

ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION (INTEGRATION)



FISCAL YEAR 2019 CONTINUOUS PROCESS IMPROVEMENT PLAN

01 October 2018

This page intentionally left blank.

MEMORANDUM FOR SAF/AQ

FROM: ACQUISITION CHIEF PROCESS OFFICER

SUBJECT: Fiscal Year 2019 Air Force Continuous Process Improvement Plan

References: (a) HAF MD 1-10, 02 Sep 16, Assistant Secretary of the Air Force (Acquisition)
(b) Delegation of Acquisition Chief Process Officer and Value Engineering Senior Management Official to SAF/AQXP Deputy Director, 04 Jan 16

1. In today's complex acquisition environment our success relies on an Enterprise commitment to Continuous Process Improvement (CPI). Since 2009, the Air Force (AF) acquisition strategic plan and the AF Acquisition Process Model (APM) have served to guide our actions in support of Department of Defense and AF initiatives improving acquisition performance. Our Enterprise Performance data confirms improved performance in our Active Acquisition Category I Major Defense Acquisition Program and Major Automated Information System portfolio. As a documented example, according to the Secretary of the Air Force's Acquisition Annual Report, the aggregate ACAT I cost estimate decreased by \$5.6B, from \$255.6B, which represents a 2.2% decrease in ACAT I cost over FY17. The previous five fiscal years have averaged a 1% decrease per year in cost estimates.

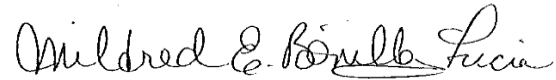
2. Our CPI approach is to continually discover and eliminate the impediments to effective acquisition. Our goal is to find ways to be more efficient, NOT to fight fires, or place blame for problems or failures. We seek to learn what causes things to happen and then use this knowledge to reduce variation, eliminate activities that provide no value to the organization, and improve customer satisfaction. During FY19, we will continue to extend CPI services to current/new customers and further institutionalize the APM via training, articles, and roadshows to increase awareness.

3. As such, the purpose of the Assistant Secretary of the Air Force (Acquisition) (SAF/AQ) CPI Plan for 2019 is to assist the SAF/AQ Enterprise in "creating opportunities to reorganize, retrain, refocus, and/or remove barriers", thus becoming more effective and efficient in executing AF acquisition.

4. This plan, the third in this series, focuses on enterprise-driven, process-based, results-oriented themes. The ultimate goal of the plan is to help our Enterprise, and ultimately our Program teams to become more effective and efficient in solving problems, executing smart business decisions, reducing acquisition cycle time, and increasing process outcomes.

5. The document is organized in two primary sections: The Plan and Attachments. Building upon previous successes, the Plan outlines the specific efforts the SAF/AQXP CPI Branch will concentrate on in 2019. These efforts include outreach, training and investing in process improvement activities. The Attachments contain information that describes the execution of the CPI program. Execution and day-to-day operations of this plan is the responsibility of the

Chief, CPI Branch. To learn more about the SAF/AQ CPI execution and facilitation services please visit our SharePoint Site at <https://cs2.eis.af.mil/sites/10263/dir/integration/strategy/cpi/default.aspx> and the USAF APM at <http://afacpo.com/acpo/>.

A handwritten signature in black ink that reads "Mildred E. Bonilla-Lucia". The signature is written in a cursive style with a prominent loop at the end of the last name.

MILDRED E. BONILLA-LUCIA, NH-IV
Acquisition Chief Process Officer

TABLE OF CONTENTS

Introduction.....	1
Approach to FY19 CPI Deployment.....	1
2019 SAF/AQ CPI Goals.....	2
Attachments	3
Attachment 1 Roles, Responsibilities, and Expectations.....	4
Attachment 2 CPI Execution Process	5
Attachment 3 AF CPI Training and Certification.....	7
Attachment 4 Business Case Development	9
Attachment 5 CPI Communication Plan.....	10
Attachment 6 CPI Terms and Techniques	11
Attachment 7 SAF/AQX CPI Points of Contact.....	16
Attachment 8 Website & Document References, and Acronyms.....	17

INTRODUCTION

The focus for the Assistant Secretary of the Air Force (Acquisition) (SAF/AQ) Continuous Process Improvement (CPI) Plan for Fiscal Year (FY) 2019 remains continued focus on creating customer-driven, process-based, results-oriented themes for becoming more effective and efficient in solving problems, executing smart business decisions, improving acquisition cycle time, and increasing process throughput. The FY19 SAF/AQ CPI Plan defines how Air Force CPI execution will develop and implement solutions designed to reduce inefficiencies. This effort aligns with Department of Defense (DoD) and Secretary of the Air Force (SECAF) five lines of effort (Restore readiness; Cost-effectively modernize; Drive innovation; Develop exceptional leaders, and Strengthen our alliances), the United States Air Force (USAF) Strategic Plan, and SAF/AQ's priorities, such as Rapid Acquisition implementation, utilization of Middle Tier Authorities (sec 804) authorities, and the institutionalization of the Acquisition Process Model (APM).

Consistent with HAF MD 1-10 *Assistant Secretary of the Air Force (Acquisition)*, SAF/AQX "leads AQ's strategic management efforts, lessons learned processes, enterprise-wide CPI program, and implements acquisition change management."

APPROACH TO FY19 CPI DEPLOYMENT

The CPI Branch within the Acquisition Strategy and Plans Division (SAF/AQXP), designs, approves, maintains, standardizes, analyzes, executes, and monitors CPI for the Air Force acquisition enterprise. In this role, the team will execute the following:

1. Lead and establish the requirements for the SAF/AQ CPI program.
2. Lead acquisition CPI strategic planning, establish goals, objectives, and measures.
3. Lead SECAF and SAF/AQ sponsored, enterprise-wide process improvement efforts.
4. Approve CPI support for high-visibility, enterprise-wide initiatives requiring investment of SAF/AQ resources.
5. Implement acquisition change management.
6. Ensure CPI efforts are linked to the National Defense Strategy, USAF Strategic Plan/Direction, Acquisition Agility Flight Plan and SAF/AQ priorities, vision and goals.
7. Craft CPI messages and manage communications for the SAF/AQ CPI enterprise.
8. Provide training to acquisition personnel on the application of CPI tools and techniques.
9. Track and report potential, on-going, and completed CPI initiatives across SAF/AQ.
10. Maintain the APM as the USAF's authoritative tool for capturing approved processes as applied to acquisition programs.
11. Provide APM training.
12. Lead for SAF/AQ the Value Engineering (VE) Program. Identify and recognize VE execution through VE awards.
13. Define and maintain a repository for AF acquisition processes at the Program Executive Officer (PEO) level and above.
14. Certify Green-Belt level CPI practitioners, validating certification of other CPI disciplines and maintaining a cadre of CPI practitioners appropriate for executing a robust SAF/AQ CPI program.
15. Mentor SAF/AQ CPI practitioners.
16. Review Education with Industry papers for process improvement opportunities.

17. Coordinate CPI subject matter expertise as directed.
18. Make Black Belt recommendations to SAF/MG.
19. Integrate Agile principles into the CPI Methodology.

The CPI priorities:

1. **Empower Stakeholders to Effect Change** – As a SAF/AQXP team, we must improve our relationships and transparency by communicating and collaborating with our stakeholders to gain a better understanding of what the acquisition enterprise needs to become more efficient and effective; we must help our stakeholders at all levels accomplish their missions using all the tools at our disposal.
2. **Foster CPI Culture** – We must share the organic and SAF/AQ specific successes and benefits with our stakeholders to demonstrate the utility of CPI; proving we can leverage successes and improve enterprise performance, thereby creating a culture that values CPI. We will leverage our success and improve business acumen to achieve the best program outcomes possible.
3. **Provide Excellent CPI Facilitation and Documentation** – As the core of the CPI execution process and the foundation for communicating our results, we must “practice what we preach” as we conduct CPI activities and continuously strive to better our performance using the tools and techniques that best suit each facilitation effort.

2019 SAF/AQ CPI GOALS

SAF/AQXP will execute the FY19 SAF/AQ CPI Plan. This plan is divided in three areas with specific goals as follows:

1. **Continuous Process Improvement**
 - a. Advise SAF/AQ leaders regarding CPI execution and implementation.
 - b. Execute the CPI resources as directed by AQX leadership.
 - c. Conduct a minimum of eight events.
 - d. Identify CPI opportunities, evaluate project maturity and provide success criteria and overall recommendation.
 - e. Formalize Business Process Reengineering (BPR), CPI, Lean 6-Sigma, and VE certification for the acquisition workforce.
 - f. Adapt Agile methodology within CPI execution to manage changing priorities, increase productivity, risk reduction, cost reduction, etc.
 - g. Build Core Group of SAF/AQ Facilitators. Per AFI 38-401, *Continuous Process Improvement*, request Air Force CPI equivalency certification for SAF/AQ members with either Air Force Smart Operations or Industry Experience. Deliver at least two Green Belt Training Courses. Mentor SAF/AQ CPI facilitators during their CPI events.
 - h. Create Collaborative Environment – Utilize SharePoint to post relevant information to include but not limited to CPI event documentation, team POCs, and links.
 - i. Routinely highlight CPI successes by writing articles for the various acquisition publications once per quarter (four total).
2. **Acquisition Process Model**
 - a. Maintain APM Working Group and incorporate APMWG approved changes.

- b. Offer virtual and in-person APM familiarization and update training.
 - c. Enhance APM through strategic and tactical partnerships.
 - d. Raise APM awareness and usage with acquisition stakeholders.
- 3. Value Engineering**
- a. As the AF VE Senior Management Official, form relationships with organizations beyond SAF/AQ.
 - b. Document process for capturing VE Annual Award Metrics collection in support of Annual VE Report.
 - c. Develop Air Force VE Plan, Annual Report, and participate in Awards Program.
 - d. Increase awareness and participation.

ATTACHMENTS

The remaining sections of this document contain information related to the operations of the SAF/AQ CPI Program. This information is reviewed on an annual basis for currency.

- Attachment 1: [Roles, Responsibilities, and Expectations](#)
- Attachment 2: [CPI Execution Process](#)
- Attachment 3: [AF CPI Training and Certification](#)
- Attachment 4: [Business Case Development](#)
- Attachment 5: [CPI Communication Plan](#)
- Attachment 6: [CPI Terms and Techniques](#)
- Attachment 7: [FY19 SAF/AQX CPI Points of Contact](#)
- Attachment 8: [References & Acronyms](#)

ATTACHMENT 1

ROLES, RESPONSIBILITIES, AND EXPECTATIONS

Implementing SAF/AQ CPI successfully will take a combined effort across the acquisition enterprise. The descriptions below summarize the basic contributions required of each group. All acquisition professionals will fall into one or more of these categories.

SAF/AQ, SAF/AQX and subordinate acquisition leadership – Independent of the CPI Execution Process, acquisition leaders at all levels must clearly articulate their organization’s goals, demonstrating consideration for and alignment with the goals articulated at higher levels.

Prior to authorizing a CPI activity, acquisition leaders who serve as “champion” for CPI events are required to define the benefits the CPI activity is anticipated to generate. This information is documented in the **CPI Project Charter** and the **CPI Return on Investment Scoping Document**.

Leaders should, as a minimum, serve as informed consumers of CPI products and services. They should be active advocates who set high expectations of their teams tasked with implementing CPI projects. The success of any CPI program hinges on leadership: 1. Support, 2. Clearly defined objectives, 3. Attention to the projects progress.

Finally, leaders must articulate their CPI needs, the level of organic expertise they wish to maintain, and the resources they intend to invest to achieve their desired CPI capabilities and outcomes. Leaders should appoint CPI experts by name, support them throughout their certification process, and effectively employ them as advisor(s), facilitator(s), and trainer(s) upon certification. Per AFI 38-401, it is recommended that each Functional Directorate, Capability Directorate and PEO should have at least one certified CPI practitioner.

SAF/AQX – Allocates resources to fully execute the acquisition enterprise’s CPI programs. Provide SAF/AQ with actionable needs and updates on present CPI status (BURP, Top 3, Monthly Activity Reports). Extend CPI expertise to those efforts that link to the Acquisition Enterprise.

SAF/AQXP – As led by the Acquisition Chief Process Officer (ACPO), SAF/AQXP CPI Branch is charged with the daily oversight of the CPI program.

Acquisition Professionals – Acquisition Professionals will be encouraged to bring forth process improvement ideas for consideration. Every member has the potential to improve processes. CPI awareness and training will enable those professionals to recognize improvement opportunities.

ATTACHMENT 2

CPI EXECUTION PROCESS

SAF/AQ CPI Process is designed for agility, scalability, and results; allowing for consistent implementation by any CPI expert across the acquisition enterprise. The diagram below is derived from the APM 1.5.4.10 *Execute acquisition CPI* and represents the overall SAF/AQ CPI management and the Rapid Improvement Event (RIE) Execution subset.

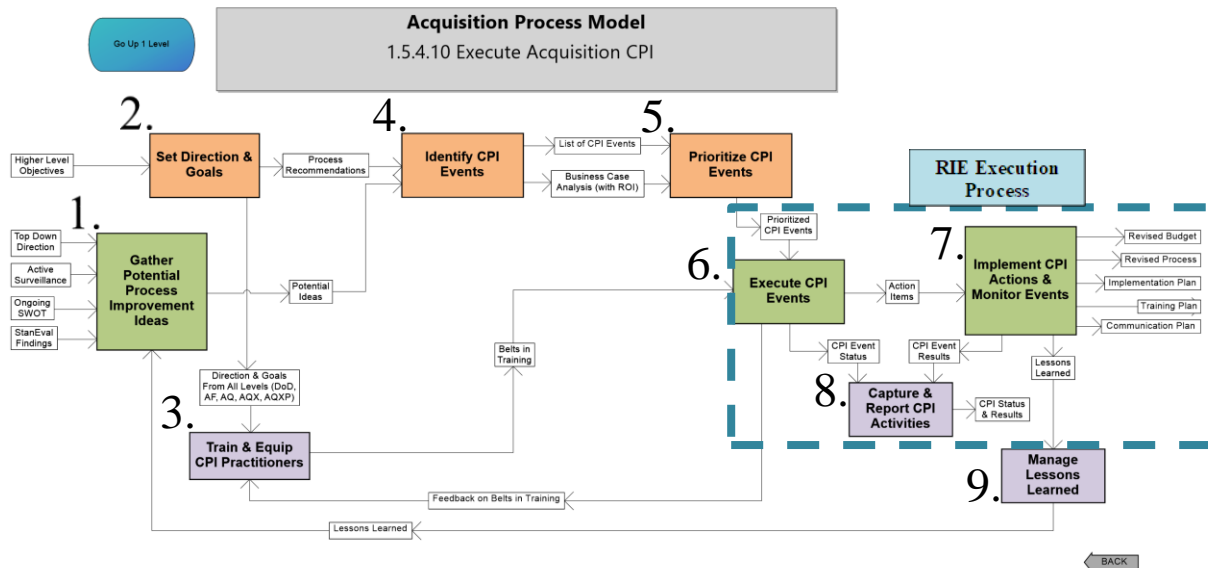


Figure 1: CPI Execution Process

The **RIE Execution Process** encompasses those activities specific to CPI events executed by SAF/AQXP CPI Branch.

CPI execution process steps:

1. **Gather Potential Process Improvement Ideas** – Collect ideas for potential CPI events from a variety of sources, such as leadership direction and external recommendations.
2. **Set Direction and Goals** – Leaders in every organization are responsible for articulating the vision, mission, goals, objectives, etc., and publishing them as appropriate. This step establishes the need to capture that information as the foundation for CPI activities.
3. **Train and Equip CPI Practitioners** – Along with goals, having a cadre of certified experts is another foundational element for a successful CPI program. This step captures the need to train and mentor Air Force CPI facilitators, while collaborating with other organizations to leverage resources or fund a contract to provide the required expertise. More information about CPI Certification and Training can be found in Attachment 3: **AF CPI Training and Certification**.
4. **Identify CPI Events** – Recognize that ideas for CPI can come from anywhere and must be collected and organized to enable action. SAF/AQXP will maintain a repository of these

ideas. The CPI process recommends starting at least 30 days in advance of an event. The Team Lead will meet with the facilitation team and lay out the way forward (to include approved scoping document, **Attachment 4**) in preparation for the event.

5. **Prioritize CPI Events** – Resource constraints of time, personnel, and funds, a prioritization determination must occur. The ACPO decides which ideas to pursue and when, using the chain of command and existing bodies to make investment decisions as required.
6. **Execute CPI Events** – Executing CPI events entails the planning, training, facilitating, and documenting of CPI activities using the appropriate tools and methodologies. The team lead and the facilitation team will:
 - a. Conduct pre-meetings to develop an event plan
 - b. Develop and discuss and execute homework and pre-meeting activities
 - c. Identify tools, techniques and measures of success for the event
 - d. Produce post event write-up
7. **Implement CPI Actions and Monitor Events** – The developed solution set will be documented in a CPI implementation plan, capturing how the solution improved (or does not improve the subject process over time).
8. **Capture and Report CPI Activities** – Appropriate documentation of SAF/AQ CPI events deposited in dedicated repositories. The facilitation team will capture all meeting artifacts and tools. The team will provide the outbrief from the meeting to the group no later than 48 hours following the end of the meeting. The team may conduct a follow-up telecon with the team the week following the meeting to discuss any further additions or actions. The SAF/AQ CPI team will summarize the event using the AF Practical Problem-Solving Method.
9. **Manage CPI Lessons Learned** – SAF/AQXP has the responsibility for maintaining a process improvement lessons learned repository and sharing the information as appropriate.

ATTACHMENT 3

AF CPI TRAINING AND CERTIFICATION

Training is critical for effective CPI employment. All personnel should be afforded the opportunity to attend AF CPI training. However, any personnel that have not received AF CPI training and find they are part of a SAF/AQ event, will receive Just-in-Time CPI training.

To support SAF/AQ CPI implementation, SAF/AQXP maintains a cadre of AF CPI experts. These experts are an essential AF CPI support mechanism and enable execution through process understanding, facilitation, documentation, and mentorship.

SAF/MG is responsible for producing the AF CPI training material and overall AF CPI certification policy. The SAF/AQ Master Process Officer, pursuant to AFI 38-401, in coordination with the ACPO will:

1. Provide SAF/AQ Green Belt Training, using the Center for Reengineering and Enabling Technologies instructors
2. Certify SAF/AQ Air Force CPI Green Belts
3. Recommend SAF/AQ Green Belts to attend Black Belt Training
4. Recommend SAF/AQ Black Belt Certification packages to SAF/MG
5. Provide Just-in-Time Air Force CPI Training
6. Collaborate with other CPI offices across the Air Force

The SAF/AQXP CPI Branch executes structured problem solving using CPI methodologies such as: Air Force CPI Practical Problem-Solving Method; Lean; 6-Sigma; Business Process Reengineering; Theory of Constraints; and VE.

Leadership requesting SAF/AQ CPI resources are required to comply with the standard of work defined for entry, conduct of, and reporting of CPI activities. SAF/AQXP will satisfy the CPI education and training of the acquisition workforce, either by conducting and facilitating training or collaborating with other CPI practitioners in support of the request.

To maintain an adequate level of CPI knowledge and expertise in the acquisition community, leaders should encourage their subordinates to take advantage of these opportunities:

CPI Training Opportunities			
Course	Delivery Method	Attendees	Expected Outcomes
Air Force Continuous Process Improvement Certification Training			
Green Belt Course	In-Person (Master Process Officer)	As specified by SAF/AQ leadership	Execute the Practical Problem-Solving Method and related tools at the appropriate level of mastery.
Black Belt Course	In-Person (SAF/MG)	As specified by SAF/AQ leadership	Execute the Practical Problem-Solving Method and related tools above Green Belt level complexity threshold.
Senior Leader Course	In-Person (SAF/MG)	O-6s; E-9s; GS-15s and equivalents	Able to employ Lean Six Sigma-CPI in leading organizational change.
Continuous Process Improvement Training Courses			
CLE 015 <i>CPI Familiarization</i>	Defense Acquisition University Online	Recommended for all SAF/AQ employees	Provides basic information on CPI methodologies and tools and how their implementation can improve organizational performance.
HBS 434 <i>Process Improvement</i>	Defense Acquisition University Online	Recommended for all SAF/AQ Employees	Basic knowledge of business processes and how to carry out business process improvement methodologies.
CLE 001 <i>Value Engineering</i>	Defense Acquisition University Online	All SAF/AQ employees	Overview, application and implementation of VE.
Business Process Re-Engineering	In-Person (SAF/AQXP CPI Branch)	Lt Cols, GS-14s and above; civilian equivalents	Mastery of concepts and their application to SAF/AQ issues.
Just-in-time Training	In-Person (SAF/AQXP CPI Branch)	CPI activity participants	Familiarity with tools to be used during CPI event.

ATTACHMENT 4 BUSINESS CASE DEVELOPMENT

The execution of a CPI event is predicated on an approved CPI Scoping Document. The project scoping document identifies the issue(s), impacts, return on investment, stakeholders and is signed by the senior process owner.

Project Scoping Document Template

Process Improvement Project:	
Senior Process Owner:	
Proposed Schedule:	
Problem Statement: (Why are we doing this?)	
Impact Statement: (How will this impact AF, SAF/AQ, efficiencies)	
Start/Stop Conditions: (Scope of the project)	
Not within Scope: (Things not to cover)	
Description of Current State Process:	
Current State Process Measures & Metrics: (Critical Success Factors)	
Goals and Expected Outcomes:	
Governing Policies/Instructions:	
Return on Investment/Type of Benefit: (From return on investment template)	
Team Leads:	
Team Members:	
Risks & Other Issues/Concerns:	
Recent/Current Work Being Done:	
APM Linkage:	
Strategic Alignment (Strat Plan, SAF/AQ Strategic Plan, etc.)	

ATTACHMENT 5

CPI COMMUNICATION PLAN

CPI communications are essential for execution of the CPI program. SAF/AQXP CPI team will maintain the following communications protocol:

CPI Awareness:

1. Articles to various periodicals and information sites
2. Presentations to interested parties and Government and Industry venues

Weekly:

1. Action-officer level discussion to include but not limited to:
 - a. Status of CPI related administrative work
 - b. Status of all CPI projects
 - c. CPI opportunities
 - d. Issues
2. Branch Chief level discussion to include but not limited to:
 - a. Status of all CPI projects
 - b. CPI opportunities
 - c. Issues warranting Branch Chief awareness/intercession
 - d. Status of APM

Monthly:

1. SAF/AQXP implementation of CPI tenets
2. APM use across acquisition enterprise
3. Prioritization and Identification of improvement opportunities
4. APM Configuration Control Board
5. Near- and mid-term CPI events and training sessions
6. Calendar review with Chief Process Officer to update status of all CPI tasks
7. Review/discussion of VE progress

Quarterly:

1. SAF/AQXP CPI team meet with CRET
 - a. Discuss operational and strategic CPI plans and issues
 - b. Provide and conduct CPI-centric training (AF CPI, APM, BPR, VE, TOC, etc.)
2. Report progress against SAF/AQXP goals to Chief Process Officer
 - a. Review list of trained CPI personnel and those remaining to be trained
 - b. Review event paperwork
 - c. Review progress on metrics and achieving established goals
3. APM Working Group meetings

Annually:

1. Per OSD guidance, VE metrics and annual awards submission
2. CPI Metrics
3. Strategy
4. Priorities
5. Direction
6. CPI Plan review and update

ATTACHMENT 6

CPI TERMS AND TECHNIQUES

Continuous Process Improvements will be achieved through the tailored use of situation-appropriate CPI tools and techniques.

Tool / Technique	Use	Definition
5 WHYS / Root Cause Analysis	Root Cause	Tool applied to identify the root cause of the problem.
5-S	Organization and Visual Controls	5-S derives its name from five Japanese terms beginning with the letter 'S'. 5-S creates a workplace suited for visual control and lean production. Collectively, the 5-S's outline how to create a workplace that is visibly organized, free of clutter, neatly arranged, and clean. <ol style="list-style-type: none"> 1. Sort 2. Set In Place / Set In Order / Straighten / Store 3. Shine / Sweep 4. Standardize 5. Sustain / Self Discipline 6. Safety (Optional)
Affinity Diagram	Group Ideas	An affinity diagram is used to show activities in homogeneous groupings known as affinity groupings. This is a common tool used during brainstorming sessions.
Balanced Scorecard	Align Strategic Efforts	A technique used to align enterprise activities to the key business objectives of the organization. It can be used to measure performance in: finance, business processes, customer satisfaction, learning and growth, business strategy, Innovation. This concept balances activities in all areas to keep systems in check and aligned with strategic goals.
Brainstorming	Idea Generation	A method for generating many ideas in a short period. There should be no boundaries to ideas, synergistic, and rapid. The list of ideas will generally be narrowed down to a prioritized list of potential projects, recommendations, or solutions to problems.
Carousel Brainstorming	Idea Generation	A Carousel Brainstorm is a variation of the Walkabout Review process and allows multiple groups to work concurrently statements or issues for consideration. Groups brainstorm at one station and then rotate to the next position where they add additional comments. As new thoughts and ideas emerge, the list grows. When the carousel "stops" the original team prepares a summary and then presents the large group's findings.
Cause-effect Diagram or Fishbone Diagram	Root Cause	A Diagram that shows the relationship of all factors (causes) that lead to the given situation (effect). It identifies major causes and breaks them down into sub-causes and further sub-divisions.
Change Management	Fundamental or Organizational Changes	Approach to transition individuals, teams, and organizations to a desired future state, by reducing and managing resistance to change of organizations soft-side "people".

Tool / Technique	Use	Definition
Cost/Benefit Analysis	Analysis of Alternatives	A systematic approach to estimate the strengths and weaknesses of alternatives that satisfy requirements and expectations; can be used to compare other areas such as risk, time, and financial implications.
Critical to Quality Tree	Align Requirements to Characteristics	Translates broad customer needs into specific, actionable, measurable performance requirements.
Design of Experiments	Optimize Designs	Technique that enables designers to determine simultaneously the individual and interactive effects of many factors that could affect the output results in any design. It also provides a full insight of interaction between design elements; therefore, it helps turn any standard design into a robust one. Designers are then able to fix these problems and produce robust and higher yield designs prior going into production.
Failure Modes and Effects Analysis (FMEA)	Risk Management Tool	A risk management tool used in quality and reliability engineering to identify high risk items based on the consequences of failure. The FMEA addresses three (3) measures: 1. <i>Frequency of occurrence</i> , 2. <i>Severity of consequence</i> , and 3. <i>Chance of detection</i> . The tool can be used to evaluate a process (where the risks are process failures) or a design (where the risks are product or system-related failures).
Flowchart or Process Flow Chart	Visual Representation of Process	A graphical tool that depicts steps of a process in sequential order (usually from the top to bottom of the page). The basic idea is to include all the steps of critical importance to the process. They can also be also annotated with performance or pertinent information.
Functional Analysis System Technique (FAST) Diagram	Functional Analysis	The FAST diagram is designed to logically sequence, prioritize and test the dependency of the process functions.
Gantt Chart	Project and Time Management Tool	Type of bar chart to visually illustrate the start and finish dates of activities. The activities are broken down into manageable elements with start, finish, scheduled, actual times, and percentage complete.
Ishikawa Tools (7-Basic Tools)	Process Improvement Tools	<ol style="list-style-type: none"> 1. <i>Cause-Effect Diagram</i>: Identifies many probable causes for an effect or problem and sorts ideas into useful categories. 2. <i>Check Sheet</i>: A structured, prepared form for collecting/analyzing data; a tool that can be adapted for a wide variety of purposes. 3. <i>Control Chart</i>: Graphs depicting process changes over time 4. <i>Histogram</i>: Depicts frequency distributions, or how often each different value in a set of data occurs. 5. <i>Pareto Chart</i>: Shows on a bar graph which factors are more significant. 6. <i>Scatter Diagram</i>: Graphs pairs of numerical data, one variable on each axis, to look for a relationship. 7. <i>Run Chart</i>: A technique that separates data gathered from a variety of sources so that patterns can be seen

Tool / Technique	Use	Definition
Just-In-Time (JIT)	Minimize Waste and Built to Order	Method of reducing flow times in production and the response time from suppliers, to reduce work-in-process, inventory, waste, and create a continuous process flow.
Kaizen	Rapid Improvement	Japanese for “improvement”. A Kaizen Event is a rapid, focused improvement project that must have a clear and concise objective, adequately resourced to ensure rapid results.
Kanban	Visual Scheduling	Japanese for “sign-board”. Kanban is a scheduling system for lean and JIT production.
KANO Model	Prioritize Requirements	Classifies product or service attributes based on the perception of the VOC. There are three classifications: 1. <i>Basic needs</i> , 2. <i>Performance</i> , 3. <i>Excitement</i> . The classifications guide design decisions by defining when good is good enough, and when more-is-better.
Plan-Do-Check-Act	CPI Method	Process improvement techniques: "PLAN" step defines the process to improve. "DO" implements the plan and measures performance. "CHECK" assesses results. The "ACT" determines process improvement changes to be made. Cycle repeats.
Poka Yoke	Preventing Errors	“poka yoke” is Japanese that means “to avoid errors”. It is a mistake proofing approach to eliminate or prevent errors. Uses simple and effective tools and signals to prevent errors.
Possible-Implement-Challenge-Kill Charts	Prioritize Action Items	A Brainstorming tool that organizes and categorizes ideas. Provides a visual comparison of actions relative to their impact to the problem vs the ease or cost of implementation. Each section of the quad chart is represented by the letters "P" possible, "I" implement, "C" challenge, and "K" kill, starting in the lower left of the chart. The axis of the chart can be adjusted based on the topic.
Practical Problem-Solving Method (PPSM)	Structured Problem-Solving Technique	The PPSM is an eight-step problem solving technique consisting of: 1. Clarify and Validate the Problem 2. Break Down the Problem, Identify Performance Gaps 3. Set Improvement Target 4. Determine Root Cause 5. Develop Countermeasures 6. See Countermeasures Through 7. Confirm Results and Process 8. Standardize Successful Processes
Prioritization Matrix	Prioritize Requirements	Typically, an L-shaped matrix that makes pair-wise comparisons of established criteria and options. The prioritization matrix is a rigorous method and requires skill to use it effectively.
Process Capability	Statistical Process Control	Compares the process output and the specification limits using a variety of charts and indices. Commonly used statistical measurements include process capability (Cp, Cpk) and process performance (Pp, Ppk).
Process Mapping	Visual Representation of Process	A graphical representation of a process.

Tool / Technique	Use	Definition
Quality Function Deployment	Prioritize Requirements	A process for planning products and services. Starts with the Voice of the Customer (VOC), which becomes the basis for setting requirements. Identifies the "what" – the most important needs of the VOC, then a team will identify the "how" – those areas of the process that address each of these identified requirements.
RASCI Matrix	Process and Business Discovery Tool	<p>RASCI Matrix:</p> <p>Used to assign and display responsibilities of individuals or jobs in a task (project, service or process) in the organization. Defined as:</p> <ul style="list-style-type: none"> • R - Responsible - entity responsible for carrying out the task • A - Accountable (also Approver) - entity responsible for the whole task and who is responsible for what has been done. • S - Support – entity who provides support during the implementation of the activity / process / service. • C - Consulted – entity that provides advice or consultation for the task. • I - Informed – entity who should be informed about the task progress or the decisions in the task.
Strength-Weaknesses-Opportunities-Threats (SWOT)	Business Analysis Tool	A methodology for the team to explore the SWOT of a project, or area of interest.
Suppliers-Inputs-Process-Outputs-Customer (SIPOC)	Process and Business Discovery Tool	A process mapping methodology typically used in the define phase of Define, Measure, Analyze, Improve, and Control (DMAIC). Used to show relationship between inputs and outputs. Normally start with the customer "C" needs and requirements and work back to the left until you get to the supplier.
Theory of Constraints (TOC)	Manage Bottlenecks	In a series of steps in a process, the slowest step controls the pace of the whole flow of the process. The process cannot go faster than the slowest step.
TIM WOOD & DOWNTIME	Identify Waste	<p>Lean, 6S techniques used to ID areas of waste in a process:</p> <p>TIM WOOD: 1. <i>Transportation</i>, 2. <i>Inventory</i>, 3. <i>Motion</i>, 4. <i>Waiting</i>, 5. <i>Over-processing</i>. 6. <i>Over-production</i>, 7. <i>Defects</i></p> <p>DOWNTIME: 1. <i>Defects</i>, 2. <i>Over-production</i>, 3. <i>Waiting</i>, 4. <i>Non-utilized talent</i>, 5. <i>Transportation</i>, 6. <i>Inventory</i>, 7. <i>Motion</i>, 8. <i>Extra processing</i></p>
Value Stream Mapping (VSM)	Visualize Process and Streamline	A tool used to examine a process for the presence of unnecessary and wasteful activities. It provides visibility of material flow and information flow in a process on one diagram.
Visual Management	Visual Communication Tools	<ul style="list-style-type: none"> • Technique used to communicate information by visual signals/charts/data displayed in a common place. A department Dashboard is a good example of a visual management tool that displays targets, progress, trends, and action items status.

Tool / Technique	Use	Definition
Voice of Customer (VOC)	Identify Customer Requirements	The VOC is a market research technique that produces a detailed set of customers wants and needs, organized into a hierarchical structure, and then prioritized in terms of relative importance and satisfaction with current alternative

ATTACHMENT 7

SAF/AQX CPI POINTS OF CONTACT

USAF Pentagon SAF-AQ Mailbox SAF-AQXP CPI Work Flow:

usaf.pentagon.saf-aq.mbx.saf-aqxp-cpi-wkflw@mail.mil

Location: Pentagon
Address: SAF/AQXP CPI Branch
 1060 Air Force Pentagon
 Room 4B112
 Washington DC 20330-1060

Name	Office	Work Email
Ms. Mildred Bonilla Lucia	(571) 256-1676 DSN 260-1676	mildred.e.bonilla-lucia.civ@mail.mil
Major Nicholas Longo	571-256-0408 DSN 260-0408	nicholas.c.longo2.mil@mail.mil

Location: Bridgeport, WV
 Spectrum Comm Inc.
Address: 2-B Chenoweth Drive
 Bridgeport, WV 26330
Bridgeport Office: (757) 224-7503 x5400
 (866) 936-1249

Name	Work Email
Mr. Mike Wilhelm (ctr)	michael.j.wilhelm26.ctr@mail.mil michael.wilhelm@sptm.com
Mr. Ryan Wilhelm (ctr)	matthew.r.wilhelm4.ctr@mail.mil ryan.wilhelm@sptm.com
Mr. Allen Farley (ctr)	allen.d.farley2.ctr@mail.mil allen.farley@sptm.com
Mr. Jeremy Anfinson (ctr)	jeremy.a.anfinson.ctr@mail.mil jeremy.anfinson@sptm.com
Mr. William Aucremanne (ctr)	william.k.aucremanne.ctr@mail.mil william.aucremanne@sptm.com
Mr. Scott Sinclair (ctr)	scott.e.sinclair8.ctr@mail.mil Scott.sinclair@sptm.com
Mr. Rob Pollock (ctr)	robert.pollock.3.ctr@us.af.mil robert.pollock@sptm.com
Bridgeport Office Distro	bridgeport_office@sptm.com

ATTACHMENT 8

WEBSITE & DOCUMENT REFERENCES, AND ACRONYMS

Website References

Airmen Powered by Innovation (through Air Force Portal): <https://www.my.af.mil/gcss-af/USAF/ep/globalTab.do?channelPageId=s0ECF2BB844E64F620144F48AA2DF00BD>

Air Force Continuous Process Improvement Portal (CAC enabled access):
<https://cs.eis.af.mil/sites/10944/cpi/SitePages/home.aspx>

Continuous Process Improvement Tools Website: <http://asq.org/learn-about-quality/>

SAF/AQXP CPI Branch SharePoint Site (CAC enabled access):
<https://cs2.eis.af.mil/sites/10263/dir/integration/strategy/cpi/default.aspx>

Secretary of the Air Force Priorities link: <https://www.af.mil/About-Us/Air-Force-Senior-Leaders/SECAF/>

USAF Acquisition Process Model Website: <http://afacpo.com/acpo/>

Document References

AFI 38-401, *Continuous Process Improvement*, 15 April 2016

AFI 63-101/20-101, *Integrated Life Cycle Management*, 9 May 2017

DoDD 5010.42, *DoD-Wide Continuous Process Improvement/Lean Six Sigma Program*, 15 May 2008

DoDI 4245.14, *DoD Value Engineering Program*, 26 October 2012

DoDI 5000.02, *Operation of the Defense Acquisition System*, 10 August 2017

DoDI 5010.43, *Implementation and Management of the DoD-Wide Continuous Process Improvement/Lean Six Sigma Program*, 17 July 2009

HAF MD 1-10, *Assistant Secretary of the Air Force (Acquisition)*, 02 September 2016

SD-24, *Value Engineering Guidebook of Best Practices and Tools*, 13 June 2011

United States Air Force Strategic Master Plan, 01 May 2015

Acronyms

AFI	Air Force Instruction
APM	Acquisition Process Model
CPI	Continuous Process Improvement
CRET	Center for Reengineering and Enabling Technology
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
HAF	Headquarters Air Force
PEO	Program Executive Officer
RIE	Rapid Improvement Event
SAF/AQ	Assistant Secretary of the Air Force (Acquisition)
SAF/MG	Assistant Secretary of the Air Force (Management)
SECAF	Secretary of the Air Force
USAF	United States Air Force
VE	Value Engineering