AF/A5R
REQUIREMENTS DEVELOPMENT GUIDEBOOK

Volume 5
**Requirements Activities to Support
Middle Tier of Acquisition Pathway
(NDAA 2016, Section 804)
24 June 2020, version 4.3**

Requirements Integration Division

AF/A5RP, Pentagon 5C858

PREFACE

This Guidebook is one in a series of AF/A5R developed guides describing the Air Force process for validation of *operational capability requirements* in support of overarching Capability Development efforts. **This guidebook describes the specific requirements actions that support Middle-Tier of Acquisition efforts.**

There are no restrictions on release or distribution of this guidebook.

This Guidebook is a "how to" guide for use by all stakeholders participating in the AF requirements process, and in some cases it includes the answer to the questions "why do we have to do it that way," "where is that written" and "where do we find additional information."

NOTE: Although the AF/A5R Requirements Development Guidebooks are generally non-directive in nature, they represent official guidance and procedures developed to ensure compliance with, and implementation of, overarching Requirements and Acquisition policies. Per AF/A5R direction and authority under HAF Mission Directive 1-7, to the maximum extent practical, AF Sponsors are expected to follow the guidance described in the A5R Guidebooks, or coordinate with AF/A5RP for tailoring.

If you have questions regarding specific information in the guidebook(s), or if you have suggestions for improvements, please contact the OPR:

> OPR: James "Trip" Weyer, james.e.weyer.civ@mail.mil, (703) 695-6244 (DSN 225)

AF/A5RP Portal Page. Additional guidance and information to supplement this Guidebook is located on the AF Portal:

- To access the AF/A5RP Requirements Portal Page go to https://www.my.af.mil
- Navigate to "Organizations A-Z", then enter the keyword "A5RP".

CHANGE SUMMARY

Change Summary	Date

Initial Release: Revised the Guidebook Volumes to align policy and guidance under new Vol 1, as the "Capstone Guidebook" and separate the procedural guidance and other best practices in subsequent guidebook volumes and handbooks
   o Vol 1, Policy and Guidelines (revised previous Vol 1, refined all policy info)
   o Vol 2, Urgent Needs (major updates, revised the transition review portion)
   o Vol 3, JCIDS Deliberate Process (split out from Vol 1, reorganized layout)
   o Vol 4, Modification Proposals (split out from Vol 1, minor edits)
	3 Oct 2017

Initial release: o Vol 5, Middle Tier of Acquisition, Requirements Validation Process	11 Jan 2019 Ver 1.0
Admin Updates and Errata Changes (red line)	2 April 2019 ver 2.0
Updated guidance for cover page and Commander's Intent of RPRD and RFRD	9 April 2019 Ver 2.01
• Updated content and format, added guidance to standardize the RPRD and RFRD • Updated RPRD/RFRD staffing to include MAJCOMs (not just HAF)	9 May 2019 Ver 3.0
• Edits to clarify expectation to follow the guidebooks (vice "comply with")… • Replaced the process overview chart and made significant revisions to section 2, process overview to reflect the actual process that is taking place for MTA • Admin change – fixed the header (Vol 5)	1 Aug 2019 Ver 4.0
• Updated the references to HAF MD 1-56 (A5/8) which has been replaced by HAF MD 1-7 (AF/A5) • Updated references to reflect that the Office of Aerospace Studies (OAS) is now designated as AF/A5RA	4 Dec 2019 Ver 4.1
• Updated to reflect inclusion of "Solution Pathway Review" (SPR) prior to all Requirements Document Development and solution pathway selection – to adopt common framework with the new DoDI 5000.02, *Adaptive Acquisition Framework* • Also updated references to "CDS" review by CDWG (not formally implemented…)	18 Feb 2020 Ver 4.2
• Added new info on Tailored Staffing to include a Feasibility Review (page 9) • A few other minor admin changes (retained red-line changes from version 4.2)	8 April 2020 Ver 4.2b
• Updated for consistency with comments adjudicated during recent formal staffing of draft AFI 10-601	24 June 2020 Ver 4.3

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SECTION 1. INTRODUCTION

1.1. Overview and Background

This section outlines the requirements validation activities that support the Middle Tier of Acquisition process. The Middle Tier Requirements and Acquisition processes are optimized to advance Air Force capabilities against the challenges outlined in the National Defense Strategy (NDS) at a faster pace than the deliberate acquisition processes. The Middle Tier Requirements and Acquisition processes and timelines must align in order to:

- Adapt to developing threats as outlined in the NDS and Chairman's Net Assessment and National Air and Space Intelligence Center assessments

- Fully leverage advancing technologies from industry, allies, and sister Services

- Fully leverage additional authorities to prototype and experiment to learn, adapt and advance key technologies and capabilities

1.2. Description of MTA Authority

Section 804 of the National Defense Authorization Act (NDAA) for Fiscal Year 2016 (Public Law 114-92), provides authority to the Department of Defense (DoD) to rapidly prototype and/or rapidly field capabilities under a new pathway, distinct from the traditional acquisition system.

Under the Middle Tier of Acquisition (MTA) Pathway, programs subject to the guidance shall not be subject to the Joint Capability Integration and Development System, JCIDS Manual and DoD Directive 5000.01, "The Defense Acquisition System," except to the extent specifically provided in the implementing guidance.

- *As of 30 Dec 2019, USD (A&S) has released policy and procedural guidance via a new DoD Instruction 5000.80, Middle Tier of Acquisition.*

The Middle Tier of Acquisition Pathway is defined as an acquisition approach that focuses on delivering capability in a period of 2 to 5 years.

- For rapid prototyping, innovative technology will be used to rapidly develop fieldable prototypes to demonstrate new capabilities and meet emerging military needs. The objectives are: (1) field a prototype that can be demonstrated in an operational environment, and (2) provide a residual operational capability within 5 years.

- For rapid fielding, proven technologies will be used to field production quantities of new or upgraded systems with minimal development required. The objectives are: (1) begin production within 6 months, and (2) complete fielding within 5 years.

Air Force Guidelines for Middle Tier of Acquisition are established by the interim implementation guidance memorandum, AFGM2019-63-01 (27 Jun 2019). As of June 2020, a draft AF Supplement to DoDI 5000.80 is still in development, the OPR is SAF/AQX. Refer questions regarding acquisition policy to SAF/AQX.

SECTION 2. AF MIDDLE TIER OF ACQUISITION (MTA) REQUIREMENTS PROCESS

2.1. Requirements Process Overview

The process to establish requirements in support of MTA activity is based on the normal requirements process in that it requires analysis to determine the most effective materiel or non-materiel solution based on a valid threat assessment or approved capability gap(s) and it requires proper documentation to deliver capability solutions to the warfighter quickly.

- *Note: This Guidebook is not intended to replace or substitute for the acquisition policies and procedures as described in the DoD Instruction or AF Supplement (when published). Sponsors must read and understand the acquisition policy guidance to get a full understanding of this pathway. This Guidebook is only intended to spell out the AF/A5R Requirements Process to support utilization of this pathway.*

2.2. Initiation of MTA Efforts

Per SAF/AQ direction, all new capability development efforts will be reviewed for Middle-Tier of Acquisition applicability (i.e. capability development activities that can be accomplished within the 5 year timeframe). Other ongoing acquisition efforts may elect to "transition" to take advantage of MTA authorities, and those programs likely already have some degree of capability analysis, requirements documentation and programming support already in place.

MTA efforts may also be initiated in response to CDC direction (Top-Down) or from MAJCOM/Agency capability development proposals (bottom-up)

Figure 2.1. Streamlined AF/A5R Process for MTA-804 Requirements Documents
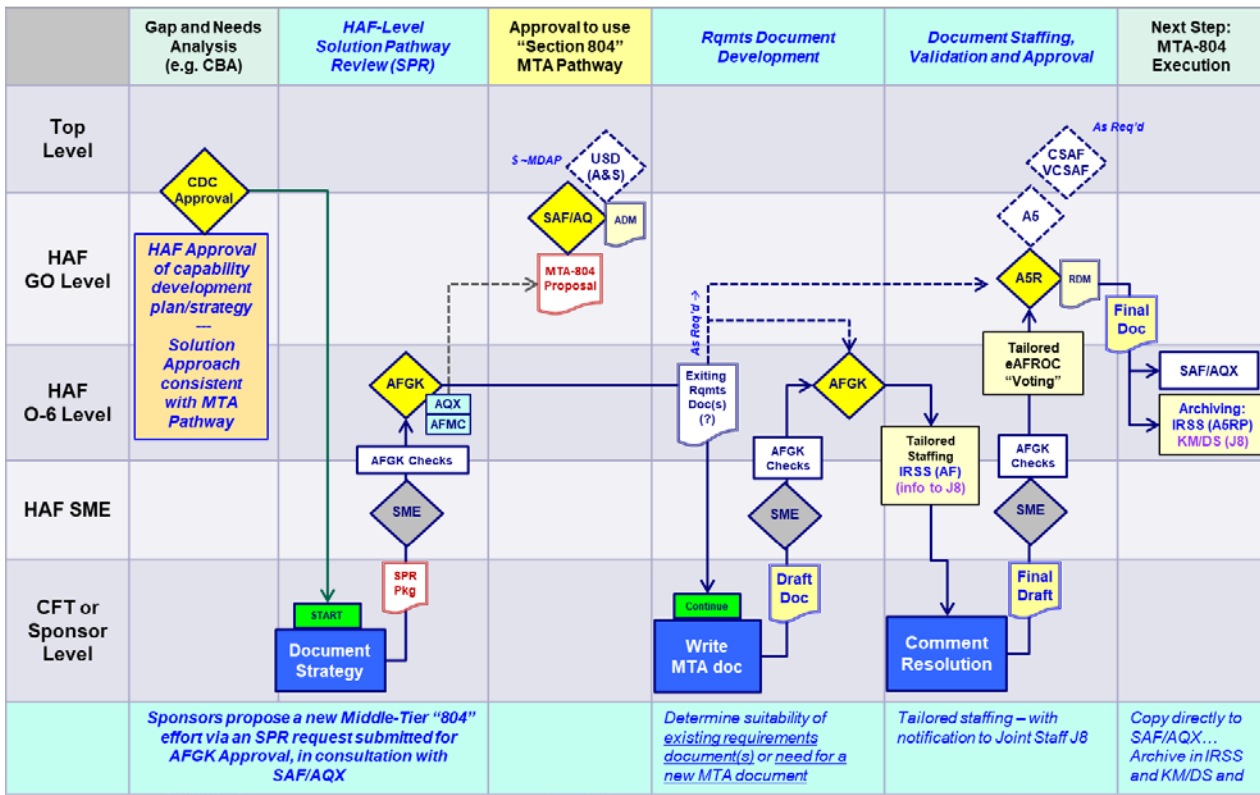
2.3. CDC Approval of Capability Development Plan/Strategy

The purpose of obtaining CDC approval is to 1) ensure the proposed MTA effort aligns with overarching AF strategy, capability development guidance and resourcing plans and 2) determine what capability analysis and/or documentation exists (or needs to be developed) in order to support proceeding to MTA.

- The MAJCOM/Agency Sponsor working through their AF/A5R SME, coordinates with AF/A5RP, AF/A5RA-OAS and AF/A5A to assess the sufficiency of existing analyses that might be used to support the CDC approval of the MTA effort.

- The Sponsor also assesses available resources in coordination with the Acquisition Program Office, SAF/AQX, SAF/FMB, AF/A8P, and AF/A8X (as appropriate) to determine the amount and timing of funding and other resources available for the MTA effort.

- The Sponsor proposes a presentation to the CDWG and/or CDC that describes how the effort will be integrated within an overall Capability Development Plan (CDP) and/or Capability Development Strategy (CDS). Contact CDWG for additional detail.

2.4. Document Strategy to Support MTA

Sponsors have the option to propose using an existing requirements document(s) to support the MTA process, or they can propose creating a new MTA-specific requirements document.

- An existing requirements document may include any previously validated requirements document(s) or a draft currently under development (in which case the AFGK could approve the Sponsor to continue staffing the current document through to validation in support of MTA rather than starting over with a new MTA document). AF/A5RP determines the level of review and approval necessary to use any existing draft or previously validated requirements document(s) in support of MTA activity. AF/A5RP notifies SAF/AQX directly of any decision to approve or deny the proposed use of existing requirements documents to support MTA activity.

- If use of an existing requirements document is not deemed appropriate, the MAJCOM/Agency Sponsor can propose developing a new MTA-specific requirements document; either a Rapid Prototyping Requirements Document (RPRD) or a Rapid Fielding Requirements Document (RFRD), as appropriate (format and content for the RPRD and RFRD are described in **section 3** of this Guidebook).

2.5. Solution Pathway Review (SPR)

[Decision by the AFGK, in consultation with SAF/AQX, and AFMC/A5R].

Following CDC review and approval, and collaboration with key stakeholders to develop the document development strategy, the Sponsor (working through their AF/A5R SME) submits an SPR Worksheet via IRSS for AFGK review and approval prior to convening a document writing team for document development, or for approval to use an existing document to support the MTA effort.

Formal HAF-level approval (via the Solution Pathway Review) is required prior to a Sponsor convening the document writing team or conducting any substantive document development activity. Specifically, Sponsors should not begin development of any requirements document until the SPR Worksheet (and associated document strategy) has been reviewed and approved by the AFGK, in consultation with SAF/AQX and HQ AFMC/A5R.

- Note: Written approval (via formal Acquisition Decision Memo) from SAF/AQ, or as delegated (or from USD (A&S), when the effort will exceed funding thresholds of an MDAP) is required in order for the program manager to utilize the MTA-804 acquisition authorities. Refer to DoDI 5000.80 for more detail on the Defense Acquisition policies related to Middle-Tier of Acquisition. Contact SAF/AQX for further information on acquisition procedures.

During the review of the SPR Worksheet, Sponsors need to be prepared to discuss the document preparation and document writing team membership to include the following:

- Ensure entry criteria (pre-requisites) are met as described above

- Proposed nomenclature; document title should reflect the particular solution/system approach, or plan to use an existing requirements document to support the middle tier effort

- Specific gaps and/or mission needs which are to be addressed by the effort

- Timeframe when the solution needs to be fielded

- Potential interdependencies with other AF or joint systems/solutions or other enablers

- Cost estimates (as applicable) and funding strategy with respect to available funding sources

- Proposed document writing team membership (names and organization represented), location, dates and format (live or virtual), including any issues/concerns with support, security, etc.

- Training and experience level of Team Leaders and Acquisition POC(s)

- Proposed Plan of Action & Milestone (POAM) with a timeline for completion of the document

- Expected timeframe/date when the Sponsor expects to submit the document for initial staffing

- Projected follow-on requirements oversight/reviews and interaction with stakeholders from the Joint Staff, other Services and OSD (if required)

- Specific recommendations for proposed Joint or CCMD interest or involvement (as a minimum, AF/A5RP is required to info copy the Joint Staff Gatekeeper)

2.6. Document Staffing and Approval

AFGK Review and Tailored Staffing. Following development of the draft version of the RPRD or RFRD, and upon approval by the MAJCOM/Agency Director of Requirements (or higher), the sponsor submits the document to AF/A5RP via IRSS for AFGK Review entry into tailored staffing.

- AF/A5RP in consultation with the AF/A5R SME conducts initial AFGK checks to determine if the document is ready to enter into staffing.

- A tailored staffing period will be conducted utilizing IRSS tasking procedures on SIPRNET.

- AF/A5RP will also forward the document to the J8 Gatekeeper for Joint Staff awareness. Should Joint Staff determine that Joint equity exists, the Sponsor may continue to proceed with MTA activities while Joint equities are being outlined and a Joint approach is developed, if required.

Feasibility Review. During tailored staffing of the document, AFMC/A5R reviews the document in consultation with the assigned program office. This review covers the entire document and any associated system attributes (e.g. KPP, KSA, etc.) to ensure feasibility with respect to cost, schedule and quantity. Note. The purpose of this review is to make sure the PM agrees that the program will be able to provide the capability/capacity as described, and within the allotted timeframe and resourcing available, in order to meet the need date and remain within the constraints of the MTA/804 authority.

Comment Resolution. Following the tailored staffing period, the Sponsor completes comment adjudication and any internal MAJCOM/Agency review process, then submits a final version of the document via IRSS for HAF review and validation staffing.

Validation and Approval. Working with the AF/A5R SME, AF/A5RP prepares the staff package for review by the designated Requirements Decision Authority. Following validation and approval by the appropriate Requirements Decision Authority, AF/A5RP uploads the final version of the approved document along with the decision memo to IRSS and forwards a copy directly to SAF/AQX.

2.7. Prototyping Analysis Report

For Rapid Prototyping MTA efforts, once the prototyping effort is complete, the sponsor in coordination with the program office, submits a summary report of the prototyping findings to AF/A5R, AF/A5A and SAF/AQX and attaches it to the original document record in IRSS. The report should contain the following information:

- o Summary of original prototyping phase goals/objectives.

- o Summary of prototyping findings, including assessment of the ability to address the validated gaps and any findings not directly related to original gap(s).

- o Schedule summary (did the original schedule hold true?).

- o Prototyping funding summary.

- o Earned Value Management analysis.

CDWG and/or CDC review the report and, in coordination with AF/A5R and SAF/AQX, make an assessment for continuation of capability development efforts consistent with the Capability Development Strategy.

SECTION 3. MTA REQUIREMENTS DOCUMENT FORMAT

3.1. Rapid Prototyping Requirements Document (RPRD)

Below is the format for the RPRD. Sponsors should refer to the CDD format and content guidelines found in the JCIDS Manual for additional information on how to develop each section as described below. The outline is intended to mirror the elements of a CDD but in an abbreviated, 5-section format.

- **Cover Page:**

[Classification]

Rapid Prototyping Requirements Document

for

[Title of Program]

Document revision number: [version xx]

As of: [date]

Acquisition Decision Authority: [Office/Title]

Requirements Decision Authority: [Office/Title]

Primary and secondary POCs for the document sponsor. [Include name, title/rank, phone and both NIPRNET and SIPRNET email addresses.]

- **Validation Page: placeholder for decision memo**

  While in draft, a placeholder page will be included, with a statement of: "This document (include revision numbering) has not yet been validated and shall not be considered an authoritative source for the content herein. This document may be considered authoritative only when this page is replaced by a signed validation memorandum from the appropriate validation authority."

  Once validated by the validation authority, the placeholder page will be replaced by the signed memorandum indicating validation of the document.

- **Executive Summary:**

  Sponsor's explanation of why this effort is a candidate for MTA-804 rapid prototyping.

  Briefly discuss the schedule to achieve a residual capability and a description and definition of what the successful demonstration of this new materiel solution will look like.

- **Document Body:**

Section 1: Operational Context, Challenge and Anticipated Threats.

Provide a summary of the operational context and challenge to be addressed, explaining how the capability solution will contribute to the missions and activities of the Air Force or meet an identified operational challenge within the context of the anticipated threat environment.

Describe the timeframe under consideration and the overall operational risk and priority to the Air Force.

Consider evolving threats to ongoing and follow-on RDT&E, production, and O&M resulting from technology transfer, espionage, and other adversarial collection efforts.

Summarize approved Critical Intelligence Parameters (CIPS), or information from Classified Information Compromise Assessment (CICA), which could critically impact the effectiveness and survivability of the proposed system.

Cite the latest DIA or Service-approved threat products used during the development of this document.

Section 2: Capability Requirements and Gaps/Opportunities.

The purpose of this section is to identify the mission needs/capability requirements and associated gaps, challenges or opportunities to be addressed by the proposed solution(s) and to outline the results of related analyses or studies conducted to determine the mission needs/required capabilities and gaps or opportunities and derive the required system-level performance attributes.

Section 3: Required System Attributes.

The purpose of this section is to outline the system level performance attributes that are necessary to address the capability requirements, gaps or opportunities or which are otherwise critical or essential to achieve mission goals and objectives.

System attributes must be assigned and have sufficient granularity to support contracting actions. Avoid over specification or inclusion of technical specifications.

Provide measures for each attribute in terms of threshold values or initial objective values as appropriate, to indicate the acceptable level of performance for the residual capability to be effective in an operational environment (as is required by MTA/804 authority). .

Define other system attributes (as applicable). See the JCIDS Manual for examples.

Section 4: Interoperability & Supportability

The purpose of this section is to specify how the individual system will operate within the Joint environment, including any physical or net-ready interoperability effects on joint or allied operations. Include factors that impact both the Air Force internally as well as outside agencies and programs.

Include any requirements for electromagnetic (EM) spectrum and environmental effects controls.

Include any requirements for intelligence supportability.

Include information or attributes for modular open system architecture (MOSA) or exportability that may impact future decisions about development, fielding, follow-on production, joint training, etc.

Include requirements for Weapons Safety Assurance (as required for munitions systems)

Outline non-materiel (DOTMLPF-P) changes that need to be made in order to successfully implement fielding of the residual capability in an operational environment. Address both a) changes that enable implementation, operations and support of the system and b) changes that must be made to support integration of the system with other fielded capabilities.

Section 5: Resourcing and Schedule.

The purpose of this section is to identify the overall resourcing plan and schedule of activities to provide the capability solution and highlight any challenges or risks to the planned timelines.

Highlight any technology challenges that may impact the feasibility of meeting the timelines or providing a usable capability within the timeline.

- **Glossary – Terms and Definitions**

Highlight any unique terms, definitions, acronyms or other references.

- **Architecture Products (determined by the Program manager).**

3.2. Rapid Fielding Requirements Document (RFRD).

Below is the format for the RFRD: Sponsors should refer to the CDD format and content guidelines found in the JCIDS Manual for additional information on how to develop each section as described below. The outline is intended to mirror the elements of a CDD but in an abbreviated, 5-section format.

- **Cover Page:**

[Classification]

Rapid Fielding Requirements Document

for

[Title of Program]

Document revision number: [version xx]

As of: [date]

Acquisition Decision Authority: [Office/Title]

Requirements Decision Authority: [Office/Title]

Primary and secondary POCs for the document sponsor. [Include name, title/rank, phone and both NIPRNET and SIPRNET email addresses.]

- **Validation Page: placeholder for decision memo**

  While in draft, a placeholder page will be included, with a statement of: "This document (include revision numbering) has not yet been validated and shall not be considered an authoritative source for the content herein. This document may be considered authoritative only when this page is replaced by a signed validation memorandum from the appropriate validation authority."

  Once validated by the validation authority, the placeholder page will be replaced by the signed memorandum indicating validation of the document.

- **Executive Summary:**

  Sponsor's explanation of why this effort is a candidate for MTA-804 rapid fielding acquisition.

  Briefly discuss the schedule to achieve a fielded capability and a description and definition of what the successful fielding and implementation of this new materiel solution will look like.

- **Document Body:**

Section 1: Operational Context, Challenge and Anticipated Threats.

Provide a summary of the operational context and challenge to be addressed, explaining how the capability solution will contribute to the missions and activities of the Air Force or meet and identified operational challenge within the anticipated threat environment.

Describe the timeframe under consideration and overall operational risk and priority to the AF.

Consider evolving threats to ongoing and follow-on RDT&E, production, and O&M resulting from technology transfer, espionage, and other adversarial collection efforts.

Summarize approved Critical Intelligence Parameters (CIPS), or information from Classified Information Compromise Assessment (CICA), which could critically impact the effectiveness and survivability of the proposed system.

Cite the latest DIA or Service-approved threat products used during the development of this document.

Section 2: Capability Requirements and Gaps/Opportunities.

The purpose of this section is to identify the mission needs/capability requirements and associated gaps, challenges or opportunities to be addressed by the proposed solution(s) and to outline the results of related analyses or studies conducted to determine the mission needs/required capabilities and gaps or opportunities and derive the required system-level performance attributes.

Section 3: Required System Attributes.

The purpose of this section is to outline the system level performance attributes that are necessary to address the capability requirements, gaps or opportunities or which are otherwise critical or essential to achieve mission goals and objectives.

System attributes must be assigned and have sufficient granularity to support contracting actions. Avoid over specification or inclusion of technical specifications.

Provide measures for each attribute in terms of threshold and objective values as appropriate, to indicate the acceptable level of performance for the solution to be effective in an operational environment.

Define other system attributes (as applicable). See the JCIDS Manual for examples.

Section 4: Interoperability & Supportability

The purpose of this section is to specify how the individual system will operate within the Joint environment, including any physical or net-ready interoperability effects on Air Force, Joint or allied operations. Include factors that impact both the Air Force internally as well as outside agencies and programs.

Include any requirements for electromagnetic (EM) spectrum and environmental effects controls.

Include any requirements for intelligence supportability.

Include information or attributes for modular open system architecture (MOSA) or exportability that may impact future decisions about development, fielding, follow-on production, joint training, etc.

Include requirements for Weapons Safety Assurance (as required for munitions systems)

Outline non-materiel (DOTMLPF-P) changes that need to be made in order to successfully implement fielding of the residual capability in an operational environment. Address both a) changes that enable implementation, operations and support of the system and b) changes that must be made to support integration of the system with other fielded capabilities.

Section 5: Resourcing and Schedule

The purpose of this section is to identify the overall resourcing plan and schedule of activities to provide the capability solution and highlight any challenges or risks to the planned timelines.

Identify funding across the FYDP, to include life cycle costs.

If funding comes from other sources, be prepared to discuss operations and support funding.

- **Glossary – Terms and Definitions**

Highlight any unique terms, definitions, acronyms or other references.

- **Architecture Products (determined by the Program manager).**

APPENDIX 1 - GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

HAF MD 1-7, *Deputy Chief of Staff for Strategy, Integration and Requirements (AF/A5)*

AFGM2019-63-01, 27 Jun 2019 – *Middle Tier of Acquisition, NDAA 2016 Section 804 authorities*

JCIDS Manual, Manual for the Operation of Joint Capabilities Integration and Development System

DoD Instruction 5000.02, *Adaptive Acquisition Framework*

DoD Instruction 5000.80, *Operation of the Middle Tier of Acquisition*

AF/A5RP Requirements Page on the AF Portal (*requires AF Portal sign-on to gain access)*:
https://www.my.af.mil; navigate via "Organizations A-Z", then enter keyword "A5RP".

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Requirements Process Abbreviations and Acronyms

ADM—Acquisition Decision Memorandum

IRSS—Information & Resource Support System

AFGK—AF Gatekeeper

MTA – Middle Tier of Acquisition (aka "804")

CDC—Capability Development Council

"804" is a reference to NDAA FY16, section 804

CDWG—Capability Development Working Group

OAS—AF/A5RA Office of Aerospace Studies

DA—(Acquisition) Decision Authority

PM—Program Manager

FOC –Full Operational Capability

RDM – Requirments Decision Memo

IOC—Initial Operational Capability

SME—Subject Matter Expert

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