



Manpower and Organization

**AIR FORCE MANAGEMENT ENGINEERING
PROGRAM (MEP) - PROCESSES**

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This manual provides tools and information that implements AFI 38-201, *Determining Manpower Requirements*. It may be used to implement and maintain the United States Air Force Management Engineering Program. It provides guidance for determining manpower requirements and publication of Air Force Manpower Standards. Maintain and dispose of records created as a result of prescribed processes in accordance with AFMAN 37-139, *Records Disposition Schedule*.

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This document is substantially revised and must be completely reviewed.

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Chapter 1

OVERVIEW

1.1. Philosophy. The Manpower and Organization (M&O) function has four core competencies: (1) Requirements Determination, (2) Program Allocation and Control, (3) Organizational Structure, and (4) Performance Management. These four competencies form the basis for all M&O activities. Specifics regarding the core competencies can be found in their applicable Air Force Instructions (AFIs) as referenced below.

1.1.1. Requirements Determination. M&O personnel assist Air Force commanders and functional managers at all levels in mission accomplishment by objectively quantifying manpower requirements for the distribution of Air Force manpower resources. Key services of this competency include peacetime manpower standards development, wartime manpower requirements, and competitive sourcing and privatization actions. Integral in any manpower requirements determination effort is a review of a function's processes with the goal of making process improvements as described in **Chapter 3**. Additional concepts and performance guidance regarding this competency are provided in AFI 38-203, *Commercial Activities Program*, and AFI 38-205, *Manpower and Quality Readiness and Contingency Management*. Roles and responsibilities are outlined in AFI 38-201, *Determining Manpower Requirements*.

1.1.2. Manpower Program Allocation and Control. Concepts and performance guidance are provided in AFI 38-201; AFI 38-202, *Air Force Management Headquarters and Headquarters Support Activities*; and AFI 38-204, *Programming USAF Manpower*.

1.1.3. Organizational Structure. Concepts and performance guidance are provided in AFPD 38-1, *Organization*, and AFI 38-101, *Air Force Organization*.

1.1.4. Performance Management. Concepts and performance guidance are provided in AFI 90-1102, *Performance Management*. This competency uses various tools and techniques found in AFMAN 38-208, Volume 1, *Air Force Management Engineering Program (MEP) - Processes*; AFMAN 38-208 Volume 2, *Air Force Management Engineering Program (MEP) - Quantification Tools*; and AFI 90-553, *Standardizing Action Workout Improvements*.

1.2. Purpose of the Management Engineering Program (MEP). The Air Force MEP provides the foundation for executing all M&O core competencies and helps Air Force commanders and functional managers improve productivity through the use of performance improvement techniques and procedures. The MEP provides the framework for developing Air Force Manpower Standards (AFMSs), command-unique manpower standards, and providing products and services.

1.2.1. Team Approach. MEP and functional personnel build cohesive teams to reach study objectives and achieve productivity improvement goals. Formal study contracts outline specific study objectives and responsibilities for all team members to work together to meet those objectives.

1.2.2. MEP Methodology. MEP methodology is built on state-of-the-art performance improvement techniques.

1.2.2.1. Performance improvement takes a systematic look at an organization to identify processes for potential improvement. Outcomes, outputs (products and services), processes, capital equipment, facility layout, customers, and suppliers are identified as part of a process improve-

ment analysis. The project team collects data to analyze and improve these processes to meet future requirements. Tools and techniques described in AFMAN 38-208, Volume 2, are used as appropriate for the study.

1.2.2.2. The Seven-Phase Approach to Requirements Determination studies as described in [Section 3B-3G](#) of this volume may be applicable for use in all four core competency contexts where improvement in performance is desired.

1.2.3. MEP Organization.

1.2.3.1. HQ USAF/XP gives program direction through related policy. The Air Force Manpower and Innovation Agency (AFMIA) develops tools and techniques to carry out policy and furnishes MEP customer-related technical support.

1.2.3.2. M&Os at all levels will implement the MEP.

1.3. Scheduling Policy.

1.3.1. Air Force and major command (MAJCOM) offices of primary responsibility (OPR) will continually evaluate their functions to determine the need to update a study. This includes process changes, opportunities for process improvement, organization and mission changes, as well as indicators from Air Force management information systems.

1.3.2. HQ USAF/XP approves all Air Force-level process oriented review exemptions.

1.3.3. M&O and functional personnel will partner with the appropriate OPR to accomplish performance improvement projects.

1.3.4. MAJCOMs perform improvement projects for MAJCOM-unique functions.

1.3.5. Air Staff functional managers, in partnership with AFMIA, will brief the Air Force Corporate Structure on the results of their zero-based reviews to include prioritization of their workloads and options for sourcing any unfunded requirement. MAJCOMs will use their own corporate structures for their command-unique areas.

1.3.6. Air Force will retain any savings from the Air Force-wide reviews to source new Air Force-wide initiatives as determined through the Air Force Corporate Structure. MAJCOMs will retain all savings from their command-unique reviews to use as the MAJCOM Corporate Structure deems necessary.

1.3.7. AFMIA will publish all resultant active duty Air Force and MAJCOM-unique manpower standards. Headquarters Air Force Reserve Command will continue to publish reserve manpower standards. Reference this volume for publishing guidelines.

1.4. Documentation Requirements. This publication contains examples and formats of various documentation requirements. These are referenced in the applicable section.

Chapter 2

INTRODUCTION TO CONSULTANT SERVICES

2.1. Purpose of Consultant Services. The MEP offers consultant services to unit commanders at all levels of command and to functional managers at headquarters level. Commanders and functional managers may request consultant services to help solve an existing or potential problem or get general information or advice about manpower management issues.

2.2. Definition of Consultant Services. Consultant services direct manpower and management engineering expertise toward problem resolution, effective resource usage, or mission performance improvements. These services may include brief consultation with management, or a more in-depth consultation requiring a study contract and report. Unit commanders at all levels of command and functional managers at headquarters level may request consultant services. For description of possible tools and techniques that could be used for a study, reference AFMAN 38-208, Volume 2.

2.3. Consultant Services Requirements.

2.3.1. Consultant Requirements. There are no specific requirements for brief consultations. However, for in-depth studies, the following requirements apply:

2.3.1.1. The Management Engineer (ME) consultant and client form a study partnership. They cooperate in all special study activities to include study planning, data collection, analysis, and implementation.

2.3.1.2. The client has final authority to accept or reject the completed study recommendations.

2.3.1.3. The ME helps the client with the implementation of recommendations and conducts follow-up visits to help evaluate results.

2.3.1.4. The ME is responsible for study confidentiality and may only release study results and documents with the client's permission.

2.3.1.5. The ME must evaluate study feasibility before agreeing to study the function. Consider the following when evaluating feasibility:

2.3.1.5.1. Does the client need assistance to complete the management engineering project?

Can the study goals and objectives be modified to still aid in process improvement?

2.3.1.5.2. Can a one-time, economical, and relatively short-term analysis solve a problem? Is an objective, impartial viewpoint needed to give a fresh approach to a difficult problem?

2.3.1.5.3. Has the client tried but cannot define or solve the problem?

2.3.1.5.4. The ME consultant and client coordinate with the installation labor relations official regarding requirements of local collective bargaining agreements when any members represented by a union may be impacted by the consulting process or by recommendations of the study.

2.3.1.6. DON'T do a study if the MEP consultant believes the sole purpose is to:

2.3.1.6.1. Justify predetermined manpower increases or decreases.

2.3.1.6.2. Expect the consultant to make a line management decision for the client.

2.3.2. Documentation Requirements. Consultant service products objectively state analysis results and help the commander, manager, or supervisor decide alternative courses of action.

2.3.2.1. Formal reports are not required for brief consultations. Exercise customer-oriented judgment to decide the effort and detail required to satisfy the client's needs.

2.3.2.2. An in-depth, formal study may have three written parts:

2.3.2.2.1. Consultant Study Contract (**Figure 2.1.**). This written agreement constitutes a study contract between the MEP consultant and the client. This contract forms the basis for mutual responsibilities and potential follow-on study activities.

2.3.2.2.2. Consultant Study Final Report (**Figure 2.2.**). The MEP consultant documents study findings in the study final report.

2.3.2.2.3. Consultant Study Abstract (**Figure 2.3.**). When approved for distribution by the client, the primary purpose of the study abstract is crosstell (internal benchmarking). Its use is based on the potential applicability of identified improvements to other similar sites or functions. Consider study abstract crosstell to MAJCOM M&Os and functional counterparts, MEP administrators, and other pertinent Air Force organizations. If the MEP consultant and client decide there's no applicable potential for other sites or functions, or if the outcome of the special study was converted to an approved manpower standard or variance (see paragraph **3.27.**), the study abstract isn't required.

Figure 2.1. Example Consultant Study Contract Format.

CONSULTANT STUDY CONTRACT FOR (WORK CENTER TITLE AND FAC)	
<p>1. STUDY TITLE. Provide title that reflects study purpose.</p> <p>2. PROBLEMS. Describe specific problems study will address.</p> <p>3. STUDY OBJECTIVES. List specific study objectives based on stated problems.</p> <p>4. CONSTRAINTS. List specific constraints, e.g., budget, equipment, or facilities that must be considered when identifying alternative solutions.</p> <p>5. STUDY SCOPE. State where recommendations will apply, if implemented, and where research will be conducted.</p> <p>6. METHODOLOGY. List research techniques, e.g., interviews, questionnaires, or work sampling.</p> <p>7. STUDY TEAM. Give name, rank, organization, and DSN number of manpower and functional personnel involved in the study.</p> <p>8. TEAM AUTHORITY. State the authority of team members in conducting the study, e.g., access to records or interviewing personnel.</p> <p>9. RESPONSIBILITIES. State "who will do what" to meet study objectives.</p> <p>10. MILESTONES. List significant study milestone start and stop dates.</p> <p>11. APPROVAL AUTHORITY. State who will have the authority to approve and implement recommendations (if different from the functional approval authority indicated below).</p> <p>12. CONTRACT APPROVAL AUTHORITIES. Provide signature blocks for the manpower and functional approval authorities.</p>	
MANPOWER APPROVAL AUTHORITY	FUNCTIONAL APPROVAL AUTHORITY

Figure 2.2. Example Consultant Study Final Report Format.

<p>1. STUDY TITLE. Consultant Study Report for (FAC and title).</p> <p>1.1. Preface. Summary of information that is contained in the study contract (e.g., improvement objectives and study scope.)</p> <p>1.2. Table of Contents.</p> <p>2. SECTION I. SUMMARY OF CONCLUSIONS, RECOMMENDATIONS AND BENEFITS:</p> <p>2.1. Conclusion. (These form the basis for recommendations.)</p> <p>2.2. Recommendations. Include a brief summary of the proposed recommendations.</p> <p>2.3. Benefits. Include a summary of benefits showing impact if all study recommendations are implemented.</p> <p>3. SECTION II. STUDY DETAILS:</p> <p>3.1. Detailed description of study objectives and study scope.</p> <p>3.2. Discussion. Identify the problems, facts, and assumptions and describe any problems associated with the present process or procedure, including the impact on the overall effectiveness of the work center.</p> <p>3.3. Conclusion. Include a detailed description.</p> <p>3.4. Recommendations. Include a detailed description.</p> <p>3.5. Benefits. Include a detailed list of benefits expected by implementing the recommendations. Including such items as a statement of increased operational effectiveness, estimated savings and significant intangible benefits. This section clearly demonstrates to the customer the benefits of using the recommendations.</p> <p>3.6. Proposed Implementation Plan. Design an implementation plan the OPR can follow to implement the recommendation. It should state who should do what and when. This may be submitted separately after the client is reasonably sure they want such a plan.</p> <p>4. SECTION III. DOCUMENTATION. This includes work counts, shift profile charts, layout charts, and other items used to support the recommendations.</p>
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Figure 2.3. Example Consultant Study Abstract Format.

SPECIAL STUDY ABSTRACT	
1. STUDY IDENTIFICATION:	
1.1. Command.	Self-explanatory.
1.2. Study Title.	Same as report title.
1.3. Functions Involved.	Use the work center title and functional account code used in the unit manpower document.
1.4. Study Location.	Self-explanatory.
2. STUDY OBJECTIVES. Briefly describe the study goal. If it is changed during the course of the study, merely present the end goal. It's not necessary to explain why or how the study objectives changed.	
3. RECOMMENDATIONS IMPLEMENTED. Provide a list of the recommendations implemented and the impact of each.	
4. APPLICABILITY OF IMPROVEMENTS. State whether or not improvements could be applied to other locations within the command or the Air Force. Studies involving physical layout and workflow, space utilization, or labor availability and grade peculiarities are normally applicable to the study location only.	
5. ANALYSIS TECHNIQUES USED. Self-explanatory.	
Signature Block Consultant	
I Concur/Nonconcur with this study abstract and authorize/do not authorize its release.	
Signature Block Client	

Chapter 3

REQUIREMENTS DETERMINATION: SEVEN-PHASE APPROACH

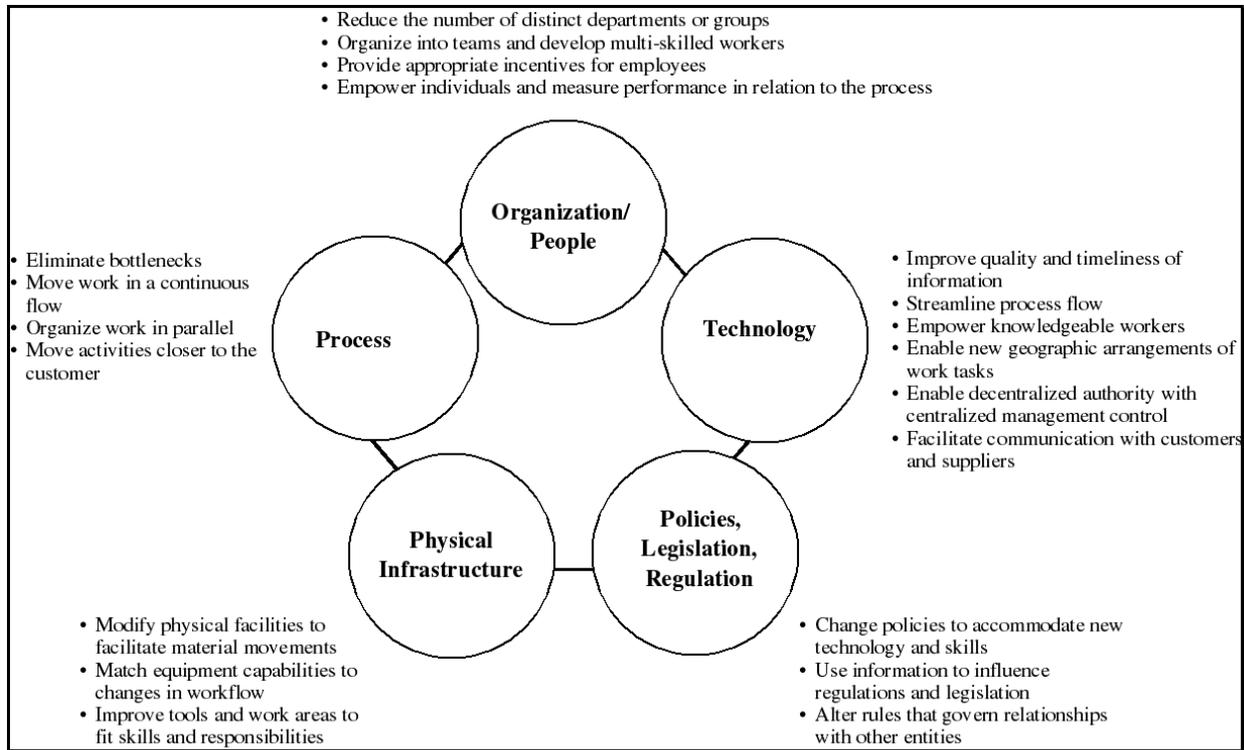
Section 3A—General Concepts.

3.1. General Concepts. The ultimate goal of organizational performance is mission accomplishment. Resource requirements reflected in a manpower standard should be based on an organization and process designs which most effectively and efficiently accomplishes the mission. Improving mission effectiveness while maintaining or improving efficiency should be the goal of any modification to a function's current organizational or process design. Efficiency does not necessarily mean decreasing resources, but rather improving the return on the resources used.

3.2. Contexts for Using the Seven-Phase Approach. The approach described below is useful in any context for process improvement. It ensures that an organization is designed effectively and efficiently before building a manpower standard. For example, the Assessment step in AFI 90-1102 may identify that an organization is not meeting performance standards. Using the Seven-Phase Approach is a method an organization can use to identify and improve problem areas and processes that can be incorporated into the planning portion of the performance management cycle, outlined in AFI 90-1102.

3.3. Seven-Phase Performance Improvement Approach. Improving performance requires both planning and execution. The Seven-Phase Approach is a guideline designed to be flexible and adaptable to organizational needs and study scope and not meant to be a restrictive and inflexible checklist. The approach provides the structure to increase the chance of successful implementation of process improvements. The phases represent fundamental elements to address no matter what scope the performance improvement effort takes. It should be used as a guide, tailored to fit the scope and intent of the project at hand. Various tools and techniques to assist in these improvement efforts are listed in AFMAN 38-208, Volume 2, which may be modified as appropriate for the project requirements. Volume 2 is not all inclusive of the available improvement tools a ME may use.

3.3.1. The "Five Fronts" to Consider. For organizational change efforts to be effective, they generally must include some redesign and/or coordination on five "Fronts" (see [Figure 3.1.](#)). These are organizational areas that interrelate and should be considered. The figure shown illustrates these Fronts. A change in one Front may require actions or changes in another Front. For example, changing a process may also require some training or retraining (People Front); the process improvement may affect how technology is used (Technology Front); or the process design may require updates to regulations (Policy, Legislation, Regulation Front).

Figure 3.1. The Five Fronts.

3.3.1.1. **Organization/People.** The human resource asset is the key element for the future viability and growth of the organization in a continuously learning environment. As processes are redesigned or other changes are made, a focus should remain on the worker who must be enabled with appropriate knowledge, skills, experiences and tools, empowered to learn and act, and rewarded based on the organization's values and measures.

3.3.1.2. **Technology.** This crucial enabling factor allows compression of cycle/lead time and distance, broader access to information and knowledge assets, and eliminates barriers between customers and suppliers.

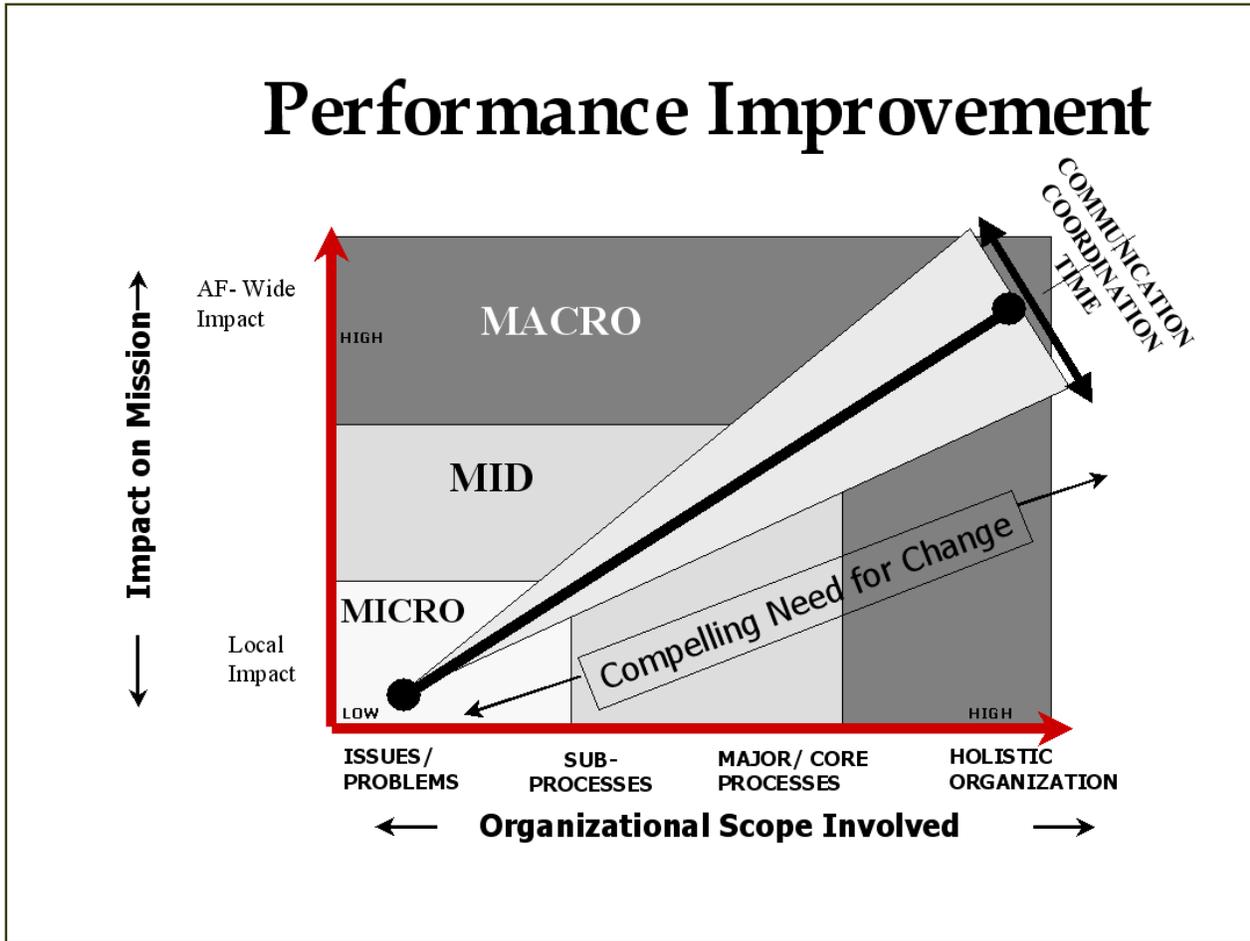
3.3.1.3. **Policies, Legislation and Regulations.** Changing existing policies, regulations, and legislation may be required for new processes.

3.3.1.4. **Physical Infrastructure.** The physical facilities, equipment and tools should be designed to support and maximize changes in workflow, information technology, and human resources.

3.3.1.5. **Process.** The flow of work and information into, through, and out of the organization must be redesigned, overcoming the constraints of traditional functions or boundaries.

3.3.2. **Spectrum of Performance Improvement.** **Figure 3.2.** illustrates scope of possible improvement efforts. Understanding the scope of a project is critical for performing the subsequent project phases.

Figure 3.2. Spectrum of Performance Improvement Scope.



Locking on to a specific location on the chart, however, is not as important as understanding the unique issues to consider for each phase of a project being performed. The scope may be adjusted as the project progresses, requiring new things to be considered and emphasized.

3.3.2.1. *Axes.* As the scope of the organization involved (bottom axis) in the improvement effort increases from simple issues through activities and sub-processes to the entire organization, so too does the impact on the organizational mission (left axis). Typically, increased organizational scope is associated with more data collection and analysis as more processes are involved. Increased mission impact scope (left axis) is associated with the need for more coordination and communication since more separate units and levels may be involved. Of course, each project may have unique effort, analysis, and coordination requirements, which need to be considered by the project team.

3.3.2.2. *Continuum Line (Wedge).* The range of improvement efforts is reflected by a continuum versus discrete points in order to reduce the tendency to get overly focused on the semantics of one

type of improvement effort over another. For example, “reengineering” is a term which has been misused in industry and the government in recent years. Since so many perceptions and inconsistent definitions exist for this type of improvement effort, having a separate discreet item labeled “reengineering” only promotes the problem. A continuum allows one to define the project in a flexible manner, based on the desired outcomes, without having to wrestle with confusing or restrictive labels.

3.3.2.3. The spectrum is divided into three ranges (micro, mid-level, and macro) to represent the increasing levels of scope and mission impact for improvement projects. Traditional types of improvement efforts such as Action Work Outs, Functional Process Improvements, and Reengineering, etc., may fall into one of these ranges, but exceptions to where such efforts fall may exist, based on a project’s requirements. Again, try to avoid labeling a project as one range-type or another (the range titles are used in this document to simply assist in describing the approach).

3.3.2.4. The three ranges are described below, and refer to projects that would fall on the continuum line. The continuum line is used simply as a central position that aids in describing the approach. You will notice that typically, the recommended activities for each range will build on one another, from micro to macro. This emphasizes the fact that the fundamental concept of each phase is important in any project, but the level of effort associated with the activities (communication, coordination, data collection, analysis, etc.) will often increase with scope (represented by the wedge on the chart).

3.3.2.4.1. Micro. These efforts often reflect minor tuning of an activity or process. They can be considered almost “surgical” improvement efforts, focused on a very small organizational scope. Coordination, communication, and time to accomplish such efforts are typically lower than the other ranges. Cost may still be high here, especially if technology changes are involved.

3.3.2.4.2. Mid-level. Typically, more processes are being examined, or the level of detail is increased. Data gathering and analysis may also be more important, as the impact on the organization becomes more critical. Improvement gains in this type of effort typically have significant impact on the mission, but the scope of the improvement may be restricted to a function or department.

3.3.2.4.3. Macro. This represents a more holistic improvement in the organization, often focused on dramatic results. The coordination, communication, and time requirements can be substantial at this level with a focus on improving processes across functions and typical boundaries. Because this type of effort results in profound changes in the organization, the need for leadership commitment and a well-defined and communicated compelling case for change is paramount in a macro improvement effort.

3.3.2.5. Case for Change. Across the spectrum of improvement opportunities, a compelling case for change remains a constant requirement. Considering the human element that exists at all levels and scopes of the organizations, defining and articulating the case for change is a fundamental ingredient for successful implementation. The message or case for change should convincingly address one or both of the following questions:

3.3.2.5.1. “What will it get me if I change?” This is a “pull” type of motivation which must present something of interest to the target audience. Change is often a scary and painful pro-

cess, whether it is changing familiar work processes, learning a new software program, or quitting smoking. The change will occur and take hold only if the outcome is truly desired.

3.3.2.5.2. “What will it cost me if I do not change?” This is often referred to as a “burning platform,” providing a convincing “push” argument that staying the same is not a reasonable alternative. “Warfighters will start dying,” “Our career field will be outsourced or eliminated,” or “You will be fired” are pretty compelling reasons to jump from the platform. Of course, the case for change needs to appeal to those in the organization impacted by the effort.

3.3.2.5.3. Having the answers to these questions articulated early on in the process is critical to obtaining buy in and momentum, no matter what the project.

3.3.2.6. Increase in Scope. As the scope of the improvement effort progresses from smaller to larger (on the chart in [Figure 3.2.](#)), communication, coordination, level of effort, and often, time and project costs also increase, as represented by the wedge.

3.3.3. Seven-Phase Requirements Determination. The seven phases are Project Definition, Planning, As-Is, Opportunity Research, To-Be, Coordination & Approval, and Implementation. Often, several phases occur simultaneously, and in some cases, in different orders. However, some phases must precede others. For example, Project Definition and Planning must always be in place before Implementation occurs. No matter what the scope of the improvement effort, all seven “phases” will be present to some degree. Some may happen almost instantaneously, and some phases may be accomplished concurrently, but any improvement effort requires each phase to be addressed.

3.3.3.1. For most functional studies, the focus of the study effort should be in the Opportunity Research and To-Be phases. This emphasis on the future helps ensure the study, when completed, defines the manpower requirements for the future rather than the past. Although estimating the manpower impact of future process changes may be a challenging endeavor, it is the most critical part of the study. Not only is this where change opportunities exist, but it provides a future baseline requirement for the function under study.

3.3.3.2. Each phase is addressed in more detail in the following sections.

Section 3B—Project Definition--Phase 1

3.4. General Concepts. Secure commitment from the unit commander or functional manager who is sponsoring the project. This sponsor should be the one who has the authority to approve changes and should represent the highest appropriate level in the organization. The project sponsor must be committed and must articulate why the change must occur, who should participate in the change effort, who will be affected by the change, and what the change is expected to bring about. This phase answers the questions, “What are we changing for?” and “What does success look like?” These answers will clarify the project objectives for all involved in the effort. Scope is also defined in this phase, clarifying what will and will not be included in this study (e.g., joint resources, particular Air Force Specialty Codes (AFSC), and technologies, etc.), and the level of mission focus (Air Force-wide, base level, etc.). Based on the understanding of the scope, the M&O personnel assisting with the effort can determine the project team composition necessary to best help the organization. The project team should conduct familiarization research on the organization, gather available data early on in this phase, and may conduct familiarization visits to see how the organization does its job.

3.5. Scope Activity Descriptions.

3.5.1. Micro. Improvement on a focused portion of a local organization may require project definition in a very informal manner. For an extreme example, if the project is simply redesigning a three-person cubicle, the sponsor may be on a very low level that can authorize cubicle changes. That person must still have an idea of why the change is needed and what the objectives of the project are (What should improve if the change works?). The scope will be very narrow, but still needs to be understood and communicated. Even for a small effort, an unclear project definition can result in wasted effort, frustration, and possibly no improvement.

3.5.2. Mid-level. The fundamental questions addressed in the micro scale are still pertinent, but identifying the sponsor and clarifying the purpose, scope, and case for change become more challenging. In addition to the sponsor, other stakeholders may need to provide their input into defining the project. Interviews are useful in collecting this information and understanding limitations/risks to the project. Familiarizing sponsors on the Seven-Phase Approach allows them to understand and anticipate the effort associated with a project as they currently envision it. A case for change may be formally documented to serve as a motivating vehicle for those who will be assigned to work the project. The scope associated with a mid-level project may require the M&O consulting team to do some preliminary familiarization research on the process or organization. Understanding the language, resources, and operations of the organization will prove helpful in facilitating even small groups. Site visits, mission directives, current manpower standards, AFIs, Designed Operational Capability (DOC) statements, unit type codes (UTCs), and web sites are valuable sources of initial information.

3.5.3. Macro. A macro project generally requires the sponsor to be in a senior-level leadership position (e.g., functional leader). Because this type of project may encompass multiple processes to be impacted Air Force-wide, sponsor commitment and a compelling case for change become even more critical. The study team's role is to have the sponsor articulate the case, vision, and objectives and agree to be a relentless champion for the effort. If several senior leaders (e.g., for a cross-functional project) are involved, a workshop may be an approach to capture this information and address any risks or concerns. Educating the sponsor(s) on the Seven-Phase Approach is also necessary as a preview for the type of effort they are going to sponsor. Due to the large scope and the resources involved, developing a plan to minimize or address project risks is also a valuable step in this phase. Prior to and following sponsor meeting(s), the M&O team should do familiarization research on the organization.

Section 3C—Project Planning--Phase 2

3.6. General Concepts. The extent of the planning will vary by study type, objectives, and functional complexity. Develop a clear and comprehensive road map to guide the accomplishment of the project. Establish a plan for how to progress, milestones that must be reached, deliverables that must be created, and how to communicate critical information. Teams are often formed to perform and review the project progress. The key participants of such teams must understand what their roles are and how they will need to participate.

3.7. Planning Considerations.

3.7.1. Study Objectives. Base objectives on the client's needs and then determine the type and extent of the study to accomplish these objectives. The project team (M&O and client participants) must ensure all objectives are realistic and attainable.

3.7.2. Responsibilities. Define responsibilities of functional and M&O team members. Identify M&O and functional contact points at higher headquarters that will coordinate on study products and assist in resolving study issues, if required.

3.7.3. Data Availability and Accessibility. Determine what data is needed. You may need to break generally stated objectives into specific tasks. Identify specific outputs. Determine if the data is available to meet output-related study objectives. Determine data availability and accessibility by reviewing functional publications, discussions with functional experts, previous manpower standards, etc. Data security classification impacts data accessibility. Clearly state in the study contract conditions governing availability of data.

3.8. Research Methodology. The primary drivers of research methodology are data requirements and customer timeliness and accuracy needs. Research methodology impacts study effectiveness and efficiency. Following are some research methods and sources.

3.8.1. Documentation Review. Review appropriate documentation and records to become familiar with the client organization's mission, organizational structure, and operating procedures. This information will be useful in future phases and will allow the consulting team to understand the dialogue and data that may emerge in workshops. In addition, some of the data collected will assist the project team in performing manpower calculations when/if appropriate in the project. Ensure functional guidance is realistic and consistent with peacetime and wartime scenarios and operational concepts. Some possible research source examples follow:

3.8.1.1. Organizational policy and guidance (AFI 38-101) and organization charts.

3.8.1.2. Web sites/organizational home pages.

3.8.1.3. Functional publications (local, command or Air Force).

3.8.1.4. Mission Directive publications (AFPD 10-series).

3.8.1.5. Strategic plans/performance plans.

3.8.1.6. Unit Manpower Documents (UMD).

3.8.1.7. Process Oriented Descriptions (to include resources by process, if available) within applicable manpower standards.

3.8.1.8. Applicable operations and contingency plans.

3.8.1.9. Reports--MEP studies (productivity reports, cost comparison studies), effectiveness (Staff Assistance) evaluations, etc.

3.8.1.10. Management inspections.

3.8.1.11. Chief of Staff Survey results.

3.8.1.12. On-the-Job training records and other specialty training material.

3.8.1.13. Position Descriptions.

3.8.1.14. Management information systems.

3.8.1.15. Facility layout.

3.8.1.16. Equipment/Technology (systems used, degree of standardization, etc.) listed on the Custodial Authorized/Custodial Receipt Listing (CA/CRL)/Automated Data Processing Equipment accounts, etc.

3.8.1.17. Organizational chart

3.8.1.18. The Organization's Mission Essential Task List

3.8.1.19. Unit histories

3.8.1.20. Applicable USAF technical orders, work center records and inspection checklists

3.8.1.21. Occupational measurement reports

3.8.1.22. UTC Manpower Detail and Mission Capability Statement

3.8.1.23. USAF War and Mobilization Plan (WMP)

3.8.1.24. Performance Measures in use

3.8.2. Personal Interviews. Primary objectives are to collect information on what and how work is done, workload, operating procedures and to involve work center personnel by asking for their ideas. Interviews can also be used to gather customer requirements and obtain leadership perspectives for the future and the project.

3.8.2.1. Interview Approach. Provide an agenda (time, subject, and material). Keep interviews informal but follow the organizational structure by starting with the target audience (work center supervisor, project sponsor, customer, etc.). Some suggested sources are:

3.8.2.1.1. Chief enlisted manager and 9-skill level superintendent for broad career field information and current career field issues; technical familiarity with lower level tasks and procedures may not be current.

3.8.2.1.2. The 7-skill level NCO for the best technical information.

3.8.2.1.3. The 5-skill level airman or NCO for the best information about how tasks are currently accomplished within shops or offices.

3.8.2.1.4. The 3-skill level apprentice for labor-intensive work and extra work details. The 3-level can often present an unbiased opinion from the perspective of "fresh eyes".

3.8.2.2. Individual vs Group Interviews--Advantages and Disadvantages.

3.8.2.2.1. Individual interviews take more time but yield more data. Focus questions on a specific individual without having other group members waiting. No individual overshadows other group members. A potential disadvantage is conflicting information that must be reconciled.

3.8.2.2.2. Group interviews are more effective when time is limited or there is disagreement among group members. Group interviews normally result in a consensus and help members recall additional tasks. Disadvantage: Group think (group follows strongest leader at interview.)

3.8.3. On-Site Observations.

3.8.3.1. Consider visiting a cross-section of locations with the functional representative. Attend exercises and deployments. Discuss findings with the functional OPR and verify findings with local managers and supervisors. Screen suggestions for potential use.

3.8.3.2. Use on-site observations to:

3.8.3.2.1. Identify processes, working relationships, and physical arrangements for improvement.

3.8.3.2.2. Increase understanding of procedures and data obtained.

3.8.3.2.3. Obtain information on work environment and worker productivity (idleness, work distribution, team discipline, cleanliness, work layout, excessive standards of living, short suspenses).

3.8.3.3. When conducting on-site observations:

3.8.3.3.1. Look closely at high volume of work. People work harder when watched, or unusual operating conditions may exist.

3.8.3.3.2. Avoid biases. Do not let general impressions bias facts and findings.

3.8.3.3.3. Avoid prolonged observations. It disturbs people and reduces their willingness to help.

3.8.4. Questionnaires. A questionnaire is a quick and inexpensive tool to gather information when there is not enough time to interview personnel or potential interviewees at other locations. Develop questions as follows:

3.8.4.1. Determine information needed.

3.8.4.2. Ask direct, specific questions. Phrase questions so answers are easy, short, and concise. Use preprinted response formats when possible.

3.8.4.3. Avoid emotional connotations. Do not influence answers with phrasing.

3.8.4.4. Avoid manpower jargon. Direct the questionnaire to the audience's ability and knowledge.

3.8.4.5. Place questions in logical sequence for ease of response and analysis.

3.8.4.6. Avoid asking attitude or opinion questions. If this is necessary, comply with AFI 36-2601, *Air Force Personnel Survey Program*.

3.8.5. Unit Manning Personnel Roster (UMPR). Collect assigned strength information from the UMPR. Also check with work center supervisor(s) to gather information on other full time/part time borrowed or loaned personnel.

3.9. Scheduling. The scope of the study will impact study completion time and scheduling. Following is one way to approach the scheduling activity:

3.9.1. Estimate the time needed for various study activities.

3.9.2. Identify the most effective order to accomplish tasks and which tasks can be done simultaneously.

- 3.9.3. Estimate the total study time by summing activity/task times; include time for report preparation and staffing.
- 3.9.4. Prepare a list of major milestones and completion dates (data collection, analysis, workshops, report preparation, key briefings, staffing, etc.).
- 3.9.5. As required, prepare a detailed schedule identifying tasks, responsible team member, estimated completion date, and task procedures.

3.10. Study Alternative. Consider adapting an existing study or at least utilizing the information from an existing study. Some possibilities are:

- 3.10.1. Use information from previous manpower standards.
- 3.10.2. Use other DoD or federal agency standards. Use private sector job standards.
- 3.10.3. Use any portion of existing manpower standards that apply to the function under study.
- 3.10.4. Consider the level of M&O community involvement. Projects which cut across units, bases, MAJCOMs, etc., should include and identify applicable M&O units as an audience in the Communication Plan (see **Figure 3.3** for an example). Depending on the project, they may be utilized for data collection, validation, or to educate functional clients on how to perform certain project-related activities. As a result, the appropriate M&O personnel should be kept informed of upcoming projects, timelines, and taskings that may impact them and their units. A Data Collection Plan (see **Figure 3.4** for an example) assists with this effort.
- 3.10.5. Consider the following client organization's characteristics when planning.
 - 3.10.5.1. Complexity and Size. Large, complex functions require more planning, research, and study effort; consider cost and coverage needs.
 - 3.10.5.2. Stability. Studies of dynamic functions undergoing frequent reorganizations, changes in workload, and shifts in responsibilities could be costly and long term. In these functions, consider short-term, low-cost studies. For standards development studies, also consider future maintenance of the standard.
 - 3.10.5.3. Degree of Standardization in Organization, Procedures, Equipment, and Layout. Consider the level of standardization to determine measurement methods. For example, in a manpower standard development project, work sampling is appropriate for very standardized functions, but very costly. Consider the level of effort and return on the effort when choosing measurement methods.
 - 3.10.5.4. External mandates. Consider legislative, Office of the Secretary Defense, Federal Aviation Administration and other mandates which limit scope of change.

3.11. Scope Activity Descriptions.

- 3.11.1. Micro. The overall method for communicating and participating in the project may be a function of preexisting systems, such as weekly staff meetings, natural work groups, and preformed teams. However informal the planning, the participants must still understand the objective and goals of the project as well as their roles and responsibilities. Simply letting participants know how much of their time they are expected to devote to the project can greatly clarify involvement. Some amount of data collection will likely be necessary for any project and a plan to identify what data needs to be

obtained, where it exists, who is the OPR, and the timeline for collecting the data should be understood. Some methods to consider for collecting the data are surveys, workshops, existing documents, and databases.

3.11.2. Mid-level. As the organizational and impact scope increase, so does the necessity for having a plan to clarify “who will do what by when.” With expansion in project scope, the associated increase in data collection, analysis, communication, coordination, and necessary buy-in often requires separate plans to be developed. A communication plan can greatly improve the information flow to appropriate audiences and ensure that no group is left out of the loop. Similarly, a data collection plan can take proactive steps to identify what information will be needed during the project and who will be responsible for collecting it. Finally, a project plan serves as a roadmap to help the team anticipate planning events, and evaluate progress (or lack thereof). There are a number of commercial software programs that can facilitate project planning. The project team may find it useful to also establish a Memorandum of Agreement (MOA) (see [Figure 3.5](#) for an MOA format).

3.11.3. Macro. For a larger-scoped project, often teams will be formed at different levels of control. Specifically, the project team would need to be formed, as well as the actual project team dedicated to working the project from the partnered organization. Other smaller Issue, Process, or Tiger teams can be identified, as opportunities emerge. Finally, there may be a need for an executive steering committee to be formed, representing the project sponsor (as the chair, possibly) and key decision-making personnel from across the organization such as MAJCOM or Air Staff functional managers. This committee would make senior decisions, be briefed on project status, and ensure buy-in at the senior level across the organization. Each of these teams should understand its respective charter, the project objective(s), their participation responsibilities, and the Seven-Phase Approach. Depending on the scope and objectives of the project, certain subject matter experts (SMEs) will need to be identified as secondary/advisory team members (such as legal, Air Force Personnel Center, personnel, etc.) who will participate when appropriate. A macro-level study often requires more formal planning for the project, data collection, and/or communication, depending on the specific project objectives. More detail may be added to the project, data collection, and communication plans. Project-planning software or a standard spreadsheet may facilitate documenting the formal plan. A macro-scoped project, due to its often-heavy coordination and data collection burden, will probably benefit from a formalized MOA between the project team and the functional OPR.

3.12. Memorandum of Agreement (MOA). The MOA does a number of things for those involved in a study or improvement initiative. It primarily specifies the purpose of the project and the responsibilities of the main participants. It is advisable to staff an MOA through the function’s chain of command and the M&O chain of command and have it signed by the senior partners; i.e., Air Staff or MAJCOM functional OPR, AFMIA/CC, etc. A signed MOA ensures senior leadership approval and support of the project.

Figure 3.3. Example of a Communication Plan, Red Horse Study.

AUDIENCE	OBJECTIVES	VEHICLE	FREQUENCY
Project Team Members	Ensure linkage among members. Identify areas requiring coordination	Minutes & e-mail	Minutes monthly Copies of activities as they occur
Air Component Commanders	Awareness of project goals and acceptance of proposal(s)	Letter notifying of project and goals. Briefing on recommendations	Project start Project completion
Air Component Commanders	Get/Keep buy-in and support for project goals and proposal(s). Generate feedback from primary customers	Minutes	Monthly
HQ ACC (Sponsor)	Keep sponsor informed	Minutes Activity Reports As Requested	Monthly Weekly TBD
COMACC	Acceptance of proposal	ACC/CE notify Decision Brief	Project start Project completion
AF/ILEO	Get/Keep buy-in and support for project goals and proposal(s). Crossfeed to ILE community as well as non-CE Air Staff functions	Minutes	Monthly
AF/ILE	Get project approval. Acceptance of proposal	Letter Decision Brief	Project Start Project completion

Figure 3.4. Example of a Data Collection Plan.

Data	Source	Collection Method	Purpose/Use	When	Who	How Analyze/ Summarize
Product utility and quality characteristics	Customers of function	Surveys & one on one interviews	Determine if product and/or important features are available	As-Is Phase NLT 9 Sep	Mission Analysis Team	Customer use statement and prioritized list of features
Essential and supporting tasks	MAJCOM and base functional representatives	Workshop	Capture tasks and inputs, controls, outputs, mechanisms (ICOMs)	As-Is Phase 9 Oct	Operations & Procedures Team	Flowchart
Wartime taskings	AFMRF	Database query	Determine wartime support requirements	As-Is Phase NLT 31 Oct	Mission Analysis Team	
ETC						

Figure 3.5. Format of an MOA (can be tailored to meet individual needs)

MEMORANDUM OF AGREEMENT (MOA)
(Name and FAC of the function under study) REENGINEERING PROJECT

(date)

- 1. TITLE:** (Name and FAC of the function under study)

- 2. PURPOSE:** As directed by the Annual Planning and Programming Guidance, (name and office symbol for the Air Force-level functional manager) in conjunction with the Air Force Manpower and Innovation Agency (AFMIA), will conduct a reengineering study on the (name and FAC of the function under study) function.

- 3. OBJECTIVES:**
 - a. Develop a prioritized list of workload processes.
 - b. Identify and reengineer high cost/low value processes with the goal of eliminating unfunded mandates.
 - c. Publish and implement an Air Force Manpower Standard based on the reengineered required workload.

- 4. DELIVERABLES:**
 - a. Final report.
 - b. Air Force Manpower Standard (AFMS).

- 5. SCOPE:** (Describe the boundaries for the study)

- 6. APPLICATION:** The resultant AFMS will apply to wing level and below only.

- 7. PROJECT POINT OF CONTACTS:** (Insert POCs from the functional community and AFMIA)

<i>Name</i>	<i>Rank</i>	<i>Organization</i>	<i>DSN</i>	<i>E-mail Address</i>

8. RESPONSIBILITIES:

a. (Insert office symbol from paragraph 2 above) will:

- (1) Lead and have overall responsibility of the reengineering study.
- (2) Communicate senior leadership commitment to the field.
- (3) Provide subject matter experts as workshop participants.
 - (a) Provide TDY funds for functional participants to complete the study.
 - (b) Notify workshop participants of workshop location and dates.
 - (c) Handle billeting arrangements for all functional workshop participants.
 - (d) Collect and provide workload data as needed for the study.
- (4) Identify locations for familiarization visits by AFMIA team members.
- (5) Provide logistics tasks for all workshops not conducted in the San Antonio area.
- (6) Be the office of collateral responsibility charged with preparing the Final Report per AFI 38-208, Vol I.
- (7) Be the office of primary responsibility for preparing the briefing to the Air Force Corporate structure.
- (8) Review and provide comment on all project plan products and reports.
- (9) Staff interim and final results of the study with all interested parties.
- (10) Present the final results outbrief to Air Force Corporate Structure seeking final approval and appropriate funding.
- (11) Staff and implement any future oriented initiatives.

b. AFMIA will:

- (1) Dedicate a team of personnel.
- (2) Guide the reengineering process through the Seven-Phase Approach.
- (3) Provide administrative tasks associated with conducting all workshops.
- (4) Provide logistics tasks for all workshops conducted in the San Antonio area.
- (5) Provide TDY funds for all AFMIA study participants to complete the study.
- (6) Provide all required facilitation efforts.
- (7) Develop collection methodologies and assist in data collection.
 - (a) Quantify the manpower required for all required work.
 - (b) Quantify the man-hour/manpower gain or reduction associated with all improvements.

- (c) Develop, distribute, collect, and consolidate questionnaires and results as required.
- (d) Validate measurement data as required.
- (e) Conduct required analysis on all data.
- (8) Provide status briefings to (insert office symbol from paragraph 8a above) as requested.
- (9) Be the office of primary responsibility charged with preparing the Final Report per AFI 38-208, Vol I.
- (10) Be the office of collateral responsibility charged with preparing the briefing to the Air Force Corporate structure.
- (11) Be present with (insert office symbol from paragraph 8a above) during briefing to Air Force Corporate Structure.
- (12) Prepare, develop, and publish the AFMS.

9. TENTATIVE MILESTONES:

Milestone	Due Date
MOA Signed by both parties	
AS-IS Determination complete	
Opportunity Research complete	
TO-BE Development complete	
Staff and coordinate TO-BE complete	
Development of Final Report complete	
Briefing to AF Corporate Structure complete	

MOA APPROVAL AUTHORITIES:

 (Insert functional community information)

 CANDACE C. ABBOTT, Colonel, USAF
 Commander, Air Force Manpower and
 Innovation Agency

Date Signed: _____

Date Signed: _____

Section 3D—As-Is Process Development--Phase 3

3.13. General Concepts. Identify the organization's current state through analysis of "What do you do?", "Who is it done for?", "How do you do it?", "What does it cost to do it?", and "How well do you do it?". Answering all of these questions may be outside the interest of your respective project, but understand that the information associated with each one can prove very useful in later phases. As-Is data collection should be done at the highest possible level of analysis while still being able to answer the appropriate questions. The process of defining the As-Is state will identify worthwhile target processes for improvements, uncover improvement opportunities within those processes and help focus opportunity research in Phase 4 (e.g., comparative analysis, benchmarking). Without the baseline provided by the As-Is analysis, it becomes impossible to know if any organizational/process changes are truly better than the original state. For example, manpower changes associated with process redesign can only be quantified if the initial manpower for the process is established. Collection of As-Is data can be done using the measurement techniques outlined in volume 2 of this publication. Following are several specific considerations regarding each of the key As-Is question areas:

3.13.1. What do you do? Regardless of the scope of the project, understanding the ultimate mission and outcome(s) of the target organization is a critical initial step in defining the current state. This will serve as the anchor to help identify additional information (e.g., "What products/services provide THESE outcomes?", "Who are the customers of these products and services [which deliver those outcomes]?", "What processes create the products and services for these customers [who needs these outcomes]?", etc).

3.13.1.1. The project team must identify the appropriate sources of this initial information (e.g., published plans, guidance, interviews, and workshops). Outputs and processes performed are also useful details to capture with regard to the "What do you do?" question. Often, current manpower standards, specifically the process oriented description (POD) statements, serve as a source for initial process lists. If a current standard does not exist, or current processes are not defined in the standard, a POD may need to be developed. POD development is discussed in paragraph 3.22. of this publication.

3.13.1.2. An initial analysis of the process list considers whether it is truly directed by some guidance or higher level strategy. It is valuable in the As-Is phase to understand what you are doing, but it is also insightful to compare that to what you are required to do. The distinction may reflect directed versus inferred/assumed work. The remaining nondirected work must be challenged and may be an immediate source of work savings. The assumed work can be measured (see paragraph 3.13.4.) to reflect workload and man-hours associated with work not mandated by the Department of Defense, Air Force, or MAJCOM. If assumed work processes are eliminated, the result would be that the organization would have more time and possibly people to dedicate to doing the mandated job. Having some idea of the recuperated workload may be considered worth the effort of measuring the assumed workload.

3.13.2. Who is it done for? Identifying the customer group(s) is valuable for several reasons. First, by distinguishing these groups, you identify the sources of information on gathering current process performance (see paragraph 3.13.5.). Secondly, it establishes a baseline for current customers who can be compared to the future customers and the requirements that they will have for the To-Be products/services. Finally, by truly clarifying "Who uses this product/service," or "Who demands this outcome?" certain perspectives/stakeholders may be included in the future design process that may have other-

wise been ignored. This question identifies who currently has an opinion about your current performance and may dictate how good you need to be in the future. This is especially important when “level of service” is a major workload driver (e.g. requirements to serve a customer within one minute vs. 15 minutes at a commissary checkout would influence the manpower requirement).

3.13.3. How do you do it? The process can be listed or flowed out at an appropriate level of detail to identify redundancy, wasted time, unnecessary steps, under/over-utilized people, etc. Process flow or process mapping diagramming techniques are discussed in AFMAN 38-208, Volume 2, and reflect just one of many ways to capture this information. In addition, organizational charts, physical layouts, etc. may be useful in painting a clear picture on how efficiently/inefficiently the products/services are being produced for the customers. Ideally, this activity should be performed on processes after the processes have been prioritized and selected for improvement based on established criteria.

3.13.4. What does it cost to do it? Of particular interest here is identifying the current manpower, equipment, and supply costs associated with performing the organization’s mission and processes. Ultimately, this will serve as the baseline to which the To-Be state’s manpower will be compared. As a result, the project team must identify the level of detail in which resources must be identified. For example, will the Air Force Corporate Board approving the To-Be state want to have the costs/savings/new requirements broken out by processes? If so, having a by-process breakdown of current resource costs may be necessary. On the other hand, if the project sponsor or project team feels that only high-level resource data will be necessary for the leadership body to compare (total current authorized manpower), then the data collection may simply come from the current manpower standard or the currently documented funded and unfunded authorizations on the UMD. Consideration also needs to be given regarding other resource costs. For example, should facility and equipment costs be captured, and if so, is it necessary to break them out by processes? Activity-Based Costing is one useful tool for assigning resource costs to tasks and outputs (cost objects). Knowing resource costs at a high level is also useful for prioritizing processes, so that you can identify which processes are worth improving. Typically, processes that are important to the mission consume most of the resources (manpower, dollars, etc.) and warrant the effort of collecting and analyzing data, doing opportunity research and redesigning. Below are some benefits and drawbacks associated with different approaches to As-Is manpower cost analysis.

3.13.4.1. Detailed (low-level) Manpower Costing by Process. This represents the most accurate time and cost-intensive data collection method. Process frequencies and per accomplishment times (PATs) are collected in some forum, such as actual field measurement or from workshop input, to identify the manpower cost associated with the process. If existing manpower documents have this information broken out by processes, some time can be saved. Additional information may be gathered regarding the process as well. For example, crew size, required skill level, required grade level, and workload factors (WLF) may be identified as current process measures of interest. The main benefits of this approach are: sound data is available for prioritizing/selecting which processes should be improved, the data is useful for comparing process costs when doing comparative analysis and benchmarking with other organizations, and it lays the groundwork for the To-Be manpower standard. The drawbacks are as follows: it is time intensive and processes are costed out even though they may ultimately be determined not worthwhile or have room to improve (after prioritization). Data collection in workshops or from the field can be automated, possibly reducing project time for this level of cost data collection. One valuable technique is to utilize a “GroupWare” platform, where workshop participants can submit data using computers linked to a common server. Many participants can enter workload estimates simultaneously, and

the computer can integrate the information almost immediately. The validity of the data depends on the quality of the data submitted by the participants. Very dissimilar estimates of common process workload can be addressed in the meeting, leading to consensus or a requirement for a manpower site visit.

3.13.4.2. High-Level Manpower Costing by Process. Each process is assigned a cost based on the estimate of total resources associated with it. This estimate can be collected in a workshop environment with SMEs or using other techniques. The total resources for the organization can be multiplied by the percent estimate to arrive at a manpower per process cost estimate, useful for prioritizing and selecting worthwhile processes to improve. The selected processes can then be costed out to more detail as described in paragraph 3.13.4.1., if appropriate, for the study. Benefits include: less time required, data is still available for prioritizing/selecting processes, detailed costing is only performed on worthwhile processes, and some degree of cost data is available for comparative analysis and benchmarking. Remember that the current authorized manpower is a reflection of both direct and indirect workload. The indirect workload is separate from what the process being estimated requires, and should be subtracted out of the authorized total prior to comparison. For example, if the current authorized manpower for 5 processes was 100, some of that 100 is a reflection of indirect work, and should be subtracted out prior to estimating the relative workload to accomplish each individual process. The manpower associated with the indirect work will be reflected in a Standard Indirect Allowed Man-hour (SIAM) equation (See AFMAN 38-208, Volume 2), and therefore should be subtracted out of the total authorized manpower in order to isolate the direct workload.

3.13.4.3. High-Level Manpower Costing for Organization/Work center(s). Some project teams and sponsors may wish to only evaluate bottom-line manpower for the organization or work center(s) in the As-Is phase. This would be represented by the manpower requirements (funded and unfunded) documented on the UMD. Benefits include minimal time involved with costing As-Is manpower costs. Drawbacks include: no costs broken down by process making As-Is versus To-Be process cost comparison impossible; no cost data to prioritize and select processes to improve; and no data to compare process costs in comparative analysis.

3.13.4.4. Reach-back Costing Option. If a high-level costing option is used, an opportunity still exists to create detailed As-Is cost data at a later time in the project. In a reactive approach the project team can elect to wait until improvement recommendations are identified (for the To-Be state), but prior to implementation, to measure the As-Is process(es) which changed. This minimizes measurement and still allows comparison of As-Is and To-Be costs.

3.13.5. How Well Do You Do It? This is the effectiveness dimension, which cannot be ignored. Very few Air Force organizations have a formal approach to capture this information, but this performance information identifies improvement opportunities and ultimately provides insight into effectiveness of the improvement effort. As-Is process performance may be available in inspection reports, cycle time data, customer complaints, rework, on-time work, and other performance measures. In addition, since the customer defines what is and is not good performance, collecting performance information from the customer is ideal. Surveys, focus group interviews, individual interviews, field measurement or workshops are some methods for capturing such data. Current performance may be a useful criterion to use when prioritizing and selecting processes to improve. For example, a high resource cost, and high value (to the Air Force or the organization) process may initially not appear to be a worthwhile target for improvement. Only by understanding that the current performance level is below par does

this process become a necessary target for improvement. Likewise, if performance is outstanding, then the opportunity for improvement might be considered less beneficial.

3.14. Scope Activity Descriptions. In many project scenarios, a prioritization of processes/steps/issues based on some criteria are performed so that only viable processes/steps/issues are targeted for improvement. It may become obvious at this time that lower priority processes, for example, may not provide enough return on the investment of time and resources to warrant improving. As a result, it may be only through the collecting and analyzing of As-Is data that the scope of the project is adjusted down. A project may initially be perceived as a macro-scope effort, but only after profiling, prioritizing, and selecting improvement targets does it become clear that the scope is more focused than originally thought. It is just as possible, however, that the objectives of the project may require a broadening of the scope, once the As-Is picture becomes clearer. For any project scope, the sponsor or project team decides on what level of data collection and analysis is appropriate. Workshop data collection is a common technique for this phase, re-emphasizing the importance of knowledgeable and representative participant selection.

3.14.1. Micro. This type of project identifies a focused target for improvement. The data collection burden is somewhat lower than a larger scoped project because only data on a single process needs to be collected. The “What, For Whom, How, How Much, and How Well” questions can also be collected relatively quickly by engaging SMEs and appropriate sources of data, typically from the local organization. For example, customers can be identified and interviewed or surveyed relatively easily in a micro-scoped project. If manpower requirement determination is of interest, the level of detail for data collection will depend on the sponsor interest. Even for smaller scoped projects, automated data collection can serve as a useful tool in collecting cost data, customer inputs, mapping, and perhaps even simulation of the process. If validation of data is necessary, the fact that the improvement effort is localized should require a relatively manageable coordination task. Appropriate approving authorities at all levels should be kept informed, as should be outlined in the Communications Plan. The Five Fronts described in paragraph 3.3.1. should be considered when trying to understand all possible factors effecting even a local and focused process.

3.14.2. Mid-level. By definition, this type of project scope includes more processes or a larger piece of the organization, but typically has limited processes identified allowing each process to be evaluated. The target processes may cut across several work centers or MAJCOMs, requiring a larger coordination and communication effort in order to collect data and gain buy-in. The processes of interest may have been selected based on an obvious need for improvement, large resources associated with conducting the processes, or they may be the result of a prioritization and selection of key processes from a larger initial process list. Whatever the origin, the target processes need to be run through the remaining As-Is questions. Gathering valid cost data (manpower, equipment, supplies, [ABC is a technique that uses the cost data] etc.), regulations which identify the mandated processes, customer inputs, and current performance measures at this scope will require more coordination and input from the functional community it impacts. Workshops, field measurement, internet research, site visits, and surveys are some methods of collecting such information. Collect as much of this data as possible during the familiarization phase of the project and present it to the project team or sponsor for validation. In addition to gathering and analyzing the data, the processes should be mapped out at the appropriate level of detail to uncover process inefficiencies, and to assist in future manpower determinant comparisons. Some time should also be taken by the project team to consider the Five Fronts relative to the processes under consideration. This approach can identify constraints, As-Is organizational architecture, technology standardization, and people-related issues such as training status and utilization. The

outcome of the data collection and analysis outlined above should provide a useful and insightful As-Is picture of the organization and the improvement-worthy processes.

3.14.3. **Macro.** Creating an As-Is picture of an organization in a macro scope project may require some information to be organized. By definition, this type of project scope includes multiple processes of the organization, has a large Air Force impact (crossing several MAJCOM(s)s, a whole function, multiple functions, or the whole Air Force), and may necessitate prioritization of processes. To accomplish this, a list of current processes is generated (typically from a POD in the current manpower standard), possibly reflecting mandated and assumed work processes in addition to the POD list. If no current list of processes exists, a POD will need to be generated using tools and techniques like brainstorming, or current directive documents. Often, taking a step back to identify the true current mission and objectives for the organization can prove useful in establishing a point from which the customers, outputs, and processes can be identified. Such information can come from mission statements, strategic plans, organizational documents, directives, senior leadership input, etc. Criteria for prioritization of processes should be defined (e.g., manpower resources dedicated to the process, mission criticality, current performance “gap” [i.e., problem processes], etc). If necessary, these criteria can be weighted differently to reflect their respective importance. Each process can then be rated relative to the different criteria, and weighted total ratings for each process will reflect the prioritization. Based on the time availability and interest of the study, an important exercise may be to prioritize the process list while it includes assumed work. If a criterion for prioritization is manpower cost to do the process, and an assumed work process is identified as consuming a lot of resources, this may be important information to present to senior leadership. If time or interest does not permit the evaluation and improvement of all processes, the top processes from the prioritized list can be selected for the project. The selected processes are then mapped. Some time should also be taken by the project team to consider the Five Fronts relative to the processes under consideration. This approach can identify constraints, As-Is organizational architecture, technology standardization, and people-related issues such as training status and utilization. Often, in a macro-scoped project, the Policy Front can be a significant contributor to process inefficiency and may require consideration of modifying policy in the To-Be state. The outcome of the data collection and analysis outlined above should provide a useful and insightful As-Is picture of the organization and the improvement-worthy processes.

3.15. Quick Wins. During this phase, obvious improvement opportunities often emerge which would require minimal effort and coordination to implement. These “quick wins” improvements can be as simple as deleting an obviously redundant step in a process, eliminating the production of a report which no one uses, introducing a coordination step to eliminate unnecessary miscommunication, or using a more appropriate tool in a process. Such decisions can immediately improve operations and serve a great purpose in establishing or maintaining momentum for the project. In the context of change management, even simple, minor changes which eliminate unnecessary work send out a message that this project really intends to make things better, thus improving the likelihood of buy-in from the field-level workers. Even minor changes such as these should still be documented and carried forward to the To-Be phase and final report.

Section 3E—Opportunity Research--Phase 4

3.16. General Concepts. The Opportunity Research Phase is simply about identifying appropriate changes. Two things have to happen. First, we have to answer the questions, “What is the environment (current and/or future), and what are the requirements in that environment?” The environmental scan

addresses these by identifying trends, restrictions, boundaries, developments, etc., that will impact the organization or process. The project team as a whole can do this scan or specific processes or dimensions of the environment can be assigned to subgroups to focus on. This information is then run through the “filter” of, “So what does all this mean to the organization/process we want to change?” The outcome of this analysis is an identification of areas where changes need to happen. Second, the project team or subgroup has to figure out where the changes should come from and what they should be. Some improvement ideas may be obvious or intuitive. Other appropriate changes are not so obvious. Innovative thinking often requires looking outside the organization at how others are handling similar requirements, processes, activities, etc. If improvement ideas are only developed from within, the organization runs the risk of simply recreating its As-Is state or missing a real opportunity to see what others have figured out. This is the purpose of the Research step in this phase. Comparison and benchmark organizations are identified, researched, and analyzed to generate possible improvement ideas which will meet current and/or future requirements. **Figure 3.6.** provides an overview of this phase, with the “focus” path being defined by the intent of the project. Two main dimensions make up Opportunity Research: Environmental Scanning and the eventual Researching for Opportunities.

Figure 3.6. Opportunity Research Diagram.

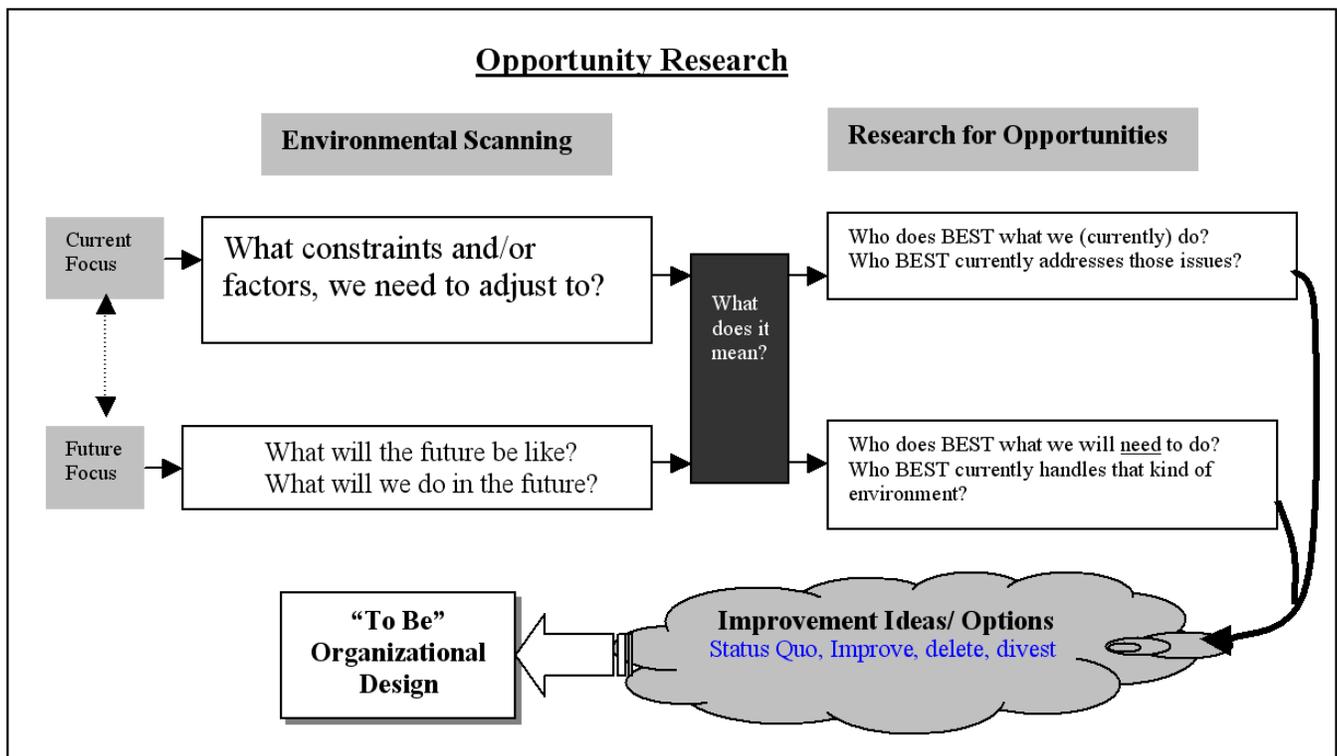


Figure 3.6. represents where to look for those improvement opportunities that will be based on the focus (current, future, combination) of the project. **Table 3.1.** outlines how the different focus results in a different level of analysis regarding how broad the scan should be, then an environmental scan would need to be conducted to articulate just what IS the future environment. In this case, the environmental scan would identify future customer requirements, trends and other potential factors which will define the operating environment of the To-Be organization. Opportunity research targets organizations that are currently

excelling at those things (e.g., competencies, processes, and activities) the project organization must perform in the future. A combination focus is also possible (represented by the dashed line), with short-term improvement research targets being identified for immediate improvements, and other targets being researched for longer-term initiatives aimed at handling future requirements. A type of concurrent environmental scan (current and future customer requirements, factors) would happen in this scenario to address both process improvements that address what needs to get done and those things that WILL need to get done. A more detailed description of Environmental Scan and Researching for Opportunities are presented in [Table 3.1.](#)

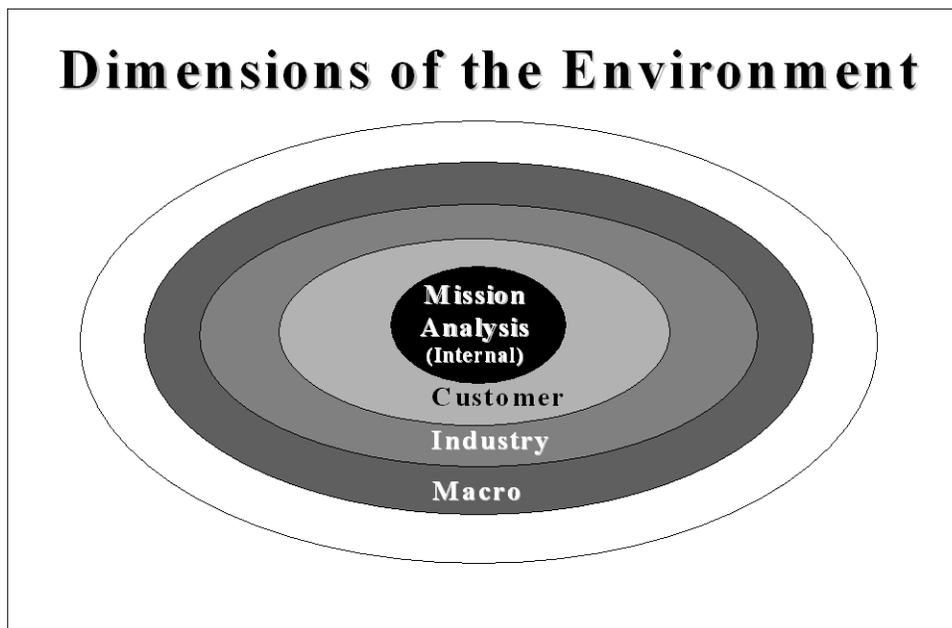
Table 3.1. Environmental Scanning.

Focus	Intent of Scan	Breadth of Scan (Environmental Dimensions of Interest)	Things to Understand (Societal, economic, political, technological, or other aspects)	Research Targets (Where to find ideas)
Current	What is going on now which will impact the process/ activity/ organization in the near term?	<ul style="list-style-type: none"> – Internal (mission) – Customer – Industry 	Current limitations, policies, current customer impressions, improvement recommendations from customers, technology availability, funding situation	<p>“Who currently is best in class in what we do (or similar things)?”</p> <ul style="list-style-type: none"> – Internal Brainstorming – Research Best Practices Clearinghouse – Site visit or benchmark current leaders in similar process
Future	What changes are taking place now that will redefine how the organization/process will need to work in the future?	<ul style="list-style-type: none"> – Customer (based on their future requirements, initiatives) – Competitive (Policy, A-76, etc) – Industry (AF Strat Plan, EAF) – Macro (Societal trends, economic, technological trends) 	Longer term trends, strategic initiatives, customer initiatives, policy/budget projections, social changes, industry shifts, technology trends,	<p>“Who does NOW what we will have to be good at in the future to meet future requirements/ restrictions, etc?”</p> <ul style="list-style-type: none"> – Customer interviews – Benchmarking – Site visits – Information sharing – Best Practices Clearinghouse – Excellence awards winners

Focus	Intent of Scan	Breadth of Scan (Environmental Dimensions of Interest)	Things to Understand (Societal, economic, political, technological, or other aspects)	Research Targets (Where to find ideas)
Combo.	Both	Internal <ul style="list-style-type: none"> - Customer - Competitive - Industry - Macro 	Both	Both

3.16.1. Environmental Scan. The primary issues to address in this phase are, “What’s happening currently?” “What’s coming?”, and “What does it mean to this organization/process?” The first two questions constitute gaining situational awareness relative to the organization or process of interest. The last question is critical, because without it, the exercise is simply research without application. Depending on the project, it may be necessary to scan the environment for possible factors, technologies, or trends affecting the current or future organization/process or may affect the future organization/process. The environment can be broken out in many different ways, as described below in **Figure 3.7**. Within each environmental dimension, often societal, economic, political, technological, or other aspects can be investigated. Often, a Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis is a useful way to understand what all this information means to the process or organization. Using a facilitated exercise, the workshop participants (or subgroup members) analyze the strengths, weaknesses, opportunities, and threats for the organization in light of the environmental information collected. This is the “So what?” or “What does it mean to us?” application, which is so critical for identifying improvement options.

Figure 3.7. Dimensions of the Environment.



The project team can investigate the future environment for the organization across environmental dimensions (like the ones above), or teams/subgroups/individuals can be assigned specific processes to evaluate against these dimensions. Another approach is to have subgroups focus on scanning one

dimension's impact on all relevant processes. Finally, the group or subgroups can be tasked to evaluate a single or multiple "Aspects to consider" within each dimension or across all the dimensions. The specific dimensions are described below:

3.16.1.1. Macro Environment. This is a world-wide view; it evaluates relevant issues in society at large. Typical sources might be the internet, Cable News Network (CNN), Early Bird, long-range planning documents, Defense Technical Info Center homepage, etc.

3.16.1.2. Industry Environment. This identifies relevant issues in organizations with similar mission, customer, product, or service. Typical sources include defense industry journals, internet, newspapers, Early Bird, USAF Strategic Plan, etc.

3.16.1.3. Customer Environment. This provides insight into demographics, segments, trends, patterns, and requirements. If information is gathered directly from the customer, this can be a powerful and insightful source. Any customer information (recommendations, future requirements, etc.) collected in the As-Is can be very useful at this point. Other ways to gather this information can be through surveys, focus groups, workshops, internet, magazines, General Accounting Office reports, internet sites, customer strategic plans, etc.

3.16.2. Strengths- Weaknesses- Opportunities- Threats (SWOT) Analysis. By examining internal strengths, the project team can discover untapped potential. Examining internal weaknesses, the project team can identify gaps in performance, vulnerabilities, and erroneous assumptions about their existing strategies. The external opportunities and threats are the positive and negative characteristics of the external environment. Using information gathered from available sources, study teams can identify opportunities for improvement and assess threats to determine the organization's ability to defend against them. Using the information gathered in the As-Is analysis and the Environmental Scan, some analysis has to be performed to understand what it means to build the To-Be state. Whatever approach is taken to do SWOT analysis, some consideration should be given for the different dimensions of each aspect of the environment. The outcome of this activity is a list of things to exploit or overcome in order to excel in the future environment. Several Approaches can be taken.

3.16.2.1. The team as a whole can create lists of Strengths-Weaknesses-Opportunities-Threats for the whole organization (or processes under consideration) using tools like flip charts, greaseboards, or electronic groupware. This would focus on all of the dimensions, and would consider any appropriate aspects for the processes.

3.16.2.2. Subgroups can focus on a single dimension of the environments, considering any appropriate aspects of information that may be useful (for example, group 2 might be assigned the competitive dimension of the environment). They would consider things like technological, political and societal trends to create a SWOT for that dimension. The subgroups would then out-brief each other to create a master SWOT for the whole organization that collectively addresses all aspects of the environment.

3.16.2.3. Subgroups can focus on a single aspect to consider (for example, group 2 could focus on just TECHNOLOGY), and would identify SWOT issues across all of the environmental dimensions and processes.

3.16.2.4. Subgroups can be assigned the responsibility of generating one piece of the SWOT (for example, group 2 might focus just on THREATS). They would need to be familiar with the Environmental Scan information across all of the different environmental dimensions. The subgroups would then out-brief to compile their master SWOT analysis.

3.16.2.5. Subgroups (or individuals) can be assigned specific processes to evaluate against the environmental information. The master SWOT would then simply be the sum of the SWOTs for the different processes (plus any issues which may obviously cut across processes).

3.16.2.6. Use any other approach which evaluates the organization or its processes relative to the environmental scan information.

3.16.3. Researching for Opportunities. Whether the focus is current or future, the research activity of Opportunity Research is where the new ideas for improvement come from. The SWOT analysis has identified the gap between current and future. It identifies where you are strong, where you are weak, and what realistic performance levels are. Finally, by evaluating how/how well others perform similar tasks, processes, or outcomes, new methods for improved performance may become clear.

3.16.3.1. There are basically two types of researches: Primary and Secondary.

3.16.3.1.1. Primary Research is the practice of searching for information about a particular subject using direct sources, which include (but are not limited to) making direct contact with the potential partner using e-mail, telephone surveys, mail/fax surveys, and face-to-face interviews. The Internet/World Wide Web (WWW) contains a number of information sources and contacts relevant to best practices and benchmarking.

3.16.3.1.2. Secondary Research is the practice of searching for information about a particular subject using indirect sources, which include (but are not limited to) using books, newspapers, journals, etc. The Internet/WWW contains a number of information sources and contacts relevant to best practices and benchmarking.

3.16.3.2. Three activities take place in the Research for Opportunities step: Identify benchmark targets, perform comparative analysis, and perform benchmarking research (or some less formal information gathering).

3.16.3.2.1. Identify benchmark targets. Target organizations or processes are selected because they either do well what you need to do now, or they do well what you will need to do. Either way, some aspect of “what” they do should be similar, but it does not need to be identical. Targets can come from inside or outside the project organization. An obvious first source for targets should be from a best practices clearinghouse to possibly locate the current outstanding performers in the same process (to compare “apples to apples”). See AFMIA’s home page, and click on **Best Practices**, for assistance. This is called functionally picking a target. Other targets may be less directly related, sharing similar type outcomes or components of the process. For example, an aircraft maintenance department identified that the future environment will require faster turn around time on their planes. They selected a top Indy pit crew to evaluate and benchmark. Another example of a generic or outcome-based comparison was the Bird Aircraft Strike Hazard (BASH) program. The project members identified that this is a crisis response type process that needs to be improved. They evaluated who currently does crisis response well, and selected a top-ranked fire department as the benchmark target. The idea of forward-positioning equipment was just one valuable improvement option that came out of this generic target selection. Often the most dramatic results come from selecting a target that is very different from the project organization.

3.17. Comparative Analysis. This step evaluates the performance difference and the magnitude of that difference between the project organization (process) and the target. Let’s say that the BASH process

identified the fire department as a target because they were top performers in a similar crisis response field. Comparative analysis would identify that the fire department can respond to a crisis and be on site in three minutes. Here is where As-Is performance measurement becomes important. Proper As-Is definition ensures that you have data for comparison. “How much better is three minutes than your organization’s performance?” The less information that is known about the As-Is performance or resources, the harder a comparison will be. It can be dangerous to make an improvement recommendation without this information. For example, if the benchmarking target organization can respond in three minutes on a certain process, and the project organization can respond in three minutes, it may appear that no improvement opportunity exists. But if it takes the target organization half of the manpower to respond in that time than the project organization does, there is great opportunity for adopting improvements. Unless of course, the project organization does not know how many manpower resources the response process takes. Comparative analysis uncovers performance gaps between how the project organization and the target organization are performing.

3.18. Benchmarking. If comparative analysis answers “How much?” of a difference exists between the project organization and the target, then benchmarking answers “How do they achieve that much performance?” It focuses on the actual task or process accomplishment, and uncovers possible techniques, tools, or approaches which can help the project organization improve. Benchmarking is the process of finding and adapting best practices to improve organizational performance. True benchmarking is a formal process of partnering and sharing information. For this type of information gathering, there is a formal benchmarking code of conduct and a formal approach to conducting a benchmarking study. Formal benchmarking studies often provide outstanding information, but can be time consuming and labor intensive, which may be unreasonable for your particular study. For less formal investigative research, other approaches can be used. Informal benchmarking can result from site visits (“industrial tourism”), television/media, previous experiences, or other sources. The goal of both formal and informal benchmarking is to uncover the approaches which may be adapted (not adopted) to fit and improve the project organization. Seldom, if ever, will a best practice approach or improvement idea uncovered during this research transition smoothly into another organization. The ultimate recommendations that come from Opportunity Research will be either to maintain the status quo of the processor or do one of the following:

3.18.1. Improve. This typically results from a redesign of the process. The improvement can be anywhere from minor to dramatic, even requiring the process to be designed from scratch. An improvement recommendation can cut across many functions or departments, or it can simply change how a single unit completes the process. Whatever the degree of change being proposed, the process owners should be critically involved in designing the improvement recommendations. Typical improvement recommendations are multi-skilling workers, eliminating redundancies, inserting technology to automate or assist process steps (e.g., a grocery clerk using a scanner), modifying the processes to flow more smoothly, gearing the process more for the customer, removing unnecessary layers of management, or modifying unnecessarily restrictive policies. Of course, there are limitless other ways to improve processes. Notice that some of these improvements may cut across many processes, functions, or departments. Consider the interrelationship of the five fronts when developing improvement ideas. Changes in technology, for instance, may require changes or improvements in training. Some improvement ideas may require relatively little coordination or implementation time. Such “quick wins” are opportunities for immediate improvement in current processes that may build organizational momentum for change. Throughout all the project phases and activities, the teams will collect suggestions for changes. These may range from relatively simple improvement ideas to more complex opportunities. Implementing “quick wins” is a way to show immediate results from the project and to

build momentum by actually beginning to change things while the project is in progress. Team members should be alert for opportunities for immediate process improvement as they gather data in workshops, interviews, and through quantitative analysis. Potential “quick wins” should be documented when identified, including benefits, timing, cost and any additional research assigned to design team or extended team members. Analysis at this point need not be rigorous. Criteria for “quick wins” will help qualify ideas as they arise (e.g., cost under \$10,000 and take less than 30 to 60 days to implement). These criteria will vary based on the size of the organization and the scope of the project. Common “quick wins” include elimination of low value activities or activities that are no longer necessary, such as multi-part forms, administrative reports that are no longer relevant, or services that are no longer demanded. It may be helpful to provide a common format to document and track “quick wins” or other short term opportunities. One sample format is shown below:

Figure 3.8. Example of a Quick Win Plan.

Quick Win Plan	
Example	
Quick Win Title:	OPR:
Action:	
Benefit:	Impact:
Start Date:	Finish Date:
Quick Win Cost:	Issues:

3.18.2. Eliminate. In some projects, a process, subprocess, or activity is identified as something which may be outside the mission of the organization, is unnecessary, or will not be needed in the future environment. In these cases, the proposal to eliminate the process or activity may be appropriate. For example, one agency was still spending resources to generate a report which was not used by anyone. The process to create this report was eliminated. Another example may be for a function or agency to eliminate conducting an annual conference. Opportunity research may have identified a more cost-effective method for disseminating information (if that outcome is still desired).

3.18.2.1. If a detailed costing strategy was used in the As-Is phase then savings associated with eliminating the performance of a process or activity can be clearly estimated. If manpower costs and facility costs were defined for a process and that process is eliminated, the cost savings should be relatively easy to determine. If a more high level As-Is costing strategy was used, then this information can still be attained, but will require detailed costing analysis at this time (see Reach-Back Costing in the As-Is Phase, paragraph 3.13.4.4.).

3.18.2.2. Elimination of any process or activity can have impacts on other functions or departments, which may rely on, or be involved with that process. Whenever elimination is recom-

mended, generate a list of customers and stakeholders of the eliminated process or activity. Coordinate and communicate this change with them. In addition, consider the Five Fronts when eliminating anything. Will it impact training, technology, career progression, policy/guidance, facilities, etc?

3.18.2.3. Many organizations confuse improving performance with shifting responsibility because it eases workload. Perhaps in the As-Is or Environmental Scanning phases, it became obvious that an organization's mission does not require it to do something it currently does. The resulting suggestion may be to transfer the work to another organization or function, or to out-source the work.

3.18.2.4. Transferring the work requires coordination and buy-in from the organization assuming responsibility. The ultimate decision-making authority for the To-Be will ask whether this assuming organization agrees with the proposal to shift the work to them. If not, the proposal will likely be disapproved until agreement is reached. Manpower issues also will exist based on the authorized manpower assigned to that workload. As the workload shifts, so too should the authorized manpower.

3.18.2.5. If outsourced, legal restrictions will need to be followed. Again, customers and stakeholders must be contacted to ensure that the contracted service meets their requirements. One way to accomplish this is to have customer and/or stakeholders present when drafting the SOW, or at least give them an opportunity to review the requirements. It is the customer's responsibility to draft the SOW and have manpower and contracting assistance.

3.19. Options Package. Whatever the proposed solutions, they should be documented and presented in a way that is useful and rigorous for the sponsor(s) to make a decision. If possible, costs and benefits should be described for the proposed changes and improvements. In some cases, the project sponsors may wish to select from several options or scenarios. Ideally, this should have been articulated by the sponsor during the Project Definition or Planning Phases, so that the project team or subgroups could have collected information and researched with this context in mind. Some possible scenarios are listed below:

3.19.1. Best Case/ Most Likely/Least Likely. It may be a reflection of the future environment being either friendly or nonfriendly to the organization/function.

Figure 3.9. Prepare Options Scenarios Example.

Prepare Options (May be scenario-based)
<p>Best Case</p> <ul style="list-style-type: none"> - Decentralize all operations - Eliminate Key Process 1 - Combine Key Processes 2 & 4
<p>Most Likely</p> <ul style="list-style-type: none"> - Streamline all key processes with new computer technology
<p>Least Likely</p> <ul style="list-style-type: none"> - Benchmark key process 1 - Streamline key processes 2,3,4

3.19.2. Low Cost/ High Cost/ Middle of Road. The groups may develop different proposals or combinations of proposals based on how restrictive the budget is.

3.19.3. Future Scenario1/Future Scenario2. It may be specifically defined by the sponsor (“I want one option that assumes that air expeditionary forces are in place, and another that assumes it is not.”) or can be developed from the Environmental Scan.

Figure 3.10. Future Environment(s) Options Example.

Prepare Options (May be several options for one or more future environments)
<p>If future environment is “X”</p> <ul style="list-style-type: none"> - Decentralize all operations - Eliminate Key Process 1 - Combine Key Processes 2 & 4
<p>If future environment is “Y”, choose 1</p> <ul style="list-style-type: none"> - Streamline all key processes with new computer technology - Benchmark key process 1 - Streamline key processes 2,3,4

3.19.4. Single option. The sponsor may simply leave the design up to the Project Team, and only require a single solution be presented. This may be an option if the Sponsor had a clear vision of what

the To-Be organization should look like, and the project team was simply tasked with proposing HOW it should get there.

3.19.5. Multiple Options. The sponsor may want several options to pick from. This may be one of the scenarios listed above, or he or she may have some other criteria for defining the option categories.

3.19.6. Menu listing. This may simply be a prioritized list of improvement proposals which the sponsor can select to design the To-Be state he or she wants developed.

3.19.7. Each proposal may be presented with the cost/benefit/timeline described, such as in the example in [Figure 3.11](#).

Figure 3.11. To-Be Options/Initiatives Example.

“TO BE” OPTIONS/INITIATIVES FAC XXXX
TITLE: (title of initiative)
CURRENT METHOD: (Describe in detail the current method so senior leadership understands current method)
PROPOSED METHOD: (Describe in enough detail the proposed method in relation to the current method, so senior leadership can visualize the potential ramifications)
SCOPE: (Indicate the applicability, i.e., multi-command, AEF, fighter wings, etc.)
BENEFITS: (Describe in detail the savings in process times, customer times, or level of service, etc., to include an actual or notional impact AF-wide, Indicate the specific POD process number and title)
RELATIONSHIP TO OTHER INITIATIVES: (Self-explanatory)
OPTIONS: (Other option to be considered in relation to this one, separate sheet attached)
COSTS: (Estimated costs of implementing option. Describe in detail)
DISCUSSION: (Describe in detail below the pros, cons, cost benefits, benchmarking info, etc)
PRO: (Indicate any savings referencing a revised POD/PAT/FREQ)
CON:
RECOMMENDATION: (Recommendation of workshop representatives and for which option)
MAJCOM POSITION:
ATTACHMENTS: (Attach a current POD and a revised POD. Highlight areas of change)

3.19.8. The option(s) selected by the project sponsor will provide the direction and strategy for the To-Be organization. Detail and action groups will be formed to “add flesh” to the selected option. Any detailed manpower savings are reflected in the To-Be scenario and briefed to the Air Force Corporate Board.

3.19.8.1. The MO study analyst’s role includes an “honest broker” responsibility for identifying to Air Force senior leadership options to improve effective and efficient use of manpower resources.

3.19.8.2. In those cases where the sponsor is unwilling to pursue what otherwise appears to the MO analyst as a viable option, this should be internally documented for presentation separate from the sponsor's position.

3.19.9. Micro. Simply because the scope of this type of project is "small" does not mean that the opportunity research phase needs to be insignificant. Even for projects that focus on one process (or activity) and have a local impact, the environment (current or future) for that process still needs to be understood. Perform environmental scanning in either a team or subgroups to collect information about trends, factors, limitations, requirements, etc., which the To-Be design will need to address. Conduct a SWOT analysis to identify and understand the impact these environmental factors will have on the target process. Identify targets to research for improvement ideas. Internet, publications, interviews, site visits, past experience, and obvious intuitive improvements may be ways to generate ideas. The improvements options (improve, eliminate, divest) may or may not need to be formally documented for approval, based on the requirements of the study. The more coordination and approval required for the improvements, the more useful a formally documented options package will be. Implement, but still document any "quick wins" identified along the way.

3.19.10. Mid-level. As the number of processes, amount of the overall organization, and/or the level of impact to the Air Force increases, so too may the detail in the Opportunity Research. More complex, cross-functional or cross-departmental issues or processes may require a deeper analysis of environmental issues, as well as more formalized benchmarking and information gathering. As research increases in formality, it becomes more critical to have useful, detailed cost and performance information available for comparison with a "target" benchmark. For example, if the environmental scan has indicated that Just-In-Time training will be necessary in the future, and you have selected the "best in class" organization at such training, comparative analysis will be difficult if you do not know the cost or method you currently use for providing your training. How much better are they than you are? How differently do they perform the process? This is important to know in order to adapt their method (vs adopting) to fit your context. More traditional benchmarking techniques may be necessary in Mid-Level projects, as will the formality of documentation of the improvement options. The number of improvement options and the method of presentation (scenarios, list of ideas, etc.) should be discussed and dictated by the project sponsor. Because of the wider impact to other Air Force organizations or a larger number of organizational processes being impacted, the Five Fronts need to be considered to identify indirect impacts or related issues arising from any changes.

3.19.11. Macro. In an organization-wide (holistic) project, larger, more global factors will come into play in the environmental scanning step. Also, coordination and communication requirements will increase, emphasizing the usefulness in having stakeholders and other impacted organizations involved in the options development. This may be as simple as reviewing the proposals, or may be to the level of participating in the workshops or activities. For example, if the project scope is across an entire Air Force function, having appropriate process owners from across the MAJCOMs participate in workshops, analysis, research, or idea development increases the chance of buy-in and expands the pool of perspectives from which to draw new ideas. The outcome documents and findings from the Environmental Scan and SWOT analysis should be coordinated for review and feedback to all appropriate stakeholders. For larger projects such as this, it is often useful to assign processes or dimensions of the organization (i.e., training and technology) to subgroups. These groups can environmentally scan, perform SWOT analysis, and research their respective area of interest. Of course, some cross flow of information will need to occur to ensure that each subgroup is aware of the assumptions and findings of other subgroups. Surveys, interviews, site visits, and formal/informal benchmarking tech-

niques may all be used to different levels to the project. Project timeline and resources will dictate the appropriate level of research. Final consideration to the Five Fronts should be given across all of the recommendations in order to address any issues that impact other organizational areas, policies, programs, or other recommendations. Once research is complete, the improvement recommendations can be consolidated and coordinated for final review prior to presenting them to the sponsor. Considering the scope of the study, all improvement recommendations (including “quick wins”) should be formally documented. The number of improvement options and the method of presentation (scenarios, list of ideas, etc.) should be discussed with and dictated by the project sponsor.

Section 3F—To-Be Process Development--Phase 5

3.20. General Concepts. The outputs of the previous phase are improvement recommendations/options presented to the project sponsor for some decision. Based on the intent and scope of the project, costs and benefits associated with each option or recommendation will likely be presented. The project sponsor(s) must make some decision as to which options should be developed into a detailed improvement plan to be presented to the ultimate decision making authority. These selected process designs, short/long-term initiatives, or changes to current operations should satisfy the criteria for project success stated by the sponsor(s) in the Project Definition phase. When developed, the new design should also satisfy the customer requirements in the current or future environment. If necessary for the project, the resources needed to accomplish the newly designed processes (or tasks or activities) should be identified. Functional measures, which will be used to evaluate the “strength” of this new design, should also be designed.

3.21. Selection of Improvement Options. The project sponsor(s) should have criteria selected for objectively evaluating the proposed options. The criteria may have been identified in the Project Definition Phase. Other criteria may be costly to implement, expected benefit to the organization, likelihood of support from the boss, probability of implementing within a certain period of time, or any other rating he or she thinks is useful. It is sometimes useful to group the options for selection. For example, creating categories for short/mid/long-term implementation may allow the sponsor to more easily select or prioritize within those categories. In some cases, the sponsors may consider the criteria to be weighted differently. If the number of improvement options is high, if the criteria are weighted differently, or if a number of sponsors have to be involved in selection, decision-making software (groupware) can serve as a valuable tool for speeding up the evaluation and selection process. If no such software is available, have the sponsor(s) rate each option on each criteria on a scale of 1 to 10. When creating a rating scale, having the raters clearly understand, “What does a 1, 5 and 10 mean” becomes critically important to ensure consistency of ratings. Take the time to do this right, or the ratings will be meaningless. Notice in the following example how the prioritization order changes when the “Support” criteria was weighted twice as much as the other criteria. Selection of an option or a collection of improvement proposals/initiatives constitutes a definition of the strategy for the To-Be organization. The sponsor defines the direction, and the project team assumes the responsibility of creating the detailed plan for bringing it to life. This plan will be coordinated and presented to the final decision making authority for approval.

Figure 3.12. Example of a Prioritization/Rating Matrix

Prioritization/Rating Matrix
Example
Criteria

Options	Low Cost	Ease of Implementation	Support (2x)	Total
1	8	9	4 (8)	21 (25)
2	6	4	7 (14)	17 (24)
3	4	8	8 (16)	20 (28)

NOTE: This assumes the criteria are weighed equally. If they are not weighted equally (see the values in parentheses), multiply the value in each cell by the weighting for that criteria and total.

3.21.1. Creation of To-Be Design. Assuming that some changes will be accomplished, the project team (often referred to as Design Team(s) in this phase) must understand the performance and process gap between what currently exists and what will need to exist in the To-Be state. To build the To-Be design, team members will be required to re-familiarize themselves with the As-Is information to identify limitations, resources, and the current organization.

3.21.2. Create To-Be Process/Activity Design. Using the information from opportunity research or improvement ideas that became obvious during the As-Is mapping of the processes, develop new process models. Many software programs exist to simulate process flow. This tool can serve as an outstanding method for performing “What if” scenarios. The As-Is data can be used as the baseline. Then To-Be improvement changes can be inserted into the model to evaluate the impact of changes on things like cycle time, manpower requirements, customer wait (queue) times, productivity, etc. Test sites of different process designs can also be set up to provide a more real world simulation of the proposed changes.

3.21.2.1. During the creation of the To-Be state, critical attention needs to be paid to ensure that appropriate stakeholders and subject matter experts are involved. Lack of MAJCOM and/or union representation, for example, can cripple or halt the progress of a project of any size. Several schools of thought exist as to who should be involved in designing the new processes. One recommends that the ultimate process owners should design the system they will have to live with. Another argues that having new, more “novice” participants can provide more innovative designs, since they are less likely to be biased by past designs and paradigms. A good rule of thumb is to try to involve a little of both. Have process owners and stakeholders involved, since they know best the conditions and restrictions in which the new process will have to perform. Also include

customers and outside “fresh eyes” to question any old school assumptions which may emerge, and to more easily provide an “outside the box” perspective. Perhaps representatives from one of the benchmark target organizations can participate to provide lessons learned or quick fixes to design problems that may arise.

3.21.2.2. Remember to resist the urge to “adopt” techniques or tools identified in the Opportunity Research phase. No two organizations are the same. Simply introducing telecommuting, peer ratings, team-based design, technology insertion, decentralized decision-making or many other improvements without considering the unique cultural in the receiving organization can lead to failure. To re-emphasize: Adapt, don’t adopt opportunity research findings.

3.21.2.3. Divesting or eliminating processes, activities, or steps in the To-Be design is often not as simple as just making the changes. For projects that impact other organizations or departments, some coordination will need to take place to ensure that these changes do not negatively impact stakeholders. If, for example, the Air Force Corporate Board will be the approving authority of the proposed To-Be design, coordination and agreement between impacted agencies may need to be demonstrated. Some eliminated activities may be internal or obvious enough to not require such coordination.

3.21.3. Define Interaction of Change Initiatives Across the Five Fronts. Whether the change proposal is a process change, elimination/divestiture of activities, or an initiative that cuts across a number of processes, other areas of the organization will likely be impacted. The interrelation of facilities, policies/guidance, technology, personnel, and process factors needs to be addressed to identify what support factors, for example, will need to change as a result of a process modification. Perhaps career development courses (CDC) will need to be revised, new software will be required, just-in-time training will be introduced, and recruitment criteria will need to be adjusted to support a process change. A workshop environment may be an ideal place to list such supporting requirements relative to each change proposal. A timeline with OPRs and completion dates can be created to help manage these activities. It should be obvious how important proper workshop planning becomes in order to ensure representation by appropriate stakeholders and subject matter experts. Union representation may be a very important stakeholder to have involved in this process, when appropriate.

3.21.3.1. Define New System Requirements. The more detail that can be added to the To-Be organization, the better. Have the Design Team(s) specify skill levels necessary to perform the new activities or processes. They should also document any software or technology requirements for the To-Be design. This will assist in establishing the cost of the new system, and will facilitate procurement and implementation.

3.21.3.2. Workload Resource Impacts. Any changes to processes/activities will likely impact workload, and ultimately the manpower authorized to the organization. Typically, if the process changes are significant, establishing the manpower costs becomes harder. The more mid/long-term the proposed changes/initiatives, the more difficult it becomes to objectively measure the manpower savings/costs. The proposed manpower requirement becomes “notional,” and should be based on realistic estimates developed from either a simulation model (see paragraph [3.28.3.6](#)), practical experience, or from opportunity research.

3.21.3.3. Other Costs. Other resource costs (facilities, technology, etc.) may also be of interest to understand and present the To-Be design costs. ABC provides one method for documenting and assigning such costs to process activities.

3.21.3.4. Changes in Manpower Requirements. Define the changes in manpower requirements resulting from the improvement recommendations. This delta would be based on the To-Be estimate minus the As-Is manpower required to perform the event. If detailed As-Is manpower data is available, this process will be easier. If none exists or the Team did a higher level costing approach, then more detailed As-Is manpower data may need to be collected at this time. If necessary a formal “notional manpower standard” may need to be developed to outline for the final approving authority the processes which will be performed in the future and the manpower “cost” associated with that service. Some political consideration should be made for how to present any costs or savings. For example, there will often be a transition period when implementing the To-Be design, during which any manpower savings offered for the To-Be design would not be available. If the authorizations are taken off the UMD(s) when the proposed savings are presented, the organization will be without necessary manpower during the transition period. A phased approach to adjusting manpower or other resources maybe safer and a more realistic way to ensure that an organization is able to survive the transition. As discussed, many aspects associated with the change must be considered to develop the best transition plan, not least of which is the impact on the people (both military and civilian) who would be affected by the change. Some improvement recommendations, on the other hand, may lend themselves to immediate adjustment in resources. The sponsor, supported by the study team, briefs the To-Be proposal to the Air Force Corporate Structure and makes the appropriate recommendation.

3.21.4. Document New Design. The new design should be documented in a manner that is appropriate for the project. Larger projects will require a more formal proposal and plan to be developed for coordination and approval. Extremely small projects may only require a briefing and verbal approval. Just as in the Project Definition and Planning Phases, it was important that everyone understood the case for change, scope of the project, and roles/responsibilities. Now it is critical that everyone understands how the To-Be organization is being proposed to work. A concept of operations often serves this purpose, outlining the organizational layout, process designs, and roles and responsibilities of the workers in the newly proposed process. It defines “Who does what to whom,” and can be as detailed as is reasonable for the project. A simulation model may also serve as a way of articulating the new design.

3.21.4.1. If of interest to the sponsor or the decision making authority, the Implementation Plan can also be developed at this time, outlining key initiatives, actions, OPRs, completion dates, and an overall timeline. As was stated earlier, since the To-Be state does not exist yet, and the To-Be design was based to some degree on speculation and assumption, a phased implementation approach may be appropriate to allow for appropriate adjustments during implementation. Pilot test sites or incremental implementation can serve as this type of “Proof of Concept.” In some cases, there will be recruitment or budgeting lag or a learning curve, which this type of phased approach can absorb.

3.21.4.2. Create measures for evaluating the To-Be organization. So often, organizations do not have a well-designed measurement program. Measures and metrics frequently exist which provide no real information, and are simply being collected because, “We’ve always measured it.” This phase allows the perfect opportunity for an organization to articulate “What must go right” in order for the organization to survive and be successful. This may be broken down into dimensions of performance such as “Mission”/“Customer” (effectiveness), “Processes” (efficiency), “People,” “Finances,” etc. The sponsor can articulate goals as to what has to happen in each of these dimensions. Measures are then identified which would give proof of whether or not the goals were

being reached. Finally, some method of collection, calculation, data storage, frequency, display, and communication of these measures would need to be defined, with an OPR for each measure. A wealth of performance measurement literature and approaches exists which can help in the development of such a measurement system. Such measures help future leaders make fact-based decisions regarding the “health” of their organization or process.

3.21.5. Micro. Even a narrow-scoped process requires the sponsor to make a decision about the strategy for the To-Be. Considering the breadth of impact is relatively small, and the coordination/approval requirement is lower, deciding and moving forward with the selected option(s) is streamlined. The To-Be design, whether it is a process or activity, may be created “on the fly” by testing different proposed solutions. For example, an Action Work Out can be considered a Micro-scoped project. This technique conducts the Opportunity Research and To-Be design almost simultaneously by physically testing new physical or process designs for improvement as the ideas emerge. In some projects, the improvement ideas or initiatives may require more planning or design, necessitating flowcharting, simulation, or other formal design techniques. Even single process or activity improvements can significantly impact other factors of the organization, so evaluation of the Five Fronts may still be appropriate. Due to the reduced coordination/approval requirement, documentation of the new design and the resource impacts (manpower, facilities, etc.) may not need to be formally presented to the ultimate decision maker. If unsure, it is always better to err on the side of too much documentation and justification for proposals. If appropriate, manpower changes may be captured as a variance, if the change is not Air Force-wide. An implementation plan may also be informal, still ensuring that all impacted parties understand the proposal, design, and roles/responsibilities in the To-Be design. Process and activity measures can easily be developed and defined to ensure they are collected and displayed in a useful manner.

3.21.6. Mid-level. The To-Be design may impact more organizations and stakeholders, so buy-in for the new design is more critical. Upon selecting the strategy (option or collection of improvement initiatives), the project sponsor will articulate what the To-Be vision of the organization is. This will provide some clarity on what the Design Teams should develop, and will provide boundaries on how the To-Be data should be presented for approval by the decision-making authority. Change initiatives should be assigned to the Design Team or Teams for development. The team(s) may wish to conduct workshops to create new designs or propose the plan to eliminate/divest selected activities. If appropriate, the new organizational structure should be defined, processes should be flowcharted or modeled, and resource impacts should be estimated. Encourage stakeholders to participate or review design ideas for buy-in and innovation purposes. If technology insertion is involved, requirements for that technology should be defined. The Five Fronts should be formally considered for each improvement idea, with a final review of issues, which may cut across a number of processes. If the project spans across many departments, bases, MAJCOMs, etc., ensure that assumptions and design proposals are being communicated as appropriate. As more processes and initiatives are impacted by change, there will likely be a manpower impact. A mid-level scoped project may require the ultimate approving authority to be more senior, thus requiring more detailed data on cost. If the costing detail from the As-Is Phase was very high level, it may be necessary to measure in more detail the As-Is cost now that the improvement targets have been identified. This will allow for more sound estimates of To-Be costs. Improvement initiatives can be described by their implementation time (e.g., short term/long term improvements). Longer-term improvements will require more notional estimates of both costs and benefits, and may require a phased implementation. A more formal Concept of Operations and Implementation Plan will likely be necessary to ensure that the wider scope of the organization

impacted by the changes understands the proposals and their responsibilities in the To-Be state. Finally, with input from the sponsor, the Design Team can define and develop the performance measures which will measure the health of the To-Be organization. Dimensions of performance can be defined, as described above, and performance goals regarding “What must happen” in the respective dimension can be articulated. Process owners are often great participants in the activity of identifying the few measures which demonstrate accomplishment of the goals.

3.21.7. Macro. High coordination/communication will require the change initiatives to be more formally documented. Even “quick wins” should be captured, especially if they impact other processes or will be expected to be implemented at other locations. The project sponsor(s) will still need to establish criteria for selecting options or change initiatives. Due to the larger scope, they may wish to organize the change proposals into short-term/mid-term/long-term activities, to allow the ultimate decision-making authority to consider the budgeting cycle and a phased implementation. The macro-scoped project also impacts a greater portion of the organization which increases the importance of having representatives from all appropriate areas of the organization participate in the Design Teams. These experts will provide valuable data for estimating firm and notional manpower, support, and other appropriate costs associated with the changes. ABC and simulation modeling are valuable techniques for rigorously creating such information. The process/activity/initiative designs must consider the Five Fronts, since a project of this scale will likely have a ripple effect and impact many processes and organizations for every change that is made. Large, organizational proposals, such as changes to career field progression, modification of policy and guidance, and standardization of equipment will likely emerge, and must be addressed and managed. The Concept of Operations and Implementation Plan should also be developed with appropriate representation from across the appropriate divisions, functions, MAJCOMs, departments, etc. Buy-in is critical to moving the proposed To-Be design forward. The sponsor should have an idea of the necessary format, concerns, participants, and time frame which will increase the likelihood of approval by the ultimate decision-making authority. Finally, the Design Team should take the time to identify the Performance Measures by which the To-Be organization can be monitored. These measures would be separate from measures simply depicting the progress of implementation. The measures developed for the To-Be organization should be a “Scorecard” by which the To-Be leaders can monitor how well the organization is doing what needs to be done in order to accomplish its “mission.” If the project organization has Mission Essential Tasks, some of these measures should directly reflect the Performance Measures it identified for the “Assess” phase of Functional Management. Other measures may also be necessary to monitor the internal efficiency of the organization outside what the Performance Management framework requires.

3.22. Process Oriented Description (POD) Development.

3.22.1. General Concepts. The POD is a full description of processes that are the responsibility of the work center. A process is a series of value-added actions that bring about an end or result. If a POD does not exist, develop one from process analysis worksheets, mission statements, and/or the applicable directives that govern the function and define work requirements. The POD is the basic building block of a standard and is written to facilitate work measurement and data analysis and computations. Functional characteristics, such as complexity, stability, and degree of standardization influence the level of POD detail, the selection of the measurement approach, and the ultimate maintenance of the standard.

3.22.2. Definition of Work Center Process Steps. Make sure POD content reflects only mission-essential processes assigned to the work center being studied that are governed by a MAJCOM directive or higher. Omit assumed or inferred workload. Inferred work is work that is the responsibility of another work center or function. Assumed work is considered nice-to-do but is not necessary to work center productivity. Inferred and assumed work are not given manpower credit to the work center under study. To build a good POD, develop an accurate and understandable definition for each process step.

3.22.2.1. A process is a discrete segment of work activities that represents a composite of methods, procedures, and techniques needed to accomplish one unit of work activity (output). It is a procedure with a definitive input and output product. This facilitates price identification and examination of various levels of service options. A process involves worker interaction with such things as equipment, material, other people, and information. In most instances, the performance of a process by a worker has a definite beginning and end.

3.22.2.2. A process definition may only need a short phrase (for example, repairs carburetor), or it may need a breakout of the process into several steps (for example, disassembles carburetor, replaces part, reassembles carburetor, and inspects carburetor). Factors that influence the degree of definition detail needed are:

3.22.3. The Nature of the Activity.

3.22.3.1. A detailed process definition is suitable when an operation is highly repetitive and a specific sequence of steps must be followed.

3.22.3.2. A less detailed listing of a process is suitable when a process can be done in a variety of ways. For example, management, research, and problem-solving activities may follow different steps each time they are done; therefore, they can only be described in general terms.

3.22.3.3. Structure processes so they are independent and mutually exclusive of each other and have definite beginning and ending points.

3.22.4. The work measurement method selected:

3.22.4.1. A measurement method such as operational audit usually needs processes defined at the step level to ensure accuracy of data.

3.22.4.2. For work sampling, the sampling level dictates the degree of detail needed. If sampling is done at the process level, a listing of step titles or a grouping of the steps in sentence format may provide enough detail for measurement.

3.22.4.3. In all cases, clearly write process definitions in enough detail so the measuring technician can easily identify when an activity occurs during measurement.

3.22.4.4. Setting up the correct process definition detail is a repetitive procedure requiring the manpower and organizational technician to use good judgment and common sense. Each work center produces different definition requirements that must be addressed to obtain accurate data. During this procedure, remember:

3.22.4.4.1. Steps made purposely broad to cover as much work as possible can increase interpretation problems, cause inaccurate measurement, and hinder data analysis.

3.22.4.4.2. Steps that do not accurately reflect duties and responsibilities increase the chance for inaccurate measurement.

3.22.4.4.3. Steps that are too detailed may result in an indiscernible sequence of events.

3.22.5. Classifying Work Center Activities. When analyzing individual work center activities, decide if they are productive, nonavailable, assumed work, or not allowed. Use [Table 3.2](#). to do this analysis.

Table 3.2. How To Classify Work.

I. CLASSIFYING DIRECT WORK										
R U L E	A	B	C	D	E	F	G	H	I	J
	and the work is				then classify the work as					
	If work is required by a MAJCOM or higher directive	and the directive identifies the work center to perform the work	performed at all locations where the work center exists	essential to the work center's mission	Productive (basic for work center)	Productive (positive variance for work center)	N O N A V A I L A B L E	N O T A L L O W E D	A S S U M E D W O R K	and contact the responsible OPR to ensure the appropriate directive is changed to add or delete this requirement
1	Yes	Yes	Yes	Yes	X					
2				No					X	X
3			No	Yes		X				
4				No				X		X
5		No	Yes	Yes	X					X
6				No			X			
7			No	Yes		X				X
8	No							X		
II CLASSIFYING INDIRECT WORK AS DIRECT WORK										
R U L E	A	B	C		D	E	F (Notes)			
	If work is performed in support of the work center or personnel assigned to the work center being measured	If the work center is an overhead work center and the work is performed in support of a subordinate work center or personnel assigned to a subordinate work center	If the work center is an overhead work center and the work is performed in support of the work center or personnel assigned to the overhead work center being measured		Indirect (Note 1)	Direct (Note 2)	1. Use appropriate indirect task description from AFMS 00AA. 2. Use appropriate indirect task description from AFMS 00AA as direct work. Management or overhead work can have direct processes which describe indirect work when it's performed in support of personnel in subordinate work centers. This is in addition to the standard indirect categories to support people inside the overhead work center. IN ALL CASES, ensure the "same" work is not counted twice.			
1	Yes				X					
2		Yes				X				
3			Yes		X					

3.22.5.1. AFMS 00AA lists those tasks and categories that have been identified as the standard indirect categories. See **Table 3.2. II**, for additional guidance.

3.22.5.2. Proper accountability of certain processes and steps may be confusing or difficult. See [Table 3.3](#) for rules on how to handle these.

Table 3.3. How To Treat Special Work Requirements.

R U L E	A	B	C
	If the work to be classified is	and includes	then
1	Flying Requirements	Flying to accomplish the work center mission and to satisfy the requirements of Aircrew Position Identifier (API) 1,2,5,6, or 8.	Identify steps related to and conducting flying mission, training, or evaluation in a direct process titled "(type Aircraft) Flying Activities." Include steps required to satisfy all currency requirements.
2		currency requirements associated with API 3 and 4 coded positions,	Consider the steps credited in the SIAM or MAF.
3	Travel	travel between work centers, travel from the work center to the job site, or TDY travel with the purpose of doing official mission-oriented direct process work,	If travel is required to accomplish a direct process, establish a step in the process for travel. If travel is required to do two or more steps in the same direct process, establish a separate step for each time travel is performed (see note 1).
4	Supervision (see note 2)	managing two or more subordinate work centers,	Establish a process called "Management" that contains those steps necessary to support subordinate work centers.
5		supervising only internal work center personnel,	Consider tasks credited in the SIAM for OA studies.
6	On-the-job training (OJT)	accomplishing direct work while receiving OJT,	Credit this work to the direct process done.
7		receiving in-house proficiency training or qualification training in a classroom environment in lieu of numerous individual OJT sessions on one subject,	Consider tasks credited in the SIAM for OA studies.
8		receiving FTD or MDT instructions when the training is of a recurring nature similar to, or in lieu of, normal OJT or proficiency training,	
9		study of career development course (CDC) and Weighted Airman Promotion System (WAPS) during normal duty hours,	Consider as nonproductive unless used in conjunction with rule 6 or 7.
10	Cleanup	performing clean-up services not authorized for custodial service,	Consider tasks credited in the SIAM for OA studies.
11		mowing grass, (see note 3)	Give no credit because this is considered loaned time.

NOTES:

1. Ensure credit for travel is not double-counted in the steps or processes identified. When the modular equation or process oriented approach is used, split travel between the appropriate modules or processes.

2. Indirect tasks can be reflected as both direct or indirect in Management or overhead work centers. However, when documented as direct work, the processes reflect steps to support personnel in subordinate work centers while the indirect categories reflect steps to support people inside the overhead work center. Ensure that direct processes are written clearly and do not duplicate indirect work described in AFMS 00AA.
3. There may be other duties performed by work center personnel, e.g., snow/ice removal, that may or may not be creditable to the work center. In all cases, use the decision logic table ([Table 3.2.](#)) to determine how this work should be classified.

3.22.6. Nonavailable Work Center Activities.

3.22.6.1. When identifying and defining processes done in a work center, there are activities that are directed, approved, or recognized by the Air Force that makes people unavailable for assigned primary processes. Since these activities have an impact on all work centers, they have been measured Air Force-wide and subtracted from each person's assigned time to produce the man-hour availability factors (MAF). MAFs are listed in AFI 38-201.

3.22.6.2. The major groupings of nonavailable activities for military personnel are leave, permanent change of station (PCS)-related, medical, organizational duties, education and training, and miscellaneous. Specific definitions of each follow:

3.22.6.2.1. Leave. This refers to an approved absence from work or duty for a specified period of time. It does not include leave taken in conjunction with a PCS move or convalescent leave. Personnel on leave in conjunction with a PCS move are assigned against authorizations in the Air Force Transient Account.

3.22.6.2.2. PCS-Related. This refers to activities done by personnel because of a PCS move. This includes in- and out-processing through base agencies such as military personnel flight (MPF), Financial Management, Transportation, Officer or NCO Club, Base Housing, Supply, Library, Post Office, and others as established by MAJCOMs. PCS-related also includes activities needed for family settlement such as home sale, quarters inspection, closing utility accounts and supervision of movers. Authorized time to and from port to pick up or ship your privately owned vehicle (POV) in conjunction with a PCS move is included. It does not include travel and leave taken in connection with the PCS move. Personnel on leave or traveling in conjunction with a PCS move are assigned against authorizations in the Air Force Transient Account.

3.22.6.2.3. Medical. An approved absence from duty for medical reasons such as inpatient and quarters stays, outpatient visits, immunizations, dental visits, and Alcohol and Drug Abuse Prevention and Treatment program entrants.

3.22.6.2.4. Organizational Duties. These include activities such as:

3.22.6.2.4.1. Annual Fitness Testing. Includes testing and weighing in but not physical training to prepare for testing.

3.22.6.2.4.2. Sponsor and Individualized Newcomer Treatment and Orientation (INTRO) Program. Includes time spent away from the primary work location for performing in-unit sponsor or INTRO Program duties (excludes job-related hours such as base or unit INTRO manager).

3.22.6.2.5. Program Participation and Administration.

3.22.6.2.5.1. Military Personnel Flight. This includes time spent completing required personnel actions such as, but not limited to, dependent identification card program, separation of officers and enlisted members, servicemen's group life insurance, officer and enlisted performance reports, and service retirements.

3.22.6.2.5.2. Boards, Councils, Groups, and Committees. This includes time spent serving as a panel member/representative on boards, councils, groups and committees or appearing before them.

3.22.6.2.5.3. Additional Duties. This includes, but not limited to, building manager, OPSEC monitor, security manager, satellite accumulation point manager and safety manager.

3.22.6.2.5.4. Details. This includes time spent performing details such as, but not limited to, line of duty determination officer, destruction officer, dorm CQ/bay orderly, and report of survey investigative officer/NCO.

3.22.6.2.5.5. Education and Training. This includes activities such as:

3.22.6.2.5.5.1. Testing. Some examples are promotion fitness exam, specialty knowledge tests, USAF supervisory exam, ECI exams, college-level equivalency program exams, career development course final exams, etc.

3.22.6.2.5.5.2. Ancillary Training. The following ancillary training courses as listed in AFI 36-2223, are included: Explosive Ordinance Recognition Training, Self-Aid and Buddy Care, Local Conditions Course II, Base Emergency Preparedness, Protection from Terrorism, Counterintelligence Awareness and Briefing program, Uniform Code of Military Justice, First Duty Station Orientation, Command Control Communication Computer Systems Security Awareness Training and Education program, Law of Armed Conflict and Overseas Orientation Briefing.

3.22.6.2.5.5.3. Formal Training. This includes time for Air Force members to attend formal education and training courses that have general application throughout the Air Force and conducted by organizations whose primary mission is training or education. Only formal education and training courses of less than 20 weeks are included. Excluded are all basic military training courses, professional military education courses, Air Force Specialty Code awarding courses, training and education activities conducted by MAJCOMs, and all field and special training courses conducted by training detachments, AETC mobile teams, or field training teams.

3.22.6.2.5.5.4. Professional Military Education (PME). Officer PME consists of Squadron Officer School only. Enlisted PME consists of Airman Leadership School, Noncommissioned Officers Academy, and Senior Noncommissioned Officers Academy.

3.22.6.2.5.6. Civilian Personnel. The major groupings of nonavailable activities for civilian personnel are leave and training.

3.22.6.2.5.6.1. Leave. This refers to an approved absence from work or duty for a specified period of time. This includes annual leave, sick leave, and special absences.

3.22.6.2.5.6.1.1. Annual Leave. Employees are granted leave to allow time off for vacations and for personal and emergency purposes.

3.22.6.2.5.6.1.2. Sick Leave. Sick leave is a qualified right of the employee and may be used only for the following absences: (1) when incapacitated for performance of duty by sickness, injury, pregnancy, or illness resulting from immunizations or vaccinations; (2) for medical, dental, or optical examinations or treatment; and (3) to participate in drug or alcohol counseling programs. Additionally, the Family Friendly Leave Act allows sick leave to be used to care for a family member with an illness, injury, or a dental, medical, or optical examination/treatment and to make arrangements for or to attend the funeral of a family member.

3.22.6.2.5.6.1.3. Special Absences. These include absences during normal duty hours that are administratively authorized without loss of pay and without charge to leave. These absences are described in a minimum of two publications:

3.22.6.2.5.6.1.3.1. AFI 36-701, *Labor Management Relations*.

3.22.6.2.5.6.1.3.2. Federal Personnel Manual, Supplement 990-2, Sub-chapter 11, Excused Absences.

3.22.6.2.5.6.2. Training. Includes time for formal and recurring training.

3.22.6.2.5.6.2.1. Formal Training. This includes all formal classroom training of eight hours duration or longer that is recorded on an individual's master personnel record. It excludes OJT, but includes courses given on base that meet the formal eight-hour criteria.

3.22.6.2.5.6.2.2. Recurring Training. This includes any training that is of an ancillary or mandatory nature required to ensure Air Force civilian personnel possess an adequate blend of both general and technical knowledge and capabilities. Some examples of recurring training are operations security (OPSEC), communications security (COMSEC), base orientation briefings, and supervisor's safety training.

3.22.6.2.5.7. Operational Audit. Nonavailable activities are not measured during an operational audit (OA) study because they are accounted for in the MAFs. Work sampling accounts for all man-hours including nonavailable activities; however, the resulting nonavailable man-hours are subtracted and not used in the man-hour equation.

3.22.6.2.5.8. POD. Nonavailable activities are not put in the POD.

3.22.6.2.5.9. Additional Information. For more information about nonavailable activities addressed in the MAF, see copies of military and civilian man-hour availability studies distributed to all manpower organizations by AFMIA.

3.22.7. Preparation of the POD.

3.22.7.1. Clearly state process titles and accurately describe the steps that are grouped under them. Use a noun form or an adjective and a noun form (for example, management, minor maintenance, officer classification, record processing). Make the process titles descriptive and easily identifiable.

3.22.7.2. State step titles in a single unit form with verbs in third person singular. Processes will be described at the step level only (e.g., 1.1., 1.2., 2.3., etc.). In work sampling measurement, processes will be described to the level necessary for accurate measurement. In either case, each definitive step of the process, from the beginning (input) to the end (output), will be described in the sequence that it occurs in the process. This increases the chances of getting accurate unit times and frequencies at the time of measurement. Titles that are vague or written in plural form increase the chance of error in the associated unit time values and may make later analysis of data harder. The same step title may be used in different processes. For example, "Reviews UMD" could be a step in processing a manpower authorization change request or in the process of applying a manpower standard. Examples of acceptable and unacceptable step titles are listed below.

<u>ACCEPTABLE</u>	<u>UNACCEPTABLE</u>
Types letter	Type letters
Inspects facility	Perform inspections
Attends meeting	Attend meetings
Prepares Report No. 1	Prepare reports
Repairs pump	Repair pumps
Takes sample	Take samples

3.22.7.3. Including an indirect statement in the POD is optional. If it is included, use the following statement: **INDIRECT:** Indirect work involves those tasks that are not readily identifiable with the work center's specific product or service. The major categories of standard indirect work are: Administers Civilian, Officer, and Enlisted Personnel; Directs Work Center Activity; Provides Administrative Support; Prepares for and Conducts/Attends Meeting; Administers Training; Manages Supplies; Maintains Equipment; and Performs Cleanup. See AFMS 00AA, *Standard Indirect Description*.

3.22.7.4. Format the POD using the AFMIA home page, *Air Force Manpower Standards, Tech Guidance and Forms, Air Force Manpower Standards Publishing Guide*. See below for examples of POD formats.

Figure 3.13. Examples of PODs.

<p style="text-align:center">ATTACHMENT 1</p> <p style="text-align:center">PROCESS ORIENTED DESCRIPTION</p> <p style="text-align:center">LOGISTICS FLIGHT</p> <p>A1.1. FLIGHT MANAGEMENT.</p> <p>A1.1.1. PERFORMS FLIGHT CHIEF DUTY. Manages day-to-day function of the logistics flight.</p> <p>A1.1.1.1. ADMINISTERS PERSONNEL.</p> <p>A1.1.1.2. SUPERVISES PERSONNEL.</p> <p>A1.1.1.3. REVIEWS INCOMING/OUTGOING DISTRIBUTION.</p> <p>A1.1.1.4. PROCESSES UNCLASSIFIED/CLASSIFIED DISTRIBUTION.</p> <p>A1.1.1.5. REVIEWS REPORT AND STATISTICAL DATA.</p> <p>A1.1.1.6. PREPARES REPORT.</p> <p>A1.1.1.7. INSPECTS FACILITY.</p> <p>A1.1.1.8. RECEIVES AND ASSISTS VISITING OFFICIAL.</p>

NOTE: This is a traditional POD format.

Attachment 1

PROCESS ORIENTED DESCRIPTION

AFMS TITLE

Table A2.1. Listing of Functional Processes.

TASK NO.	PROCESS
1.	PERFORMS SHIFT MANAGEMENT.
1.1.	COORDINATES MET PROBLEM WITH CWT AND OTHER OWS.
1.2.	PROVIDES SHIFT TECHNICAL LEADERSHIP.
1.2.1.	MENTORS AND TEACHES SCIENCE OF METEOROLOGY.
1.2.2.	PROVIDES FORECAST FEEDBACK.
1.2.3.	ASSIGNS FORECAST REVIEWS/CASE STUDY.
1.2.4.	MANAGES SHIFT QUALITY ASSURANCE PROGRAM.
1.3.	PREPARES AND PERFORMS OVERALL SHIFT CHANGE BRIEFING (OPERATIONS AND WEATHER).
1.3.1.	PREPARES SHIFT CHANGE BRIEFING.
1.3.2.	PERFORMS SHIFT CHANGE BRIEFING.
1.4.	MAINTAINS CWT REQUIREMENT/THRESHOLDS DATABASE.
1.5.	COORDINATES WITH INDIGENOUS DATA SOURCE, STRATEGIC CENTER, AND AGENCY.
1.6.	COORDINATES/INITIATES EQUIPMENT MAINTENANCE REQUEST.
1.7.	MANAGES METRIC COLLECTION AND ANALYSIS.
2.	PERFORMS STANDARDIZED ANALYSIS AND FORECAST PROCESS (SAFP).
2.1.	INITIALIZES DATABASE.
2.2.	PERFORMS DATA (HEMISPHERIC AND SYNOPTIC SCALE) ANALYSIS AND PRODUCES SYNOPTIC CHART.
2.3.	INITIALIZES AND VERIFIES THE FORECAST MODEL.
2.4.	IDENTIFIES SYNOPTIC AND MESOSCALE WEATHER REGIME.
2.5.	DETERMINES AND APPLIES FORECAST TECHNIQUES.
2.6.	INTERPRETS LOCAL-SCALE DATA AND DEVELOPS FORECAST.
2.7.	PRODUCES AND DISSEMINATES FORECAST PRODUCT.
2.7.1.	PRODUCES TERMINAL AERODROME FORECAST (TAF).

TASK NO.	PROCESS
2.7.1.1.	PRODUCES TAF WITHIN PREDEFINED MESOSCALE REGION.
2.7.1.2.	PRODUCES TAF OUTSIDE PREDEFINED MESOSCALE REGION.
2.7.2.	PRODUCES TAF AMENDMENT.
2.7.2.1.	PRODUCES TAF AMENDMENT WITHIN PREDEFINED MESOSCALE REGION.
2.7.2.2.	PRODUCES TAF AMENDMENT OUTSIDE PREDEFINED MESOSCALE REGION.
2.7.3.	PRODUCES RANGE FORECAST.
2.7.3.1.	PRODUCES RANGE WITHIN PREDEFINED MESOSCALE REGION.
2.7.3.2.	PRODUCES RANGE OUTSIDE PREDEFINED MESOSCALE REGION.
2.7.4.	PRODUCES RANGE AMENDMENT.

NOTE: This POD is developed in a Microsoft Word table format.

3.23. Workload Factor Identification.

3.23.1. General Concepts. The standard workload factor (WLF) is the factor selected to predict a function's manpower requirement for various workload volumes. Selection of the WLF begins with the identification of potential workload factors (PWLF) during study planning and measurement activities. The identification of PWLFs begins with work unit (WU) identification. WUs are the quantifiable outputs of work activities or processes, e.g., an engine repaired. The selected WLF may be a WU, if its volume is not controlled by the function (external WLF), e.g., square feet of floor space maintained. The WLF will also be programmable, or must describe workload not under the control of the function being studied. Programmable workload factors include (1) base population, (2) number of authorized aircraft, space based systems supported, or vehicles supported, (3) mission design series, (4) flying hours, and (5) students. Obtain waivers to these criteria from HQ USAF/XPM.

3.23.2. Identifying Work Units (WUs). Study the functional structure to identify significant processes and the output products or units of production. The main purpose of this step is to set the stage for picking PWLFs.

3.23.2.1. Where feasible, identify work units for each defined work activity or process that allows a good look at like-activity time variances during analysis and computations.

3.23.2.2. To be of maximum utility, work units should be:

3.23.2.2.1. Directly related to the time and effort spent on the associated activity.

3.23.2.2.2. Economical and convenient to report and use.

3.23.2.2.3. Mutually exclusive, so that no item is counted under more than one work unit.

3.23.2.2.4. Open to audit, so that the accuracy of a work count is readily verified through setting up a work count system or through existing internal work measurement programs or management information systems.

3.23.2.2.5. Readily understood by those who plan, schedule, and control the work.

3.23.2.2.6. Readily identifiable when seen produced.

3.23.2.2.7. Individually standardized in terms of the procedures needed for accomplishment.

3.23.2.3. Depending on the established or intended use of the work unit, each of the above attributes assumes a varying degree of importance. The most important characteristic of a work unit is that it must define a specific amount of work. Vague work unit titles should be avoided.

3.23.2.4. WUs can be used as WLFs in ratio type standards and are normally reserved for single location or small population standards. They are not used in standards unless they are programmable, or not under control of the function (external WLF).

3.23.3. Identifying Potential Workload Factors. An ideal workload factor has two significant attributes:

3.23.3.1. It relates to manpower requirements to the extent that any change in the value of the factor produces a corresponding change in the man-hours needed to do the work.

3.23.3.2. The value of the factor can be predicted for future time periods to make the standard useful as a forecasting tool.

3.23.4. Relatability and Predictability. The relative importance of these two attributes –relatability and predictability - can be debated. But, if a stated manpower requirement is based on a workload factor that does not relate to that requirement, then a standard manpower relationship does not exist. As a result, standard predictability and credibility are undermined.

3.23.5. Identifying Relatability and Predictability. Identify the predictability of a factor by studying the available program information. Relatability presents a more difficult problem because accurate data for correlation analysis is rarely available this early in the study. For this reason, the best workload factors are normally identified only after measurement. The selection problem is compounded by the relationship that often exists between accuracy and programmability. With a highly finite, precisely defined unit, there is a high probability of correlation, but the chance of predicting the future workload volume is usually small. As the definition of the unit is broadened, the chance of accurately predicting the future volume increases, but the chances of getting an acceptable degree of correlation goes down.

3.23.6. Determining Relationships. The problem in determining relationships between workload and man-hours is less where there are existing resource management systems, output measurement programs, or management information systems. This information can help M&O personnel select workload factors.

3.23.7. Procedures for Identifying Potential Workload Factors. Workload factors should be both accurate and programmable. Factors that are also used for programming are preferred over those that are not. If there is a significant difference in relatability, do not give up accuracy for programmability in setting the basic standard. When it is needed, a separate equation can be built for programming the manpower requirements. Identify potential workload factors for measurement using these procedures:

3.23.7.1. First, identify WUs not controlled by the function.

3.23.7.2. Second, from these WUs, identify those that are associated with major manpower consuming activities or processes.

3.23.7.3. Third, identify factors that are not WUs, e.g., base population.

3.23.7.4. Finally, eliminate factors that are not readily identifiable or easily counted. Counts of the PWLFs and other WUs can be made during familiarization or measurement.

3.23.8. Use Accurate Terms. Use terms that give actual experience, and not programmable workload, when making the final list of PWLFs. For example, use assigned strength (not authorized strength) for population factors; and hours flown (not hours programmed) for flying hour factors; or munitions stored, not storage capacity. Get actual workload experience for both man-hours and workloads to see if a true relationship exists.

3.23.9. Get the following information for each PWLF picked through the above process. The same format applies to work units.

3.23.9.1. Title. Identify briefly what is to be counted. Use singular form--i.e., "A Vehicle Repaired"--not "Vehicles repaired."

3.23.9.2. Definition. Define, in precise terms, the count and tell what is to be included in or excluded from the count. Vague definitions are not acceptable. For example, if "Population Served" is the workload factor, it must be clear whether the count includes tenants, on-base population, off-base population, transients, Reserves, National Guard, Individual Mobilization Augmentees, etc.

3.23.9.3. Source and Method of Count. Identify the source from which the count is to be obtained. This includes the report number and title and column number or title. Include the date or edition of the report since the format of the source might change.

3.23.9.4. Rationale. Include the reasons for selecting work units or workload factors. Tell how and why the selected work units or workload factors are expected to relate to the measured man-hours.

3.23.9.5. Method of Verification. Identify the source used to verify the data included in the primary source of count. This includes multiples of sources used to derive the cumulative count documented in the primary source.

3.23.10. Program Terminology. After selecting the standard WLF in later study phases, revise the preceding to show program terminology when pertinent. For example:

3.23.10.1. Build Manpower Standards Using Actual Workload Factor Counts. Manpower standards using actual measured man-hours must be built on actual workload factor counts, e.g., assigned personnel or assigned vehicles, not authorized or required quantities. Authorizations or requirements do not produce work and are not logically relatable to actual measured man-hours.

3.23.10.2. If the selected workload factor title is "A Student Trained in the Manpower & Organization Course," the workload factor title for the standard might be "A Student Programmed to be Trained in the Manpower & Organization Course."

3.23.10.3. If the selected workload factor title is "A Person Assigned to Base Supply," the workload factor title for the standard might be "A Base Supply Person Required After Application of Base Supply Manpower Standards," or "A Base Supply Authorization." Do not revise workload factor titles based on population to Requirements in the UMD, since they may include active reserve forces, individual mobilization augmentees, and authorizations earned as a result of host-tenant support agreements.

3.23.11. Planning a Work Count System:

3.23.11.1. Make a list of WUs and PWLFs needed for a work count.

3.23.11.2. Find out which of those items are adequately reported by existing management reporting or information systems.

3.23.11.3. See if the existing instructions are being followed IAW with functional OPR directives. Local compliance with reporting instructions is essential if using existing systems.

3.23.11.4. See whether or not the items needed are reported in defined form and for compatible time periods. If the reported information differs only slightly from what is needed, consider working with the OPR to decide if it is more economical to change the existing report or redefine the items reported. Do not set up additional systems unless it is essential to standards development.

3.23.11.5. Use the following to get usable and accurate work counts:

3.23.11.5.1. Show clearly what is a unit of count.

3.23.11.5.2. Set up the source of count, or the point in a process, at which a unit of count results.

3.23.11.5.3. Make sure that the length of count reporting is compatible with, or adjustable to, the measurement period's anticipated length. This is especially important if the work sampling method is used.

3.23.11.5.4. Set up safeguards that minimize the possibility of a duplicated or missed count. An example is a random external audit of the workload reports.

3.23.11.5.5. When possible, have the work count procedures call for a minimum of six months historical data. This historical information is of value later in the computation phase when representativeness of the measurement period is evaluated.

3.23.12. Potential Equivalent Workload Factors. Consider the use of equivalent WLFs if they are suitable for the work center.

3.23.12.1. An equivalent WLF is used to get a count for similar work that has different per accomplishment times (PAT). For example, the WLF "vehicle maintained" may have equivalents for preventative maintenance on a sedan or on a truck.

3.23.12.2. When this kind of WLF is used, a baseline output is valued at one, (in this case the sedan is given a 1.0) and the other outputs are valued in relation to this baseline (for example, the truck could be given a 1.2).

3.23.12.3. The total WLF count is obtained by adding all equivalents (for example, $(10 \times 1.0) + (5 \times 1.2) = 16.0$).

3.23.12.4. Identify potential equivalent WLFs early in a study. Then design data collection to allow validation of equivalent values. Work measurement results should support relative values. In the vehicle example, measurement data shows 20 percent more man-hours needed to service a truck than a sedan. Remember, the time value in your measurement (PAT) must be the same for all vehicles used in the equivalent, and it must be equal to the baseline output (in this case the sedan). This is necessary because you are adjusting the workload factor value to compensate for the differences in time needed to service the sedan and the truck.

3.24. Measurement Design.

3.24.1. General Concepts. Measurement design is a coordinated effort needing full participation and teamwork from all levels. Once you've selected your measurement approach you can begin to prepare for measurement. There are many different techniques available for collecting data. However, there are really only two approaches: (1) workshop measurement and (2) field measurement. Regardless of the approach selected, some form of study plan is required. A workshop approach may require a less detailed one, but will require an extensive familiarization package for the workshop attendees. On the other hand, field measurement will require a very detailed study plan because persons other than project team members (for example, manpower technicians at other locations) may be conducting the actual data collection or measurement.

3.24.2. Major Activities. Following are some major design activities. Depending on the approach, some or all may be required.

3.24.2.1. Briefing study background and planned approach with functional OPR.

3.24.2.2. Identifying project team members from M&O and functional communities.

3.24.2.3. Conducting a comprehensive review of work processes and activities. Identifying improvement initiatives and work outputs.

3.24.2.4. Identifying potential variances (mission, technological, or environmental).

3.24.2.5. Identifying test measurement or preworkshop visit locations.

3.24.2.6. Briefing local OPRs at test measurement or preworkshop visit sites on study background, approach and needs, and collecting data.

3.24.2.7. Developing the final detailed study plan to include data collection instructions.

3.24.2.8. Notifying the Chief, Civilian Personnel Flight to inform union officials of study progress, if the study involves civilian positions or processes.

3.24.3. Measurement Plan and Input Team Measurement Instructions.

3.24.3.1. Part One - Measurement Plan.

3.24.3.1.1. Field measurement will be the exception. If the project team chooses this approach, instead of conducting a workshop, they must develop a formal measurement plan. If they developed the study plan, they may use the process described below for measurement plan development (see [Figure 3.14](#)).

3.24.3.1.2. The project team should conduct a test measurement to determine the validity of the test measurement plan. After test measurement, the project team updates the measurement design based on test measurement results. Part One of the study plan becomes Part One of the measurement plan. The team sends it to the input teams and affected MAJCOMs. (NLT two weeks before work measurement).

3.24.3.2. Part Two - Input Team Measurement Instructions. The measurement instructions and POD in this part represent the heart of the measurement plan. Section A of the measurement plan is general information, which is common to all work centers being measured. The remaining sections contain specific measurement instructions for each work center. For example, if three work centers are being measured, include sections B, C, and D (one for each). If measuring only one, don't divide Part Two into sections; however, include each applicable topic shown in [Figure 3.14](#).

3.24.3.2.1. Section A - General Information. Give clear and concise measurement instructions to input teams. Do not merely repeat information from this manual. Tell them how to measure the function.

3.24.3.2.1.1. Work Sampling. Address familiarization sampling, backlogged work, borrowed and loaned man-hours, start and stop days for sampling, usable sampling days needed, stratified-by-hour or random-by-day sampling, sampling lunch, nonavailable time, nonproductive time and special processes, treatment of travel, indirect categories, absences from the work area, work not done during the sampling period, assumed or inferred work, collocated work centers, shifts or sections having fewer than five people assigned, sampling days falling outside control limits, and supplementary measurement method used and the processes or steps that will be measured by this method.

Figure 3.14. Outline of Measurement Plan.

PART ONE - MEASUREMENT PLAN
Study Identification
Quantification Method
Development Locations
Measurement Period
Study Participants
General Comments
PART TWO - MEASUREMENT INSTRUCTIONS
Section A. General Information
Measurement Instructions
Skill and Grade Instructions
Section B. Specific Information (by work center and only sectionalize Part Two if there is more than one POD.)
Process Oriented Description
Statement of Conditions
Work Measurement Instructions
PART THREE - MEASUREMENT REPORT FORMAT AND INSTRUCTIONS
PART FOUR - BIBLIOGRAPHY AND GLOSSARY
Attachment
Potential WLFs and Workload
Collection Instructions

3.24.3.2.1.2. Operational Audit (OA). State the technique to measure frequencies and per-accomplishment times. Relate frequencies to work unit counts where possible. An interview worksheet may be used for collecting OA data instead of a preprinted AF Form 1040, **Operational Audit Data** (see AFMAN 38-208, Volume 2). If used, interview worksheets should include information necessary for the input teams to collect and verify data, and for the study or input team to input data directly into the computer. Furnish benchmark times and data ranges when available.

3.24.3.2.1.3. Workload Data Collection. Include only general workload collection instructions that pertain to all work centers being measured in this section. Put specific workload collection instructions in **Attachment 1** to the measurement plan.

3.24.3.2.1.4. Standard Indirect Allowed Man-hours (SIAM). State which SIAM task time values will be used for operational audits and indicate which indirect tasks will be measured. Instruct field measurement sites to use the measurement instructions furnished in AFMAN 38-208, Volume 2, for measuring these indirect tasks.

3.24.3.2.1.5. Strength Data. State the need for current or historical authorized and assigned strength data. This data may be needed for a potential workload factor (PWLf) in a work center, for comparison against measured requirements, or analyzing changing workload. See paragraph **3.23** for further information regarding PWLFs.

3.24.3.2.1.6. Skill and Grade Instructions. List the data necessary for the project team to do skill and grade analysis for completion of the manpower table. Tell the input teams to collect skill and grade data for inclusion in the measurement report.

3.24.3.2.2. Section B - Specific Information (by Work Center). This section is for each specific work center. For example, if three work centers are being measured, include a section B, C, and D (one for each).

3.24.3.2.2.1. POD. Prepare PODs according to instructions in paragraph **3.22**.

3.24.3.2.2.2. Statement of Conditions (SOC). The SOC paragraph describes, in general terms, conditions which bear on development or application of the manpower standard. The SOC will later be used in preparation of the manpower standard. Include key assumptions and major decisions on modes of operation not described in the POD. It is also the baseline against which potential variances are analyzed. The SOC in the standard describes the general conditions that are incorporated into the standard. Some condition classes which could impact a work center are:

3.24.3.2.2.2.1. Climatic Conditions. This condition covers those naturally occurring atmospheric conditions that affect the work. For example, extreme temperatures may affect the work, by snowfall, or by the corrosive effect of rain and humidity.

3.24.3.2.2.2.2. Physical Layout of Facilities. This condition highlights facility layout situations that affect the work. Among the items looked at are the degree of consolidation of the work center and how the work is affected by the organization of people, equipment, and workflow.

3.24.3.2.2.2.3. Physical Condition of Facilities. This condition describes physical conditions of the facilities that affect work. While all work centers are indirectly affected by conditions in this class, you will find that some work centers such as laboratories,

computer rooms, etc., can be directly affected by them. It is only to such cases that this condition class applies, e.g., age of facilities, quality of facilities, controllable work center environment. Do things like heating, air conditioning, and lighting affect the work?

3.24.3.2.2.2.4. Nonautomated tools and equipment. This condition covers specific tools and equipment, except for automated equipment or computers that are critical to doing the work.

3.24.3.2.2.2.5. Automated Capabilities. This condition deals with automated equipment that has replaced or enhanced manual ways of doing work.

3.24.3.2.2.2.6. Directed Performance Standards. This condition covers situations where how often work is done or how long it takes to do the work is directed by MAJCOM or HQ USAF regulation or policy. It includes where a given level of manpower is set up independent of work volume.

3.24.3.2.2.2.7. Wartime Conditions. This condition covers wartime conditions that affect work. For example, a need to wear special protective gear during nuclear, biological, or chemical attack might increase the amount of time needed to do work or affect how, or how often, some tasks are done.

3.24.3.2.2.3. Determining Applicability. Once you have identified the kinds of conditions that affect the work in each condition class, you will decide whether each of these conditions applies to every location or only to some of the locations.

3.24.3.2.2.4. Work Measurement Instructions. Describe specific work measurement instructions peculiar to each work center in these sections. Do not repeat the general measurement instructions in **Section A**.

3.24.3.3. Part Three - Measurement Report Format and Instructions:

3.24.3.3.1. Tailor the content of the measurement report to the needs of the study. Limit the measurement report to minimum essential data. Furnish a table of contents listing the data collection forms, work measurement forms, skill and grade data, etc.

3.24.3.3.2. Specify data submission by the most expedient means. Maximize the use of e-mail. Include email addresses for the study team. Set suspense dates as the latest day information must be sent.

3.24.3.4. Part Four - Bibliography and Glossary.

3.24.3.4.1. List functional publications that form the basis for functional mission requirements.

3.24.3.4.2. The input technician is not expected to be intimately familiar with unique functional terms and acronyms. Therefore, check the POD and identify terms and acronyms that must be defined in the glossary. List terms in alphabetical order.

3.24.3.5. Attachments to the Plan.

3.24.3.5.1. List all potential WLFs needing data collection. State the title, definition, source of count, and rationale for each potential WLF.

3.24.3.5.1.1. Title. Identify briefly what to count. Use singular form, i.e., "A Vehicle Repaired", not "Vehicles Repaired."

3.24.3.5.1.2. Definition. Define the count in precise terms and tell what to include or exclude from the count. Vague definitions are not acceptable. For example, if "Population Served" is a potential workload factor, it must be clear whether the count includes tenants, on-base population, off-base population, transients, etc.

3.24.3.5.1.3. Source and Method of Count. Identify the source from which the count is to be obtained. Be sure to include all information which could be used in identifying where, when, and what data is to be collected. Make sure the instructions will achieve the desired results by testing them. Tell how to record data when the count is zero or nonavailable.

3.24.3.5.1.4. Rationale. Include the reasons for selecting work units or workload factors. Tell how and why the selected work units or workload factors are expected to relate to the measured man-hours.

3.24.3.5.1.5. Method of Verification. Identify the source used to verify the data included in the primary source of count. This includes multiple sources used to derive the cumulative count documented in the primary source.

3.25. Work Measurement.

3.25.1. Major Activities. Following are some potential major measurement activities. Depending on your approach, some or all may be required.

3.25.1.1. Briefing the work center personnel about the measurement and the need for their participation.

3.25.1.2. Measuring work and collecting workload data according to measurement instructions for the basic standard. Also, measuring and collecting data for any variances.

3.25.1.3. Examining measurement results to make sure measured and collected data are accurate and show work center requirements.

3.25.1.4. Briefing measurement report findings to base functional OPR.

3.25.1.5. Coordinating the measurement report findings with the MAJCOM OPR.

3.25.2. Measurement Approach.

3.25.2.1. The study team needs to select the most suitable approach for obtaining the minimum essential data to be used to compute manpower requirements. The goal should be to use the least expensive approach that will produce acceptably valid and representative data within the shortest time. This will pave the way to cooperatively produce quality manpower standard tools in a more responsive time, at a significantly lower cost.

3.25.2.2. The study team must first decide if it is necessary, or even possible to use work measurement techniques to get all or part of the needed data. Work measurement costs time, money, and keeps everyone involved from doing alternative work. Carefully consider the decision to use work measurement. Development of a functional model (AFMAN 38-208, Volume 2) may be an acceptable and economical approach when work measurement is not deemed necessary or possible.

3.25.2.3. Work measurement techniques may be used through field measurement, workshops or both. Both approaches have pros and cons. Generally, workshop measurement has been acceptable to both functional and manpower communities because it has been shown to produce quality products with less cost and time. Many work measurement methods work very effectively and efficiently when done in a properly constituted and well-run workshop. A combination of core modeling, flow and process charting and operational audit can be successfully done by workshop to develop a MEO, the associated manpower standards and level of service options. Some limited field measurement can be used to validate workshop products. The key to developing quality products at minimal cost is to have the full participation of the pertinent functional and manpower representatives at every stage, including the workshop. Staffing, as well, should be expedited to a successful and more timely conclusion. Field measurement very often incurs the greatest overall costs, takes the longest time and frequently encounters prolonged staffing. Consequently, care must be taken to select the correct approach, use the right tools and show their benefits and relevance to the functional representatives. Again, it must be a mutual decision to balance the cost and value added by the different measurement options.

3.25.3. Work Measurement Locations. Use the following if on-site measurement is necessary:

3.25.3.1. Select representative locations for work measurement and data collection. If test measurement will be used, select the test measurement site. If the workshop OA measurement approach is used, be sure the workshop participants are "representative" of the locations or units to which the subsequent standard will apply.

3.25.3.2. Select a sample of these locations to make sure data will incorporate high, medium, and low workload volumes and represent work center conditions. The number of locations included in the measurement depends on the size of the population. **Table 3.4.** gives suggested sample sizes for the population to be covered by the standard. Avoid additional locations since the extra time and cost usually only delay the study effort.

Table 3.4. Minimum Number of Locations.

R U L E	A	B
	If the total number of locations in the population is	then the minimum number of locations to be used in a standard study is
1	1 - 3	all
2	4 - 6	4
3	7 - 9	5
4	10 - 14	6
5	15 - 21	7
6	22 - 33	8
7	34 - 63	9
8	64 - 100	10
9	101 - more	10% of total

3.25.3.3. Omit locations scheduled for a cost comparison study during the same period. Also omit locations where the function remained in-house as a result of a cost comparison study.

3.25.3.4. Get OPR concurrence on the type of locations needed (mission, geographic area, size, etc.) rather than limiting the need to specific bases.

3.25.3.5. Coordinate with the respective MAJCOM headquarters to find the earliest date input teams would be available to participate. See AFMAN 38-208, Volume 2, for definition of input team. Based on this date, set the measurement start date for the study. Other factors affecting this date are:

3.25.3.5.1. The time needed by the study team to complete measurement design.

3.25.3.5.2. Changes planned for the work center. Make sure the functional OPR understands the impact any changes in work center tasks or workload factors have on study findings. If changes are major and unavoidable, delay the start date for the study.

3.25.4. Staffing Needs. Consider coordination, staffing, and approval needs as defined in the study contract. In functions with decentralized management and control, increased involvement at lower echelons is necessary. The project team must know the coordination role of each level in the functional community in order to plan the associated milestones.

3.25.5. Standard Development Workshop. If used, the project team leader should be the facilitator or arrange to have a qualified facilitator for the workshop and the functional point of contact (POC) as chairperson. The chairperson makes sure the workshop is conducted in a professional manner and objectives are met.

3.25.6. Workload Collection.

3.25.6.1. The project team identifies workload collection needs. They include data collection instructions in the familiarization package when requesting functional representatives bring data to the workshop. For field measurements, the project team collects historical workload volume for the period specified. They also start a collection system to accurately capture the historical and current workload when such a system does not exist. Report workload data on a general-purpose form or comparable computerized format.

3.25.6.2. Data collection starts at the direction of the project team and continues until told to stop. Collection continues until enough data is available for standard application.

3.25.6.3. The project team decides whether to revise an existing reporting system or institute a new report. After data analysis and computations, a functional report control symbol (RCS) is assigned for workload data reporting. If the OPR must set up a new RCS report, the project team will furnish help to ensure the new report gives adequate information for workload data reporting.

3.25.7. Field Measurement. Field measurement sites conduct measurement according to the method and instructions specified by the study team. Notify the project team immediately if difficulties are encountered or work requirements are identified which are not in the POD and have not been identified for variance development. Inaccurate data results from failure to follow the instructions or from making assumptions when the instructions do not cover a given situation. Measure and document controversial steps separately until the issue is resolved. Special measurement considerations follow.

3.25.7.1. Personal, Fatigue, and Delay Allowances. When using work sampling or good operator timing, the normal time to do an operation does not include allowances for the workers' personal needs, rest, or work interruptions that are beyond the workers' control. These measurement methods and techniques are based on statistical accuracy and are designed to measure the amount of

time associated with the process or step. In these cases, apply allowances to find the allowed time. Allowances are classified as personal, fatigue, and unavoidable delay. Instructions for computing allowances are in AFMAN 38-208, Volume 2. Generally, the project team identifies the relevant allowances and includes them in the measurement plan.

3.25.7.2. Indirect Work. The primary means of crediting indirect work for operational audit studies is by using SIAMs. AFMAN 38-208, Volume 2, furnishes details on SIAMs.

3.25.7.3. Pace Rating. When using work sampling, the consultant compares the observed pace of the worker to the normal pace at which the work would be done. This comparison and associated adjustment of step times is called pace rating and is designed to account for varying experience and skill levels within the work center. Instructions for pace rating are in AFMAN 38-208, Volume 2.

3.25.7.4. On-Call Time:

3.25.7.4.1. On-call time is a period of time an off-duty worker is available at a prearranged off-duty location and can be reached by telephone or other means.

3.25.7.4.2. When authorized work is required and cannot be held over to the next duty day, credit the work center with the productive time expended and the travel time needed to get to the job site and return to the off-duty location.

3.25.7.4.3. Examples of on-call time are: a photographer who periodically is needed to take photos after duty hours; a maintenance journeyman needed infrequently to repair or replace a critical item of equipment; or an information officer who responds to local press inquiries when notified.

3.25.7.4.4. Off-duty time spent waiting for a call is not measured or included in manpower standards.

3.25.7.5. Borrowed Time and Loaned Time.

3.25.7.5.1. Borrowed time is time provided by personnel authorized and assigned to another work center but used to do productive work within the work center being studied. Include borrowed man-hours under the pertinent process or step.

3.25.7.5.2. Loaned time is time expended by work center personnel to do work which is the responsibility of another work center. Do not include loaned man-hours in the loaning work centers' manpower standard.

3.25.7.6. Overtime Credit. Uncompensated overtime credit is the productive time spent in excess of regularly scheduled duty hours. This time must be used to do productive work and cannot be caused by nonproductive activities or offset by compensatory time. For civilians, include only that overtime which is documented according to the Federal Personnel Manual (FPM) supplement 990-2 and AFI 36-802. For military personnel, document and thoroughly analyze the need for overtime. Ask the supervisor to validate overtime. If overtime is a normal occurrence, visit the work center during overtime periods and observe the work in progress. Identify the backlog driving the overtime work. Include validated overtime as part of the relevant process or step time.

3.25.7.7. Idle Time. This includes time spent by a worker in an avoidable delay status, doing unnecessary work, or doing work not job related. Measure idle time only during work sampling and never include it in the manpower standard.

3.25.7.8. Standby Time. This is time spent in a ready status awaiting work when work is unavailable (for example, the time a taxi driver waits to be dispatched). Include standby time only when it is essential to do the mission and when no other work (direct or indirect) can be done.

3.25.7.9. Nonavailable Time. This is time work center personnel spend participating in activities directed, recognized, or approved by the Air Force which render them unavailable for assigned primary duties. The major groupings of nonavailable activities are leave, PCS-related, medical, organizational duties, education and training, military equal opportunity, and miscellaneous (see paragraph 3.22.6.).

3.25.7.9.1. Measure nonavailable activities only with work sampling. Work sampling must account for all man-hours. Do not include nonavailable time in the allowed man-hours used to construct the manpower standard.

3.25.7.9.2. Nonavailable activities measured Air Force wide are shown in the MAF published in AFI 38-201. Do not include these in the POD.

3.25.8. Workshop Measurement.

3.25.8.1. General Concepts. Use of a workshop setting provides a valuable tool regardless of the study product. A workshop provides a non-threatening environment in which both the M&O team and the customer can exchange ideas or information.

3.25.8.2. Workshop Definition. A workshop is defined as a scheduled meeting with a predefined agenda, with a minimum of one representative from the M&O study team, and one functional representative.

3.25.8.3. Workshop Purpose. Use the workshop to define a process or conduct measurement. In most cases the workshop attendees are familiar with the processes and can be brought to a consensus on the information of interest. If the workshop OA measurement approach is used, be sure the workshop participants are representative of the locations or units to which the information will apply. The functional OPR makes the final determination on workshop composition but must assure the project team that proper representation is provided.

3.25.8.3.1. When the To-Be design for the organization is developed, present it to a group of functional representatives. This will allow ideas to be discussed by the experts in a non-threatening atmosphere.

3.25.8.3.2. Also use the workshop to present the overall plan of attack to a group of functional representatives. If there are any potential problems in data collection methods or sources, they can be identified during the workshop.

3.25.8.4. Workshop Procedures.

3.25.8.4.1. Define Purpose of the Workshop. Before you can conduct or even plan a workshop, you must know the purpose or ultimate goal. Develop the workshop's objectives; how many processes need to be measured, do frequencies and benchmark times need to be collected, how many work centers are there, and what is the scope of the study.

3.25.8.4.2. Determine Location of the Workshop. When selecting the workshop location, consider cost, availability of facilities, and the project team location. Schedule the workshop at a centralized location to reduce the overall travel costs. Conducting the workshop at the study team's base will also expedite the process.

3.25.8.4.3. Determine Who Should Attend. Considering the purpose of the workshop, you need to determine who should attend. Considering study scope and contract objectives, decide who should attend the workshop to include the functional representatives. For example, an Air Force study would need a participant from each MAJCOM who has the authority to speak for the MAJCOM. Also needed is a base-level expert who has recent hands-on experience in the work center. The senior functional manager should hand-pick the study participants. It is imperative the right people are selected for the success of the workshop. Always ensure complete representation while trying to minimize the number of participants. If the purpose is to present ideas for a reengineering study, and/or to gain MAJCOM support, request a strong contingent of MAJCOM-level personnel.

3.25.8.4.3.1. If the purpose is to conduct workshop measurement, request personnel with recent work center experience.

3.25.8.4.3.2. If the purpose of the workshop includes developing a standard with wartime application, make sure personnel with a readiness background or personnel who have recently participated in contingency operations or exercises attend.

3.25.8.4.3.3. A general rule of thumb is that a good mix of officer, enlisted, and civilian personnel is beneficial. Each brings a different set of values to the workshop. Presenting criteria for attendee selection (to the function, MAJCOM, etc.) may be helpful to reduce the risk of nonqualified participants attending just because they are available.

3.25.8.4.4. Schedule Workshop. Estimate how much time it will take to meet the objectives. Prepare a plan or schedule of those processes to measure and their order of measurement. Consider both the study needs and the needs of the attendees when scheduling the workshop. If there are conflicts with other events (major exercises, inspections, etc.), the attendees may be forced to cancel or send a replacement that does not necessarily meet the needs of the workshop.

3.25.8.4.5. Prepare and Distribute Preworkshop Information Package. Send an information package to each attendee. Make the materials as personalized as possible (addressed by name and possibly with some specific information the attendee requested). Also include in the package base and local area information, a workshop agenda, travel instructions (if appropriate), and any other information that will contribute to the success of the workshop. Identify information/data the participants will be expected to bring to the workshop, and provide information that can be read before the event, thus saving workshop time. If possible and appropriate, collect inputs from participants prior to the workshop on information the group will be responsible for responding to.

3.25.8.4.6. Ensure Facilities Are Ready. As part of the workshop planning, make sure that all equipment is available at the workshop location. Give consideration to a room layout that gives the appearance that all attendees are equal.

3.25.8.4.7. Conduct the Workshop. There are many different ways to conduct a measurement workshop, and here are just a few ideas or suggestions:

3.25.8.4.7.1. Ensure all participants know the purpose of the workshop and what their specific responsibilities entail. Prepare briefings or short lesson plans to teach participants the basic concepts of the tools and techniques you intend to employ.

3.25.8.4.7.2. If the workshop focus is manpower estimates (frequencies, per accomplishment times) consider the following issues:

3.25.8.4.7.2.1. Ensure each participant knows exactly what's included in each process step before determining a time for it. Clarify any outstanding issues. Reaffirm to them that you are soliciting unbiased, data-oriented estimates.

3.25.8.4.7.2.2. Give each participant a vote or opportunity to give their per accomplishment times and activity frequencies for a process. To the maximum extent possible, use time estimates and frequencies from validated man-hour and workload collection systems. If you're doing an Air Force-wide study, you might want to have only one vote per MAJCOM (with the base representatives within a MAJCOM deciding on an average time for the MAJCOM) or each location can give individual times and frequencies. Decide how to record the data before the workshop. Regardless of the manner selected, you must make sure the times provided are kept confidential until all representatives have given their estimates. This prevents attendees from influencing each other. This is important because it's the primary means for you to determine variation from representative to representative. This variation is an indicator of areas for efficiencies, or perhaps, unique needs for variance development. Individual times are the preferred method if you are going to regress the data and build a statistical manpower standard. MAJCOM average times are preferred if you're going to build a manpower standard with work unit ratio equations.

3.25.8.4.7.2.3. Ensure that the workshop participants are giving you average times per process step, not the worst case scenario or ideal scenario. Be prepared to calculate weighted step averages and show the workshop participants how to do this.

3.25.8.4.7.2.4. Ensure the workshop participants prove or validate their step times and frequencies, if necessary, during the workshop.

3.25.8.4.7.2.5. Tell the workshop participants how their step times and frequencies will be used to prepare a manpower standard, and give them an example of what the standard will look like.

3.25.8.4.7.2.6. Reconcile the measurement data, if possible during the workshop, with the senior functional manager.

3.25.8.4.7.2.7. Attempt to gain consensus and agreement on inputs before the end of the workshop. This will increase the chance of buy-in and coordination during later parts of the project.

3.25.8.4.8. Follow up on Workshop Results. The personnel who attend a workshop have a vested interest in the results. This will be especially true if base-level representatives attend the workshop. Send each participant a summary of the workshop results. Ask the participants to critique the workshop.

3.25.8.4.9. Benefits of Workshop Measurement. The major benefit of using workshop measurement is that it reduces the study measurement time. It also eliminates the need for an extensive measurement plan, data adjustments, and data errors since they can be handled during the workshop.

3.25.8.4.9.1. Workshop attendees can identify and quantify (if wanted) MAJCOM variances. This action delivers a more complete manpower picture.

3.25.8.4.9.2. Having the functional representatives involved from the start drastically reduces the staffing of the study final report.

3.25.8.4.9.3. By utilizing a workshop environment for measurement with our functional customers, we are attempting to build a team with an improved teamwork attitude and approach. This should create a synergistic, cooperative environment for the rest of the study.

3.25.8.4.10. Drawbacks of Workshop Measurement. The major drawback is the TDY costs and scheduling difficulties associated with a workshop. This will impact the number of people attending a workshop.

3.25.9. Field Measurement.

3.25.9.1. General Concepts. While workshop measurement involves bringing together experts from several different sites to do a "centralized" measurement, field measurement is just the opposite. The project team writes a measurement plan. This plan incorporates the manpower and performance improvement initiatives for measurement. The plan is then sent out to a representative sample of locations to conduct measurements using the prescribed measurement technique(s). Like the workshop measurement, the objective of field measurement is to gather information about the work center or function. This information or data is then transferred back to the project team for consolidation with the other inputs. The field measurement approach may use a number of measurement techniques.

3.25.9.2. Field-Level Input Team Activities.

3.25.9.2.1. Each input team and the local functional representative should consider the following before beginning measurement:

3.25.9.2.2. The input team must become familiar with the work center mission, the POD, the measurement technique, and any local peculiarities so that they can accurately convey findings to the study team.

3.25.9.2.3. The functional representative must ensure the M&O consultant (team) is provided access to necessary information and that all pertinent information is included in the measurement findings. Also, the local functional representatives are an ideal source for identifying additional efficiencies that may impact the existing organization and its processes.

3.25.9.3. Benefits of Field Measurement.

3.25.9.3.1. The field teams are able to do follow-on data review once analysis begins. With the workshop method, once the participants leave, it may be difficult to get the consensus of all attendees on issues raised during limited test measurement.

3.25.9.3.2. Scheduling becomes less of an issue, as there is little or no TDY travel involved. This means the functional representatives are still in their work centers and are able to control its activities while helping provide measurement data.

3.25.9.3.3. The field-level M&O project team would have access to all levels of the work force to get a very detailed assessment of the work center's activities. This is an advantage

over the workshop method that limits the number of functional personnel attending due to space and monetary considerations.

3.25.9.4. Drawbacks of Field Measurement. The major drawback to using field measurement is the increased study measurement time. Due to the number of personnel involved, the probability for data errors (corrections and adjustments) increases, further slowing the process, and introduces more variation into the data. When using “same eyes” measurement approach, the cost of performing measurement due to TDY is significantly increased.

3.25.10. Data Examination. The examination and analysis of input data is an integral part of data collection and is done by the input team when they are used. Improper examination results in incorrect data being used for standards development. AFMAN 38-208, Volume 2, shows some procedures for effective data analysis. Basically, the analyst should:

3.25.10.1. Compare data with known or expected values.

3.25.10.1.1. Compare measured and collected data with performance standards, directed requirements, and benchmark values included in the measurement plan.

3.25.10.1.2. Compare historical workload volume with workload observed during data collection.

3.25.10.1.3. Compare historical workload volume with the workload (frequencies) obtained during measurement.

3.25.10.1.4. Compare measured man-hours (on a daily basis) with assigned man-hours.

3.25.10.1.5. Compare workload factor volumes. Compare workload factors either directly or by a ratio relationship. For example, the ratio of aircrew members to aircraft should be predictable and relatively stable.

3.25.10.2. Investigate when comparisons yield unreasonable or illogical results. This investigation may lead to a need for re-measurement. Identify situations which logically support apparent data inconsistencies. Submit rationale for inconsistencies to the study team.

3.25.11. Data Transmission. The project team should identify the most cost effective data transmission and require its use.

3.25.12. Review and Coordination. The M&O function coordinates measurement report findings with the functional community as specified in the MOA.

3.26. Data Analysis and Computation.

3.26.1. General Concepts. This section introduces data analysis and computation into the normal flow of standards development activities. It covers general steps on how to conduct data analysis. AFMAN 38-208, Volume 2, covers specific procedures.

3.26.2. Data Analysis and Computation Instructions. Variations in measurement data from the input locations or from a workshop measurement are expected. Conduct a systematic data analysis to separate valid variations from incorrect measurements and make sure inaccurate man-hours are not included in computing the manpower model.

3.26.2.1. Every analysis technique will not apply in all situations. Evaluate measurement data using comparative arrays, scattergrams, etc.

3.26.2.2. Do not include or exclude measurement data based on arbitrary statistical limits (e.g., outside two standard deviations of the mean). Evaluate each suspect data point further before making a final decision on disposition. There is no valid statistical substitute for logical analysis and examination of the reasons for data variation. If a data point is excluded or adjusted for model computations, document the reason for the exclusion or adjustment. Furnish specific rationale for why the standard should apply to a location excluded from computations.

3.26.2.3. When SIAMs are used for a function, analyze only direct man-hour data.

3.26.2.4. Do not make arbitrary adjustments to measured data. The project team must coordinate any adjustment with the input team who, in turn, must coordinate the adjustment with the base OPR. Coordinate adjustments based on functional policy with the functional OPR. Document all adjustments in the data analysis and computations summary and audit trail (backup file) of the study report. Audit trails of all corrections, including computational errors and rounding differences, are kept in the study teams' backup file but are not documented in the study report.

3.27. Manpower Standard Variances.

3.27.1. Manpower standard variances are adjuncts to Air Force or command manpower standards and are identified as either positive or negative; variances adjust requirements by either adding or subtracting from core manpower as determined by reason of mission, technical, or environmentally unique reasons. Variances address work that is not accomplished at all locations where the standard applies and allow for manpower adjustments. They also address location conditions that are significantly different from the conditions that the standard covers. Variances increase or decrease requirements IAW validated unique needs of a command or location. Variances should be identified during POD development, measurement plan development/review, and As-Is workshop validation. Any variance identified after this point runs the risk of not receiving man-hour credit during standards implementation.

3.27.2. The following are examples of possible location-specific differences from documented standardization:

3.27.2.1. Mission differences. This variance type adds or subtracts man-hours to a location for required work not addressed in the core POD (positive) or required work identified in the core POD but not performed (negative).

3.27.2.2. Environmental differences. This variance has a similar effect on work center requirements as a mission variance. However, it accounts for differences in operating conditions other than those used to develop the core standard (e.g., snow removal/deicing of aircraft, effects of salt (near ocean) on corrosion control, effects of geographical separation on travel, etc.).

3.27.2.3. Technological differences. This variance also affects work center requirements; however, it accounts for differences in operating technology (e.g., automated versus nonautomated, special equipment, etc.). An example of a negative technological variance is documenting the man-hour impact (new equipment saved enough man-hours to subtract one authorization at applicable location) resulting from implementation of a Fast Payback Capital Investment Program (FASCAP) project.

3.27.3. When a variance exists at more than four locations, the manpower standard development project team may use a modular equation to adjust the core standard.

3.27.4. When a variance is applicable to more than one MAJCOM, it is considered an inherent part of the Air Force standard development process. When a variance is only applicable to one MAJCOM, the MAJCOM has the responsibility to develop it.

3.27.5. In an Air Force standard development effort, MAJCOMs are first given the opportunity to identify variances during coordination of the process oriented description, measurement plan review or in As-Is validation workshop. When a M&O office identifies a potential variance it completes an AF Form 1068, **Work Center Analysis Record** and sends it to its MAJCOM for review. If the MAJCOM supports the variance, it sends the AF Form 1068 to the Air Force functional OPR, who confirms whether the variance is covered in an Air Force core standard and applicability to another MAJCOM. If the variance is only applicable to the requesting MAJCOM, the M&O office comments on its merit and tells the MAJCOM whether or not to proceed with variance development. If applicable to more than one MAJCOM, AFMIA develops the variance and sends the results to the Air Staff OPR for approval. Instructions for completing an AF Form 1068 are in [Table 3.5](#). If additional help is required, contact your parent MAJCOM.

Table 3.5. How To Prepare AF Form 1068, Work Center Analysis Record.

B O X	A
	Enter
1	Grade, name, organization, and duty phone (include DSN number) of individual performing analysis.
2	Grade, name, organization, and duty phone (include DSN number) of functional OPR contact.
3	The work center title and FAC for the specific work center being addressed.
4	The name of the installation and the command where the comments apply. Only one base is put on each form. If there are command-wide variations, put them on one form and only put the MAJCOM title in this block.
5	The date the form is completed.
6A	Consecutive numbers for each variance.
6B	Appropriate cross-reference to the process, step, or paragraph in the POD for each variance.
6C	Each variance title as a separate entry beginning with the impact of the variance (positive or negative) and its type (i.e., mission, environmental, or technological).
6D	Complete supporting explanation for each entry. Include the source (e.g., instruction, policy letter, etc.) that is generating the variance.
6E	The estimated monthly man-hour impact associated with each positive variance. This column is left blank when identifying possible negative variances.
6F	Specific comments on the disposition of each entry as determined by the MAJCOM, AFMIA, or Study Team. AFMIA or Project team confirms if entry is in the AFMS or has merit.

3.27.5.1. Variances currently valid with the old standard must also be documented and forwarded with the Reengineering Final Report for review. Failure to do this could inadvertently result in the rescinding of old variances.

3.27.5.2. Variances are forwarded to MAJCOM for staffing, coordination, and concurrence. If the MAJCOM concurs, development of a variance will coincide with the measurement phase of the core standard. Some variances may require rework as a result of decisions made by the reengineering team during measurement and computation.

3.27.5.3. During normal reviews of published standards, it is possible things may have changed resulting in a need for an update to the standard. New variances identified during a standards review will be documented and forwarded to the applicable OPR, Air Staff, or MAJCOM for disposition. Each installation MO with their functional OPR will be responsible for coordinating the potential variance at their base.

3.27.6. Positive Variance Development.

3.27.6.1. By definition, processes outlined for positive variances must not be in the core POD. MAJCOM or higher headquarters policy or publication must direct these added activities.

3.27.6.2. Mobility, deployment, and war plan exercises are activities generally recognized as positive mission variances. Work centers with these activities can only receive man-hour credit for participation in exercises meeting all the listed criteria:

3.27.6.2.1. Are directed by MAJCOM or higher headquarters.

3.27.6.2.2. Require only a part of the total number of work center personnel to take part. (An example of this is when only three people in a 20-person work center deploy to another base to take part in a two-week exercise.)

3.27.6.2.3. Participating personnel are away from the normal work center area either on base or TDY at another base.

3.27.6.2.4. Do not result in the rotating of personnel between the normal work center area and a deployment site that is permanently manned by the work center.

3.27.6.2.5. Demonstrate and document a recurring need to support exercises. Historical exercise participation data for the most recent two or three years is needed to build confidence that the workload is constant.

3.27.6.3. Man-hour credit can be given for these activities in support of mobility, deployment, or war plan exercises.

3.27.6.3.1. Developing mobility and work center tasking plans.

3.27.6.3.2. Maintaining a day-to-day mobility capability according to the mobility and work center tasking plans. Some of these activities include:

3.27.6.3.2.1. Periodically taking inventory of mobility containers.

3.27.6.3.2.2. Removing and replacing materials in mobility containers.

3.27.6.3.2.3. Inspecting mobility equipment containers and equipment for proper identification and serviceability.

3.27.6.3.2.4. Maintaining the mobility status of personnel and equipment.

3.27.6.3.3. Work accomplished during exercises by assigned work center personnel is the responsibility of the work center but only occurs because an exercise took place. An example is the reporting to, and signing in at, the mobility processing line by work center personnel. This may also be work that occurs on a day-to-day basis in the normal work center area, but has significant frequency increases caused by exercise workload. In this case, define work activity in sufficient detail to discriminate between normal work center requirements and exer-

cise work center requirements. This ensures activity frequencies for the variance are not duplicated in the categories of the basic standard.

3.27.6.3.4. Work done in an exercise by assigned work center personnel that is a responsibility of the function (two-digit functional account code) but not a peacetime responsibility of any specific work center within the function. An example of this is when a vehicle maintenance craftsman within AETC performs aerial port duties in support of a deployment exercise. Make sure this work is not a responsibility of another work center.

3.27.6.3.5. Preparing to give and giving the training offered in mobility, Resource Augmentation Duty (READY), PRIME (Base Emergency Engineering Force) BEEF, and PRIME Readiness In Base (RIB) courses.

3.27.6.3.6. Receiving the training given in mobility, PRIME BEEF, and PRIME RIB courses.

3.27.6.4. Work centers do not receive added man-hour credit for these items:

3.27.6.4.1. Receiving of READY training or training for augmentation programs. This is defined as training not related to an individual's duty AFSC.

3.27.6.4.2. Participating in an exercise under the READY or augmentation programs.

3.27.6.4.3. Participating in an exercise as an evaluator.

3.27.6.4.4. Post-exercise rest days.

3.27.6.5. Calculate man-hours for work center participation using **Table 3.6.** and **Figure 3.15.** The computed man-hours are for the people actually on orders to take part in the exercise. This is based on the policy that participating personnel are working under simulated wartime surge conditions and are available to their functional areas or individual work centers according to the wartime surge man-hour data in AFI 38-201. Work center personnel in a nonexercise status are also expected to surge to this higher availability rate, when necessary, to offset temporary exercise impacts.

Table 3.6. Computation of Man-Hours For Exercise Participation.

S T E P	A	B										
	Action	Example										
1	Identify the work center and base for which the exercise participation man-hours are to be calculated.	WORK CENTER FAC: XXXX WORK CENTER LOCATION: SMITH AFB										
2	Specify the number of months and time frame from which the work center's exercise participation data is obtained.	24 months (Jan 92 - Dec 93)										
3	Identify the names of the exercises in which work center personnel participated during the time frame specified in step 2.	EXERCISE 92-1 EXERCISE 92-2 EXERCISE 92-3 ETC.										
4	For each exercise, identify the different periods of time (in calendar days) for which work center personnel participated in the exercise.	<table border="1"> <thead> <tr> <th>Exercise Name</th> <th>Number of Calendar Days</th> </tr> </thead> <tbody> <tr> <td>EXERCISE 92-1</td> <td>30</td> </tr> <tr> <td></td> <td>15</td> </tr> <tr> <td>EXERCISE 92-3</td> <td>15</td> </tr> <tr> <td>ETC.</td> <td></td> </tr> </tbody> </table>	Exercise Name	Number of Calendar Days	EXERCISE 92-1	30		15	EXERCISE 92-3	15	ETC.	
Exercise Name	Number of Calendar Days											
EXERCISE 92-1	30											
	15											
EXERCISE 92-3	15											
ETC.												
5	For each period of time identified in step 4, specify how many work center personnel participated.	<table border="1"> <thead> <tr> <th>For Exercise 92-1</th> <th>Number of Calendar Days</th> <th>Number of Personnel</th> </tr> </thead> <tbody> <tr> <td></td> <td>30</td> <td>2</td> </tr> <tr> <td></td> <td>15</td> <td>2</td> </tr> </tbody> </table>	For Exercise 92-1	Number of Calendar Days	Number of Personnel		30	2		15	2	
For Exercise 92-1	Number of Calendar Days	Number of Personnel										
	30	2										
	15	2										
6	Compute the man-hours for each time period in the exercise. Multiply the calendar days of each time period by the number of people who participated for that time (found in step 5) by the numerical constant of 10.29 (see note).	For Exercise 92-1 $(30) (2) (10.29) = 617.40$ man-hours $(15) (2) (10.29) = 308.70$ man-hours										
7	Multiply the man-hours from step 6 by a MAF constant. The MAF constant is the ratio of the applicable peacetime MAF times the overload factor (151.5 x 1.077 for CONUS & overseas) to the military wartime surge MAF (309). It converts a wartime surge man-hour value to a peacetime equivalent value. The MAF constant is 0.53.	Smith AFB is a CONUS base. Therefore, for Exercise 92-1, the following will be multiplied. $(617.40) (.53) = 327.22$ $(308.70) (.53) = 163.61$										
8	Sum the man-hour values computed in step 7 for all exercises in the study time frame.	Total Exercise Man-hours = 8000.57										
9	Compute the average monthly man-hours for a work center's exercise participation by dividing the man-hour total found in step 8 by the number of months for which exercise data is reported (step 2).	$\frac{8000.57}{24} = 333.38$										

NOTE. The constant used in step 6 is the result of the monthly assigned days for wartime surge divided by the average monthly calendar days multiplied by the wartime surge man-hours per person.

$$\frac{(26.09) (12)}{30.44} = 10.29$$

Figure 3.15. Example of Exercise Participation Man-hour Computation.

WORK CENTER FAC: XXXX									
WORK CENTER LOCATION: SMITH AFB (CONUS)									
MONTHS BEING STUDIED: 24 MONTHS (JAN 87 - DEC 88)									
EXERCISE NAME	NUMBER OF CALENDAR DAYS	X	NUMBER OF PERSONNEL	X	NUMERICAL CONSTANT	X	MAF CONSTANT	=	TOTAL EXERCISE MAN-HOURS
Exercise 87-1	30		2		10.29		.53	==	327.22
	15		2		10.29		.53	==	163.61
Exercise 87-2	45		5		10.29		.53	==	1227.08
Exercise 87-3	30		3		10.29		.53	==	490.83
	45		3		10.29		.53	==	736.25
	90		1		10.29		.53	==	490.83
Exercise 87-4	18		6		10.29		.53	==	589.00
Exercise 87-5	30		1		10.29		.53	=	163.61
Exercise 88-1	45		3		10.29		.53		736.25
	30		1		10.29		.53		163.61
Exercise 88-2	30		7		10.29		.53		1145.28
Exercise 88-3	18		3		10.29		.53		294.50
	24		3		10.29		.53		392.67
	30		3		10.29		.53		490.83
Exercise 88-4	18		6		10.29		.53		<u>589.00</u>
The average monthly man-hours for exercise participation =									<u>8000.57</u> 24 = 333.38

3.27.6.6. Analyze mobility support work centers to see if the support caused basic standard activity frequencies to be discontinued or decreased during exercises:

3.27.6.6.1. Describe discontinued or decreased activity frequencies in the variance documentation.

3.27.6.6.2. Document discontinued or decreased activity frequencies not made up at a later date and not accounted for by WLF counts as a negative variance. Discontinued or decreased activity frequencies accounted for by WLF counts are noted in the positive variance documentation.

3.27.6.7. Use any of the measurement or nonmeasurement methods such as work sampling, operational audit, time study, minimum manning, and staffing pattern to get the data needed for the variance.

3.27.6.8. Use SIAMs to credit a work center for indirect man-hours associated with a positive variance. The following instructions allow credit for indirect personnel-generated man-hours for a positive variance:

3.27.6.8.1. Step 1. Measure the direct man-hours associated with the variance. For example, let's assume the added direct man-hours are 206.47.

3.27.6.8.2. Step 2. Convert the direct man-hours to manpower. In our example:

$$206.47 / (151.5 \times 1.077) = 1.265$$

3.27.6.8.3. Step 3. Decide whether the fractional manpower derived in the previous step is to be a civilian, officer, or enlisted requirement.

3.27.6.8.4. Step 4. Use an activity frequency of 1.265 (step 2) to find the number of personnel generated (PG) man-hours. Add to the measured direct variance man-hours.

3.27.6.8.5. Indirect fixed tasks. These will not be credited to variances since, by definition, the fixed man-hours will not change.

3.27.6.9. Base support functions significantly impacted by contingency deployments may receive additional man-hour credit. Calculate man-hours for contingency participation using [Table 3.7](#). Only functions listed in the [Table 3.8](#) may be considered when computing additional contingency deployment man-hours.

Table 3.7. Computation of Support Function Man-hours for Contingency Participation.

Step	A	B	
	Action	Example	
1	Identify the functional account code, installation, and organization PAS code for which the contingency participation man-hours are to be calculated.	FAC: 43C1 Installation: Smith AFB Organization PAS Code: FXXX	
2	Specify the number of months and time frame from which the function's contingency participation data is obtained. Time frame must be at least 6 months; however, 24 months is preferable. (Source: TDY History/Accumulator File)	24 Months (Oct 93 – Sep 95)	
3	Identify the names of the contingencies in which function personnel participated during the time frame specified in step 2 and the associated periods of deployment.	<u>Contingency</u>	<u>Deployment Dates</u>
		Contingency 93-6	Nov – Dec 93
		Contingency 94-1	Mar – May 94
		Classified Contingency	Sep – Nov 94
4	For each contingency identified in step 3, specify the total number of deployed man-days (one man-day equals one person deployed for one day). <i>For Fire Protection Flight only, do not include any deployed man-days for personnel deployed along with, and assigned to, their own home station's fire protection vehicles.</i>	<u>Contingency</u>	<u>Deployed Man-days</u>
		Contingency 93-6	120
		Contingency 94-1	245
		Classified Contingency	193
5	Compute the man-hours lost from the function. Multiply the deployed man-days from step 4 by the daily man-hour constant of 5.360. This constant reflects the military peacetime MAF times the overload factor (151.5 X 1.077) divided by the average monthly calendar days (30.44). For Fire Protection Flight only, the daily man-hour constant is 9.297 (283/30.44).	<u>Contingency</u>	<u>Man-hours</u>
		Contingency 93-6	(120) (5.360) = 643.20
		Contingency 94-1	(245) (5.360) = 1,313.20
		Classified Contingency	(193) (5.360) = 1,034.48
6	Sum all of the contingency man-hour values computed in step 5.	Total Contingency Man-hours = 2,990.88	
7	Compute the average monthly man-hours for a function's contingency participation by dividing the man-hour total found in step 6 by the number of months for which data is reported (step 2).	$\frac{2,990.88}{24} = 124.62$	

Step	A	B
	Action	Example
8	Compute the function's monthly core man-hours by applying the appropriate core equation (do not include any variance man-hours)	Function Mobility Core Man-hours: 650.00
9	Multiply the man-hours from step 8 by 0.10. Ten percent is the contingency deployment rate threshold. The resulting man-hours are the maximum number of monthly contingency hours a function must absorb. Managers should be able to implement adequate management workarounds. Management workarounds include utilizing alternative manpower resources (e.g., READY personnel, Reservists, augmentees), working overtime, backloging work, or changing or eliminating work processes. <i>For the Control Tower and Radar Approach Control (RAPCON) elements within Airfield Operations Flight only, do not compute a monthly contingency man-hour threshold (enter a zero for step 10).</i>	$650 \times .10 = 65$ (Monthly Contingency Man-hour Threshold)
10	Subtract the man-hours in step 9 from the average monthly contingency man-hours from step 7. The resulting number may be added to the function's computed monthly man-hour requirement (step 8).	$124.62 - 65 = 59.62$

NOTE: Table is only to be used for command-level applications.

Table 3.8. Base Support Functions Eligible for Contingency Man-hours.

A	B
Function and FAC	Function and FAC
<p>Wing Staff</p> <p>Wing Command Section – 10A0 Chaplain – 105A Command Post – 135A Financial Management – 151A Judge Advocate – 102A Manpower – 108A Military Equal Opportunity – 106A Public Affairs – 104A Safety – 106A Wing Plans – 131A</p> <p>Support Group</p> <p>Support Group Command Section – 10C0 <i>Includes Dormitory Management – 101D</i> Civil Engineering – 44-- Communications – 38-- Mission Support Squadron MSS Command Section – 16A0 Education Services – 16E1 Family Support Center – 16F1 Information Management – 16G1 Military Personnel – 16B1 Professional Military Education – 16A1, 16H1 Security Forces – 43-- Services – 45--</p>	<p>Logistics Group</p> <p>Logistics Group Command Section – 10B0 Contracting – 12-- Logistics Plans – 2ID1 Supply – 41-- Transportation – 42-- <i>Includes Aerial Ports</i></p> <p>Medical Group – 5--</p> <p>Operations Group</p> <p>Operations Support Squadron OSS Command Section – 10D0 Airfield Operations – 13E1 Current Operations – 13C1 Intelligence – 35A1 Operations Plans – 13D1 Weapons and Tactics – 13B1 Weather – 34A1</p> <p>Postal Squadron – 113-</p> <p>Tanker Airlift Control Element (TALCE) – 1310 <i>Only AMC TALCEs at McGuire, Travis, Kadena, and Ramstein</i></p>

NOTE: Additional contingency man-hours should not be added to the History Office (101A)

3.27.7. Negative Variance Development. The form a negative variance man-hour equation takes depends on the nature of the work not being done.

3.27.7.1. Often, the excluded work is best represented as a percentage of the total man-hours for the work center. In this case, calculate the percentage of excluded man-hours to total work center measured man-hours for each measurement location excluding the work. Then analyze these percentages using the data examination techniques in AFMAN 38-208, Volume 2. Compute the mean percentage value and use it to build a negative variance man-hour equation in the form of $Y = bX$, where b equals the percentage value and where X equals the total work center man-hours from applying the work center determinant at a base covered by the variance.

3.27.7.2. Other times, when excluded work does not change as other variables or factors change, display the variance equation as a constant (in terms of man-hours or whole manpower).

3.27.8. Format Guidance. Format the variance using the AFMIA home page, *Air Force Manpower Standards, Tech Guidance and Forms, Air Force Manpower Standards Publishing Guide*.

3.28. Future Manpower Requirements Determination.

3.28.1. The manpower standard development process identifies a work center's man-hour to workload relationship and quantifies manpower requirements for Air Force functional activities. Use the resulting standard as a tool for the accurate distribution and use of Air Force manpower resources. The functional area manager at either Air Force or MAJCOM level can initiate a manpower standard development study. Some reasons for a study include:

3.28.1.1. Major changes in policy, mission, equipment, technology, organization, or work environment invalidates the existing standard.

3.28.1.2. Performance measures system feedback data shows the standard is no longer valid.

3.28.1.3. Changes in workload volume may show the standard no longer accurately predicts manpower requirements.

3.28.2. Manpower Standard.

3.28.2.1. Manpower standards may be applicable to peacetime, contingency operations, or both. Standards development varies from study to study. All functions or work centers do not lend themselves to the same method of determining requirements, meaning all standards are not developed using the same tool(s) and technique(s).

3.28.2.2. Manpower standard variances address work that is not included in the core manpower standard. These differences may result in increases or decreases to core manpower requirements (see paragraph 3.27.)

3.28.3. Manpower Standard Development Concepts.

3.28.3.1. Manpower standards are based on the concept that like work center operations are efficient and standardized throughout the Air Force or MAJCOM.

3.28.3.2. A single location measurement can be considered for application or adoption at all like locations, however it is not the preferred method.

3.28.3.3. Base measurement and computation procedures on average monthly man-hour and workload requirements.

3.28.3.4. The Air Force develops manpower standards that apply primarily to peacetime environments. However, because of the uncertainty involved with addressing a war time scenario, refer to the applicable functional manager for guidance.

3.28.3.5. Commercial activities present special opportunities to develop and maintain manpower standards. Changes to manpower occur when an activity remains in-house after a cost study. These activities do not remain static simply because a cost study has been conducted. Develop manpower and workload relationships to allow for and to document these changes as follows:

3.28.3.5.1. Use direct labor projected in the in-house cost estimate and the workload specified in the performance work statement (PWS) to develop these relationships in the form of a man-

power equation. The equation may be applicable to multiple locations having the same performance requirements or may be developed for a single location.

3.28.3.5.2. Use the PWS as the basis for a POD to reflect the process steps involved and the level of performance expected.

3.28.3.5.3. Once an equation is developed, changes in manpower requirements should result only from changes in workload, procedures, responsibilities, quality required, etc., that directly affect the PWS. For example, the manpower community uses the same test to review increases as the contracting officer uses if the activity goes contract and the contractor attempts to increase prices.

3.28.3.6. Simulation Data Requirements.

3.28.3.6.1. Types Of Studies. Using simulation is a viable option when determining requirements. There are three distinct methods currently verifiable that can be used.

3.28.3.6.2. Single Point Application. The simulation is built and run for a single location.

3.28.3.6.3. Input Points To An Equation. The sample location's inputs are used to drive individual simulation runs and the output is plotted for total man-hours.

3.28.3.6.4. Programmable Model. The equation is developed using traditional techniques. A ratio equation or correlation and regression is used to determine an appropriate arrival stream. The output of the simulation run is used to determine the direct man-hours applicable to the function. Appropriate SIAM and other man-hours are then accumulated to determine the requirement.

3.28.3.6.5. Data Reporting Requirements.

1.	Resource Rules	What resources (manpower) perform what processes/tasks within the model by skill level or other approved qualifications
2.	Process Cycle time	Method used to determine one cycle of each process and any variation introduced (identifying methodology and rational)
3	Interarrival time	Identify method used to determine frequency of occurrences and any variation introduced (Identifying methodology and rational)
4	Run Length and Replications	Identify the run length of the model and conversion methodology to a monthly timeframe. Include statistics used to identify the minimum number of replications.
5	Warm-up Period	Time allocated to reach steady state.
6	Residuals	Methodology used to identify work-in-progress upon completion of simulation model run.
7	Acceptable Levels of Resource Utilization	Rational for extreme resource utilization percentages (high or low).
8	Assumption List	Extenuating circumstances and assumptions associated with model's logic.

3.28.4. Minimum Documentation Requirement. Minimum documentation requirements are listed below for the Air Force Manpower Standard final report. Add other information as needed. See [Figure 3.16](#).

Figure 3.16. Minimum Documentation Requirements

- 1. FUNCTIONAL AREA:**
 - 1.1. Work center title and functional account code.
 - 1.2. Applicability of the Study: The manpower standard will apply to (functions where the standard will apply) authorized in their unit manpower document. The standard does not apply to locations that have completed cost comparisons and remained in house or are undergoing a cost comparison.
- 2. STUDY OBJECTIVES:**
 - 2.1. Describe core and variance processes.
 - 2.2. Measure peacetime and variance requirements (NOTE. If wartime requirements will not be addressed, state why, and when wartime studies will begin.)
 - 2.3. Determine core manpower requirements per MAJCOM or higher directives.
 - 2.4. Develop MAJCOM and Air Force variances, if applicable.
 - 2.5. Prioritize core processes.
- 3. STUDY METHODOLOGY.** State whether the standard is a re-measurement, partial measurement, or an administrative update. Cite the work measurement methods to be used.
- 4. DEVELOPMENT LOCATIONS.** List the locations to be used for work measurement and data collection. If multiple work centers are covered by the standard, identify any work centers that were not measured at a given location.
- 5. RESPONSIBILITIES.** Detail the manpower and functional responsibilities needed to accomplish the objectives in paragraph 2.
- 6. STAFFING, APPROVAL AND IMPLEMENTATION.** Detail procedures.
- 7. MILESTONES.** List the significant standard study milestones.
- 8. STUDY TEAM.** Provide the name, rank, organization, and DSN number of manpower and functional participants.
- 9. AUTHORITY.** Provide signature blocks for parent headquarters manpower and functional approval authorities.

3.29. Final Report.

3.29.1. Major Activities. Major study report activities follow:

3.29.1.1. A quality assurance review of the report for technical accuracy and logic by an agency other than the project team is highly recommended. This review should address: validity of analy-

sis done, statistical accuracy, compliance with publications, and logic of workload factor and man-hour relationship.

3.29.1.2. Coordination of the study report as specified in the study contract.

3.29.1.3. Revision of the study report to make changes resulting from positive or negative variances.

3.29.1.4. Publication of the approved standard.

3.29.1.5. Inclusion of new workload factor counts in existing RCS systems. If a report does not exist, the OPR originates the necessary report for collecting workload data needed by the standard.

3.29.2. Study Report--Cover Page and Table of Contents. On the cover page, use enough information to readily identify the type of study report (i.e., standard development study report, variance study report, etc.); the functional area covered to include the functional account code; whether it is a peacetime, wartime, or combination study; who conducted the study; and date of the study. In the table of contents, provide the following sections, as appropriate: introduction, manpower standard (if applicable), data analysis and computation, and attachments.

3.29.3. Study Report--Part One--Introduction:

3.29.3.1. Study Identification and Functional Areas. Give a general description of the study scope. Include work center title and FAC. Also state whether this standard applies to:

3.29.3.1.1. Peacetime operations only.

3.29.3.1.2. Both peacetime and wartime operations.

3.29.3.1.3. Wartime operations only. If the study covers wartime operations, state the applicable scenarios.

3.29.3.2. Development Method. State whether the standard documents are re-measurement, partial measurement, or an administrative update. Cite the work measurement methods used to develop the standard; for example, work sampling or operational audit (good operator technique).

3.29.3.3. Development Locations. List the input locations used for work measurement and data collection. If multiple work centers are covered by the standard, identify any work centers that were not measured at a given location.

3.29.3.4. Study Period. List the beginning and ending dates of each phase of the study.

3.29.3.5. Study Participants. List lead team members and functional OPR representatives. Include their office symbol, DSN number, and specific functional area.

3.29.3.6. Reference Documents. Cite the study plan, measurement plan, and other relevant documents. Give dates of all documents.

3.29.3.7. Follow-on Actions. Identify the actions that must occur to ensure proper implementation and use of the standard. Address the need for changes to unit type codes, if applicable.

3.29.4. Part Two--Manpower Standard. The manpower standard is presented in Part Two. Formatting presents the standard for final coordination, validation, approval, application, and publication as a departmental or command document. The information in the following paragraphs represents the minimum essential formatting requirements. Any other information deemed "value added" may be included.

3.29.4.1. Heading. The FAC is preceded by "AFMS" for Air Force manpower standards.

3.29.4.1.1. When two manpower standards exist for the same work center under two different organizational structures, add an alphabetical prefix to the number.

3.29.4.1.2. To identify a standard that applies to wartime only, add the prefix "W" to the number.

3.29.4.2. Title. For the title use the appropriate designation (flight, section, or element) to identify the standard MAJCOM or base unique manpower standards, add the appropriate MAJCOM designation or base name after the title. For example, "Security Operations Flight, Ramstein."

3.29.4.3. Mission Statement, Responsibility Statement, Authority, and Applicability. Combine these elements to form the purpose paragraph, which is the first paragraph of the manuscript:

3.29.4.3.1. Mission Statement. Prepare a brief, concise statement of the mission objectives for the function under study. Try to limit this statement to five typed lines.

3.29.4.3.2. Responsibility Statement. This is a series of broad statements that define the mission support capabilities of each subordinate element. These statements should encompass the major processes or work activities performed in support of the flight. If a flight has no subordinate elements, the responsibility statement is not required.

3.29.4.3.3. Authority. Cite appropriate functional and management engineering sources that support the manpower standard and its development.

3.29.4.3.4. Applicability. Include a statement that identifies the environment in which the function operates (peacetime/wartime). Additionally, specifically address the following:

3.29.4.3.4.1. Furnish an applicability statement by MAJCOM, organizational elements, weapon system, etc., as pertinent. Specify the locations where the standard applies or does not apply, whichever is less. Also identify any limitations that restrict when and how the manpower standard can be used.

3.29.4.3.4.2. Identify specific applicability to the Air National Guard and Air Force Reserve units programmed to be gained by active force MAJCOMs and FOAs.

3.29.4.3.4.3. State that bases undergoing AFI 38-203 cost comparison studies will be exempt from standard application. Also state that standards do not apply to locations that have completed cost comparisons. For objective flight standards, the above statements are only applicable if the entire flight is undergoing or has undergone an AFI 38-203 cost comparison study. If an element within a flight is undergoing or has undergone an AFI 38-203 cost comparison study, a mission variance must be developed to account for these man-hours. See [Figure 3.17](#) for an example of application instructions for a cost comparison mission variance.

Figure 3.17. Example Application Instructions for a Cost Comparison Mission Variance.

APPLICATION INSTRUCTIONS FOR A-76 COST COMPARISON POSITIONS
<p>1. NEGATIVE MISSION VARIANCE. Develop a negative mission variance to reduce the core process man-hours for those processes that have undergone an A-76 Cost Comparison and have been contracted-out or remained in-house.</p> <p>1.1. STEP 1. Determine the core process man-hours that were cost compared by identifying the cost compared processes listed in the Process Analysis Summary. For example, assume that BITC was cost compared in the IM Flight. The process "Manage Official Mail" is the only process performed by BITC. This process equates to 386.00 core man-hours (2.40 fractional manpower).</p> <p>1.2. STEP 2. Determine total flight core process man-hours. In the IM Flight, the total flight core man-hours equate to 2978.50.</p> <p>1.3. STEP 3. Determine the percentage of the cost compared process to the total flight core process man-hours. In this example, it equates to 12.95% (386.00/2978.50). This step is necessary because the cost compared process man-hours are imbedded in the core +/- manpower equation ($Y = 18.54 + (\text{population supported} - 3,000) * 0.003056$).</p> <p>1.4. STEP 4. Apply the core +/- manpower equation ($Y = 18.54 + (\text{population supported} - 3,000) * 0.003056$). For example, assume that the population at your location is 5,000. This equates to 24.65 fractional manpower requirements.</p> <p>1.5. STEP 5. Determine the negative variance manpower (man-hours) by multiplying the fractional manpower result in Step 4, by the cost compared process percentage in step 3. For example, $24.65 * 12.95\% = 3.19$.</p> <p>2. POSITIVE MISSION VARIANCE. Develop a positive mission variance to account for the inclusion of the in-house or contracted-out manpower required to perform the processes IAW the A-76 Cost Comparison Performance Work Statement (PWS) and the Most Efficient Organization (MEO).</p> <p>2.1. REMAINED IN-HOUSE. If the processes underwent competitive sourcing (an A-76 cost comparison or a direct conversion), and remained in-house, update the UMD to reflect the manpower earned in the MEO and code these civilian authorizations with an MES code of "S" and the appropriate reason code (RSC). Develop a positive variance, which contains an equation that is responsive to future PWS changes in workload, procedures, responsibilities, and quality required, etc. Note: With a direct conversion, the MEO is the "as is operation" which may also change based on future PWS changes in workload, procedures, responsibilities, and quality required, etc.</p>

2.2. CONTRACTED-OUT. If the processes underwent competitive sourcing (an A-76 cost comparison or a direct conversion) and is contracted-out, update the UMD manpower requirement to reflect the contract manpower equivalents (CMEs) earned in the MEO. Enter a manpower type attribute of "CME" category attribute of "CIV" and civilian employment category of "CEC 80" on UMD. Develop a positive variance, which contains an equation that is responsive to future PWS changes in workload, procedures, responsibilities, and quality required, etc. Note: With a direct conversion, the MEO is the "as is operation" which may also change based on future PWS workload changes, procedures, responsibilities, and quality required, etc.

NOTE: When applicable, the variance should also address the number of civilian Quality Assurance Evaluators (QAEs) that were earned as result of contracting out the processes. Although all QAEs shall be addressed in the variance, only whole manpower can be added to the core standard. Partial QAEs (.5) or their associated man-hours cannot be added to the application results.

3.29.4.4. Standard Data.

3.29.4.4.1. Approval Date. This will remain blank in the study report.

3.29.4.4.2. Man-hour Data Source. Enter workshop measurement, work sampling, operational audit technique, or other development method. Identify relevant policy or publications for standards developed without work measurement. For a standard developed by the functional model method, include the statement "Historical Documents - Functional Model."

3.29.4.4.3. Man-hour Equation. State the equation in terms of man-hours unless it represents constant manpower. If it represents constant manpower, state the equation in terms of whole manpower requirements and identify the requirements as a manpower value. For example, $Y = 1$ (Constant Manpower). If there is more than one equation, include a subparagraph for each. If no equation exists, so state, and document the method for determining manpower requirements (e.g., "See manpower matrix").

3.29.4.4.4. Workload Factor (WLF).

3.29.4.4.4.1. Title. Enter the complete WLF title. If there is more than one WLF, include a subparagraph for each title and state applicability (for example, peacetime, wartime, or specific applicability when modular equations are used). For overhead work centers using subordinate work center requirements as the WLF, use the title: Required Man-hours in Subordinate Work Centers after Application of the Basic Standard.

3.29.4.4.4.2. Definition. Use enough detail to ensure complete understanding of the WLF. If there is more than one WLF, include a subparagraph for each definition. For overhead work centers that use "man-hours in subordinate work centers" as the WLF, use the WLF definition, "The total number of required man-hours in (identify the subordinate work centers) as a result of standard application." When the data being collected is classified, add these statements after the WLF definition: "This data, when collected, is classified. Mark and safeguard according to AFI 31-401."

3.29.4.4.4.3. Source. Identify the exact source including RCS number, section, line number, or column for each workload factor. If there is more than one WLF, include a subparagraph for each source. If needed, place instructions in this paragraph on how to count the

WLF volume before using it in the standard man-hour equation. For overhead work centers that use man-hours in subordinate work centers as the WLF, use this source: "Standard application results for the work centers listed in the definition." If any of these do not have a manpower standard, add the sentence: "For (list those work centers that do not have manpower standards), use the authorizations shown in the unit manpower document (UMD) as the required manpower." Convert these authorizations (do not use fractional manpower ranges) to man-hours by multiplying by the proper MAF.

3.29.4.4.5. Points of Contact. Enter the office symbol of the manpower and functional representatives.

3.29.4.5. Application Instructions.

3.29.4.5.1. Give general and specific standard application instructions, computations, use of extrapolation limits, aggregation, and use of fractional manpower.

3.29.4.5.2. Include any special instructions on how to use WLF data in the man-hour equation (if appropriate).

3.29.4.5.3. Describe the steps to determine any core plus/minus, or variance man-hours (manpower) if appropriate.

3.29.4.5.4. Include, if relevant, instructions for substituting grades, AFSCs, and civilian authorizations; the treatment of contractual workload; and any pertinent aircrew position identifiers.

3.29.4.5.5. For a manpower standard based on prior application of standards in subordinate work centers, give instructions including the specific standards and sequence of application.

3.29.4.5.6. Develop a clear, concise statement in the application instructions specifying any other work centers whose fractional requirement can be aggregated with this work centers' fractional requirement before rounding to whole requirements. For example, the statement should read: "Fractional manpower requirements resulting from the application of this standard will be aggregated with the fractional requirements for FACs XXXX, XXXX, etc. Aggregation will be done according to procedures in AFI 38-201."

3.29.4.6. Statement of Conditions (SOC). The purpose of the SOC is to document general conditions in the work center which impact manpower requirements. It describes those significant initiatives incorporated into the standard. Use the SOC in the measurement plan and comments from the measurement reports to build the SOC for the standard. Provide a general accounting of the baseline operating environment conditions under which the work centers' manpower was computed.

3.29.4.7. Functional Description or Process Oriented Description. Include as an attachment to the manuscript, a copy of the process or work-activity for each work center covered by the standard. Make sure the POD complies with instructions in paragraph 3.22. of this volume. For standards developed by directed requirement, staffing pattern, position manning, or functional model, a detailed POD may be replaced by a functional description.

3.29.4.8. Standard Manpower Table.

3.29.4.8.1. Include as an attachment to the manuscript an AF Form 1113, **Standard Manpower Table**, or manpower matrix for each flight or work center. It should encompass the

whole manpower required (by AFSC and grade) for all possible combinations within the applicability range (e.g., core plus or minus and all variances not specifying a fixed requirement). Develop skills and grades for each manpower increment between the extrapolation limits on the manpower table. Complete the manpower table according to instructions in **Table 3.9**. Use as many pages as necessary to display the standard's manpower extrapolation range. If a manpower matrix is used instead of the AF Form 1113, ensure that the same data is reported. Contact AFMIA for approval of all comparable forms and manpower matrices prior to finalizing the AFMS.

3.29.4.8.2. When a colonel requirement or position is identified, the project team verifies OPR justification by complying with procedures outlined in AFI 38-201.

3.29.4.8.3. Show rated specialty requirements only if the processes described in the POD are clearly associated with the skills described in AFI 36-2105 for the rated specialty.

3.29.4.8.4. Use instructions in AFMAN 38-208, Volume 2, to identify AFSC, skill level, and grade requirements for standards.

3.29.4.8.5. The manpower table or matrix always shows military specialties and skill levels. Military grades are shown when a military and civilian mix exists. An exception is allowed to this rule if the work center is an all-civilian work center with a military manager. Use the abbreviation CIV under the grade column only when the work center is all civilians. The civilian personnel classification office identifies the suitable civilian grades.

3.29.4.9. Variances. Include as an attachment to the manuscript a copy of all approved variances. Complete the following for each variance:

3.29.4.9.1. Variance Title. Provide a short title for each variance. Precede the title with the application (positive or negative) and the appropriate variance category (mission, environmental, or technological). For example, "Positive Mission Variance for Contract Quality Assurance Evaluation."

3.29.4.9.2. Applicability. Provide a detailed applicability statement (e.g., unique to a specific location, command, etc.).

3.29.4.9.3. Impact. Provide the man-hour (followed by the fractional manpower in parentheses) impact associated with the variance. Also include a breakout of the impact to the level provided in the definition (e.g., down to step level). If the variance is negative, make sure the impact is shown as a negative value. Include any workload data collection (title, definition, and source of count) and specific application instructions, when appropriate.

Table 3.9. Preparation Instructions For AF Form 1113, Standard Manpower Table.

L I N E	A	B
	To Complete	Enter
1	Work Center FAC	Appropriate title from the work center. If FAC and title do not specifically identify the work center, enter a unique title for identification.
2	Standard Applicability Man-hour Range	The valid man-hour data range for this Standard. Boundaries are the lower and upper man-hour extrapolation values. For a standard that yields a constant manpower requirement, enter the words, "Constant Manpower." When a parabola or ratio equation form is used for the standard, specify the upper limit for the workload. Do this by putting the message "(Upper Workload Value = XXX)" under the man-hour range. When the standard contains more than one equation enter See paragraph 5 "Application Instructions" in this block. Enter the man-hour data and upper workload, if applicable, in paragraph 5 of the AFMS cover page.
3	Air Force Specialty Title	All Air Force Specialty (AFS) titles required in the work center at any requirement level within the applicability range. Use the titles in AFMANs 36-2105 and 36-2108 to identify both military and civilian requirements. Titles must also reflect any prefix or suffix shown in the AFSC column. List officers first, then airmen. Group titles by career area/career progression group, and within career specialty list in order of descending AFSC.
4	AFSC	Air Force Specialty Code (AFSC) that corresponds to the specialty title. List both title and AFSC in descending order of AFSC within career area. When the primary function of the work center is not administration, list administration specialties after all others.
5	Grade	For a military requirement, the grade associated with the specified AFSC based on the policy of two grades per skill level for enlisted requirements. For example: A 7-level will be either a TSgt on MSgt. If any of the manpower requirements are military, treat all requirements as military. When all requirements are civilian, enter "CIV" next to the corresponding AFSC. MAJCOM can replace "CIV" with the appropriate civilian grades in the manpower title. Prior to exercising this option, review AFI 38-201 for policy guidance. Within AFSC, list grades in descending order. Show all grades below SRA as A1C, and show both 1st and 2d lieutenants as LT. Use standard data codes, for example, CMS instead of CMSGT.
6	Manpower Requirements	Appropriate distribution of whole manpower requirements by AFSC and grade for each level of requirements within the range bounded by the lower and upper extrapolation limits. To insure that all levels of manpower are covered on the manpower table, consider all of the MAFs that apply, then: (1) The smallest number of people shown on the table is the number required for the largest applicable MAF at the lower extrapolation limit. (2) The largest number of people shown on the table is the number required for the smallest applicable MAF at the upper extrapolation limit.
7	Total	The total requirement for AFSCs and grades in the column. The first and last total will reflect the manpower associated with the extrapolation range.

3.29.4.10. Process Analysis Summary. Include, as attachment 4 to the cover page, a process analysis summary. List each process (using the POD process number) by priority, from highest to lowest (highest being listed first). Include the process time (in man-hours and minutes), the projected workload volume (for standards with fixed core manpower), and the resulting fractional manpower (for standards with fixed core manpower).

3.29.4.11. Publication Format for an AFMS. Format the AFMS using the AFMIA home page, *Air Force Manpower Standards, Tech Guidance and Forms, Air Force Manpower Standards Publishing Guide*.

3.29.5. Study Report--Part Three--Data Analysis and Computation Summary.

3.29.5.1. General Concepts. The data analysis and computation summary is prepared by the project team and furnishes relevant information for any reviewer to assess the data and the process used to develop the standard. The summary is an audit trail from data collection through selection of the suitable manpower model. Include the summary in the final report. When SIAMs are used for all applicable indirect tasks, the data analysis and computation summary is limited to direct process analysis only. If measurement is used in lieu of a SIAM task time, data analysis and computation summary will be furnished for each measured indirect task. The amount of detail needed in Part Three varies with the type of analysis and computations conducted. As a minimum, items needed for each initiative and the final man-hour equation are:

3.29.5.1.1. Types of analysis conducted.

3.29.5.1.2. Data analysis detail.

3.29.5.1.3. Data exclusions.

3.29.5.1.4. Adjustments made to man-hours and workload used in the initiatives and equations.

3.29.5.1.5. The correlation and regression (C&R) data file and statistical results for all equations used in the standard.

3.29.5.1.6. Analysis and methods used to decide skills and grades.

3.29.5.2. Summary Format. The development method used and the need to report specific information affects the content and format of the summary. The sample outline in **Figure 3.18** is a guide for structuring the summary. Tailor the content based on characteristics of the study, but follow the basic format for consistency. Prepare one summary for each work center standard in the study report.

Figure 3.18. Data Analysis and Computation Summary Format.

DATA ANALYSIS AND COMPUTATION SUMMARY Work Center
1. Data Collection.
2. Data Analysis.
3. Data Exclusions.
4. Data Adjustments.
4.1. Man-hour Audit Trail.
4.2. Workload Audit Trail.
4.3. Process Man-hour Summary.
5. Computation Summary.
5.1. Data Matrix.
5.2. Models Tested and Selected.
5.3. Extrapolation.
6. AFSC and Grade Determination.

3.29.5.3. Summary Preparation.

3.29.5.3.1. Data Collection. State the data collection procedures used (for example, operational audit; good operator). Reference major study documents, e.g., the study plan, measurement plan, or executive summaries.

3.29.5.3.2. Data Analysis. Include a summary of post-measurement data analysis done by the project team before model computations. State the analysis techniques used, such as unit time ratios and frequency-to-work count ratios, and include any observations, conclusions, or results of the analysis. Specific adjustments resulting from this analysis are documented in the audit trail.

3.29.5.3.3. Data Exclusions. Identify input data points excluded from model computations. State the reasons for the exclusion and the justification to include or exclude these locations in the standard applicability statement. If a location is excluded from computations, but is included for application, furnish specific rationale.

3.29.5.3.4. Data Adjustments. Adjustments are defined as changes to reported frequencies, per accomplishment times, allowed man-hours, or workload values made by the project team so the data shown in the manpower equation differs from the data sent by an input team. Do not classify computational errors or rounding differences as adjustments. Changes to original measurement data produced by the project team during data analysis which have been agreed

to by the input team and coordinated with the local OPR are classified as corrections. Audit trails of all corrections, including computational errors and rounding differences, are kept in the project team backup files but are not documented in the study report.

3.29.5.3.4.1. Include a man-hour audit trail that shows the basis for each adjustment and the resulting data change. Display data for all processes or steps that were adjusted. The basis for adjustment is not restricted to the space shown.

3.29.5.3.4.2. Include a workload count adjustment summary showing the basis for each adjustment and the resulting data change for any workload factor counts that were adjusted. Display in table format as shown in [Figure 3.19](#). below

Figure 3.19. Workload Audit Trail Format.

WORKLOAD FACTOR	LOCATION	COUNT BEFORE CHANGE	ADJUSTMENT (+/-)	COUNT AFTER CHANGE	BASIS FOR ADJUSTMENT
1.7.	Langley	51.00	-14.36	36.64	April data excluded

3.29.5.3.4.3. Include a man-hour summary to display allowed man-hours by process for each input location. Display in table format as shown in [Figure 3.20](#). below. Show man-hours before and after adjustment, when applicable. For work sampling data, enter the total process man-hours after computations for leveling, allowances, and sampling days. Make sure each adjustment is shown in the man-hour audit trail. Show only one value when measured time equals allowed time.

Figure 3.20. Man-hour Audit Trail Format.

PROCESS OF STEP	LOCATION	MAN-HOURS BEFORE CHANGE	ADJUSTMENTS (+/-)	MAN-HOURS AFTER CHANGE	BASIS FOR ADJUSTMENT
2.1.	Lakenheath	3.79	-3.64	0.15	level of service
2.4.	Ramstein	2.25	+0.25	2.50	PAT Adj.

3.29.5.3.5. Air Force Specialty, Skill-Level, and Grade Determination. State procedures and data sources used for determining the suitable manpower distribution of skills and grades that were documented on the manpower table.

3.29.6. The Air Force Manpower Standard (AFMS) Publication System. For publishing guidance go to AFMIA home page, *Air Force Manpower Standards, Tech Guidance and Forms, Air Force Manpower Standards Publishing Guide*.

3.30. Trial Impact Application.

3.30.1. General Concepts. Once a manpower standard or variance has been developed, the next step is to apply the standard. This accomplishes two objectives. It validates that the standard or variance captures all mission-essential workload and predicts what the manpower impact could be if the standard is approved for implementation. Application results are used to brief senior staff and are filed for historical purposes. The process consists of three basic steps: workload factor collection and validation; manpower standard trial application; and documenting what the predicted manpower impact would be if the standard is implemented.

3.30.2. Workload Values for Peacetime Application of Standards. Collect the workload factors identified in the manpower standard or variance. The baseline quarter for a trial impact application is the fourth quarter of the fiscal year in which implementation is scheduled. Since the trial impact application only addresses one fiscal quarter, make sure the workload levels represent the average monthly level of work present in the quarter. Look at historical monthly data to set up existing workload characteristics (for example, relatively stable levels or increasing and decreasing trends). Assure the historical workload counts are verified. To analyze this historical data:

3.30.2.1. Get at least one full cycle of WLF data.

3.30.2.1.1. For WLFs that have been routinely reported in the past and have not had a definition change, get two to three years of historical data (based on availability). The more data used in the analysis, the more confidence the average WLF value inspires.

3.30.2.1.2. Less than a full cycle of data may be all that is available. If so, use caution in making assumptions about the relevance of averages or trends based on this limited data.

3.30.2.2. Construct a control chart for each WLF. Plot each month of data and use the mean of all data points as the centerline. The upper and lower control limits equal two standard deviations of this mean.

3.30.2.3. Study the control charts. This activity requires the use of common sense, logic, and research abilities.

3.30.2.3.1. First, look at the control chart to pinpoint possible outlying months of data. To find the reasons for these workload levels, research past records and discuss this data with the functional OPR.

3.30.2.3.1.1. If these months are not representative of the work center and the craftsman understands the reasons why they are different (for example, incorrect reporting), exclude them and reconstruct the control chart.

3.30.2.3.1.2. If the values for these months are in error and a corrected value can be accurately documented and supported, adjust the values for these months and reconstruct the control chart.

3.30.2.3.1.3. If no explanations can be found for the outlying months, assume the data correct.

3.30.2.3.2. If research shows that an extraordinary situation existed that caused most of the historical data for a work center to be nonrepresentative, then adjust reported workload data to more accurately show the workload levels. After this has been done, give a full explanation of the situation and how adjusted workload values were computed.

3.30.2.4. Make conclusions about the WLF data. The craftsman looks at the control chart to see how the points are distributed about the mean after validating the data.

3.30.2.4.1. If points are evenly distributed about the mean, this shows relative workload stability. When logic supports this conclusion, use the mean as the workload value.

3.30.2.4.2. If the points show a steadily increasing or decreasing trend, this may show a slowly evolving change in work center workload.

3.30.2.4.2.1. If thorough research can show that this trend will continue at the same rate, get the workload value by averaging only the last three months of data.

3.30.2.4.2.2. If the trend appears to have leveled off for the last three months at a higher or lower level, use that level as the workload value.

3.30.2.5. Document results of the historical workload analysis. Each base included in the trial impact application will document its data as directed by the study team.

3.30.3. Work Center Manpower Requirements.

3.30.3.1. Once workload values are collected and verified for the baseline fiscal quarter, use this workload in the standard man-hour equation to find work center manpower requirements.

3.30.3.2. As part of the work center trial application, include the military and civilian mix. Use military essentiality as the prime consideration for setting up this mix. AFI 38-204 states the basic policy for identifying when manpower must be military and when it can be civilian. Since the results of the trial impact application show the unconstrained manpower requirements of a work center, do not consider current funding ceilings when determining this mix. If application of the military essentiality criteria would dictate a change in this ratio, there is no need to keep an existing ratio between military and civilian manpower. However, if the trial impact application is being done by the study team, use existing ratios or HQ USAF guidance as a guide for estimating how increases or decreases in work center manpower requirements impact the military and civilian mix.

3.30.3.3. Some work centers may have part of their workload done by contract personnel. Make an adjustment for the contracted work since standard application results in manpower requirements for in-house personnel. Make this adjustment by subtracting a contract manpower equivalent value from the standard application man-hours. See **Figure 3.17**.

3.30.3.3.1. Contract manpower equivalents are the number of equivalent man-hours required if the contracted workload was done in-house.

3.30.3.3.2. Get contract manpower equivalent man-hours by multiplying the contract manpower equivalents shown in the UMD by the pertinent normal workweek civilian MAF.

3.30.4. Work Center Impact. Ensure the trial impact application includes all bases where the standard applies.

3.30.5. Documenting the Impact Application. The project team files trial application data compiled for each base as backup data. The project team assembles the documentation from the trial impact application into sections, one for each standard applied. Within each section, there are two parts: the trial impact application summaries and the explanation of changes.

3.30.5.1. Trial Impact Application Summary. The trial impact application summary for an Air Force standard consists of a summary for the overall Air Force and a summary for each MAJCOM. For Air Force standards and variances, MAJCOMs furnish AFMIA the trial impact summary for each of their bases. MAJCOMs include:

3.30.5.1.1. Total authorizations for peacetime studies. Use the manpower data system, Current Requirement Authorization Table (less individual mobilization augmentation authorizations). To obtain total authorizations for wartime studies, use the manpower data system, Current Requirement Authorization Table and the Current Requirement Guard and Reserve Table.

3.30.5.1.2. Workload counts used to price out the basic standard and a list of approved variances used to compute total man-hours.

3.30.5.2. Explanation of Changes. This is a narrative description of the overall impact the standard has on the work center. Comment on each of these.

3.30.5.2.1. What caused the overall increases or decreases in manpower requirement totals: increased workload, new work, decreased workload, productivity improvements, or policy changes?

3.30.5.2.2. What does the standard buy in terms of additional capability for the Air Force and what would be the result if the standard were not implemented. For example, if a new standard in function XXXX is not funded, it may prevent the function from being able to meet wartime requirements for critical skills and force the continued use of nonappropriated fund civilians in the work center.

3.30.6. Staffing for Approval. Once all trial applications are assembled, then an overall effect of implementing the standard can be presented to the applicable MAJCOM and Air Staff offices. The result will be either approval or disapproval for the actual implementation and application of the standard or variance.

Section 3G—Coordination And Approval--Phase 6

3.31. General Concepts. A vital link to any improvement process is coordination. Any improvement action(s) could possibly impact another functional area or areas. Although the action may improve your process, it could be detrimental to someone else's process, i.e., degrading someone's wartime capability.

3.31.1. Coordination Objectives. Three objectives must be met during this phase: (1) Articulate what must be done to effectively staff and coordinate change proposals up to and through the Air Force Corporate Structure to obtain senior Air Force leadership approval. (2) Categorize and define changes of new process designs, goals, and objectives to achieve envisioned end-state. (3) Show clear linkage to Air Force core competencies and demonstrate operationalized quality.

3.31.2. Project Partner Draft/Revise Strategic Plan.

3.31.2.1. Goals and objectives necessary to bring about the envisioned state must be developed and completed.

3.31.2.2. Objectives should be measurable and have timelines for translation into action plans.

3.31.2.3. Goals and objectives must clearly communicate to leadership, stakeholders, and project partners what has to take place in order to bring about the change to the envisioned state.

3.31.3. Staff Results.

3.31.3.1. Start at the earliest stages of reengineering.

3.31.3.2. The Communication Plan developed in Phase 1 and updated throughout each subsequent phase should provide the material necessary to assemble the briefings.

3.31.3.3. Continue to reinforce what has previously been staffed—demonstrate progress and resolve to achieve end state.

3.31.3.4. Involve all stakeholders which gives the advantage of knowing their positions/ideas and nurturing buy-in. This should also include other functions affected by changes made in the process methods, e.g., AF/SC for communication changes, AF/LE for equipment or transportation, AF/DP for personnel or training, etc.

3.31.4. Refine Options.

3.31.4.1. Changes recommended/directed at each level of briefing must be incorporated, if appropriate.

3.31.4.2. A thorough After Action Review should be completed after briefing each echelon of command and appropriate revisions made prior to proceeding to the next level.

3.31.5. Refine Resource Management Requirements. Based on analysis data compiled throughout previous phases, all resource management data should be refined to reflect the most accurate information.

3.31.6. Present Options to MAJCOMs. The Business Case Analysis, along with the results of options analysis and recommendations made at previous briefings, should be presented to senior MAJCOM leadership for their concurrence or approval if it is a MAJCOM study.

3.31.7. Present Option(s)/Recommendations(s) to Corporate Air Force Leaders. Staff results of previous briefings through the chain of command and with other Air Force functionals, if necessary, and obtain approval from the Air Force Corporate Structure (AFCS).

3.31.8. Communicate Decision to Stakeholders:

3.31.8.1. Once approval has been obtained from the corporate leadership of the Air Force, the decision should be transmitted to all concerned members.

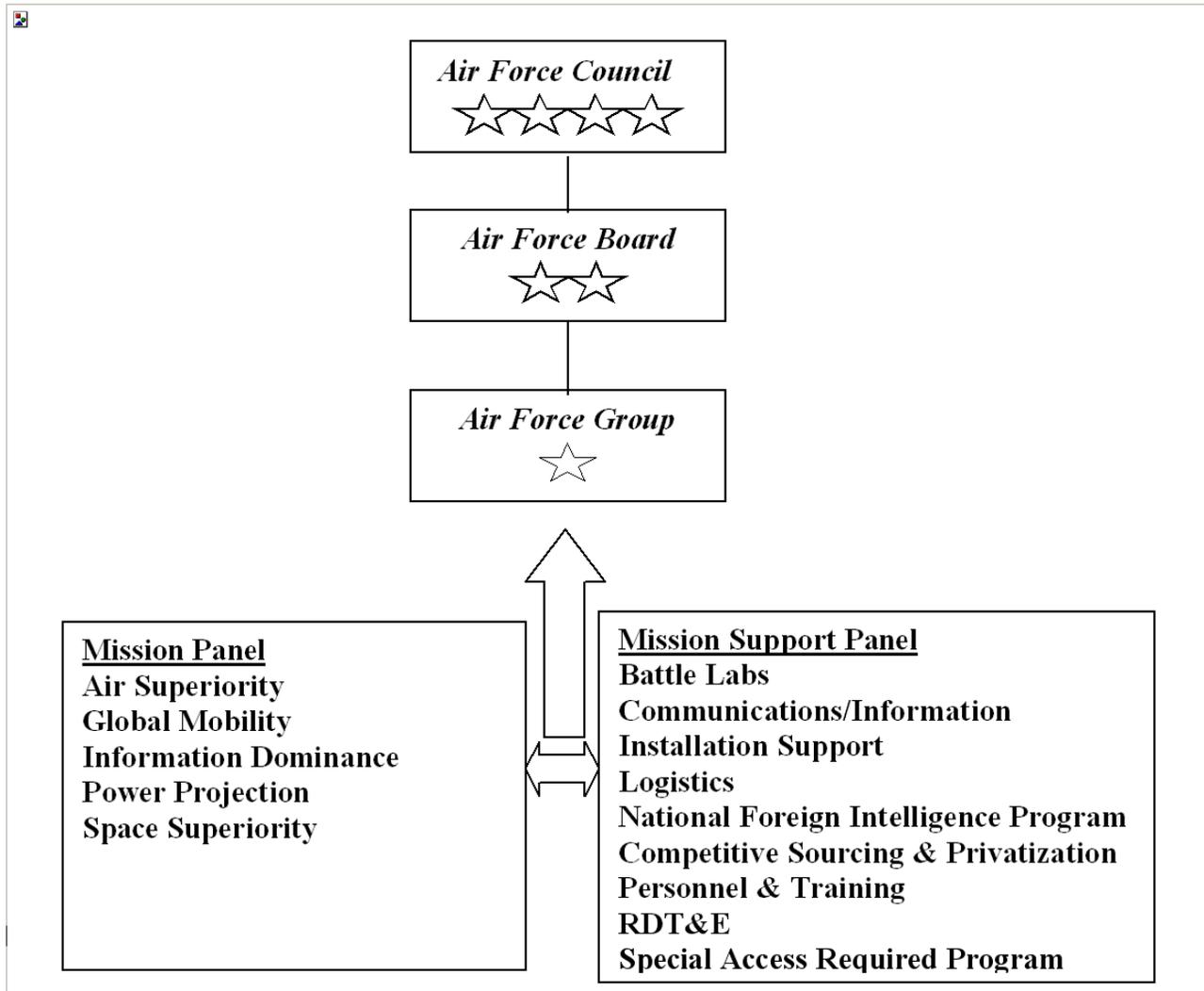
3.31.8.2. Use all available communication means.

3.31.8.3. The Air Force Public Affairs department can be a helpful partner and provide assistance in the dissemination of the information.

3.31.9. All functional managers will seek corporate structure review and approval for required funding levels upon completion of the Seven-Phase Approach review of their processes. Per the Annual Planning and Programming Guidance, Air Staff functional managers, in partnership with AFMIA or applicable MAJCOM/XPM (for MAJCOM studies), will brief AFCS on the results of their efforts. The following paragraphs state the purpose and make-up of the AFCS. **Figure 3.21.** depicts the organizational structure of the AFCS.

3.32. The Air Force Corporate Structure (AFCS). This portion addresses the details to provide an in-depth understanding of the key players, organization, relationships, and processes of the AFCS.

Figure 3.21. The Air Force Corporate Structure.



3.32.1. Panels. The five Mission and nine Mission Support Panels (see [Figure 3.20.](#)) are the Air Force centers of expertise for their areas, and they are the first level of corporate deliberation in the AFCS. The primary purpose of the Panels is to support the resource allocation program. The Panels serve as the initial point of entry for issues from the Program Element Monitor, Integrated Process Teams (IPTs), MAJCOMs, DRUs, and FOAs which require corporate review. The applicable panel will normally be the initial entry into the AFCS for MAJCOM-unique requirements/reengineered studies.

3.32.2. The Air Force Group (AFG). The AFG provides senior-level resolution of resource allocation and other issues prior to Air Force Board (AFB) review and is normally the level Air Force manpower study results will enter the AFCS process. The AFG develops the overall integrated Air Force program for submission to the AFB. The AFG reviews issues submitted by the Program Objective Memorandum Panels and IPT and forwards significant issues to the AFB. The AFG is the first level of the corporate structure that integrates Air Force mission areas into a balanced Air Force program. The

AFG Chair presents the integrated program to the AFB for refinement. The HQ USAF/XPP Deputy chairs the AFG. AFG membership includes Colonel/civilian equivalent membership from the same functional areas as the AFB. **Figure 3.22.** depicts the members of the AFG.

Figure 3.22. The Air Force Group.

FMBP	SN	AQX	MI	XPXS	XPMP	XOII	XORI
IAX	LL	GCA	AAX	SCXR	DPPR	REX	NGB
SXP	PA	AG	IGX	TER	ILEP	ILS	ILVF
AFAA/ DO	SFX	JA	SGM	HC			

3.32.2.1. The AFG is the entry point to bring proposals and issues into the AFCS for review. To come to the AFG, either a Panel Chair or AFG member must normally sponsor an issue. Again this is the level most Air Force studies will enter the Corporate Process.

3.32.2.2. The AFG oversees all programming activities enroute to the AFB. It receives information briefings needed to analyze programs and develop alternatives and forwards significant and critical issues for AFB/AFC review and deliberation. The AFG provides Panels and IPTs with feedback and guidance on their activities. The AFG meets at the discretion of the AFG Chair for the following purposes:

3.32.2.2.1. Review program options for compliance with Air Force guidance.

3.32.2.2.2. Validate cost.

3.32.2.2.3. Schedule and completeness of program options.

3.32.2.2.4. Develop new options as needed.

3.32.2.2.5. Entertain new initiatives to meet core competencies or requirements.

3.32.2.2.6. Receive briefings as necessary to make informed decisions on Air Force programs.

3.32.3. The AFB. The AFB provides flag-level (2-star and civilian equivalent) review of resource allocation and other issues. The AFB reviews issues submitted by the AFG. The AFB directs the focus of the AFG in resolving issues and refines AFG-developed integrated programs for submission to the AFC. Topics brought before the AFB should be limited to important matters requiring corporate consideration and resolution. The AFB is chaired by HQ USAF/XPP except for purposes of budget formulation and execution. **Figure 3.23.** depicts the AFB members.

Figure 3.23. The Air Force Board.

FMB	SN&SX	AQX	MII	XPX	XPM	XOI	XOR
IA	LL	GCA	AAO	SC	DPP	RE	NGB
PA	AG	IG	AFAA/ DO	TE	ILE	ILS	ILV
				SF	JA	SG	HC

3.32.4. The Air Force Council (AFC). The AFC provides DCS and Assistant Secretariat level and selected Directorate level cross-functional review of resource allocation and other issues. The AFC reviews and evaluates programs and issues, guides corporate processes, coordinates functional interests, and tasks the other members of the AFCS. It is the final AFCS body and makes recommendations to the CSAF and SECDEF. The AFC chair is the Air Force Vice Chief of Staff (AF/CV). **Figure 3.24.** depicts the two-digit members of the AFC.

Figure 3.24. The Air Force Council.

FM	SN	AQ	MI	XP	DP	XO	IL
IA	SB	GC	AA	SC	RE	NGB	TE
SX	LL	AG	IG	JA	HC	SG	ST
PA	SE	SF	HO	SB			

3.32.5. Integrated Process Teams (IPTs). The IPTs comprise the multifunctional working-level infrastructure and information network that supports both the AFCS as well as the functional staff. IPTs bring together functional expertise into a cross-functional team as the single point of contact for a specific program, process, or issue that requires corporate review. IPTs develop and recommend options for a designated program, process, or issue based on corporate guidance. IPTs apply functional expertise to corporate problems, maintain a knowledge base of the issues, and advise functional chain issues/resolution options as they develop. The ultimate goals of IPTs in the AFCS are to improve communication across the staff, develop a “single face” or POC for our customers, and institutionalize a corporate approach to decision making throughout the Air Force.

Section 3H—Implementation—Phase 7

3.33. General Concepts. How does one implement a new process or processes? There is no text book answer. Several things impact implementation, including money. Does the new process require new equipment (which spawns new training)? If new equipment is involved, it will have to be budgeted for. Implementing the new process will take time. This phase is the longest of the seven to complete. All the affected players, i.e., employees, customers, and stakeholders, must go through the initial growing pains of adjusting to the new process. The following are steps towards implementation:

3.33.1. Implementation Objectives.

3.33.1.1. Functional is postured to implement change.

3.33.1.2. Functional recognizes importance of continuous communication on implementation.

3.33.1.3. Functional has effective performance measures in place.

3.33.1.4. Develop manpower determinant for new processes.

3.33.2. Posture Project team to Implement.

3.33.2.1. This activity will require the consultation team to provide advice, fine tune processes and costs, and recommend sources to address implementation issues.

- 3.33.2.2. Actions may vary from coordination to personnel actions, facilities, training, timelines, reorganization actions, budget, technological integration, future processes, resources, etc.
- 3.33.3. Extend or Revise Communication Plan.
 - 3.33.3.1. Helps satisfy people's need to understand what expectations are.
 - 3.33.3.2. Feedback helps prevent bottlenecks.
 - 3.33.3.3. Communicates changes for contingencies.
- 3.33.4. Institutionalize Performance Measures.
 - 3.33.4.1. Product or service oriented/customer focused.
 - 3.33.4.2. Standards and stretch goals established.
 - 3.33.4.3. Reporting and feedback mechanisms in place.
- 3.33.5. Finalize/Update Manpower Standard(s)/Variance(s).
 - 3.33.5.1. Process oriented.
 - 3.33.5.2. Rooted in mission essential task lists.
 - 3.33.5.3. Programmable workload factor?
- 3.33.6. Share Results/Benchmarks. Provide project results throughout the Air Force and the lessons learned database (best practices database).
- 3.33.7. Be Prepared for Counter-implementation Tactics.
 - 3.33.7.1. Passive resistance (verbal agreement but with no action)
 - 3.33.7.2. Diverting promised resources away from the project.
 - 3.33.7.3. Cooperating, but with the wrong information.
 - 3.33.7.4. Exaggerating minor technical issues.
 - 3.33.7.5. Not showing up for meetings.
 - 3.33.7.6. Spreading rumors.

3.34. Plan to Implement. After going through the time-consuming process of improving your function's activities, you would expect the function to run smoother, demand fewer resources, and allow you to provide world-class service to your customers. After all you did go out to the "Best in Class" organizations in government and the private sector and model the way their processes were designed. So, should not your function be world-class? Maybe not!

- 3.34.1. Even though you have followed all of the steps of the Seven-Phase Approach and you have really improved your processes, there may be a problem achieving savings or gaining the efficiencies you were expecting.
- 3.34.2. One of the biggest reasons why some process improvement projects do not achieve the level of success the organization expects deals with the issue of organization culture. You can have the most efficient process in the world, on paper or in a model, and still not have a "world-class" operation. We must remember that people have to execute the plans, perform the activities, and provide the interface

to the customer. If you have left out of the improvement process a plan on how to change the behavior of the human resource, your project will not succeed.

3.34.3. Culture change does not come only as a result of a change in the system. It comes as a result of consistent (incremental) change in the way a person feels about that system. Human beings must see that there is less pain and more pleasure (benefit) associated with the changing with than not changing.

3.34.4. When an organization is planning a change of any kind that will affect the day-to-day activities of people, the relationship between pain (emotional cost) and pleasure (benefit to the individual) in a person's mind must be considered. Human beings are stimulated (or held back) based on their association of personal benefit or personal cost to a change in their environment. As a person is faced with change, he will evaluate or question whether or not making the change will cost a great deal in emotional stability or provide a great deal of personal benefit. It is this relationship that determines real, lasting change in a person.

3.34.5. Before we go any further, let's define what we mean by pain and pleasure in the context of organizational culture. Everything we as human beings do in our daily lives is based on two things: our avoidance of pain or our quest for pleasure. What do we mean? Pain is the feeling of dread a person feels when faced with a new situation. Pleasure, on the other hand, is the benefit or sense of accomplishment, satisfaction, contentment, or happiness a person feels as a result of being in the situation they are in.

3.35. Reactions to Change.

3.35.1. Shock. Once a change has been announced, usually the first reaction people have is to meet the change with a sense of shock. They ask themselves, "Where did this come from?", "What is going on?", "I did not know anything about this!", or "This is not what I agreed to!"

3.35.2. Anger. After you have gotten over the shock of the new situation, most people, if they view the change as a negative impact on their personal situation, become very angry. Many times they will begin a process of looking for the person or persons to blame. They may begin to talk about the new situation in very negative terms, such as, "It will not work!" or "I'm not going to support this!" This anger, if not addressed, may lead to some people trying to sabotage the change process.

3.35.3. Denial. This phase is a little harder to define. Many people, depending on their basic values and beliefs, go directly from anger to the fourth phase, acceptance. However, there are a significant number of people who go through a denial phase, so it is necessary to show you what to look for. A person going through this phase will make up excuses why he should not be held accountable for anything that goes wrong with the organization as a result of the change. For example, he may make the excuse, "The change will never work because I have not been directly involved with the solution!" or "Do not blame me if it does not work!" These attempts to disassociate himself or herself from the new situation often cause the person to alienate himself or herself from the group.

3.35.4. Acceptance. Only after a person gets through the first phases can he/she truly begin to accept the change that is taking place. Once the person has accepted the change as real and that it is going to happen, he/she begins to rationalize their role in the new situation. It is extremely important for you to understand that people will go through each of these phases, in varying degrees, as they transition from the old way of doing business to the new. How we manage this transition period is the key.

3.35.5. What can we do to manage this transition? Change cannot be accomplished without the commitment and involvement of the organization's leaders. We have talked about how important leadership is in the Seven-Phase Approach. As we transition from an old way of doing business to a new way of doing business, leadership becomes the glue that will hold the organization together. Let's look at the role a leader should play during the change process. Leaders must have an assured (and unwaiverable) way of thinking about change.

3.35.5.1. They should have a "model" that will guide analysis of the situation and help them to formulate the process of change to be implemented. Leaders must have clear goals.

3.35.5.2. They must have a clear idea of what results the change will generate.

3.35.5.2.1. Leaders should initiate change at the point where they have the most control and can make reliable predictions about the consequences of their actions.

3.35.5.2.2. Leaders should recognize that change in any one part of the situation affects the whole.

3.35.5.2.3. They must be alert for unanticipated consequences of their actions.

3.35.5.3. The most important task of a leader is creating the climate that is conducive to the change being attempted. An emotional atmosphere in which people feel that the leader is empathetic and nonjudgmental toward the employees and their needs is a climate in which people will be more open about their needs and a climate in which people will be more open about their feelings and resistance.

3.35.6. Implementation Strategies. Change is itself a process and must be treated as such. An organization cannot expect people to change the way they have done things for years overnight. Change is not something that should be taken lightly. It is complex and, if managed properly, can be very beneficial to the employees and the organization as a whole.

3.35.6.1. Proper management of the transition of people through the process of change is critical to the success of the new system. There are three aspects to the transition of people through change.

3.35.6.1.1. Discontinuation of the old way of doing business. The first aspect of the transition is the discontinuation of the old way of doing business. This sounds simple, but it is not. It is during this part of the transition that many of the reactions to the change are experienced. So how do you get people to give up the old way?

3.35.6.1.1.1. Identify who is losing what.

3.35.6.1.1.2. Accept the reality and importance of subjective losses.

3.35.6.1.1.3. Don't be surprised at overreaction.

3.35.6.1.1.4. Acknowledge losses openly and sympathetically.

3.35.6.1.1.5. Expect and accept signs of grieving. Do everything possible to restore people's sense of having some control over their situation.

3.35.6.1.1.6. Compensate for losses.

3.35.6.1.1.7. Give people information-- over and over again.

3.35.6.1.1.8. Define what is over and what isn't.

3.35.6.1.1.9. Avoid dragging it out -- whatever must end, must end.

3.35.6.1.2. Migration. Migration is the in-between part of the transition. You have let go of the old way but you have not quite gotten to the point of fully grasping the new way. It is like being on a trapeze. As you let go of the first trapeze there is a moment before the other trapeze gets to you. It is during that time that you have nothing to hold on to. It is also during that time that many questions may go through the trapeze artist's mind, things like, "Was this a wise thing to do?" or "Will I be able to catch the other trapeze?" This can be a very difficult time, yet it can be a very innovative and creative time. Some things to look for:

3.35.6.1.2.1. Anxiety/absenteeism/old weaknesses and wounds emerge.

3.35.6.1.2.2. People are overloaded; systems are unreliable; signals get mixed.

3.35.6.1.2.3. Teamwork is undermined; people take sides; old way/new way.

3.35.6.1.2.4. Organizations and people are vulnerable to attacks from outside--defenses are weakened.

3.35.6.1.2.5. The way to get through this phase is to:

3.35.6.1.2.5.1. Recognize this behavior is "normal" and expected.

3.35.6.1.2.5.2. Create temporary systems or ways to deal with this period.

3.35.6.1.2.5.3. Protect your people.

3.35.6.1.2.5.4. Review policies and regulations. Make sure they are flexible enough to deal with the changes taking place.

3.35.6.1.2.5.5. Strengthen and encourage intra-group connections.

3.35.6.1.2.5.6. Communicate, keep the people informed. Be open and honest about the affects of changes being made.

3.35.6.1.3. Starting the new way of doing business.

3.35.6.1.3.1. This part of the transition is very important in that it is here that you solidify the changes the organization has made. It is here that lasting change takes place. How do I reinforce this new beginning?

3.35.6.1.3.1.1. Be consistent. Be careful of conflicting messages. Walk the talk.

3.35.6.1.3.1.2. Ensure quick success.

3.35.6.1.3.1.3. Symbolize the new identity.

3.35.6.1.3.1.4. Celebrate the success.

3.35.6.1.3.2. Each of these ideas can be used to reinforce the new behaviors, thus, reinforcing the new processes or ways of doing business.

3.35.6.1.3.3. These are only a few ideas on how to manage the transition of change in your organization. It is important to note that there are many schools of thought on this subject but all have a common theme--open and honest communication is essential throughout the transition.

Chapter 4

SEVEN-PHASE APPROACH CRITERIA DELIVERABLES

4.1. General Concepts. This criteria is developed as a means to support the assumptions/conclusions in the validation process regardless of who performs the study, (e.g., In-house or Contractor). It is an advantage to use the criteria as a guide when performing projects using the Seven-Phase Approach.

4.2. The Criteria. Each of the areas listed below should be addressed in a study project. The detail required is dependent upon the complexity and scope of the project, and deliverable products may combine areas as deemed appropriate for each study. If the project does not include/cover an element, an attempt should be made to explain why the element was not addressed and the impact of its absence on the overall reengineering effort. Forward rationale for non-inclusion to HQ USAF/XPMR, with info copy to AFMIA/MIR.

Figure 4.1. Seven-Phase Criteria

- | |
|--|
| <ul style="list-style-type: none">1. CASE FOR ACTION<ul style="list-style-type: none">1.1. Issues driving project1.2. Assumptions1.3. Known resource constraints1.4. Coordinated by Air Staff functional manager1.5. Published by senior functional manager (eg MAJCOM)2. PROJECT PLAN<ul style="list-style-type: none">2.1. Milestones (e.g. As-Is, Study Plan, To-Be, Staffing, Manpower Standard)2.2. Project team composition2.3. Roles and responsibilities of members3. BASELINE DETERMINATION<ul style="list-style-type: none">3.1. Mission3.2. Organization structure3.3. Quantify products/services3.4. Document key processes3.5. Management resources<ul style="list-style-type: none">3.5.1. Identify management resources3.5.2. Link management resources to processes3.6. Performance measures (if available)<ul style="list-style-type: none">3.6.1. Identify performance measures3.6.2. Identify current level of performance (process efficiency & effectiveness)3.7. Identify data sources for 3.1. through 3.6.4. ENVIRONMENTAL SCAN<ul style="list-style-type: none">4.1. Future internal/external environment (i.e. Strengths, Weaknesses, Opportunities, & Threats)4.2. Future customer requirements (products/services) |
|--|

4.3. Identify data sources for 4.1. and 4.2.

5. OPTIONS/INITIATIVES

- 5.1. Propose options and/or initiatives based on research of internal/external best practices for addressing all major issues identified
- 5.2. Identify benefits/resource costs and savings associated with adopting each option/initiative.
- 5.1. Include data sources for determining benefits, costs and savings.

6. FUTURE STATE PROPOSAL

- 6.1. Provide proposed mission statement
- 6.2. Identify proposed products and/or services
- 6.3. Identify proposed processes
- 6.4. Provide a proposed organization chart
- 6.5. Link resources to processes
- 6.6. Notional management resources required (i.e. manpower, facilities, equipment) based on a clear, defensible link between baseline requirements and selected options/initiatives
- 6.7. Identify performance measures and establish performance goals
- 6.8. Identify new technology required to achieve future state
- 6.9. Prioritize products/services and associated resources for review by the Air Force Corporate Structure (or MAJCOM equivalent for MAJCOM unique functions)
- 6.10. Include sources and data used to determine future state resource requirements and performance goals

7. IMPLEMENTATION PLAN

- 7.1. Identify major activities, timeline and costs to transition to future state
- 7.2. Include sources and data used to determine future state resource requirements and performance goals

8. MANPOWER DETERMINANT (Determinant should be developed to support the future state. A “notional” determinant should be applied to allow projection and programming of anticipated future manpower changes. Six to twelve months after the “to be” state is implemented, the manpower determinant should be fine tuned and reapplied to finalize the manpower impacts.)

- 8.1. Performance measures and associated performance levels (of service) that manpower requirement is based on.
- 8.2. Process oriented description that identifies processes performed by workcenter and tasks involved in performing each process.
- 8.3. Manpower table identifying requirements by AFSC and grade.
- 8.4. Tool (model or formula) for determining requirements based on varying levels of workload.
 - 8.4.1. If applicable, software that implements model/tool.
- 8.5. Data used to develop the tool.
- 8.6. Statement of conditions.
- 8.7. Applicability statement.
- 8.8. Application instructions.
- 8.9. Impact application against all applicable locations.

SIGNATURE BLOCK

4.3. Forms Prescribed:

- 4.3.1. AF Form 1040, **Operational Audit Data.**
- 4.3.2. AF Form 1068, **Work Center Analysis Record.**
- 4.3.3. AF Form 1113, **Standard Manpower Table.**

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DCS/Plans and Programs

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

NOTE: The user of this instruction is responsible for verifying the currency of the cited documents.

AF Computer Systems Manual 38-142

AFPD 10-1, Mission Directives

AFI 10-401, Operation Plan and Concept Plan Development and Implementation

AFI 21-101, Air Force Aircraft and Equipment Management

AFI 31-401, Information Security Program Management

AFI 36-205, Equal Employment Opportunity (EEO) and Affirmative Employment Programs (AEP)

AFI 36-701, Labor-Management Relations

AFI 36-805, Overtime Work and Holiday Observance

AFI 36-808, Absence and Leave

AFMAN 36-2105, Officer Classification

AFMAN 36-2108, Airman Classification

AFI 36-2202, Managing and Conducting Military Training Programs

AFI 36-2601, Air Force Personnel Survey Program

AFI 37-160V1, Air Force Publications and Forms Management Programs - Developing and Processing Publications

AFI 38-101, Air Force Organization

AFI 38-201, Determining Manpower Requirements

AFI 38-203, Commercial Activities Program

AFI 38-205, Wartime Manpower Planning and Programming

AFI 38-301, Productivity Enhancing Capital Investment Programs

ACCI 90-553, Standardizing Action Workout Improvements

Abbreviations and Acronyms

AFMS—Air Force Manpower Standard

AFS—Air Force specialty

AFSC—Air Force Specialty Code

MDS—Manpower Data System

CEM—chief enlisted manager

CME—contract manpower equivalent
CPG—career progression group
FAC—functional account code
FASCAP—Fast Payback Capital Investment
FOA—Field Operating Agency
LCOM—Logistics Composite Model
M&O—Manpower and Organization
MAF—man-hour availability factor
MOA—memorandum of agreement
MEO—most efficient organization
MEP—Management Engineering Program
MET—mission-essential tasks
MPF—Military Personnel Flight
MSDS—Manpower Standards Development System
NCO—Noncommissioned Officer
OA—Operational Audit
OPR—Office of Primary Responsibility
PAT—per accomplishment time
PCS—Permanent Change of Station
PEC—program element code
POD—process oriented description
POV—privately owned vehicle
PWLF—potential workload factor
PWS—Performance Work Statement
SOC—Statement of Conditions
SWOT—strengths, weaknesses, opportunities, and threats
UMD—Unit Manpower Document
WLF—workload factor
WS—work sampling

Terms

Benchmarking—The process of finding and adapting best practices to improve organizational performance.

Case for Change—Defining and articulating the reason for improvement(s).

Comparative Analysis—Evaluating performance difference and the magnitude of the difference between the project organization and the goal or target that's trying to be achieved.

Customers—Anyone for whom an organization or individual provides goods or services.

Environmental Scan—Looking for possible factors, technologies, or trends affecting the current or future organization/process or may affect the future organization/process.

Five Fronts—Organizational areas that interrelate and must be considered during any improvement project: organization/people, technology, policies, physical infrastructure, and the process.

Input—Products and/or services received from suppliers in order to perform a process.

Key Process—The major system level that supports the mission and satisfies major customer requirements.

Macro—A more holistic improvement effort often focusing on dramatic results.

Micro—Improvement efforts focused on a small organizational scope.

Mid-level—Improvement efforts involving more processes, may be restrictive to a function or a department.

Mission—The reason for an organization's existence.

Primary Research—Searching for information about a particular item using direct sources by making direct contact with the source.

Process—Linked activities with the purpose of producing a product or service for a customer. Typically involves a combination of people, machines, tools, techniques and materials in a systemic series of steps or actions.

Quick Win—Minor improvement options implemented without little or no coordination. Can be done in the As-Is phase.

Secondary Research—Searching for information about a particular subject using indirect sources such as books, newspapers, World Wide Web, etc.

Seven-Phase Approach—A guideline designed to be flexible and adaptable to organizational needs and study scope and not meant to be a restrictive and inflexible checklist.

SWOT Analysis—Strengths, Weaknesses, Opportunities, Threats. By examining strengths, a project team can discover untapped potential. By examining weaknesses, a project team can identify gaps in performance, vulnerabilities, and erroneous assumptions about their existing strategies. Strengths (what are we good at) and weaknesses (what are we not good at) are internal factors affecting a unit. The external opportunities and threats are the positive and negative characteristics of the external environment. Examples: Strength: Competitive Advantage; Weakness: Reduced Workforce; Opportunities: Increased taskings; Threat: Loss of primary mission.