ASSISTANT SECRETARY OF THE AIR FORCE FOR ACQUISITION (INTEGRATION)

2017 CONTINUOUS PROCESS IMPROVEMENT PLAN

Version 5
01 January 2017

This page intentionally left blank.

01 January 2017

MEMORANDUM FOR SAF/AQ

FROM: ACQUISITION CHIEF PROCESS OFFICER

SUBJECT: Calendar Year 2017 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 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 acquisition strategic plan and the Air Force Acquisition Process Model have served to guide our actions that support Department of Defense (DoD) and Air Force initiatives that have improved acquisition performance. Our Enterprise Performance data confirms that as a result of these initiatives we have improved performance in our Air Force Active Acquisition Category (ACAT) I Major Defense Acquisition Program (MDAP) and Major Automated Information System (MAIS) portfolio. Over the past five years annual cost estimate growth averaged only -0.79% (was 1.97% in FY 11), annual schedule growth averaged 3% (was 5.43% in FY11), and technical performance has remained stable (no modifications, additions, or changes to key performance parameters).
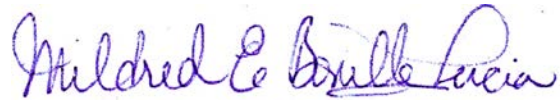
2. Our CPI approach is based on a never ending effort to discover and eliminate the impediments to effective acquisition. Our goal is to find ways to do our work better, NOT to fight fires or blame people for problems or failures.   We seek to learn what causes things to happen and then use this knowledge to: Reduce variation, Remove activities that have no value to the organization, and Improve customer satisfaction. The HQ Air Force Inspection Agency (in its SAF/AQ 16-11 Management Inspection Report) graded SAF/AQ as Effective. Stating that "SAF/AQ upheld the Air Force core values by meeting the efficiency, effectiveness, economy and discipline of a well-managed Air Force organization". Further commenting on the report that "SAF/AQ employed innovative management practices and championed a strong culture of continuous process improvement". We cannot rest on these laurels, we must continue on our journey.

3. As such, the purpose of the Assistant Secretary of the Air Force (Acquisition) (SAF/AQ) CPI Plan for 2017 is to assist the SAF/AQ Enterprise in becoming more effective and efficient in executing Air Force acquisition. We have published CPI Plans since 2011. Our plan is focused on enterprise-driven, process-based, results-oriented themes for becoming more effective and efficient in solving problems, executing smart business decisions, reducing acquisition cycle time, and increasing process outcomes.

4. The document is organized in two primary sections the Plan and Attachments. Building upon previous successes, the Plan portion outlines the specific efforts which the SAF/AQXP CPI Branch will concentrate on in 2017. These efforts include outreach, training and executing process improvement activities. The Attachments contain information that describes the day-to-day execution of the CPI program.

5. Execution and day-to-day operations of this plan is the responsibility of the Chief Continuous Process Improvement Branch. To learn more about the SAF/AQ CPI execution and facilitation services please visit our SharePoint Site at https://cs.eis.af.mil/sites/10263/dir/integration/strategy/cpi/default.aspx and the USAF Acquisition Process Model at http://afacpo.com/acpo/.

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

TABLE OF CONTENTS

INTRODUCTION

The Assistant Secretary of the Air Force (Acquisition) (SAF/AQ) Air Force Continuous Process Improvement (CPI) Plan for 2017 continues our focus on customer-driven, process-based, results-oriented themes for becoming more effective and efficient in solving problems, executing smart business decisions, reducing acquisition cycle time, and increasing process throughput. The calendar year 2017 SAF/AQ CPI Plan defines how Air Force CPI execution will develop and implement solutions designed to continue to reduce inefficiencies thereby enhancing the effectiveness and efficiency of Air Force acquisition. This effort aligns with Department of Defense (DoD) and Secretary of the Air Force direction as defined by Better Buying Power efforts, the United States Air Force (USAF) Strategic Master Plan, Senior Acquisition Executive's Priorities including the institutionalization of the Acquisition Process Model (APM).

Consistent with HAF MD 1-10, SAF/AQX "leads AQ's strategic management efforts, lessons learned processes, enterprise-wide continuous process improvement CPI program, and implements acquisition change management."

APPROACH TO FY17 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 Secretary of the Air Force 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 USAF Strategic Master Plan, Acquisition Agility Flight Plan, Senior Acquisition Executive Priorities and the Under Secretary of Defense, Acquisition, Technology, and Logistics 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. Tracking and reporting potential, on-going, and completed CPI initiatives across SAF/AQ.
10. Maintain and train personnel on the APM as the Air Force authoritative tool for capturing approved processes as applied to the acquisition of major defense acquisition programs listed as acquisition category I's.
11. Lead for SAF/AQ VE Program defining and maintaining a repository for AF acquisition processes at the PEO level and above.
12. Certifying Green-Belt level practitioners; validating certification of other CPI disciplines and maintaining a cadre of CPI practitioners appropriate for executing a robust SAF/AQ CPI program.
13. Mentor SAF/AQ CPI practitioners.

14. Make Black Belt recommendations to SAF/MG.

A strategic vision is required to achieve long term goals and improvements. The acquisition enterprise actualizes this strategic vision through goals, objectives, and measurements captured in the draft SAF/AQ Acquisition Agility Flight Plan and Senior Acquisition Executive priorities.

The CPI deployment approach from 2013 thru today continues to follow a customer-driven, process-based, results-oriented strategy.

The CPI deployment priorities:

1. **Foster CPI Culture** – We must share the organic and SAF/AQXP specific successes and benefits with our stakeholders to increase customer demand; proving we can leverage successes and learn from mistakes, thereby creating a culture that values CPI. We will leverage our success and improve business acumen to achieve the best program outcomes possible.
2. **Excellent CPI Facilitation** – As the core of the CPI execution process and the foundation for communication of 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.
3. **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 the teams' disposal.

2017 SAF/AQ CPI GOALS

SAF/AQXP will execute the 2017 SAF/AQ CPI Plan. This plan is divided in three areas with specific goals as follow:

1. **Continuous Process Improvement**
   a. Advising SAF/AQ leaders regarding CPI execution and implementation
   b. Execute the CPI resources as directed by AQX leadership
   c. Conduct 4-6 CPI events.
   d. Formalize Business Process Re-engineering, CPI, Lean Six Sigma, and VE certification.
   e. Build Core Group of SAF/AQ Facilitators. Per AFI 38-401, request Air Force CPI equivalency certification for SAF/AQ members with either Air Force Smart Operations or Industry Experience. Deliver at least one Greenbelt Training Course. Mentor SAF/AQ CPI facilitators during their CPI events.
   f. Create Collaborative Environment – Utilize SharePoint to post relevant information to include but not limited to CPI event documentation, team points of contacts, and links.
   g. Routinely highlight CPI successes by writing articles for the various acquisition publications once per quarter
2. **Acquisition Process Model**
   a. Establish APM Working Group.

b. Transition from Visio to Casewise based APM.
c. Offer both virtual and in-person training course on both familiarization and update training.

3. Value Engineering (VE)
a. As the Air Force 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 Value Engineering Plan, Annual Report, and participate in Awards Program.

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, however remains consistent from year-to-year.

- 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: CPI Tools as Related to DODI 5000.02
- Attachment 8: FY17 SAF/AQX CPI Points of Contact
- Attachment 9: 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, consistently 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 and their 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. Leaders should appoint CPI experts by name, support them throughout their certification process, and effectively employ them as advisors, facilitators, and trainers upon certification. Per AFI 38-401, *Continuous Process Improvement*, it is recommended that each Functional Directorate, Capability Directorate and Program Executive Officer (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 updated on present CPI status.

SAF/AQXP – As led by the Acquisition Chief Process Officer, 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 those processes they are involved with. 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.
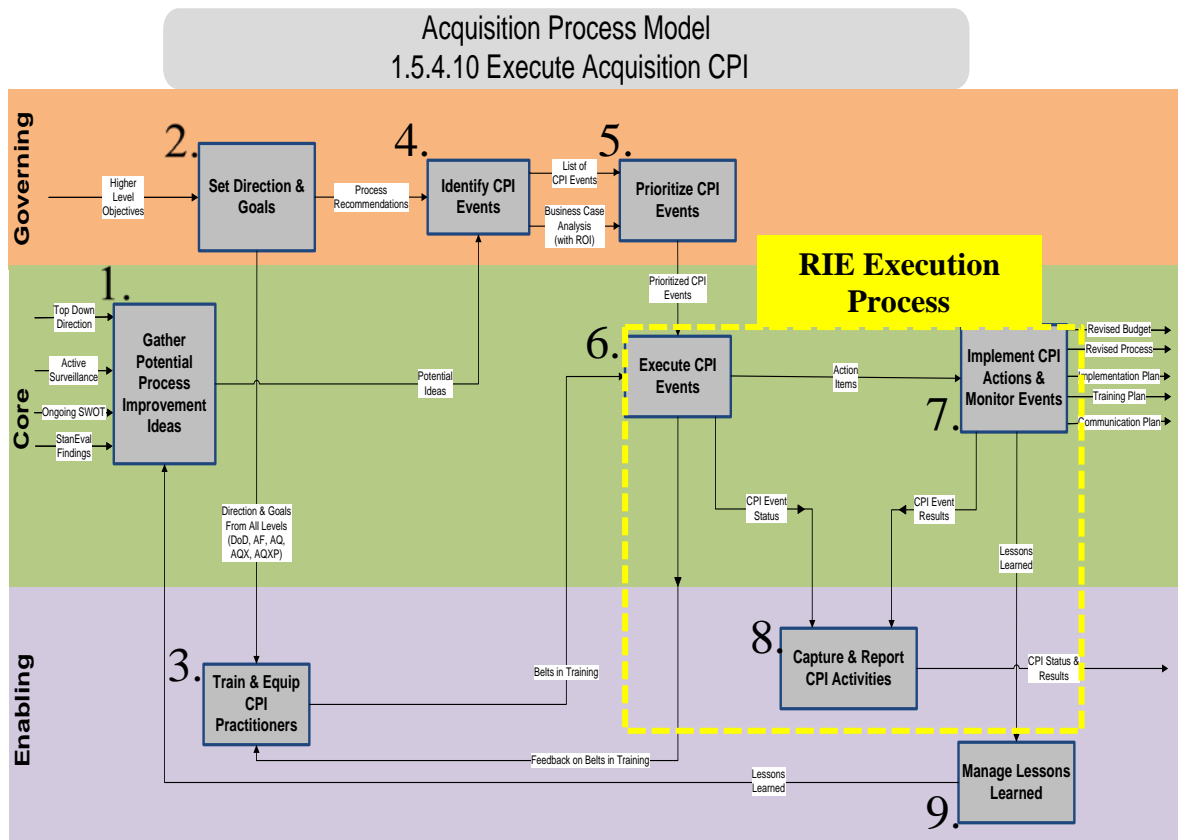

Figure 1: CPI Execution Process

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, have a cadre of certified experts is another foundational element for a successful CPI program. This step captures the need

to train and mentor facilitators to Air Force CPI certification, 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** – Recognizing 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 thirty days in advance of an event. The Team Lead will meet with the facilitation team and lay out the way forward in preparation for the event.

5. **Prioritize CPI Events** – Because resources of time and funds are limited, a prioritization of idea must occur. For the acquisition enterprise, the Chief Process Officer 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 discuss way ahead for the event.
   b. Discuss the homework and any pre-meeting activities.
   c. Prepare tools/techniques and keys to success for the meeting.
   d. Meet at various times prior to and following the meeting.

7. **Implement CPI Actions and Monitor Events** – The developed solution set will be documented in an implementation plan. It captures 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 **forty-eight hours** following the end of the meeting. The team may conduct a follow-up brief 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 AF 8-Step Process.

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 has 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 AF CPI experts organically. These experts are an essential AF CPI support mechanism and enable execution through process understanding, facilitation, documentation, 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, *Air Force Continuous Process Improvement*, in coordination with the Acquisition Chief Process Officer will:

1. Provide SAF/AQ Greenbelt Training, using CRET instructors
2. Certify SAF/AQ Air Force CPI Greenbelts
3. Recommend SAF/AQ Greenbelts to attend Blackbelt Training
4. Recommend SAF/AQ Blackbelt Certification packages to SAF/MG
5. (this is already included in the other points)
6. Provide Just-in-Time Air Force CPI Training
7. 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; Six Sigma; Business Process Re-Engineering; Theory of Constraints; and Value Engineering.

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 can encourage their subordinates take advantage of the 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 *CPI Familiarization*	Defense Acquisition University Online	All SAF/AQ employees	Provides basic information on CPI methodologies and tools and how their implementation can improve organizational performance.
HBS 434 *Process Improvement*	Defense Acquisition University Online	All SAF/AQ Employees	Basic knowledge of business processes and how to carry out business process improvement methodologies.
CLE 001 *Value Engineering*	Defense Acquisition University Online	All SAF/AQ employees	Overview, application and implementation of Value Engineering.
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.
Value Engineering	In-Person (SAF/AQXP CPI Branch)	As specified by SAF/AQ leadership	Mastery of Value Engineering concepts and application to CPI activities.

ATTACHMENT 4
BUSINESS CASE DEVELOPMENT

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

Project Charter 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:

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 face-to-face visit with CRET
   a. Discuss operational and strategic CPI plans and issues
   b. Provide and conduct CPI-centric training (Air Force 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. 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.
Cause-effect Diagram or Fishbone Diagram	Root Cause	Commonly known as the fishbone. The cause and effect diagram is drawn on a large whiteboard or a large flipchart. The effect is usually written to the right/mouth end of the fishbone diagram. A horizontal line separates the top and bottom of the page with 3 lines extending from the top and bottom of the horizontal line. Each of the six lines (branches) are labeled with the 6M's (Man, Machine, Material, Method, Measurement, and Mother Nature). The idea is to list out as many possible causes, sub causes, and sub causes of sub causes (the use of five whys is sometimes appropriate) until the team runs out of ideas.
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.
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.
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.
Failure Modes and Effects Analysis (FMEA)	Risk Management Tool	A risk management tool that is often used in quality and reliability engineering to identify high risk items based on the consequences of failure. The FMEA addresses three (3) measures: 1. *Frequency of occurrence*, 2. *Severity of consequence*, and 3. *Chance of detection.* When multiplied together the result is a Risk Priority Number. This is a numerical representation of the associated risk for that item. 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).
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 of completion.

Tool / Technique	Use	Definition
Ishikawa Tools (7-Basic Tools)	Process Improvement Tools	1. *Cause-Effect Diagram*: Identifies many possible causes for an effect or problem and sorts ideas into useful categories. 2. *Check Sheet*: A structured, prepared form for collecting and analyzing data; a generic tool that can be adapted for a wide variety of purposes. 3. *Control Chart*: Graphs used to study how a process changes over time 4. Histogram: The most commonly used graph for showing frequency distributions, or how often each different value in a set of data occurs. 5. *Pareto Chart*: Shows on a bar graph which factors are more significant. 6. *Scatter Diagram*: Graphs pairs of numerical data, one variable on each axis, to look for a relationship. 7. *Run Chart*: A technique that separates data gathered from a variety of sources so that patterns can be seen (or "stratification" or "flowchart").
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" (literally: "improve for the better"). A Kaizen Event is a rapid, focused improvement project. Kaizen events must have a clear and concise objective, with adequately available resources 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. *Basic needs*, 2. *Performance*, 3. *Excitement*. 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, where the "PLAN" step is to define the process to improve. The "DO" step is implementing the plan and measuring its performance. Then assess whether you are getting the desired results, "CHECK" step. Finally, the "ACT" step decides on changes that need to be made to improve the process; then, the entire cycle starts again.
Possible-Implement-Challenge-Kill Charts	Prioritize Action Items	A process improvement tool, developed by Lockheed Martin, for organizing ideas and categorizing them during the brainstorming and prioritizing phases of your project. The chart gives a visual comparison of the 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.

Tool / Technique	Use	Definition
Poka Yoke	Preventing Errors	Mistake proofing approach to eliminating or preventing errors. The phrase "poka yoke" is derived from the Japanese word that means "to avoid errors". Uses simple, but effective tools and signals to prevent errors from occurring.
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 visual illustration of the entire process, usually drawn by a facilitator on a large whiteboard or on a stretched out roll of 'butcher' paper.
Quality Function Deployment	Prioritize Requirements	A process for planning products and services, it starts with the Voice of the Customer (VOC) which becomes the basis for setting requirements. It 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.
Single Minute Exchange of Dies	Reduce Changeover Waste	A quick changeover tool used by lean production to reduce the amount of time it takes to change from running one part or product to running a different one. It is also referred to as setup reduction, the idea is to complete as much of the work outside of the process or internal to the process, so the changeover only involves the necessary changes to re-start the process.
Suppliers-Inputs-Process-Outputs-Customer	Process and Business Discovery Tool	A process mapping methodology typically used in the define phase of 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.
Strength-Weaknesses-Opportunities-Threats (SWOT)	Business Analysis Tool	A methodology for the team to explore the SWOT of a project, or area of interest.
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.
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.

Tool / Technique	Use	Definition
Visual Management	Visual Communication Tools	Technique used to communicate information by visual signals/charts/data displayed in a common place. The idea is to visually communicate progress on organizational objectives to drive improvements, action items, identify trends, or focus on the desired goals. A department Dashboard is a good example of a visual management tool, displaying targets, progress, trends, and current action items.
Voice of Customer	Identify Customer Requirements	In-depth process to capture the customer's requirements and expectations. Several methods can be used to include: survey, interviews, focus groups, complaints, warranty data, field reports, etc.
Waste	Identify Waste	Technique used to identify areas of waste in a process to focus your efforts on during Lean and Six Sigma projects. **TIM WOOD**: 1. *Transportation*, 2. *Inventory*, 3. *Motion*, 4. *Waiting*, 5. *Over-processing*. 6. *Over-production*, 7. *Defects* **DOWNTIME**: 1. *Defects*, 2. *Over-production*, 3. *Waiting*, 4. *Non-utilized talent*, 5. *Transportation*, 6. *Inventory*, 7. *Motion*, 8. *Extra processing*
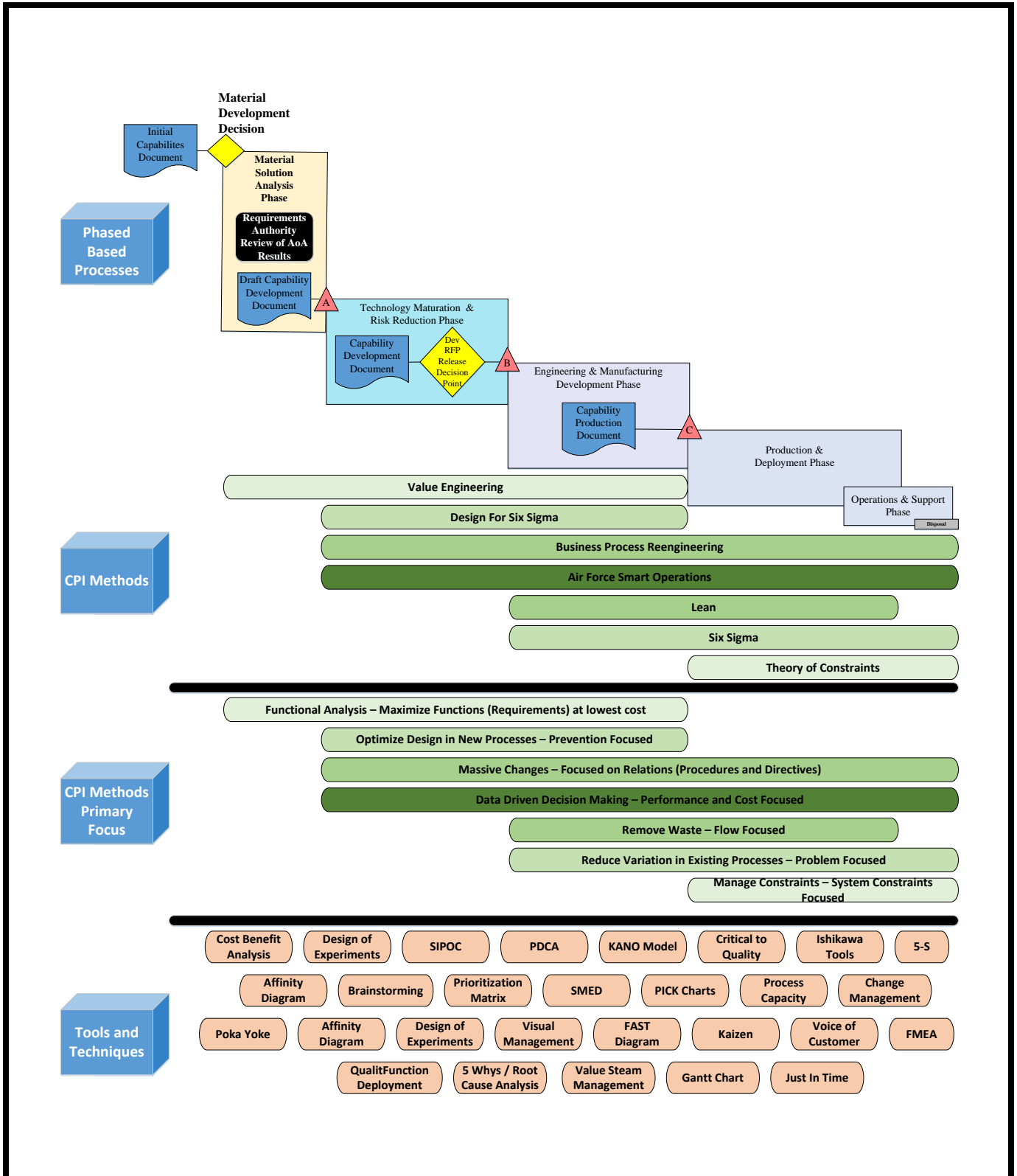
ATTACHMENT 8
FY17 SAF/AQX CPI POINTS OF CONTACT

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
Maj Todd Dawson	(571) 256-0408 DSN 260-0408	todd.c.dawson4.mil@mail.mil
Ms. Evelyn Bethea	(571) 256-0403 DSN 260-0403	evelyn.bethea.civ@mail.mil
Ms. Alyssa Duble (ctr)	(571) 256-0352 DSN 260-0352	alyssa.b.duble.ctr@mail.mil alyssa.duble@sptrm.com

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@sptrm.com
Mr. JR Dotson (ctr)	john.r.dotson4.ctr@mail.mil john.dotson@sptrm.com
Mr. Ryan Wilhelm (ctr)	matthew.r.wilhelm4.ctr@mail.mil ryan.wilhelm@sptrm.com
Mr. Allen Farley (ctr)	allen.d.farley2.ctr@mail.mil allen.farley@sptrm.com
Mr. Jeremy Anfinson (ctr)	jeremy.a.anfinson.ctr@mail.mil jeremy.anfinson@sptrm.com
Mr. William Aucremanne (ctr)	william.k.aucremanne.ctr@mail.mil william.aucremanne@sptrm.com
Mr. Rob Pollock (ctr)	robert.pollock.3.ctr@us.af.mil robert.pollock@sptrm.com
Bridgeport Office Distro	bridgeport_office@sptrm.com

ATTACHMENT 9
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

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

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

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

Document References

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

AFI 63-101/20-101, *Integrated Life Cycle Management*, 16 September 2016

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*, 02 February 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)
SD	Standardization Directive
USAF	United States Air Force