leader courses are required?
3	Are unit level professional development (PD) courses required? If so, what are they?
4	Are there cultural barriers or drivers to overcome?
5	What resources are required to enable leadership to use this capability?
6	Which school/organization will be responsible for implementing these changes?
7	What is the timeline required to develop leaders to use the capability?
8	Are all leadership and education requirements in place for IOC and FOC?

14.6 Personnel - Availability of qualified people for peacetime, wartime, and various contingency operations.

Sample Question Set for Personnel

1	Will there be a requirement for additional personnel to operate this equipment or can it be fielded within existing personnel limits?
2	Do the Soldiers have the necessary skills to operate the equipment (and support equipment)?
3	What are the likely personnel implications (MOS/SSI designations) for: <ul style="list-style-type: none"> • Primary Users • Maintenance Personnel • Support Personnel
4	Will contract personnel support this equipment? How many are required per unit? What is the anticipated yearly cost of this support across the Army?
5	Are there any Training, Transient, Hospital, and School (TTHS) implications?
6	Which office/agency is responsible to resolve the issues and what is the timeline to resolve the personnel challenges associated with delivering this capability to the Army?
7	What personnel changes are required for the TOE and TDA?

Human System Integration/MANPRINT.

a. **Manpower.** State manpower constraints (if any). For example: Introduction of the **XXXXXXXXX capability** shall not increase the overall number of personnel, both, military and civilian, required to operate, maintain, and support the item.


b. **Personnel.** State MOS constraints (if any). For example: The operation, maintenance, and support of the **XXXXXXXXX capability** shall not require aptitudes, skills, or capabilities beyond those currently present in the user population.

c. **Training.** State training requirements for host station, NET, and field refresher training as required including resources required to meet training levels. For example: The instruction and resources required providing the Warfighter and maintainer with knowledge, skills and abilities in proper operation, maintain, and support Army systems shall not significantly increase due to the introduction of the **XXXXXXXXX capability**.

d. **Human Factors Engineering.** The **XXXXXXXXX capability** design shall promote effective Soldier-machine integration for optimal total system performance. Design principles taking into account human capabilities and limitations shall be incorporated into system definition, design, development, and evaluation. This includes concepts of human-computer interface (e.g., ease of perception and comprehension of displays, ease of use of controls) and compatibility of **XXXXXXXXX capability** with other mission-essential equipment (including but not limited to use with standard combat gear, CBRN, and environmental clothing). The **XXXXXXXXX capability** should not interfere with the performance of common Soldier tasks. Equipment design must consider mission-dependent tasks and demands through consultation with SMEs, in order to maximize ease of use, minimize workload and enhance mission performance.

Note: The seven MANPRINT domains are:

1. Manpower
2. Personnel
3. Training
4. Human Factors Engineering
5. System Safety
6. Health Hazards
7. Soldier Survivability




e. **System Safety.** State appropriate System Safety requirements to include any regulatory requirements the system must meet. For example “The XXXXXXXX capability design and operational characteristics shall minimize the possibilities for accidents or mishaps caused by human error or system failure. Safety, health, environmental, fire, and ergonomic hazards associated with the use, maintenance, transportation, storage, handling, and demilitarization of the XXXXXXXX capability will be identified, evaluated/assessed, and mitigated or controlled to an acceptable level. The resolution of all hazards will be formally documented through a hazard tracking system and the risk associated with the residual hazard, if any, will be accepted by the designated approving authority IAW [AR 385-10, The Army Safety Program](#) and [DA Pam 385-16, System Safety Management Guide](#).”

f. **Health Hazards.** Insert the following statement “A Health Hazard Assessment (HHA) will be requested from the U.S. Army Public Health Command (USAPHC) early in the development or procurement process. This HHA will be updated at each Milestone Decision Review (MDR) as required by AR 40-10.”

Sample Health Hazard Statement

Through the systematic application of biomedical knowledge to identify, assess and minimize health hazards associated with the system’s operation, maintenance, repair or storage, the [XXXXXXX capability](#) shall not present any uncontrolled health hazards to the operator or maintainer through its service lifetime.



g. **Soldier Survivability.** State other survivability requirements applicable to the system which are different than those which may be included as a KPP.

14.7 Facilities - Real property; installations and industrial facilities (e.g. government owned ammunition production facilities) that support our forces. Detail any basing needs (forward and main operating bases, institutional training base, and depot requirements). Specify facility, shelter, supporting infrastructure, ESOH asset requirements, and the associated costs and availability milestone schedule that support the capability or system. Describe how the system(s) will be moved either to or within the theater and identify any lift constraints.

Sample Question Set for Facilities	
1	What changes to the facilities in the supporting schools will have to be made to support training?
2	Does this require any new, modified, or special facilities at either the unit or support levels?
3	Are current range capabilities adequate to support training requirements associated with this capability? (i.e., firing range, maneuver range, flight range)
4	Will current motor pool, storage facilities, and other facilities support this equipment?
5	Which organization will take the lead to coordinate these changes?
6	Are there facilities considerations for Joint manned/operated capabilities?
7	What additional facilities (storage, operations, and maintenance) are required to support new or modified TADSS?

14.8 Policy Issues - Discuss other policy issues that may affect the development of this capability. Discuss any additional DOTmLPP-P implications associated with fielding the system that have not already been addressed in the CPD, to include those approaches that would impact CONOPS or plans within a combatant command's area of responsibility.

Sample Question Set for Policy Issues

1	Will fielding the capability require any changes to existing policy articulated in Army Regulations or other authoritative sources, i.e. Joint Instructions, DOD Directives, NATO STANAGs, etc?
2	Are there any changes in public law required?

Leverage your CDD paragraph 14 assessment and update as required. Most of these considerations should already be developed or in the works. This update will help the leadership be confident that these factors were not overlooked and priced to reflect the total cost of the program before CPD approval.

Please connect the dots from this paragraph to paragraph 16, Program Affordability.

Example #1: If any of costs associated with the domain considerations below will require funding sources beyond an organization's internally funded mission; those estimated costs should be cited in paragraph 16.

Example #2: Schools get funded for certain curriculum development efforts and to provide a certain number of platform instructors, but they may need additional Army funding to support efforts beyond TRADOC's ability to resource.

15.0 Other System Attributes

Other System Attributes - Address any other attributes not previously identified, especially those that tend to be design, cost, or risk drivers, including but not limited to the following:

15.1 Anti-tamper, embedded instrumentation, electronic attack, and wartime reserve mode requirements.

15.2 Human System Integration(HSI)/MANPRINT considerations that have a major impact on system effectiveness, suitability, and affordability.

15.3 Natural environmental factors - Address natural environmental factors (climatic design type, terrain, meteorological and oceanographic factors, impacts and effects); and unplanned



stimuli (such as fast cook-off, slow cook-off, bullet impact, fragment impact, sympathetic detonation, and shape charge jet). Define the mission capability (e.g. full, percent degraded) in the various environments. Include applicable safety parameters, such as those related to system, nuclear, explosive, and flight safety.

15.4 Expected level of capability provided in various mission environments, if degraded relative to KPPs, KSAs, and additional performance attributes articulated in Section 6 of the CPD. Include applicable safety parameters, such as those related to system, nuclear, explosive, and flight safety.

15.5 Physical and operational security needs - Identify physical and operational security needs.

15.6 Weather, oceanographic, and astro-geophysical support - When appropriate, identify the weather, oceanographic and astro-geophysical support needs throughout the program's expected life cycle. Include data accuracy and forecast needs.

15.7 Information protection standards - For intelligence, surveillance, and reconnaissance (ISR) platforms, address information protection standards. Address the need for geospatial data and information to be collected, stored, fused, analyzed, and disseminated from peer to peer and from echelon to echelon, down to the individual Soldier.

15.8 Allied and coalition support – For systems that may be used in combined allied and coalition operations, issues relating to the potentially applicable US-ratified international standardization agreements. Provide an initial indication of which ones will be incorporated in the derived system requirements, in accordance with [DODD 8320.02](#) and [DODI 2010.06](#). Describe the non-information technology/national security system capabilities required for allied and coalition operations, identify the potentially applicable US-ratified international standardization agreements, and provide an initial indication of which ones will be incorporated in the system requirements.

15.9 CBRN environment - Whether or not the system must be able to survive and operate through CBRN environments in accordance with [DODI 3150.09](#). In the event the mission requires CBRN survivability, as defined in DODI 3150.09, consider elevating this attribute to be a KPP. If the system is covered under [DODD S-5210.81](#), nuclear survivability must be designated a KPP. As applicable, address operational and maintenance issues related to ensuring continuing hardness against CBRN environments.

Ground Mobility Analysis and Geospatial requirements. Address the need for geospatial data and information to be collected, stored, fused, analyzed, and disseminated from peer to peer and from echelon to echelon, down to the individual Soldier.



Ground Mobility
Instructions.docx

Insert 4: Ground Mobility Instructions

16.0 Program Affordability

16.0 Program Affordability

The affordability determination is made as part of the cost assessment in the analysis supporting the CPD development, which may include updates to earlier cost analyses. This paragraph is a final check to see if all requirements are expressed, linked, and synchronized so the Army leadership can make an informed decision. Show cost factors used to determine ACAT level, per [DODI 5000.02](#). Each CPD must contain: a life cycle or total ownership cost estimate, an affordability table, and the source (or proposed source) of funding. The tables below are mandated by HQDA G8 as promulgated in [AR 71-9, Warfighting Capabilities Determination](#), 28 Dec 09, paragraph 4-7 and table C-1.

The screenshot displays the 'CPD Wizard - Program Affordability' window. At the top, there are two radio buttons: 'Life-Cycle Cost' (selected) and 'Total Ownership Cost'. Below this, there are three sections, each with a title and a text input field. The first section is 'Threshold (U)' with the text 'Paragraph 16.1'. The second is 'Objective (U)' with 'Paragraph 16.2'. The third is 'Discussion (U)' with 'Paragraph 16.3'. To the left of each text field are three controls: a checkbox labeled 'N/A', a dropdown menu with 'U' selected, and a '+' button.

Figure 30: Paragraph 16 - Program Affordability Screenshot

16.1 Threshold - The cost figure should be stated in terms of a threshold capability (not necessarily a KPP) to provide flexibility for program evolution and cost as an independent variable (CAIV) tradeoff studies.


16.2 Objective - The cost figure should be stated in terms of an objective capability (not necessarily a KPP) to provide flexibility for program evolution and cost as an independent variable (CAIV) tradeoff studies.

16.3 Discussion - The affordability determination is made as part of the cost assessment in the analysis supporting the CPD development. Cost will be included in the CPD as life-cycle cost

Note: The required tables from AR 71-9 do not lend themselves to the delineation of individual DOTMLPF-P affordability issues. In fact, some of these affordability issues lay outside the program from an APB standpoint (hence Table 9 below, as extracted from Figure C-1 of AR 71-9). Use Table 8 to record ALL DOTMLPF and policy costs that are **directly related to the program** (the program means the APB). Use table 9 to capture DOTMLPF-P costs **outside the program** (APB).

or, if available, total ownership cost, and will include all associated system(s) DOTMLPF-P costs. Inclusion of cost allows the sponsor to emphasize affordability in the proposed program. In addition, the discussion on affordability should articulate the CPD sponsor funding level estimates for developing, producing, and sustaining the desired capability. Provide rationale for the level of funding required. Cite applicable cost analyses conducted to date.

- a. Describe life-cycle cost in table 7 (include all associated DOTMLPF-P costs). State cost in terms of a threshold and objective capability (not necessarily a KPP) to provide flexibility for program evolution and cost as an independent variable tradeoff studies.



DASA-CE guidance is that resources expressed as “Then Year” dollars are not acceptable. All costs should be expressed as Base Year (BY) \$.

Life-Cycle Costs
(e.g., \$M, BY20xx)

Objective	Threshold
\$	\$

Table 7: Life-Cycle or Total Ownership Costs

- b. Program Affordability. Use table 16-2 to record ALL DOTMLPF-P costs that are directly related to the program (the program means the APB). This includes the big “M” and the associated DOTMLPF-P. For example, systems TADSS goes here.

The Army program affordability table will specify all DOTMLPF-P funding costs directly related to the program (APB) required by fiscal year (FY) over the future years defense program/plan for research, development, test, and evaluation (RDT&E), procurement, sustainment, and any unfunded requirements (UFR). Program funding is shown in the most recent POM and/or the President’s budget or identified during the POM process. This matrix will support Army leadership making informed decisions on whether to move funding for this program

(dollar-level, base year)	APPN	APE	FY xx	FY xx	FY xx	FY xx
RDT&E						
Funding						
UFR						
Procurement Cost						
Funding						
UFR						
Sustainment Cost						
Funding						
UFR						
Total UFR						

Table 8: Program Affordability

c. Describe the source of funding and applicable cost analysis conducted to date.

Resources Required	FY xx (e.g. 12)	FY xx (e.g. 13)	FY xx (e.g. 14)	FY xx (e.g. 15)	FY xx (e.g. 12)	FY xx (e.g. 12)	FYDP Total	Life Cycle Cost
Resources (\$M)								
O&M								
RDT&E								
Procurement								
Manpower								
MILCON								
Total Funding								

Table 9: Summary of Resources Required

Program and Budgeting (Optional)

Programming and Budgeting - Programming includes the definition and analysis of alternative force structures, weapon systems, and support systems together with their multi-year resource implications and the evaluation of various tradeoff options. Budgeting includes formulation, justification, execution, and control of the budget. This information is currently optional for completing the CPD.

CPD Wizard - Program and Budgeting (Optional)

Presidential Budget (Fiscal Year) 0 ?	Reported Fiscal Year 0 ?
Current RDT&E \$ 0 ?	Required RDT&E \$ 0 ?
Current Procurement \$ 0 ?	Required Procurement \$ 0 ?
Current Operations and Maintenance \$ 0 ?	Required Operations and Maintenance \$ 0 ?
Quantity 0 ?	Unit of Issue ?

Optional Screen – DOES NOT PRINT (Future Capability)

Figure 31: Program and Budgeting (Optional) Screen

Executive Summary



Page ii: Executive Summary

An executive summary, **not to exceed 1 page**, shall follow the cover page and precede the body of the completed CPD. The Executive Summary Section of the CPD wizard contains a field to provide a short summarization of the CPD that covers the key points, including background information, analysis and conclusion. It should not be a direct lift from main body of the document (paragraph 1.1).

CDTM NOTE: Even though this module is almost the last module in the CDTM Wizard, the Executive Summary will print after the cover page of the document in the final product.

Mandatory Appendices

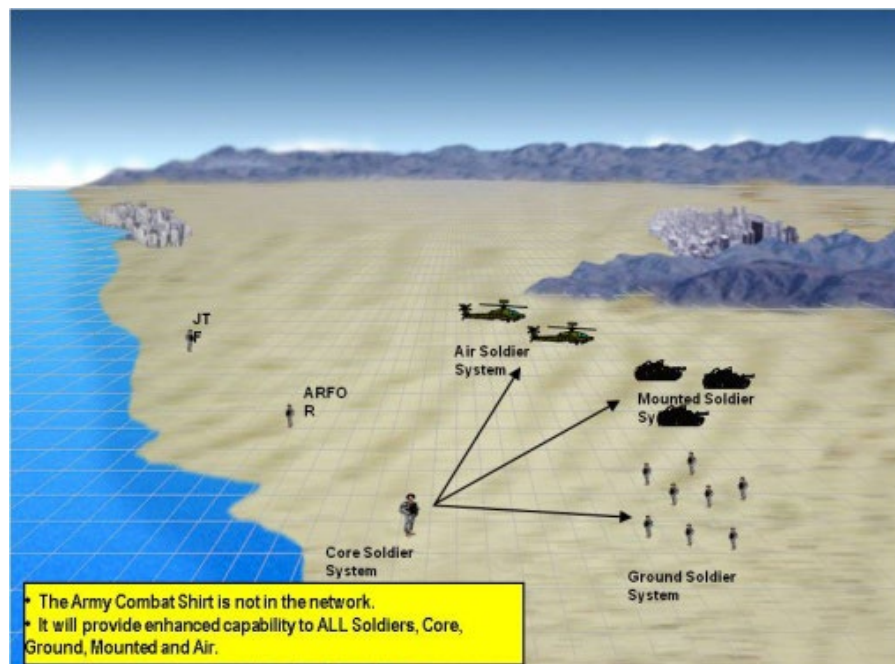
Appendix A - Net-Ready KPP Architecture Data

Net-Ready KPP Architecture Data. Include the link(s) to the architecture repository for the required NR KPP architecture data identified in the [JCIDS Manual](#) (Appendix F to Enclosure B, Table B-F-3).

Enter NR-KPP text in this block. The NR-KPP is composed of the following elements:

1. Compliant solution architecture,
2. Compliance with DOD Net-centric Data and Services strategies, including data and services exposure criteria,
3. Compliant with applicable GIG Technical Direction to include DISR mandated IT Standards reflected in the TV-1 and implementation guidance of GIG Enterprise Service Profiles (GESPs) necessary to meet all operational requirements specified in the DOD IEA and solution architecture system/service views,
4. Verification of compliance with DOD information assurance requirements, and
5. Compliance with Supportability elements to include, Spectrum analysis, Selective Availability Anti-Spoofing Module (SAASM) and the Joint Tactical Radio System (JTRS).

Appendix A – Graphics and Attachments



At a minimum, you should have a High-Level Operational Concept Graphic (OV-1), even if the capability does not have a NR-KPP and doesn't require all architecture views. Other than the OV-1, do not include the NR KPP architecture data unless specifically referenced for illustration purposes elsewhere in the body of the CPD.

a. [CJCSI 6212.01E, Interoperability & Supportability of Information Technology and National Security Systems](#), 15 Dec 08, significantly changed the content of appendix A. The table on page E-19 provides a summary of required NR-KPP elements.

b. All views included should have accompanying text to highlight the salient point of the architecture view as mandated by the [DOD Architecture Framework \(DODAF\)](#).

c. If the OV-1 is the only view included in the appendix, add the following statement "This capability has no C4I interface with any other system or capability. The NR-KPP is not applicable. The architecture enclosed supports and underpins the CONOPS discussion in paragraph 3."

d. If you are developing the full NR-KPP, the following products are mandatory and should appear in the NR-KPP: [Figure 32: OV-1 Example](#)

(1) NR-KPP compliance statement, copy and paste the KPP description, threshold, and objective from Table E-2, CJCSI 6212, 15 Dec 08. The compliance statement does not have to appear in both paragraphs 6 and Appendix A. If included in paragraph 6, provide a statement in Appendix A identifying where the statement is located.

(2) Compliance with Net-Centric Data and Services Strategy. Include Exposure Verification Tracking Sheets as necessary.

(3) Global Information Grid (GIG) Technical Guidance (GTG). Information on GTG can be found at https://www.intelink.gov/wiki/Portal:CJCSI_6212_Resource_Page. GIG Technical Profiles (GTP) has replaced Key Interface Profiles (KIP). Use the table below which includes the 8 approved GTPs. Only fill out the rows that apply to the capability you are producing.



GTP Approved Use
Declaration Table.doc

Insert 5: GTP Approved Use Declaration Table

(4) DoD Information Assurance (IA) and Critical Infrastructure Protection (CIP) Requirements. Comply with IA requirements and include the required compliance statement. Verbiage for a CDD must include the following statement verbatim, "This program or system will comply with the IA requirements in DOD 8500 series and CJCS 6510 series directives, instructions and manuals prior to IOC." Verbiage for a CPD must include the following statement verbatim, "This program or system complies with the IA requirements in DOD 8500 series and CJCS 6510 series directives, instructions and manuals."

(5) DOD Supportability Requirements. Include compliance statements for Electromagnetic Environmental Effects (E3) and Spectrum Supportability, Joint Tactical Radio System (JTRS), Selective Availability Anti-Spoofing Module (SAASM), Tactical Data Link (TDL) Implementations, and Bandwidth Analysis.

(6) All Views & Operational Architecture: AV-1, AV-2, OV-1, OV-2, OV-3, OV-4, OV-5, OV-6C.

(7) Systems Architecture: SV-2, SV-4, SV-5, SV-6. The SV-5 is either an Excel file or a Word table at the discretion of the System's Architect. **The OV-3 & SV-6 must be submitted as separate Excel files.** A blank SV-6 template is enclosed below based on DODAF V1.5, April 2007. Systems Architecture is the PM's responsibility. Close coordination is required to ensure products are developed to support staffing of the capability document.



SV-6 Template
DODAF 1.5.xlsx

Insert 6: SV-6 Template DODAF 1.5

(8) Technical Architecture. TV-1 & TV-2 (Draft IT Standards Profile generate by the DOD IT Standards Registry (DISR) Online. Note: This view must be developed on DISR Online (NIPRNET), exported to disk, and published on DISR Online SIPRNET Registry. The PM is responsible for developing this product.

(9) Architecture products (except TV's) must be stored in CADIE and metadata tagged to meet the requirements of [TR 71-20](#) and [CJCSI 6212.01E](#).

e. Additional assistance is available on the [J6 wiki Portal](#).

Appendix B – References

Appendix B provides the list of references utilized in this CPD. You may edit or remove references from this picklist. Additional references may be added by clicking on the “Reference” link at the bottom center of the page.

The figure illustrates the process of adding and managing references in the CPD Wizard. The top screenshot shows the 'References' tab selected in the 'Appendix B: References' section, which currently displays 'No records found or no records to display.' The 'Reference' link in the bottom navigation bar is circled in red. An arrow points from this link to the 'Add Reference' dialog box shown in the bottom right. The dialog box contains fields for 'Reference Title', 'Reference Date', and 'Reference Information', with the 'Add Reference' button circled in red. A second screenshot below shows the 'References' tab selected, displaying a table of references. The 'References' tab in the navigation bar is circled in red. An arrow points from the 'Add Reference' button in the dialog box to the first row of the table.

	Title	Notes	Date	Order	
Edit	FM 5-0 The Operations Process		March 2010	↑ ↓	Remove
Edit	FM 7-0 Training for Full Spectrum Operations		Feb 2011	↑ ↓	Remove
Edit	AR 73-1 Army Test and Evaluation Policy		Aug 2006	↑ ↓	Remove
Edit	AR 71-9 Warfighting Capabilities Determination		Dec 2009	↑ ↓	Remove
Edit	AR 70-1 Army Acquisition Policy		Jul 2011	↑ ↓	Remove
Edit	CPD Writer's Guide (Version 3.0)		Oct 2011	↑ ↓	Remove

Figure 33: References

The list below shows seven standard references. Add other references that are germane to the CPD. This is not a library listing.

1. TRADOC Pamphlet 525-3-0, The Army Capstone Concept, Operational Adaptability: Operating under Conditions of Uncertainty and Complexity in an Era of Persistent Conflict 2016-2028, 21 Dec 2009.
2. Capstone Concepts for Joint Operations, Version 3.0, 15 Jan 09.
3. Chairman Joint Chief of Staff Instruction (CJCSI) 3170.01H, Joint Capabilities Integration and Development System (JCIDS), 10 Jan 12.
4. CJCSI 6212.01E, Interoperability and Supportability of Information Technology & National Security Systems, 15 Dec 08.
5. Chairman Joint Chief of Staff Manual (CJCSM) 3500.04E, Universal Joint Task List (UJTL), 1 Jun 11.
6. CJCS Manual for the Operation of the Joint Capabilities Integration and Development System (JCIDS Manual), current as of 19 Jan 12.
7. FM 7-15, The Army Universal Task List, 27 Feb 09 with changes 1 through 9 as of 9 Dec 11.

Appendix C – Acronym List

Appendix C lists and defines the acronyms used in this CPD. You may edit or remove references from this picklist. Additional acronyms may be added by clicking on the “Acronym” link at the bottom center of this page. Add only acronyms and definitions used in the CPD.

The figure illustrates the process of adding an acronym to the Appendix C list in the CDTM system. It consists of three main components:

- Top Screenshot:** Shows the "CPD Wizard - Appendices and Annexes" page. The "Acronyms" link in the bottom navigation bar is circled in red. A red arrow points from this link to the "Add Acronym" dialog box.
- Middle Screenshot:** Shows the "Add Acronym - Windows Internet Explorer" dialog box. It contains fields for "Acronym *" and "Meaning *", and a red circle highlights the "Add Acronym" button.
- Bottom Screenshot:** Shows the "CPD Wizard - Appendices and Annexes" page with the "Acronyms" link circled in red. A red arrow points from this link to the "Add Acronym" button in the middle screenshot. Below the "Acronyms" link, a table lists the current acronyms in the system.

	Acronym	Meaning	
Edit	CDD	Capability Development Document	Remove
Edit	CDTM	Capability Development Tracking and Management	Remove
Edit	CIO	Chief Information Officer	Remove
Edit	CLR	Common Language Runtime	Remove
Edit	CLS	Class	Remove
Edit	CPD	Capability Production Document	Remove
Edit	DCR	DOTMLPF Change Recommendation	Remove
Edit	FGS	Fachina Global Services, LLC	Remove
Edit	GSA	Google Search Appliance	Remove

Figure 34: Acronym List

Appendix D – Glossary

Appendix D provides a picklist of glossary terms and definitions that have been added to this document. You may edit the term and/or the definition by clicking the "Edit" hyperlink preceding the glossary term. You may remove this term from the glossary by clicking the "Remove" hyperlink.

The image shows two screenshots of the CPD Wizard interface. The top screenshot shows the 'Appendix D: Glossary' section with a message 'No records found or no records to display.' The bottom screenshot shows the same section with a table of glossary terms. A red circle highlights the 'Glossary' tab in both screenshots. A red circle highlights the 'Add Glossary Term' button in the bottom screenshot. A red arrow points from the 'Add Glossary Term' button to a dialog box titled 'Add Glossary - Windows Internet Explorer'. The dialog box contains fields for 'Glossary Term *' and 'Definition *', and a button labeled 'Add Glossary Term'.

Glossary Term	Glossary Definition	
Edit (U) Acquisition Category (ACAT)	Categories established to facilitate decentralized decision-making and execution and compliance with statutorily imposed requirements. The ACAT determines the level of review, validation authority, and applicable procedures. Reference b provides the specific definition for each ACAT.	Remove
Edit (U) Analysis of Alternatives (AoA)	The evaluation of the performance, operational effectiveness, operational suitability, and estimated costs of alternative systems to meet a mission capability. The AoA assesses the advantages and disadvantages of alternatives being considered to satisfy capabilities, including the sensitivity of each alternative to possible changes in key assumptions or variables. The AoA is one of the key inputs to defining the system capabilities in the capability development document.	Remove
Edit (U) Capability	A document that captures the information necessary to develop a proposed	Remove

Gatekeeper Guidance
 This is not a glossary of JCIDS terms and definitions. If an acronym or definition is not used in the CPD, do not include it in this appendix.

Attachments (Supporting Documents)

The Attachment List lists all other attached appendices, charts, or graphics used to support this CPD. You may remove references from this pick-list. Additional attachments may be added by clicking on the “Attachment” link at the bottom center of the page.

CPD Wizard - Appendices and Annexes

Appendix A: Net-Ready KPP Product (U)

Appendix A: Graphics and Attachments

References Acronyms Glossary **Attachments**

Other Appendices: Attachments

No records found or no records to display.

Executive Summary Reference Acronym Glossary **Attachment**

Add Attachment - Windows Internet Explorer

Current Document #:13111003788 - v 1.01
Acronym:CPD WG

Add Attachment

Classification U Document Title

File Browse...

Valid File Extensions: bmp, doc, docx, gif, jpg, mpp, pdf, png, ppt, pptx, vsd, vsdx, xls, xlsx.
Make sure your file is under 200 MB.
(Contact the CDTM Help Desk if you need to add a larger attachment.)

Add Attachment

CPD Wizard - Appendices and Annexes

Appendix A: Net-Ready KPP Product (U)

Appendix A: Net-Ready KPP Products - Enter NR-KPP text in this block. The NR-KPP is composed of the following elements:

1. Compliant solution architecture,

Appendix A: Graphics and Attachments

References Acronyms Glossary **Attachments**

Other Appendices: Attachments

Appendix	Class	Title	File Name	
E	U	OV-1	HOA_CDD_OV-1.jpg	Remove

Executive Summary Reference Acronym Glossary **Attachment**

Supporting Documents

Supporting documents are provided with the CPD. Attach supporting documentation with the appendix identification below in a file identified as Supporting Documentation.

- Appendix E Cost Benefit Analysis (C-BA) and Other Supporting Analysis
- Appendix F OMS/MP
- Appendix G BOIP
- Appendix H STRAP

b. **Supporting Documents provide information relevant to the CPD**, but are not part of the CDTM generated document. Supporting documents will to be added in the —Attachments tab in CDTM, in the —Appendices and Annexes window. Group all supporting document in a single file in CDTM. Name the file in CDTM as —Supporting Documents Appendices E – X, where X is the last appendix. If the C-BA is the only supporting document, do not use the template below, label the file: Appendix E Cost-Benefit Analysis.



Supporting
Documents Template

Insert 7 Supporting Documents Template

(1) **Appendix E – Cost-Benefit Analysis and Other Supporting Analysis**

(a) Section I - Cost Benefit Analysis (C-BA).

i. It is now **mandatory** to conduct a cost-benefit analysis (C-BA) in addition to an AoA. C-BAs will be prepared for all requirements (new programs and modifications to existing programs) even if an AoA has already been performed per TR 71-20, paragraph 7-11, Cost-Benefit Analysis.

ii. All C-BAs must adhere to the [U.S. Army Cost Benefit Analysis Guide](#) and specified [C-BA briefing format](#).

iii. C-BA packages should include all spreadsheets with documented analysis, and any supporting documents. If possible, proposed —tradeoffs or bill payers to offset the cost of the new requirement should also be included. C-BA Supporting documentation **MUST** include identifying data sources, models, inflation indexes, and rationale used to complete all eight steps of the C-BA.

iv. Further guidance on the C-BA can be found on AKO at <https://www.us.army.mil/suite/files/5232873>.

(b) Section II – Other Supporting Analysis – as needed.

i. If unable to complete the analysis discussion in the main CPD document then summarize the additional analyses here.

ii. Describe the analysis (AoA or other supporting analysis) conducted to determine system attributes and identify Key Performance Parameters (KPPs). Include the alternatives, objective, the criteria, assumptions, recommendation, and conclusion.

(2) **Appendix F – Operational Mode Summary/Mission Profile (OMS/MP).** The OMS/MP, if required, should be developed to support the CPD submission (appendix F). TRADOC OMS/MP policy guidance is inserted below. See the [OMS/MP Writers Guide](#) for ‘how-to’ guidance.



OMS-MP Policy.doc

Insert 8: TRADOC OMS/MP Policy

(3) **Appendix G – Basis of Issue Guidance (BOIG).** The BOIG is a clear articulation of amount of equipment projected to be fielded to the unit. If the information can be displayed in within CDTM character limits, it will be captured in paragraph 12, Assets required to Achieve Initial Operational Capability (IOC) then a separate supporting document for BOIG is not necessary (appendix G).

(4) **Appendix H – System Training Plan (STRAP).** If needed, an initial STRAP should be developed on a parallel path with the CDD and/or CPD. Submit early in the document development process to give ATSC sufficient time to review and approve the STRAP or STRAP Waiver if the proponent determines a STRAP is not necessary (appendix H).

CPD Wizard - Validation Review

Validation Review - The validation review matrix will ensure that the overall classification of the document equals the highest classification of any sub-section (SIPRnet only) and will provide you a list of:

- *Errors* in your document (i.e. missing information in a mandatory field and the "NA" button has not been clicked)
- *Warnings* if there is no information in non-mandatory fields (i.e. Glossary, Appendices, Reference, Acronyms, etc)
- *Validation pass* notifications for all section that have no validation issues
- *Informational line item counts* for Attachments, References, Glossary, & Acronyms

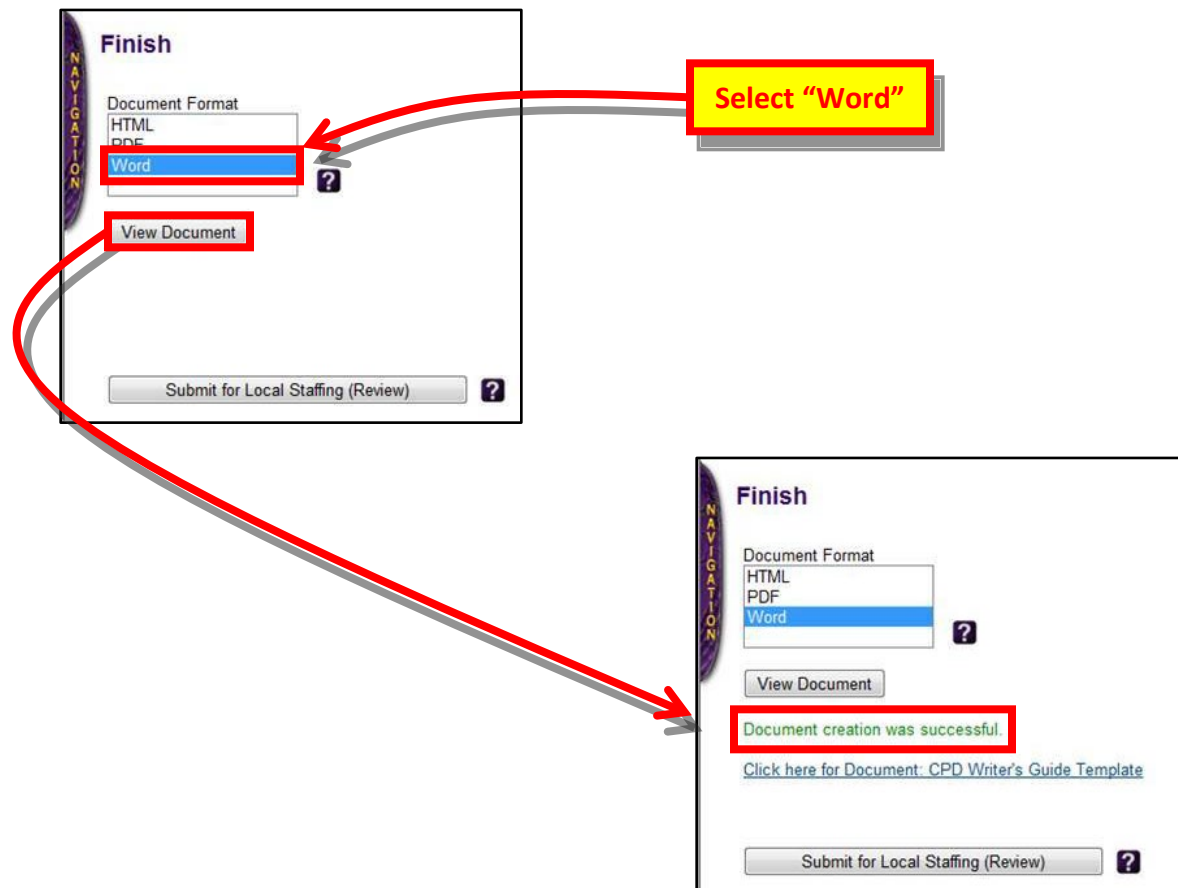
Status	Comments
	The Overall Document Classification is set correctly.
	General section has been checked and has no issues.
	Point of Contact section has been checked and has no issues.
	CONOPS section has been checked and has no issues.
	Capability Discussion section has been checked and has no issues.
	Analysis Summary section has been checked and has no issues.
	Threat Summary section has been checked and has no issues.
	Program Summary section has been checked and has no issues.
	System Capabilities section has been checked and has no issues.
	FoS and SoS section has been checked and has no issues.
	IT and NSS Supportability section has been checked and has no issues.
	Intelligence Supportability section has been checked and has no issues.
	Weapons Survivability section has been checked and has no issues.
	Technical Readiness Assessment section has been checked and has no issues.
	Assets Required to Achieve IOC section has been checked and has no issues.

[Appendices and Annexes](#)
[Reference](#)
[Acronym](#)
[Glossary](#)
[Attachment](#)

Figure 10: CPD Wizard - Validation Review Screenshot

CPD Wizard - Finish

Finish - This section is used to create the final draft version of the CPD in either Microsoft Word, HTML, or PDF format. Once the document is created, **DO NOT submit the CPD through by clicking the "Submit for Internal Staffing" button**. Once the button is pushed, the current version is locked and no further editing can be accomplished without opening a new version of the document.



Post CPD Export – Revisions before staffing

Currently CDTM is not consistent with JCIDS policy articulated in the 19 Jan 12 JCIDS Manual. The following changes must be applied to the output of the CDD before staffing (recommended) or submission to ARCIC for validation.



JCIDS Manual &
CDTM Wizard Compar