
REQUIREMENTS 2100

Application Skills for Requirements Managers

Student Workbook - Module 1: The Initial Capabilities Document (ICD)



Version 4.5
8 May 2024

Published by the Defense Acquisition University
Fort Belvoir, Virginia 22060-5565

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Course Overview

RQM 2100 is an on-line, applications-based course that emphasizes hands-on analytical and development skills. It uses job support tools (JSTs) to analyze, refine, and solve notional, scenario-based DoD requirements challenges when analyzing and documenting Warfighter needs. The RQM 2100 Welcome Video highlights what you can expect as you progress through the two modules. If you haven't watched this video, stop here, go back and view it now. RQM 2100 consists of two separate modules:

Module 1, The Initial Capabilities Document (ICD)

Module 1 uses a United States Army notional deep strike scenario and consists of this Module 1 Workbook, a notional Capabilities-Based Assessment (CBA) report extract, a notional draft Initial Capabilities Document (ICD), a notional Threat Assessment extract, other required readings, and an optional reading list. As you progress through Module 1, you'll complete AND record in this Workbook a series of tasks before moving on to Module 2.

NOTE: DO NOT neglect to record and save your Workbook answers – you'll need these to assist you with the RQM 2100 end-of-course exam. Also, the learning you receive from Module 1 transfers over to the larger Module 2.

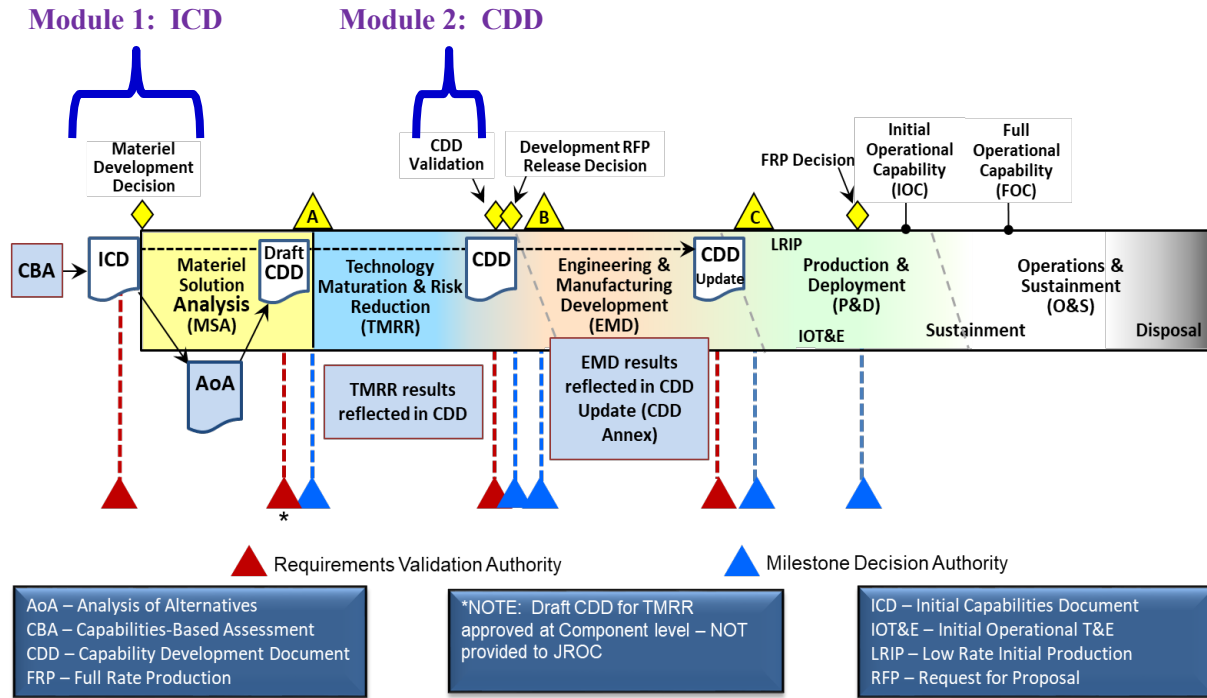
Module 1 focuses on the ICD in preparation for a Materiel Development Decision (MDD). The goal of a CBA – or any other type of related warfighting study – is to assess a mission area and the capabilities of the joint force to successfully complete that mission (and related tasks) and identify warfighting capability gaps. For materiel solutions to capability gaps, the ICD is the document that captures CBA findings and serves as the basis for an MDD. That is, it makes the case for entering into the acquisition process rather than pursuing a non-materiel solution such as a procurement action that buys more existing systems. ICDs also set up later, more detailed analyses via an Analysis of Alternatives (AoA) to drive toward a potential solution. ICDs may also describe gaps in capability requirements that require additional, different solutions. Module 1 of this course will provide you with tools and insights needed to produce better ICDs.

Module 2, The Capability Development Document (CDD)

Module 2 moves the Army's Module 1 notional deep strike scenario forward in time and consists of a Module 2 Workbook, a notional draft Capability Development Document (CDD), results of an Analysis of Alternatives (AoA), the knowns and unknowns associated with progression through the Technology Management and Risk Reduction (TMRR) acquisition phase, feedback from the Program Manager (PM), and other artifacts. Exactly as you did in Module 1, you'll complete AND record in the Module 2 Workbook a series of tasks.

Module 2 requires the refining of a draft CDD prior to validation. The draft CDD proposes development of a materiel solution intended to satisfy the gaps wholly or partially in warfighter capability requirements first documented in the ICD. The solution must close or mitigate those capability gaps for which DoD leadership does not accept operational risk. Unlike the ICD, the CDD clearly states what the materiel solution's performance must be when delivered to the Warfighter. The PM is responsible for delivering on the performance attributes described in the

CDD, and a well-written CDD sets the stage for success in development, production and fielding.



RQM 2100 Exam:

You'll use your completed Module 1 and 2 Workbooks, the ICD and CDD JSTs, and the appropriate parts of the JCIDS Manual to take the RQM 2100 end-of-course exam.

RQM 2100 Course Feedback:

Due to the unique purpose of RQM 2100 in training applications-based skills to DoD's RM workforce, we designed it in such a way that most of your work is on your own outside the DAU online system. To better meet RM workforce training needs, we ask that you update the course survey as you go through the course. The survey is located here: [RQM 2100 Course Survey](#). You will see this link again towards the end of the course.

Additional Helpful Information:

To complete the tasks in the Module 1 Workbook and pass the end-of-course exam, you'll need to access, read, and comprehend additional reading:

Required Reading (part of your downloaded file)

- Deep Strike Mission Capability – Army (DSMC-A) CBA extract
- Draft DSMC-A ICD
- Threat Assessment Extract
- ICD Job Support Tool (JST)

- e. JCIDS Manual
- f. Memorandum for My Successor, LTC Walter Schmedley
- g. Joint Publication 3-0, Joint Operations, executive summary and chapters I and V
- h. Joint Publication 3-09, Joint Fire Support, executive summary, and chapter I

Optional Reading (copy and paste into your browser)

- a. *National Security Strategy*, Oct 2022, President
- b. *2022 National Defense Strategy*, SECDEF
- c. *2022 National Military Strategy*, CJCS
- d. *Army Modernization Strategy*, 2021
- e. *Russia's Military Industry Forecast, 2023-2035*, Foreign Policy Research Institute
- f. *Military and Security Developments Involving the People's Republic of China 2023*, Office of the Secretary of Defense
- g. *Annual Threat Assessment of the US Intelligence Community*, Office of the Director of National Intelligence, Feb 2024.
- h. *Is North Korea Really Getting Ready for a War Against America?* The National Interest, Jan 17, 2024
- i. *The Changing Trends in Gulf Military & Security Forces*, CSIS, Oct 27, 2023.

Also, to complete the tasks in this Workbook and pass the end-of-course exam, you'll need to access and use Job Support Tools (JSTs), also posted to [DAU's Requirements Management Community of Practice \(RMCoP\)](#). While useful for completing RQM 2100 and doing your daily work at your worksite, these JSTs ARE NOT substitutes for your analytical, reasoning, and writing skills. We structured RQM 2100 to help you perform better and faster within the JCIDS process, stimulate your ability to think, and hone your ability to clearly communicate capability requirements.

You can check your answers using the references provided at the end of this workbook. We highly recommend you do this to ensure you are on the right track and have sufficient information to assist you in completing the end of course exam. You'll have to pass the RQM 2100 exam with an 80%. To help you work through RQM 2100, we've embedded different types of stopping points with some questions for you to answer, as well as notes fields so you can record your own feedback and figure out on your own how you're progressing through the course.

The stopping points are identified with symbols for three types of checks. There are one or more questions for you to answer following each check. Indicate your answers and fill in the "explain" blocks as necessary. The "my notes" blocks are for you to include notes to yourself.

1. **KNOWLEDGE CHECK:** a basic question – open and general.



2. **ANALYSIS CHECK:** a question that examines detailed elements of existing information.



3. **GUT CHECK:** a question to quickly figure out whether your conclusion is rational, doesn't contain elementary mistakes, and doesn't use invalid assumptions.

NOTE: Though you may be tempted to pencil-whip these checks, **don't**. We structured each one to specifically help you understand JCIDS. We strongly recommend you take the time to think about your answers and check them against the references provided at the end of the workbook. Then make notes in the space provided to later refer to during the exam. We've also provided you with a list of both required and recommended readings.

Final Thoughts:

We created RQM 2100 to introduce you to various job support tools (JSTs) to use in a self-paced, low-threat academic environment to solve typical requirements management issues using notional scenarios. We've also designed these JSTs to speed up your learning curve on what it takes to complete your daily tasks and responsibilities as the DoD Warfighter advocate. Thus, bear in mind that while you'll use an Army-based scenario in this course, the goal is less about "the widget" and more about teaching you how to successfully analyze, document, and navigate within "the process."

You're now ready to begin the ICD portion of RQM 2100.

Module 1: Deep Strike Mission Capability-Army (DSMC-A) Scenario

First, open and watch the file "Module 1 Boom Boom Video" to gain a better understanding of Army deep strike fire support:



Overview

After coming off an overseas deployment and upon arriving at your new office at the Army Futures Command's Long Range Precision Fires Cross Functional Team, Ft. Sill, Oklahoma, you're greeted with a dusty gray desk and a large white binder. Inside this binder you find a letter from your predecessor, whom you never had the chance to meet in person or even chat with on the phone.



Now go to your required reading documents, open and read the transition memo from LTC Schmedley - then come back here & continue with the Workbook.

You now know you're replacing a fellow named LTC Walt Schmedley on the Long Range Precision Fires – Cross Functional Team (LRPF CFT). He's long-gone and not available to ease your transition. Fortunately for you, the LRPF CFT had to take an extended break due to member reassignments, the COVID-19 pandemic, and other external events. This has given you some extra time and a decent chance to understand the situation and become competent in your new billet. Unfortunately for you, given the Army's modernization priorities and schedule, the LRPF CFT is meeting in a week to prep for the MDD scheduled to occur in less than three months.

Time to now roll up your sleeves & get to work preparing yourself for the MDD...



GUT CHECK 1 (GC 1)

Given the timeline in LTC Schmedley's memo (...and especially the Chief's firm timeline of 90 days to MDD) along with the JCIDS staffing and validation process, answer the question below:

GC 1. Can you make it? Why or why not? If not, what can you do about it? (here's the ONLY DAU hint you'll get to figure out an answer to an RQM 2100 workbook question: open the DAU ICD JST, click on the "Service Staffing & Validation/Approval" and "Submit to KM/DS" pit stops. Review both micro lessons. Access your Service process and determine the review and staffing required – both Service-level and KM/DS.

Explain:

Background

Based on current and future threats facing the United States, the United States Army is focusing on a series of modernization efforts to enhance the lethality of the force. These efforts range from enhancing individual soldier lethality to improvements in network operations to weapon system deep strike capabilities. Deep strikes beyond the range of current cannon, rocket, and missile artillery is the top priority of the Army Chief of Staff.

These modernization efforts are driving the Army's future force materiel development and supporting a number of strategic documents designed to focus on the advancement and

effectiveness of the DoD as a United States institution and instrument of national power and influence. The President's *National Security Strategy*, the Secretary of Defense's *National Defense Strategy*, and the Chairman of the Joint Chiefs of Staff's *National Military Strategy* all emphasize the importance of rapid response to world-wide contingencies. Current emphasis is on the emerging "great power" (state versus state) competition with China and Russia as our two central challenges while continuing to deter and counter North Korea and Iran. All of this is to happen while still sustaining competency with irregular (state versus non-state) warfare.

The Army participated in the joint study efforts leading to the current national security, national defense, and national military strategies. Additionally, the 2018 *Army Strategy*, and the 2021 *Army Modernization Strategy*¹ emphasize a Multi-Domain Operations (MDO)² force capable of ensuring the United States possesses warfighting capability overmatch with near-peer competitors.

NOTE: *Near-peer competitors such as China and Russia seek to achieve their aims by using multiple layers of stand-off capability across all domains – land, sea, air, space, and cyberspace – to separate U.S. forces and our allies in time, geography, and function. Their goal is to deny our ability to project combat power, thereby creating de facto their own spheres of influence. Our competitors will do this through a combination of long-, mid-, and short-range weapon systems, conventional forces, integrated air defenses, electronic warfare and jamming, cyber-attacks, denial of space-based capabilities such as reconnaissance, navigation, and communications, along with an array of political and informational tools.*

The Army is restructuring its combat forces to be more responsive to the emerging great power competition with China and Russia. This effort includes restructuring the heavy Brigade Combat Teams (BCTs) with more lethal weapons and investigating options for longer-range fire support for a precision deep strike capability. Current Army deep strike capabilities consist of the Army Tactical Missile System (ATACMS), cannon, and rocket artillery.

To investigate enhanced deep strike capabilities the Army Futures Command (AFC) conducted a Deep Strike Fires Support Capabilities-Based Assessment (DSFS CBA). The results of the DSFS CBA revealed gaps in precision long range fire support to ground forces. The DSFS CBA Report provided guidance on both materiel and non-materiel approaches for further investigation of solutions to the capability gaps.

To inform their analyses, the DSFS CBA Study Team obtained a threat assessment from the Army's Intelligence and Security Command (INSCOM), validated by the Defense Intelligence Agency (DIA). This assessment highlighted both Russian and Chinese military capabilities with additional concerns about North Korean and Iranian combat capabilities.

¹ *The primary end-state of the 2021 Army Modernization Strategy, nested within the 2018 Army Strategy, is a modernized United States Army capable of conducting Multi-Domain Operations (MDO) as part of an integrated Joint Force in a single theater by 2028 and ready to conduct MDO across an array of scenarios in multiple theaters by 2035.*

² *The MDO concept describes how the Army will support the Joint Force in the rapid and continuous integration of all domains of warfare – land, sea, air, space, and cyberspace – to deter and prevail short of conflict - and to ultimately fight and win should that deterrence fail.*

The DSFS CBA results concluded long-range cannon, rocket, and missile artillery surface-to-surface fires would mitigate or eliminate target engagement capability gaps in potential future conflicts with Russia and China. It also stressed the added advantage of support of ground forces in potential engagements with North Korea or Iran. Advanced Russian and Chinese air defense capabilities would make it difficult for the US to quickly establish air supremacy and then divert air combat assets to engage in close air support of ground forces. As a result, a long-range deep strike capability would provide strategically vital and timely stand-off attack options for US and allied combatant commanders.



Now go to your required reading documents and open and thoroughly read the CBA Report and Threat Assessment extracts - then come back here & continue with the Workbook.



KNOWLEDGE CHECK 1 (KC 1)

KC 1.1. According to the CBA Report extract, why is the United States Army restructuring?

- a. Improve responsiveness to Iran as a proxy great power adversary.
- b. Improve responsiveness to China as a primary great power adversary.
- c. Improve responsiveness to North Korea as a primary great power adversary.
- d. Improve responsiveness to Russia as a primary great power adversary.
- e. b. and c. above
- f. b. and d. above
- g. None of the above

My Notes:

KC 1.2. According to Joint Publication 3-09, Joint Fire Support, and the CBA Report Extract, what are the four joint fire support functions?

1.
2.
3.
4.

My Notes:

Now it's time to refresh your familiarity with Army deep strike elements:

Deep Strike (DS) Delivery Systems

The US Army currently employs five types of field artillery systems firing a variety of kinetic munitions:

M119A3 105mm light towed howitzer

The M119 howitzer is a towed 105 mm artillery piece. The M119 is the US designation for the L118 lightweight British howitzer produced by the US. It is easily airlifted by helicopter or dropped by parachute.



M777A2 155mm medium towed howitzer

The M777 howitzer is a towed 155 mm artillery piece. It succeeded the M198 howitzer in the United States Marine Corps and United States Army in 2005.



M109A7 Paladin 155mm self-propelled howitzer

The M109 is an American 155 mm turreted self-propelled howitzer, first introduced in the early 1960s to replace the M44. The Army has upgraded it numerous times, most recently to the M109A7. The M109 has a crew of four: the section chief/ commander, the driver, the gunner, and the ammunition handler/loader.



M142 High Mobility Rocket Artillery System (HIMARS)

The M142 HIMARS is a light multiple rocket launcher developed in the late 1990s for the United States Army and mounted on a standard Army M1140 truck frame. HIMARS carries six rockets or one MGM-140 Army Tactical Missile System (ATACMS) missile on the U.S. Army's new Family of Medium Tactical Vehicles (FMTV) five-ton truck. It can also launch the entire Multiple Launch Rocket System Family of Munitions (MFOM).



M270A1 Multiple Launch Rocket System (MLRS)

The M270 Multiple Launch Rocket System (MLRS) is an armored, self-propelled, multiple rocket launcher system that can fire rockets or MGM-140 ATACMS missiles contained in interchangeable pods. Each pod contains six standard rockets or one guided ATACMS missile; the two types cannot be mixed.



Deep Strike Munitions

The Army's kinetic munitions fall into three basic categories: cannon, rockets, and missiles.

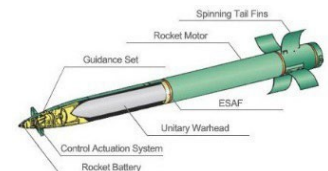
Cannon Projectiles

These projectiles, fired by the 105mm and 155mm towed and self-propelled systems, consist of the projectiles themselves and their associated fuzes and propelling charges. There is also a Precision Guidance Kit (PGK), a GPS guided, course-correcting fuze for conventional 155mm High Explosive (HE) projectiles that improves artillery effectiveness and efficiency. Since shooting these projectiles produces significant recoil, their delivery systems require bracing.



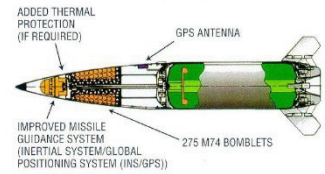
Rocket Munitions

Rocket artillery is a self-contained free-flight (unguided) projectile with ignitable propellant. While producing little recoil, they do produce a significant amount of backblast that imposes system restrictions. They also cannot usually match the accuracy and sustained rate of fire of conventional cannon artillery. They may be capable of very destructive strikes by delivering a large mass of explosives simultaneously, thus increasing the shock effect and giving the target less time to take cover (defilade).



Missile Munitions

In modern language, a missile is a guided, airborne-ranged weapon capable of self-propelled flight, usually by a jet engine or rocket motor. Missiles have four components: targeting/guidance, flight, engine, and warhead systems. Missiles come in types adapted for different purposes.



ANALYSIS CHECK 1 (AC 1)

AC 1. According to the CBA Report extract, what did the CBA Team’s mission-level findings conclude?

- a. Current long-range cannon, rocket, and missile artillery capability meets all ground troop support target engagement capability needs with Russia and China.
- b. Advanced Russian and Chinese air defenses make U.S. air supremacy difficult.
- c. Close air support (CAS) for ground troops would be delayed pending attainment of air supremacy.
- d. d. Artillery improvements would support ground forces in potential engagements with North Korea or Iran
- e. All the above
- f. b., c., and d., above
- g. a., b., and c. above

My Notes:



ANALYSIS CHECK 2 (AC 2)

AC 2.1. Given that the CBA assessment noted: “Munitions options for cannons, rockets, and missiles are inadequate in range, accuracy, and lethality.” Did the CBA make its case for each of the inadequacies noted? Why or why not?

Explain:

My Notes:

AC 2.2. Would you expect an ICD to state specific gaps for range, accuracy, and lethality? Why or why not?

Explain:

My Notes:

US Army Direction

As mentioned earlier, the Army Chief of Staff decided that deep strike fire support was the Army's top priority modernization effort. As such, he directed the Army Futures Command (AFC) to create an Initial Capabilities Document (ICD) and submit it to the Army Requirements Oversight Council (AROC) within 90 days. The AFC formed a Long Range Precision Fires (LRPF) Cross Functional Team (LRPF CFT) to meet the Chief's suspense.

The Chief also directed AFC to investigate ongoing science and technology (S&T) efforts at the various Army Combat Capability Developments Command (CCDC) research and engineering centers along with the Army Research Laboratory (ARL). At a series of reviews jointly-sponsored by the Army Chief of Staff, the Assistant Secretary of the Army (Acquisition, Logistics and Technology (ASA(ALT)) – the Army Service Acquisition Executive (SAE), the following occurred:

a. The Chief insisted the Army replace ATACMS and field a deep strike capability in 7 to 10 years. The Chief said, "Get something out there, and then upgrade it to full capability. I will ensure this is a top priority for the next POM." Naturally, the Army Deputy Chief of Staff, G-8, who is responsible for resourcing programs, set forth to make that happen.

b. The AFC Commander asked if the Army could designate this effort as a Middle Tier of Acquisition, Rapid Fielding Program, and "to avoid the bureaucratic approach in both the JCIDS Manual and 5000.01." The ASA(ALT) replied, "Probably not – too expensive, likely exceeds the MDAP cost thresholds, would need a waiver from the Under Secretary³, and fielding within 5-years is very unlikely. In fact, not likely at all. However, we will ensure maximum streamlining of the acquisition process."⁴

c. The G-8 indicated that, "We're not looking at some sort of technology breakthrough; we just want to do what it takes to capture mature technology. After all, we had a deep strike

³ Under Secretary (Acquisition & Sustainment) (USD(A&S)), the Defense Acquisition Executive (DAE). DoDI 5000.80 requires a USD(A&S) decision for a program that exceeds MDAP thresholds to be designated a Middle Tier program.

⁴ DoDI 5000.85, Major Capability Acquisition, describes a traditional milestone/phase acquisition process, but allows maximum streamlining of the process.

capability range of more than 1300 kilometers in the late 1980's before the 1987 INF Treaty⁵ restricted us to 500 kilometers.”

d. AFC and the Program Executive Officer (PEO) Missiles and Space agreed to jointly conduct a Market Research effort to determine what, if any, solutions to the capability gaps currently exist in the United States defense industry, in the DoD laboratory system, or in allied countries.

e. The ASA(ALT) directed PEO Missiles and Space to establish a provisional PM office, and initiate discussions with industry based on the draft ICD. He also indicated that once the provisional PMO was established, the PM would report directly to him as a potential ACAT IB program, and not the PEO. The PEO was not happy with this arrangement.

f. The AFC Commander and the G-8 were leaning toward a risk-adverse approach, with minimum streamlining of the acquisition process, even if it took a little longer to field the system. However, since they both worked for the Army Chief of Staff, they agreed that this could “probably be done” within the 7 to 10-year timeframe and would defer to the PM to establish a reasonable timeline.

g. Everyone agreed to proceed to a Materiel Development Decision (MDD) with a proposal to achieve program initiation as rapidly as possible. The G-8 indicated that the size of this effort would require coordination with the Director, Cost Assessment and Program Evaluation (DCAPE) on the Analysis of Alternatives (AoA) Study Guidance and Study Plan prior to the MDD. This early coordination would require an ICD - if not validated, at least as complete as possible. The Chief was concerned that there could be a lot of wasted time doing an AoA: “Let’s send our requirements to industry and move directly into prototyping from the MDD. After all, the CBA results tell us what the alternatives are.” He wanted to know if the AoA could be waived. The G-8 replied, “Probably not. The AoA will compare various candidates associated with the alternatives in terms of cost and performance. However, I’ll get back to you.”

h. To comply with the Chief’s request to evaluate ongoing S&T efforts, AFC’s Combat Capability Development Command’s Aviation and Missile Center surfaced several technology projects related to the gaps in warfighting capability.

- (1) PE 0602147A, Long Range Precision Fires Technology (LRPF). Investigates and develops LRPF technologies to destroy, neutralize, or suppress the enemy by cannon artillery and missile fires. Major focus areas: Missiles, Cannon Artillery, and Supporting LRPF Technologies. LRPF Missiles Applied Research investigates and develops a broad range of Missile technologies to enhance Army integrated LRPF capabilities at extended ranges. Cannon Artillery Applied Research investigates and develops critical technologies to increase range, precision, and both point and area effects for cannon artillery. Supporting LRPF Technologies Applied Research investigates and develops a

⁵ Intermediate-Range Nuclear Forces Treaty (INF Treaty) was the agreement signed by U.S. President Ronald Reagan and Soviet General Secretary Mikhail Gorbachev on 8 Dec 1987. This treaty eliminated all nuclear and conventional missiles with ranges of 500-1,000 kilometers (short range) and 1,000-5,500 kilometers (intermediate range). Citing Russia’s violation of the treaty, the U.S. withdrew from the treaty on 2 Aug 2019.

broad range of component technologies to address weapon cost drivers and enhance performance of future LRPF munitions and systems.

- (2) PE 0602141A, Lethality Technology. The effort focuses on: lethal mechanism technologies for projectiles and warheads that provide revolutionary capability to defeat Tier 1 adversary vehicle and body armors; selection of propulsion and energetic materials and technology to validate novel energetic materials concepts to exploit controllable energy release for future gun/missile systems; scalable effects for mixed target defeat while simultaneously decreasing warhead mass; development of materials solutions for improvement of weight and volume efficiency, lethal effects and sustainability for the Army Warfighter of today and beyond; and multiple pathways to enhance lethal effects by investigating synergistic effects of novel micro warheads using advanced materials.
- (3) PE 0603464A, LRPF Advanced Technology. Matures and demonstrates LRPF technologies to destroy, neutralize, or suppress the enemy by cannon artillery and missile fire and enable integration of fire support assets into combined arms operations. Major focus areas: Missiles, Cannon Artillery, and Supporting LRPF Technologies. LRPF Missiles Advanced Development matures and demonstrates a broad range of Missile technologies to enhance Army integrated LRPF capabilities at extended ranges. Cannon Artillery Advanced Development matures and demonstrates critical technologies to increase range, precision, and both point and area effects for cannon artillery.

Your next task is reviewing and updating LTC Schmedley's draft DSMC-A ICD to support the upcoming MDD. You'll then be ready to start the staffing and validation process in a valiant attempt to meet the Army Chief's 90-day MDD deadline. Time is short! (**NOTE:** again, pay close attention to the yellow Post It notes LTC Schmedley sprinkled in the draft DSMC-A ICD).



Now go to your required reading documents and open and read the draft Deep Strike Mission Capability-Army (DSMC-A) ICD that LTC Schmedley left for you. If you have not yet done so, open and take a few minutes to browse the ICD JST – however, keep it open. Then come back here & continue with the Workbook, using the open JST to help you find answers to various questions.

ICD Content: Mandated by the JCIDS Manual

As Joint Staff J8 changes the JCIDS process and document formatting, non-validated documents often become caught in the change. The document LTC Schmedley left you needs to meet all current formatting and content guidance prior to AROC and Joint Staff validation. Your first action is to check how well LTC Schmedley's document meets the current guidance.



KNOWLEDGE CHECK 2 (KC 2)

KC 2.1. From LTC Schmedley's draft DSMC-A ICD, fill in the draft's Section Titles:

Section 1:

Section 2:

Section 3:

Section 4:

Section 5:

My Notes:

KC 2.2. From the ICD JST, fill in the appropriate ICD Section Titles:

Section 1:

Section 2:

Section 3:

Section 4:

My Notes:

KC 2.3. Given the difference between these two versions, describe how you're going to fix Schmedley's version to comply with current JCIDS formatting guidance?

Explain:

My Notes:

Formatting Learning Point: This is an easy kill. Get the ICD's format wrong – something as simple as the number of sections wrong or incorrect heading titles or numbering - and you've just added staffing time, embarrassment, and grief to your job. Get the ICD's format right – and you can now focus on the only real reason requirements documents ought to exist in the first place...content and messaging to ALL stakeholders on behalf of the Warfighter!

ICD Content: Mandated by Your Warfighter Needs

We'll start with Section 1 and end with the Executive Summary of LTC Schmedley's draft DSMC-A ICD.

NOTE: DAU created the ICD JST to support the development of a *new* ICD. You'll find guidance on the Executive Summary in the "Develop Front-End Documents" pit stop in the ICD



ANALYSIS CHECK 3 (AC 3)

AC 3. What sub-section is missing from Section 1, Operational Context, in your current draft ICD? Is this an issue and what do you suggest to fix the issue (if anything)?

Explain:

My Notes:



GUT CHECK 2 (GC 2)

GC 2. The OV-1's purpose is to graphically represent the joint fight. However, the DSMC-A ICD's OV-1 only represents the Air Force and Army. Why? Should the OV-1 depict the USN? USMC? USSF? SOCOM? Anybody else? If so, how would you represent them?

Explain:

My Notes:



KNOWLEDGE CHECK (KC 4)

KC 4.1. What does the term “full range of military operations” mean? Does the statement encompass something other than the environment the deep strike solution may operate in? Support your reasoning.

Explain:

My Notes:



GUT CHECK 3 (GC 3)

Timeframe under consideration is a critical element of the Operational Context. Here is where you articulate the Initial Operational Capability (IOC) and Full Operational Capability (FOC). In the draft ICD, Schmedley placed a caveat within the timeframe: "...based on available funding."

GC 3. Is "...based on available funding" a proper caveat to place in an ICD? Why or why not? Does the capability that the Warfighter needs change simply based on available funding? Does funding or the threat drive IOC and FOC?

Explain:

My Notes:

You're now ready to move to Section 2 – Threat Summary. Now would be a good time to go back and reread the Threat Extract that supported that CBA. The purpose of this section is to ensure the capability solution(s) being developed to address the capability and associated gaps are based on consistent threat environment information and references. All acquisition programs or capabilities expected to operate in a threat environment (lethal or non-lethal) must be developed IAW the most current threat products from the Defense Intelligence Enterprise (DIE).

Section 2, Threat Summary



KNOWLEDGE CHECK 5 (KC 5)

KC5.1. What are the five major sub-sections of the Threat Summary?

1:

2:

3:

4:

5:

My Notes:

KC 5.2. What is a Critical Intelligence Parameter (CIP)?

- a. A threat capability or threshold established collaboratively by the requirements sponsor and the capability developer.
- b. A change that can critically impact the effectiveness and survivability of the proposed system.
- c. An overarching system or sub-system capability that drives success or failure of the proposed system.
- d. a and b above
- e. All the above

My Notes:

KC 5.3. Given direction in the JCIDS Manual, can a new CIP be proposed in the ICD?

- a. Yes, and it will be reviewed and approved during the intelligence certification process.
- b. No, ICDs are not the mechanism for introducing new CIPs.

My Notes:



GUT CHECK 4 (GC 4)

GC 4. Your experience with CIPs indicates that they normally apply to KPPs or KSAs, so why would CIP(s) be appropriate in an ICD? (hint, check the information provided in the JCIDS Manual, Annex G to Appendix G to Encl B, sections 3.2.3.1 thru 3.2.3.3, and 3.2.4.8.2).

Explain:

My Notes:

Moving to Section 3 of the ICD: Capability Requirements and Gaps/Overlaps. While all four sections of the ICD are vital to telling the “compelling story” as to why DoD should move forward with pursuing a materiel solution to a Warfighter capability gap, Section 3 gets to the heart of the matter and provides the hardcore rationale and justification.

Section 3, Capability Requirements and Gaps/Overlaps



KNOWLEDGE CHECK 6 (KC 6)

KC 6.1. In the Capability Requirements (CR) and Gaps/Overlaps section of the ICD - and after thoughtful consideration of the initial objective values listed in the draft - you determine that a few are not consistent with your follow-on analysis and decide to just indicate these as To Be Determined (TBD). What is the Manual’s guidance on values listed as TBD?

Explain:

My Notes:

KC 6.2. Are Capability Requirements (CRs) described correctly in Section 3 of the draft ICD?

Explain:

My Notes:

KC 6.3. The current table in the draft ICD is incomplete. Fill in the following table for a complete ICD:

| Capability Requirements | | Current Capabilities | | Significant Gap(s)/Overlap(s) |
|--|---|--|---|--|
| Operational Attribute/ Metric | Initial Objective Value | Source/ System | Current Performance | |
| 1. Capability Requirement | | JCA 3.1: Force Application/ Maneuver | | Most significant gap is TBD. <div style="border: 1px solid black; width: 100px; height: 100px; margin: 10px auto;"></div> |
| Force Application, Engagement, kinetic means | Long range precision fire support >1000KM | Army Tactical Missile System (ATACMS) | Max Range 300 KM Precision: Less than 20M | |
| | | Guided Multiple Launch Rocket System (GMLRS) | Max Range 70 KM Precision: Less than 2M | |
| | | Excalibur GPS Guided extended range artillery projectile | Max Range 39 KM Precision: Less than 2M | |
| | | M270A1 Multiple Launch Rocket System (MLRS) | 12 GMLRS or 2 ATACMS | |
| | | M142 High Mobility Artillery Rocket System (HIMARS) | 6 GMLRS or 1 ATACMS | |
| | | M109A6 Paladin 155 Self-Propelled Howitzer | Rate of fire: 4 rds. per min. for 3 min/1 per min sustained | |

My Notes:

Next.....moving onto Section 4 of the ICD – Final Recommendations.

Section 4, Final Recommendations

If the CBA Team and you have done your jobs properly, this section can essentially write itself. However, it does do one thing that the other sections don't: it's the section where you briefly make your case as to why the disciplines in the DOTmLPF-P realm cannot partially or wholly mitigate the Warfighter gaps. And this case must be data-informed and compelling since now the stakeholders must decide to commit time and national treasure to go down the acquisition route. Refer now to the ICD Job Support Tool, Section 4, for more information on Final Recommendations and their major elements.

You probably have already noted that your draft ICD is not in the format required by the 2021 version of the JCIDS Manual. Section 4 of your ICD is Assessment of Non-Materiel Approaches which is no longer required.



KNOWLEDGE CHECK 7 (KC 7)

KC 7. From the JCIDS Manual and ICD JST, and your draft ICD, compare the content of Sections 4 and 5 of your draft ICD with Section 4, Final Recommendations of the required ICD content. Point out any issues or discrepancies below:

Explain:

My Notes:



GUT CHECK 5 (GC 5)

GC 5. The DSFS CBA addressed potential DOTmLPF-P solutions and the CBA assessment indicated they would not mitigate or eliminate the capability gaps. In an ICD, is this a sufficient statement if there are no non-materiel solutions available?

Explain:

My Notes:



KNOWLEDGE CHECK 8 (KC 8)

KC 8. The ICD validation identifies the joint military capability requirements and enables the JROC to perform their statutory duties to assess joint military capabilities and identify, approve, and prioritize gaps in such capabilities. In validating an ICD, the validation authority:

- a. Validates that threat is current as expressed via a Validated Virtual On-Line Life-Cycle Threat (VOLT) document.
- b. Validates that the ICD capability requirements are necessary to fulfill joint military capabilities in support of the National Defense Strategy and approves prioritization of capability gaps.
- c. Approves the ICD and supporting data, including the recommended approach(es) to address the validated capability requirements and eliminate or mitigate, to the maximum extent possible, the capability gaps.
- d. Confirms that the funding plan supports the Army's Future Years Defense Program (FYDP)
- e. b and c. above
- f. a., b., and c. above
- g. All of the above

My Notes:

Content Learning Point: The validated ICD is THE document that starts the acquisition of a new capability needed to meet Warfighter needs. It is short (10 pages – OR LESS don't forget), gets immediately to "the point" (4 sections with an Executive Summary), builds a compelling case by specifying "what" the Warfighter needs (and not "how" to do it, though this is quite a temptation for all involved). It is a vital supporting document needed by the Milestone Decision Authority (MDA) to make an informed Materiel Development Decision (MDD). The validated ICD sets the stage – the requirements foundation – to help the PM efficiently field an effective Warfighter solution.

Lastly...time to finally update that all-important Executive Summary to ensure it accurately reflects the various changes you've chosen to make to Schmedley's draft DSMC-A ICD.

Your Critical Assessment

The following questions call for your critical assessment and personal opinion, so there is no "school solution." Recommend you give all these questions some thought and if your views would help us to improve the workbook content, please update your comments in the [RQM 2100 Course Survey](#).

1. Did the CBA adequately discuss and defend rejecting non-materiel solutions?
2. Reread the ICD, keeping in mind the changes you've already made because of your analysis and updating. Does the ICD's ten pages of content now effectively reflect the intent of the NSS, NDS, and NMS? Meet the threat? Begin the realization of the Chief's direction? The Chief's priorities? The Chief's resourcing intentions? Any additional changes you would make?
3. Does the ICD's ten pages of content now effectively inform the Milestone Decision Authority (MDA) on the upcoming Materiel Development Decision (MDD) review? Any additional changes you would make? Does the content of the ICD communicate operational performance attributes and gaps?
4. Is there sufficient information in the ICD to support an AoA?
5. Are there any additional changes you would make to the draft ICD before submitting it for validation?
6. Are there any issues with JCIDS you would like DAU to raise with the Joint Staff?



Have you checked your answers to the questions? If not, recommend you do so now; use the references on the next page.

By completing the Module 1 Workbook, you've now prepared yourself to move to the Capability Development Document (CDD). Save all of your work in this Workbook, update your [RQM 2100 Course Survey](#), take a breather, and then open the Module 2 Workbook.

References.

Use the following references and helpful hints to check your answers to the gut, knowledge, and analysis checks. They are listed in the order in which they appear in the Workbook.

Gut Check 1. Can you make it? Why or why not? If not, what can you do about it?

Reference: *ICD Job Support Tool (JST), “Service Staffing & Validation/Approval” and “Submit to KM/DS” pit stops.*

Hint 1: Assume that “time now” is the date you begin the course. 90 days to MDD must take into consideration both Army time and Joint Staff time. The other Services have similar timelines. The ICD JST refers to the Army Capabilities & Integration Development System (ACIDS) Process Guide and the Joint Staff time described in the JCIDS Manual. Did you determine the deliberate staffing timeline from the ACIDS Requirements Management Process Guide (linked to the ICD JST)? Even considering the direct link from your CFT to Commander, AFC and the Chief, there is internal Army staffing required, HQDA staffing required, and AROC review. Then, for JROC approval you must consider ICD staffing time as shown in the JCIDS Manual. So, are you likely to meet the Chiefs timeline of 90 days to MDD? If you are not an Army student, does your Service have a faster timeline? Doubtful. **Hint 2:** If you cannot access the Army ACIDS guide, use the timeline located at links to your Service guidance.

Knowledge Check 1.1. According to the CBA Report extract, why is the United States Army restructuring?

Reference: *CBA Report extract, section 4.2.*

Knowledge Check 1.2. According to Joint Publication 3-09, Joint Fire Support, and the CBA Report Extract, what are the four joint fire support functions?

Reference: *Section 4.6 of the CBA Report extract, the executive summary of JP 3-09, and Chapter III, para 2.b of JP 3-09.*

Analysis Check 1. According to the CBA Report extract, what did the CBA Team’s mission-level findings conclude?

Reference: *CBA Report extract, section 3.4*

Analysis Check 2.1. Given that the CBA assessment noted: “Munitions options for cannons, rockets, and missiles are inadequate in range, accuracy, and lethality.” Did the CBA make its case for each of the inadequacies noted? Why or why not?

Reference: *CBA Report extract Sections 4.7, Deficiencies*
Hint – *are increased accuracy and lethality covered?*

Analysis Check 2.2. Would you expect an ICD to state specific gaps for range, accuracy, and lethality? Why or why not?

Reference: JCIDS Manual, Appendix A to Enclosure B, section 2.5.4.

Knowledge Check 2.1. From LTC Schmedley's draft DSMC-A ICD, fill in the draft's Section Titles:

Reference: LTC Schmedley's draft ICD

Knowledge Check 2.2. From the ICD JST fill in the appropriate ICD Section Titles:

Reference: ICD JST

Knowledge Check 2.3. Given the difference between these two versions, describe how you're going to fix Schmedley's version to comply with current JCIDS ICD content guidance?

References: LTC Schmedley's draft ICD and 2024 JCIDS Manual, Appendix A to Enclosure B.

Knowledge Check 3. KC 3. What are the five major topics/sub-sections of the Operational Context?

Reference: JCIDS Manual, Appendix A to Enclosure B, section 2.5.2, Section 1, Operational Context.

Analysis Check 3. What topics/sub-sections are missing from Section 1, Operational Context, in the draft ICD? Is this an issue and what do you suggest to fix it (if anything)?

References: LTC Schmedley's ICD, Section 1, and Appendix A to Enclosure B, part 2.5.2, Section 1, Operational Context. ICD JST, Section 1.

Hint: Carefully compare and contrast and determine fixes required.

Gut Check 2. The OV-1's purpose is to graphically represent the joint fight. However, the DSMC-A ICD's OV-1 only represents the Air Force and Army. Why? Should the OV-1 depict the USN? USMC? USSF? SOCOM? Anybody else? If so, how would you represent them?

References: JCIDS Manual, Appendix A to Enclosure B, section 2.5.2.6. Joint Publication 3-09, Chapter 1, para 3; Chapter II, para 3; and Chapter IV, para 4.

Hints: Full range of sensors illustrated? Intel systems? Other Services/weapons?

Knowledge Check 4. What does the term "full range of military operations" mean? Does the statement encompass something other than the environment the deep strike solution may operate in? Support your reasoning.

References: ICD JST, Section 1. Note the JST discussion of JP 3-09 vs. the 2021 JCIDS Manual.

Gut Check 3. Is “...based on available funding” a proper caveat to place in an ICD? Why or why not? Does the capability that the Warfighter needs change simply based on available funding? Does funding or the threat drive IOC and FOC?

Hint. Requires some critical thinking about what you should have learned in RQM 1101: The threat is a big driver. However, IOC and FOC are based on an event-driven acquisition strategy. If the required events in the PM’s acquisition strategy (development, engineering, test & evaluation, production, contract award lead time, etc.), do not match an acceptable IOC, the RM and PM will need to negotiate. Funding drives everything based on the congressional budget cycle, and the priority of the program. Further, funding is considered every year in the program budget cycle. Simply a fact of life.

Knowledge Check 5.1. What are the five major sub-sections of the Threat Summary?

References: The ICD JST, Section 2, Threat, and the JCIDS Manual, Appendix A to Enclosure B, section 2.5.3

Knowledge Check 5.2. What is a Critical Intelligence Parameter (CIP)?

Reference: The JCIDS Manual, Annex A to Enclosure B, section. 2.5.3.5.3.

Knowledge Check 5.3. Given direction in the JCIDS Manual, can a new CIP be proposed in the ICD?

Reference: The JCIDS Manual, Annex A to Enclosure B, section. 2.5.3.5.3.

Gut Check 4. Your experience with CIPs indicates that they normally apply to KPPs or KSAs, so why would CIP(s) be appropriate in an ICD?

Reference: JCIDS Manual, Annex G to Appendix G to Enclosure B, sections 3.2.3.1, 3.2.3.2, 3.2.3.3, and 3.2.4.2..

Knowledge Check 6.1. In the Capability Requirements (CR) and Gaps/Overlaps section of the ICD - and after thoughtful consideration of the initial objective values listed in the draft - you determine that a few are not consistent with your follow-on analysis and decide to just indicate these as To Be Determined (TBD). What is the Manual’s guidance on values listed as TBD?

Reference: JCIDS Manual, Appendix A to Enclosure B, section 2.5.4.3.1.2.

Knowledge Check 6.2. Are the Capability Requirements (CRs) described correctly in Section 3 of the draft ICD?

Reference: JCIDS Manual, Appendix A to Enclosure B, section 2.5.4.2.

Knowledge Check 6.3. The current table in the draft ICD is incomplete. Fill in the following table for a complete ICD:

Reference: CBA Report extract, section 3.4. Draft ICD executive summary, Gaps 1, 2 and 3. Draft ICD, section 3.3.

Knowledge Check 7. From the JCIDS Manual and ICD JST, and your draft ICD, compare the content of Sections 4 and 5 of your draft ICD with Section 5, Final Recommendations of the required ICD content. Point out any issues or discrepancies below:

References: JCIDS Manual, Appendix A to Enclosure B, para. 2.5.5.2, Annex F to Appendix G to Enclosure B, DOTmLPF-P Guide section 1.3.1, and the ICD JST.

Gut Check 5. The DSFS CBA addressed potential DOTmLPF-P solutions and the CBA assessment indicated they would not mitigate or eliminate the capability gaps. In an ICD, is this a sufficient statement if there are no non-materiel solutions available?

Reference: JCIDS Manual, Annex F to Appendix H to Enclosure B, DOTmLPF-P guide, section 1.3.1.

Knowledge Check 8. The ICD validation identifies the joint military capability requirements and enables the JROC to perform their statutory duties to assess joint military capabilities and identify, approve, and prioritize gaps in such capabilities. In validating an ICD, the validation authority:

Reference: JCIDS Manual, Appendix A to Enclosure A, section 2.1.2.1.