DEPARTMENT OF THE AIR FORCE

WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

AFGM2018-63-146-01

13 June 2018

MEMORANDUM FOR DISTRIBUTION C
MAJCOMs/FOAs/DRUs

FROM: SAF/AQ
1060 Air Force Pentagon
Washington, DC 20330-1060

SUBJECT: Air Force Guidance Memorandum for Rapid Acquisition Activities

By Order of the Secretary of the Air Force, this Air Force Guidance Memorandum immediately establishes guidance for rapid acquisition activities using rapid prototyping and rapid fielding authorities from Section 804 of the National Defense Authorization Act of 2016. Compliance with this memorandum is mandatory—but hopefully freeing! To the extent its directions are inconsistent with other Air Force publications, the information herein prevails in accordance with Air Force Instruction (AFI) 33-360, *Publications and Forms Management*.

This guidance applies to military and civilian employees, including the Air Force Reserve and Air National Guard. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System Records Disposition Schedule. Waiver authorities are addressed in the attachment. This memorandum becomes void after one year has elapsed from its date of publication or upon publication of new instruction permanently establishing this guidance, whichever is earlier.

The authorities addressed in this Air Force Guidance Memorandum put both the reins of programs as well as our reputation in our hands: be dismissive of things that do not matter but very disciplined on things that do. I encourage you to make rapid acquisition our new Air Force standard, not an occasionally used exception. Thus far, we have eight rapid acquisition activities approved or in process, with approximately 25 years of potential schedule acceleration. Now that you have the same authority, I ask each Program Executive Office to track both schedule and delivery acceleration over traditional approaches. Our "Century Challenge" is removing 100 years of total schedule from the Air Force acquisition portfolio; then we will go further. Speed awaits!

William B. Roper, Jr.
Assistant Secretary of the Air Force
(Acquisition, Technology & Logistics)

Attachment: Rapid Acquisition Activities Guidance

Rapid Acquisition Activities Guidance

The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("Tier-0, Tier-1, Tier-2, Tier-3") number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the acquisition chain of command to the appropriate Tier waiver approval authority, or alternately, to the requestors Program Executive Officer for non-tiered compliance items.

1. Overview.

1.1. This guidance applies to rapid prototyping, procurement, and fielding activities (hereafter referenced as "rapid acquisition activities") using authorities provided by Section 804 of Public Law (P.L.) 114-92, as amended by Sections 849(a), 864(b), 897 and 1081 of P. L. 114–328 and Section 866 P.L. 115-91, hereafter referred to as "Section 804". Implementation of this guidance is highly encouraged as standard Air Force acquisition practice for all programs unless otherwise deemed unsuitable.

1.1.1. Table 1 provides details on requirements for using these authorities. A few highlights include that they are not funding limited, not classified as a Major Defense Acquisition Programs (MDAPs), not overseen by the Joint Capabilities Integrated Decision System (JCIDS), and not governed by the Department of Defense (DoD) 5000 series Directives (DoDDs) and Instructions (DoDIs).

1.1.2. By consolidating decision authority within the Air Force, Section 804 provides great potential for accelerating acquisition timelines beyond historical norms. Given the increasingly dangerous and complex challenges the Air Force faces, our solution cycle must be faster than any opponents'.

1.2. This guidance is meant to instruct Program Managers (PMs) and Milestone Decision Authorities (MDAs) on ways to tailor acquisitions using the Section 804 authorities. Many encouraged steps or practices may not apply to specific rapid acquisition activities. The PM and MDA should tailor rapid acquisition activities to the strategies, reviews, metrics, and operating thresholds that make sense for the program in question.

1.3. The following are encouraged for rapid acquisition activities when they apply:

1.3.1. Requesting waivers to statutory requirements that the program manager deems of little value through appropriate authorities and channels (e.g., Section 806 of P.L. 114-92),

1.3.2. Deviations from Federal Acquisition Regulation (FAR) and FAR supplements, where appropriate, approved at the lowest decision level allowable,

1.3.3. Tailored Air Force reviews, processes, and assessments that are necessary for achieving cost, schedule, and performance goals and statutory compliance,

1.3.4. Tailored documentation to meet the intent of statutory requirements,

1.3.5. Tailored metrics to track progress in lieu of cumbersome oversight reviews.

1.3.6. Reference Air Force Pamphlet (AFPAM) 63-128, *Integrated Life Cycle Management*, for additional information on tailoring.

1.4. Rapid acquisition activities should be executed using expedited contracting vehicles consistent with applicable authorities and streamlined acquisition procedures, wherever possible, including, but not limited to, Indefinite Delivery, Indefinite Quantity (IDIQ) contracts, cooperative agreements (when authorized by statute), other transactions for research (10 USC 2371), experimental authority (10 USC 2373), and Federal Acquisition Regulation Part 12 procedures (where appropriate).

1.4.1. Achieving speed is just as contingent on creative contracting as it is on creative program management. Contracting officers are encouraged to be aggressive using vehicle types, incentives and penalties to encourage timeliness and performance valued by the program. Whenever possible, contracting officers should be heavily consulted in building the acquisition strategy.

1.5. Upon successful operational demonstrations addressing validated requirements, rapid prototyping should transition into procurement and fielding via rapid fielding authorities, incorporation in a current acquisition program, or modification of a fielded system.

1.6. The PM and the MDA should keep key stakeholders—requirements, financial, test and evaluation, and operations—informed throughout rapid acquisition activities to increase execution speed and likelihood of fielding success. Wherever possible, tailored decision reviews should double as opportunities to update stakeholder communities. It takes a team to go fast.

2. Roles and Responsibilities.

2.1. The Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics), as the Service Acquisition Executive (SAE), will:

2.1.1. Provide guidance, oversight, and reporting requirements for rapid acquisition activities.

2.1.2. Serve as the MDA for rapid acquisitions meeting the funding criteria for Acquisition Category (ACAT) I as defined in DoDI 5000.02, *The Defense Acquisition System*.

2.1.3. Evaluate the performance of Program Executive Officers (PEO) on delegated rapid activities annually.

2.1.4. Provide waivers for rapid acquisition activities without approved requirements or operational test criteria.

2.1.4.1. The SAE will document the basis for such waivers and inform Deputy Chief of Staff for Strategic Plans and Requirements (AF/A5/8).

2.1.5. Meet periodically with the Chief of Staff of the Air Force (CSAF), Vice CSAF, and/or Deputy Chief of Staff for Strategic Plans and Requirements (AF/A5/8) on the status of rapid acquisition activities.

2.1.6. Submit additional funding requests that represent opportunities to accelerate rapid acquisition activities to the Assistant Secretary of the Air Force for Financial Management (SAF/FM) for inclusion on the Unfunded Requirements (UFR) List for future Reprogramming Requests.

2.1.6.1. The SAE will meet periodically with SAF/FM to provide updates on rapid acquisition activities.

2.1.7. Report status of rapid acquisition activities to the Congressional Defense Subcommittees.

2.2. Deputy Chief of Staff for Strategic Plans and Requirements (AF/A5/8) will support development of requirements for rapid acquisition activities.

2.2.1. Because rapid prototyping efforts are exempt from the Joint Capabilities Integration and Development System (JCIDS) process, formally-documented requirements are not necessary for these efforts. However, AF/A5/8 will initiate and document initial requirements for subsequent refinement during prototyping whenever possible.

2.2.2. Though rapid fielding efforts are also exempt from JCIDS, the A5/8 will provide a streamlined process for requirements validation.

2.3. The SAF/FM will support funding for rapid acquisition activities.

2.3.1. Funding will be submitted using the normal Planning, Programming, and Budgeting Execution process managed by the Air Force and Department of Defense.

2.3.2. SAF/FM will develop a Non-Advocate Cost Assessment to support the Acquisition, and Planning, Programming, and Budgeting Execution process for rapid acquisition activities where the SAE is the MDA.

2.3.3. SAF/FM will document rapid acquisition activities that may be further accelerated with additional resources on the Unfunded Requirements List (UFR) for future Reprogramming Requests. Inputs will be submitted by the SAE.

2.3.4. SAF/FM will meet periodically with the SAE to review rapid acquisition UFR entries and update on the status of reprogramming requests.

2.4. The MDA for a rapid acquisition activity will:

2.4.1. Initiate the rapid acquisition activity and ensure it meets the criteria for the Section 804 authority being applied.

2.4.2. Approve an acquisition strategy, acquisition oversight milestones, metrics and execution guardrails (i.e., thresholds that trigger a notice to, and/or review by, the MDA), timing and scope of decision reviews, and required program documentation.

2.4.3. Ensure rapid fielding efforts have validated requirements prior to commitment of funds unless waived by the SAE.

2.5. The PM for a rapid acquisition activity will:

2.5.1. Develop and propose an acquisition strategy, acquisition oversight milestones, metrics and execution guardrails, timing and scope of decision reviews, metrics, and required documentation to the MDA.

2.5.2. Ensure approved acquisition strategies are documented and executed according to guidelines in this guidance memorandum.

2.5.3. Challenge and evolve the acquisition plan based on discoveries and opportunities uncovered during prototyping and production (where applicable). Approval process for future substantive changes should be documented in an Acquisition Decision Memorandum (ADM).

3. Rapid Prototyping and Rapid Fielding (Middle Tier). Rapid acquisition activities are intended to be completed in less than five years using the statutory authorities provided by Section 804.

3.1. Rapid prototyping and fielding efforts conducted under Section 804 are not subject to the JCIDS Manual, DoDD 5000.01, *The Defense Acquisition System*, or DoDI 5000.02 except as specifically provided in this guidance memo or other DoD regulatory guidance. Statutory and regulatory guidance referenced in these publications, and not otherwise waived, still applies, including all applicable FAR, Defense FAR Supplement, or Air Force FAR Supplement requirements.

3.2. The SAE is the MDA for rapid acquisition activities meeting the funding criteria for ACAT I as defined in DoDI 5000.02. MDA for efforts meeting the criteria of ACAT II and III programs—as defined in DoDI 5000.02—is delegated to the PEO with further delegation allowed to qualified individuals meeting the definition, and following the process, in Chapter 1 of AFI 63-101/20-101, *Integrated Life Cycle Management*. Application of ACAT criteria for MDA determination does not result in the effort being an ACAT program or invalidate the previous paragraph.

3.2.1. Rapid prototyping, as defined by this publication, is the use of new technologies, applications, processes, and/or integration to develop and demonstrate capabilities that meet military needs under operationally-relevant conditions.

3.2.1.1. Under Section 804, the fielding of a prototype that can be demonstrated in an operational environment must be scheduled to occur no later than five years after approval of a contract award to begin rapid prototyping activities.

3.2.1.2. Rapid prototyping actions will end with the MDA determining if the effort results in a subsequent prototype, initiation of rapid fielding, transition to a traditional program, inclusion in an existing program, or termination.

3.2.2. Rapid fielding provides for the use of proven technologies, applications, processes, and/or integration to field production quantities of new, upgraded, integrated, and/or lower-cost systems with minimal development required. Rapid fielding can be used to identify and exploit opportunities to reduce total ownership cost.

3.2.2.1. Under Section 804, production must begin no later than six months after contract award, and fielding must be completed within five years of approval of contract award to begin rapid fielding activities.

3.2.2.2. The benchmark for complete fielding should be determined based on the circumstances of the particular program and can include Initial Operating Capability (IOC) and block fielding of systems.

3.3. Rapid acquisition activities should meet needs communicated by the Combatant Commands, Joint Chiefs of Staff, and/or the Air Force in a timely and effective manner. Exemption from JCIDS should not exempt the PM from engaging requirements authorities (e.g. Combatant Commands, Joint Chiefs of Staff, CSAF) to ensure rapid acquisitions either meet current or draft requirements (i.e., “requirements pull”) or might potentially generate a new requirement if successful (i.e., “technology push”).

3.3.1. Rapid prototyping efforts should evaluate the potential of innovative technologies, new capabilities, and/or improved processes to meet existing or emerging capability gaps or create future operational opportunities.

3.3.2. Initial requirements for rapid prototyping efforts should typically be validated no later than one year after initiation, but are not mandatory.

3.3.3. Rapid fielding efforts should consider the potential of existing products, proven technologies, and/or demonstrated processes to meet an existing or emerging capability gap or create future operational opportunities.

3.3.4. Requirements for rapid fielding efforts must be validated by the CSAF or designated representative prior to commitment of funds unless waived by the SAE.

3.4. Section 804 should be used for all future Air Force acquisitions to the maximum extent practicable when deemed suitable by the MDA. This acquisition approach has up to four tailorable phases depending on the pathway chosen:

3.4.1. Alpha: Prototyping,

3.4.2. Beta: Fielding and Initial Production,

3.4.3. Gamma: Modernization and Follow-on Production,

3.4.4. Delta: Operations and Sustainment.

3.5. The Alpha Phase should be based on guidance in this memorandum and the memorandum dated 10 April 2018 shown in **Figure 1**. Prudent risks can and should be undertaken unless mission criticality or operational urgency mandate a lower-risk approach. Risk/reward balance should be addressed and documented in the Acquisition Strategy Document (ASD). The PM should set design goals (e.g., digital engineering, open architecture, software-defined functionality, agile software development, net-enablement, incorporation of artificial intelligence) that may not be necessary for achieving the cost, performance, or schedule objectives of the prototype but that might enable easier capability improvement and sustainment throughout the life of the system. Schedule and funding defined in the ASD should be considered relatively fixed; consequently, the PM should determine when design goals introduce unacceptable risk to on-time, on-cost prototype delivery and demonstration. The PM should trade performance objectives to maintain schedule and budget. The MDA will subsequently decide whether the demonstrated performance is sufficient for subsequent fielding (given lifecycle considerations and operational needs) or whether a subsequent prototyping phase is needed/merited. The opportunity for successive rapid prototypes—vice premature creation of a Program of Record—is what enables smart risk taking in this phase. Strive to overachieve early on and fallback as reality intervenes.

3.6. The Beta Decision is of paramount importance. The MDA and PM will ensure prototyping efforts have aggressively tackled all cost-, schedule-, and performance-driving risks and conducted an operationally-relevant demonstration prior to initiation of a rapid fielding effort. This decision must terminate technically-flawed, prohibitively-costly, or operationally-unwieldy concepts with extreme prejudice.

3.6.1. Unlike traditional acquisition, rapid acquisition activities will not be considered Programs of Record until entering the Beta Phase.

3.7. The Gamma Decision should be based on balancing needed quantities, purchasing efficiencies, and upgrade options. Since the Alpha Phase design should prefer characteristics like open architectures, standard interfaces, and/or flat designs, this phase should assess the merits of

increasing production of current system configurations versus spiral modernization based on operational need, training, sustainment, and industry base considerations.

3.7.1. Smart modernization is encouraged over sustainment of obsolescing, less-effective, and more-costly systems which are readily available or producible.

3.8. The Delta Phase should mark the end of production but not improvement. System components, especially software, should be continually improved—vice merely being replaced or refreshed—assuming preferred upgradeable design approaches (discussed in Paragraph 2.4) are achieved.

3.8.1. Improvement options should be balanced against operational need, training, sustainment, and industry base considerations.

4. Funding.

4.1. Funding for rapid acquisition activities must be reasonably anticipated by the expected date of commitment to enable efficient personnel and contracting actions. Projected initiation date and criteria will be documented in the ASD.

4.1.1. Rapid prototyping and fielding efforts funded using the DoD Rapid Prototyping Fund may be subject to additional DoD guidance.

4.2. Funding for rapid acquisition activities will be managed using the normal Planning, Programming, and Budgeting Execution process managed by the Air Force and Department of Defense. Each PM should keep the Office of the Assistant Secretary of the Air Force for Financial Management (SAF/FM) informed of additional schedule acceleration that is achievable should additional funding be provided. SAF/FM will handle these opportunities using the UFR process.

5. Documentation.

5.1. It is the responsibility of the initiating or assigned PM to propose required program documentation, decision points, metrics, guardrails, as well as timing and scope of decision reviews, and to establish cost, schedule, risk, and performance objectives. This strategy should be determined at program initiation, approved by the MDA, and documented in the ASD.

5.1.1. Validated requirements should be documented in a previously-approved or subsequently coordinated requirements document. When available, the requirements document should include the system specification sheet as an attachment.

5.1.2. Documentation should be completed within a reasonable amount of time of requirements validation.

5.2. The PM should stress tailored documentation while complying with applicable statutory requirements, as well as the FAR, Defense FAR Supplement, or Air Force FAR Supplement requirements. Though speed through streamlining should be fervently pursued, it should be balanced with transparency and accountability considerations to maintain confidence in Air Force rapid acquisition programs.

5.3. At a minimum, the PM should consider the intent of the following documents and their applicability to their specific rapid acquisition authority and shall complete documents statutorily required (Tier-0):

5.3.1. Tailored Acquisition Baseline / Tailored Integrated Master Schedule,

5.3.2. Tailored Acquisition Strategy Document

5.3.3. Tailored Concept Analyses,

5.3.4. Clinger-Cohen Act Compliance, Risk Management Framework, and Cybersecurity Strategy,

5.3.5. Program Environmental Safety Occupational Health Evaluation,

5.3.6. National Environmental Policy Act/Executive Order 12114 Compliance Schedule,

5.3.7. Frequency Allocation Application,

5.3.8. Program protection to include critical program information, supply chain risk, and anti-tamper considerations,

5.3.9. Intelligence and Threat Information/Life Cycle Mission Data Plan.

5.4. The PM will plan for and document in the ASD the following items:

5.4.1. Acquisition and funding requirements to include how competition requirements applicable to the given contract and acquisition authority will be met

5.4.2. Demonstration and evaluation of performance of prototypes in an operational environment within five years (where applicable),

5.4.3. Risk management,

5.4.4. Transition planning for prototypes to new or existing acquisition programs,

5.4.5. Lifecycle costs, sustainment, logistics support, and system interoperability (if fielding, may be addressed in a tailored Life Cycle Sustainment Plan),

5.4.6. Test planning (may be addressed in a tailored Test and Evaluation Master Plan),

5.4.7. Intellectual property strategy.

6. System Engineering.

6.1. The PM should leverage and incorporate best practices for system engineering. Research should be conducted to assess performers' currency with best practices on design, manufacturing, maintenance, upgrading, and logistics.

6.1.1. New practices may be explored as the basis of a rapid acquisition activities.

6.2. The PM should adopt a Technical Risk Management process to identify, track, and mitigate technical risks.

6.2.1. Environment, safety, and occupational health risks must be accepted prior to exposing people, equipment, or the environment to known environment, safety, or occupational health hazards.

6.2.2. The risk acceptance authorities are the SAE for High risks, the PEO for Serious risks, and the PM for Medium and Low risks.

6.3. Digital engineering, modular open system architecture, software-defined capabilities, and commercial standards and interfaces are strongly encouraged and should be thoroughly assessed for all rapid acquisitions. Inclusions should be documented in the acquisition strategy.

6.4. Agile software development and development operations (DevOps) is required for all new initiatives unless waived by the MDA for reasons of prohibitive cost, schedule, or performance or other national security considerations. The software development strategy should be documented as part of the ASD.

7. Rapid Prototype Operational Test & Evaluation. In order to field a rapid prototype, the system must be demonstrated / tested in an operationally-relevant environment (Tier-0).

7.1. Wherever possible, scope and methodology for these tests should be co-developed with end users. User inputs should be documented as part of test planning.

7.2. Certification that sufficient user input supports classification of testing as "operationally-relevant" should be approved by the MDA prior to final testing.

7.2.1. It is understood that operational conditions cannot be fully recreated in controlled tests. The PM should demonstrate that major risks (i.e., ones without technical or operational "work-arounds") will be retired by the end of testing with only moderate/minor risks (i.e., ones with work-arounds) remaining. The PM should document these as part of test planning.

8. Reporting. The PM should provide adequate information to support Air Force evaluation of cost, schedule, and performance and to support MDA, Office of the Secretary of Defense, and Congressional reporting where required.

8.1. All rapid acquisition activities using investment funding shall be included on the Investment Master List (IML) unless waived by the SAE.

8.1.1. ACAT II and III-level rapid acquisition activities will be exempt from the Acquisition Master List (AML) and are required to complete quarterly, vice monthly, Monthly Acquisition Reports (MARs) unless waived by the SAE.

8.1.2. ACAT I-level rapid acquisition activities will be included on the AML and must complete monthly MARs that may be tailored to the reporting needs of the program unless waived by the SAE.

8.2. For rapid acquisition activities, the PM will ensure the following data is collected in Comprehensive Cost and Requirement System/Program Management Resource Tools (Tier-0):

8.2.1. Name of effort,

8.2.2. Capability gap or problem being addressed,

8.2.3. Qualifications as a rapid acquisition activity,

8.2.4. Schedule acceleration over a traditional acquisition approach,

8.2.5. Budget, funding source, and date funds were approved,

8.2.6. Completion data and criteria,

8.2.7. Current status,

8.2.8. Contracting approach and time to award.

8.3. The PM shall provide a brief (e.g., 1- to 2- page) tri-yearly report summarizing status of progress towards cost, schedule, and performance objectives; progress toward design goals; and likelihood of crossing guardrail thresholds in future.

8.3.1. The summary will be reviewed by the next highest MDA in the reporting chain (i.e., the PEO or SAE) for accountability as well as evaluation and application of best rapid acquisition practices across the Air Force. The SAE will provide his/her updates to Congress.

8.3.2. To ensure consistent and transparent reporting, summaries for rapid acquisition activities meeting the criteria of a MDAP will contain information similar to a Selected Acquisition Report (SAR) and will be submitted to Congress. Submittal of the summary report does not indicate the program is an MDAP, nor require entry or tracking in the SAR database.

8.4. Capabilities and Limitations Reports may be appropriate for prototypes provided to units for training or deployed directly to operational units. These reports have no prescribed format. Reference AFI 99-103, *Capabilities-Based Test and Evaluation*, for more information.

Table 1. Summary of NDAA 2016, Section 804 Statutory Language.

	Rapid Prototyping	**Rapid Fielding**
Purpose	Provide for the use of innovative technologies to rapidly develop fieldable prototypes to demonstrate new capabilities and meet emerging military needs	Provide for the use of proven technologies to field production quantities of new or upgraded systems with minimal development required.
Objective	Field a prototype that can be demonstrated in an operational environment and provide for a residual operational capability within five years of the development of an approved requirement.	Begin production within six months and complete fielding within five years of the development of an approved requirement.
Starts with	A merit-based process for the consideration of innovative technologies and new capabilities to meet needs communicated by the Joint Chiefs of Staff and the combatant commanders.	A merit-based process for the consideration of existing products and proven technologies to meet needs communicated by the Joint Chiefs of Staff and the combatant commanders
Includes	▪ Developing and implementing acquisition and funding strategies ▪ Process for demonstrating and evaluating the performance of fieldable prototypes developed pursuant to the program in an operational environment ▪ Transitioning successful prototypes to new or existing acquisition programs for production and fielding under the rapid fielding pathway or the traditional acquisition system	▪ Demonstrating performance and evaluating for current operational purposes the proposed products and technologies ▪ Developing and implementing acquisition and funding strategies for the program ▪ Considering lifecycle costs and addressing issues of logistics support and system interoperability ▪ Opportunities to reduce total ownership costs
Not subject to the Joint Capabilities Integration and Development System Manual and Department of Defense Directive 5000.01, except to the extent specifically provided in guidance		
Term "major defense acquisition program" does not include an acquisition program or project that is carried out using the rapid fielding or rapid prototyping acquisition pathway (FY18 NDAA Sec 831)		

Attachment 1
GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References
AFI 33-360, *Publications and Forms Management*
AFMAN 33-363, *Management of Records*
National Defense Authorization Act of 2016, Public Law (P.L.) 114-92
AFPAM 63-128, *Integrated Life Cycle Management*, 10 Jul 2014
DoDI 5000.02. *Operation of the Defense Acquisition System*, 7 Jan 2015
DoDD 5000.01, *The Defense Acquisition System*, 12 May 2003
AFI 63-101/20-101, *Integrated Life Cycle Management*, 09 May 2017
AFI 99-103, *Capabilities-Based Test and Evaluation*, 06 Apr 2017

Prescribed Forms
None

Adopted Forms
AF Form 1067, *Modification Proposal*

Abbreviations and Acronyms

ACAT—Acquisition Category
ADM—Acquisition Decision Authority
AFGM—Air Force Guidance Memorandum
AFI—Air Force Instruction
AFMAN—Air Force Manual
AFPAM—Air Force Pamphlet
AFRIMS—Air Force Records Information Management System
AML—Acquisition Master List
ASD—Acquisition Strategy Document
CSAF—Chief of Staff of the Air Force
DoDD—Department of Defense Directive
DevOps—Development Operations
DoDD—Department of Defense Directive
DoDI—Department of Defense Instruction
FAR—Federal Acquisition Regulation
IDIQ—Indefinite Delivery, Indefinite Quantity
IML—Investment Master List
JCIDS—Joint Capabilities Integration and Development System
MDA—Milestone Decision Authority
MDAP—Major Defense Acquisition Program
NDAA—National Defense Authorization Act
MAR—Monthly Activity Report
MDAP—Major Defense Acquisition Program
PEO—Program Executive Officer
P.L.—Public Law
PM—Program Manager

SAE—Service Acquisition Executive
SAR—Selected Acquisition Report
UFR—Unfunded Requirements
USC—United States Code

Terms

Digital Engineering— An integrated digital approach that uses authoritative sources of systems' data and models as a continuum across disciplines to support lifecycle activities from concept through disposal.

Attachment 2
GUIDELINES FOR RAPID PROTOTYPING

Steps to a Rapid Strategy. For reference, the memorandum in **Figure 1** provided guidelines from the SAE to successfully implement rapid prototyping. In the case of conflicts, this AFGM takes precedence. For example, all MDAs, rather than SAE only, are now able to approve Section 804 activities.

Figure 1. Seven Steps for Incorporating Rapid Prototyping into Acquisition.

DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

10 APR 2018

MEMORANDUM FOR THE ACQUISITION WORKFORCE

FROM: SAF/AQ
1060 AF Pentagon
Washington, DC 20330-1060

SUBJECT: Seven Steps for Incorporating Rapid Prototyping into Acquisition

It's been great working with so many of you these past six weeks, especially on innovative approaches to acquisition. Our new authorities provide so many tools to be creative; using them should routinely be our default "fast path".

Given this, I wanted to send out guidelines on how to break a traditional acquisition strategy into a multi-step rapid prototyping and rapid fielding strategy. Using these (and the summary sheet I sent out two weeks ago) should give you new options to aim higher and run faster. I know it takes a leap of faith to do something new, especially when speed and failure have historically been discouraged, but it's time to flip the script. When you have taken a smart risk, busted bureaucracy, or found a faster way to achieve results, email me directly with the subject line: "Celerity!". I want to cheer you on! Speed is a winning strategy: I hope these steps help you achieve it.

Step 1: **Have an aggressive goal:** It starts with having a goal that's over and above your minimum requirements. Or maybe you have a newly discovered opportunity with no requirements. Whether faster delivery, better performance, designing your system for reuse in other programs, or adding multi-domain capability, if something newer/better/riskier unlocks interesting possibilities, yours is a prime candidate for prototyping. Just fill in the statement: "If X goes right, then Y happens much better." X could be a new technology, manufacturing technique, open architecture, or anything that changes the game. In normal acquisition, X is typically too immature to pursue with a traditional strategy because discovery is required to understand it. Prototyping makes discovery your friend, allowing smart risk-taking and design exploration prior to subsequent procurement and fielding decisions. So it's okay to fail here—fully or partially—because subsequent steps provide a safety net. As long as the risk versus reward of pursuing Y makes sense, you're ready for the next step.

Step 2: **Bound your risks:** Does your proposed effort obey the following rule: "If both X1 and X2 go right, then Y happens much better."? If yes, stop—only one X-factor per customer! Though I'm sure there are exceptions, prototyping is at its best when introducing only one new hard thing and laser-focusing on it. (Some of the worst failures in acquisition result from too many concurrent high risks.) If your program contains a significant amount of software, you automatically have an X-factor in agile development. Agile is fundamentally different than "waterfall" development, so traditional estimation techniques (whether cost, fielding, or risk) simply do not apply. So don't sweat it: create an acquisition strategy based on prototyping that culminates in a separate fielding decision. This is covered in the next step.

Step 3: **Be aggressive but not greedy:** Your plan should have both your traditional and rapid plans on one slide. You will have a traditional IOC (if X completely fails) and a rapid IOC (if X is completely achieved). Of course, perfection never happens, so the rapid IOC will start sliding to the right. Your job is to degrade gracefully because greed kills speed. To succeed at this, you need to know the components of your traditional plan that are unaffected by the outcomes of prototyping and those obviated by them. The unaffected are just long-leads that should be completed prior to impacting potential procurement and fielding decisions. (An example might be purchasing long-lead hardware for a potential radar procurement when you're also prototyping a new digital backend. The hardware isn't part of your prototype, but if your prototype succeeds, the lack of hardware immediately impacts your procurement schedule. The rule here is to proceed towards fielding assuming success as long as the assumption is reasonable.) Correspondingly, the obviated should be maximally delayed without impacting the schedule, and the obviators, maximally accelerated. This saves cost and starts the transition from the slow to the fast track.

Step 4: **Constrain time and budget, not the final performance:** You must understand mission requirements and metrics but avoid writing down minimum acceptable performance numbers for the prototype if possible. (You'll get no better than them if you do.) When asked "How far?" you reply "As far as possible given the budget and prototyping timeline". Religious devotion to schedule and budget constraints is a must; without it, one rarely make tough calls early enough to make it to the fast track. "Not one day more, not one dollar more" is your motto for finishing a complete partial fast track vice a partial complete fast track. (Read that sentence twice; the subtle difference matters!) It takes discipline to find knees in the curve because they are an optimization vice maximization. Finding them and going fast does not mean going sloppily. Far from it! It takes rigor to be fast: you should be a zealot for independent risk and cost assessments. You'll run out of money if you prioritize the wrong risks; you'll go broke if you underestimate costs. Tailor your acquisition documentation accordingly. Your prototype will end in a Milestone Decision Authority terminating, creating a subsequent prototype, or initiating rapid fielding, so there is no need to worry about the full 5000.2-series burden of proof upfront. The key is common-sense tailoring to the needs of your prototype and potential subsequent procurement, and what's more, you have to think broader than mere acquisition because you're not flying solo. You'll have to adopt radical collaboration to succeed in the next step.

Step 5: **It takes a team to go fast:** As you begin bending metal, the requirements, acquisition, finance, and test plans will be continually impacted. It takes good old-fashioned collaboration to avoid diffusion of purpose. Your "acquirements" come through continual dialog and input from operators, finance, contracts, legal, and test; it's what they need tempered by what you can build/field. Finding a mutually agreeable 80-90% solution is octane for speed. This is the knee in the curve!

Step 6: **Get a signature from me.**

Step 7: **GO FAST:** Keep me in the loop. Get ready for procurement/fielding. Steal time from the enemy.

William B. Roper, Jr.
Assistant Secretary of the Air Force
(Acquisition, Technology & Logistics)