

Federal Aviation Administration Logistics Center



2000 President's Quality Award Application

Looking for a better way  *The FAA Logistics Center*
A National Performance Review Reinvention Lab

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OVERVIEW OF THE FEDERAL AVIATION ADMINISTRATION LOGISTICS CENTER

1. BASIC ORGANIZATION DESCRIPTION

The Federal Aviation Administration Logistics Center (FAALC), a federal government organization, serves as the central supply repository and maintenance facility for the Federal Aviation Administration (FAA). Its primary mission is to provide supply support equipment and services to maintain operation of 54,000 National Airspace Systems (NAS), located at 28,000 facilities worldwide. Some of the systems supported include the air traffic control towers, radar systems, and runway lighting systems. The FAALC is also the central supply support facility responsible for providing parts support for 37 FAA owned aircraft used for Flight Inspections, Research, and Development. Currently, the FAALC provides supply support functions for the Mike Monroney Aeronautical Center (MMAC), FAA field facilities, certain Department of Defense (DOD), international organizations, and other government entities. The FAALC manages and stocks almost 100,000 different items including exchange and repair, electronic and mechanical items, expendable items, and test equipment. In addition, the FAALC provides engineering, repair, modification, and fabrication of items used in FAA ground facility systems. This includes in-house repair of items and on-site repair of FAA's long-range equipment.

Location and Size

The FAALC is located at the Mike Monroney Aeronautical Center (MMAC), Oklahoma City, Oklahoma. Two of the FAALC major structures are the Logistics Support Facilities (LSF) and the Thomas Road Facilities (TRF). The LSF is comprised of 15 acres of distribution and repair facilities under one roof, 17 acres of outdoor steel and cable storage, and a state-of-the-art hazardous material building. The TRF is comprised of 237,000 square feet of storage space.

Workforce Profile

The FAALC employs a multifaceted, diverse workforce of 652 full-time employees (FTE) responsible for providing logistics materiel and services to more than 28,000 NAS facilities

worldwide, as well as managing FAA's central inventories and distribution system.

The American Federation of Government Employees (AFGE) Local 2282 represents over 86% of the workforce. Our employees are well educated with over 44% having received from 1 to 4 years of college education, and over 20% have received a bachelor's degree or higher education.

The FAALC provides a safe work environment by proactively enforcing FAA and OSHA safety requirements.

Employee Occupations	Numbers
Engineering	33
Technicians	220
Administrative	73
Administrative Hourly	24
Supply	111
Distribution	34
Distribution Hourly	95
Programmer/Systems Analyst	31
Manager/Supervisor	31
Total	652

Employee Demographics	Percentage
Female	33.33%
Minorities	27.34%
Some High School	.05%
High School	23%
Some College (1 to 4 Years)	44%
Associates	10%
Bachelors	19%
Post Bachelors	1%
Masters	2%
Post Masters	.03%
Doctorate	.02%

FAALC Culture

On December 10, 1997, Vice-President Al Gore designated the FAALC as a National Reinvention Laboratory. The FAALC is proud to be so honored. As a reinvention laboratory, we are empowered to lead and set a pace for change

through experimenting with new processes and new ways of doing business. In 1999, the FAALC was featured at the Excellence in Government Conference and in several International Productivity and Quality Consortium conferences. *Government Executive* magazine highlighted FAALC initiatives twice this year. The FAALC Strategic Plan was featured in Ted Gaebler's latest book, "*Positive Outcomes, Raising the Bar on Government Performance.*" One of the highlights of our reinvention efforts is that the FAALC is now one of less than a dozen federal organizations with ISO 9000 certification.

We have incorporated our ideas, successes, and lessons learned in the form of a cookbook, "*A Taste of Reinvention Change Recipes from the Heartland*". We have shared it with numerous government and private organizations.

The FAALC Mission, Quality Policy, Goals, Major Markets, and Key Business Processes are presented in the following tables. They sum up our organizational policy and values.

FAALC MISSION

To provide comprehensive logistics services, product support, and information services for NAS and other valued customers.

The FAA Logistics Center accomplishes this mission by:

- Managing our customers' inventories.
- Ensuring reliable and cost-effective products.
- Providing distribution, packaging, storage, and transportation of the customers' assets.
- Providing automation in support of our customers' requirements.

FAALC QUALITY POLICY

"The FAA Logistics Center exists only to serve our customers, and we will give them only quality products and services. That's our promise!"

We are committed to these objectives:

1. 100% customer satisfaction.
2. 100% accuracy on all customer service shipments.
3. 100% on-time delivery.

4. Increasing skill levels of all employees.
5. Involving employees in workplace decisions.
6. Creating partnerships with our suppliers.

FAALC GOALS

- Customer: Ensure timely delivery; increase quality of items; improve technical support and customer service.
- Financial Stakeholder: Reduce costs; attain a clean financial statement; enhance role in National Airspace System decisions; ensure effective investment in new capabilities.
- Internal Business: Reduce cycle time; reduce number of defective items.
- Improve Customer Information Process: Improve product innovation and technology insertion; reduce rework.
- Learning and Innovation: Develop, train, and retain employees; align data systems to the way we work; enhance lowest level decision making; tie incentives to quality; increase employee satisfaction and productivity.

FAALC MAJOR MARKETS

CUSTOMERS	PRODUCT
FAA Air Traffic Services	Logistics support of NAS systems
FAA Aviation System Standards	Logistics support of FAA aircraft
DOD	Logistics support
International Governments	Certain logistics support
State and Local Governments	Certain logistics support

FAALC KEY BUSINESS PROCESSES

- Organic logistics support.
- Site depot services.
- Acquisition planning.
- Refurbishment.
- Repair of electronic equipment.
- Repair/manufacture of mechanical parts.
- Storage, transportation, and distribution

FAALC Organization Structure

The FAALC is comprised of six product divisions, a distribution center, and three systems support groups. The product divisions were recently reorganized to focus on customers' needs. The Business Systems Group (BSG) is responsible for identifying, establishing, and measuring financial management, business standards, marketing, and employee management programs. The Quality Systems Group (QSG) develops, implements, and manages the quality system and initiatives within the FAALC. The Information Systems Group (ISG) plans, develops, and supports implementation of the FAALC automated supply support systems. (See attached organizational chart.)

Major Equipment and Facilities

The LSF is the primary facility used to support the FAALC mission. Parts needed to support the FAA are received, stored, packaged, and shipped to our customers from the storage areas, which make up 75% of the building. The remaining 25% of the LSF is used for the repair of electronic and mechanical equipment. Major facilities are housed at the FAALC, such as an automated printed circuit card test and repair facility used in circuit board repair, and the machine shop used to fabricate and/or repair mechanical structures, such as radar antenna and radar drive trains. Test equipment includes various mock-ups of operating FAA air traffic control systems, such as navigation, landing, and weather systems. In some instances, actual radar systems are used to test-repaired units and components in a live environment to ensure that supplied parts are serviceable when delivered to our customers.

History of Quality Principles and Tools

Historically, the FAALC has relied upon accepted quality control practices and the use of Military Specifications. In the early 1990's, we started employing quality assurance practices and relying less upon quality inspections. In 1996, the decision was made to implement a quality management system based upon the ISO-9002 Standard. In 1998, the FAALC quality management system was certified as ISO-9002. This certified system is now the basis for our quality management. In 1999, the FAALC established the intent to utilize the Computer

Maturity Model (CMM) requirements in their software development. In 1999, the FAALC applied for the Oklahoma Quality Award (based upon the Malcolm Baldrige Criteria). The award process will not be completed until November 1999. The evaluation of our operation in accordance with the Malcolm Baldrige Award criteria, will serve to improve our system.

Parent Organization

The FAA employs approximately 48,600 personnel. The MMAC employs approximately 3,029. The FAALC, as a subsidiary of the MMAC, employs 652 full-time employees (FTE) and comprises approximately 21.5% of the MMAC workforce or 1.3% of the total FAA workforce.

Relationship of Products to Parent

The parent FAA procures new NAS equipment and determines who provides logistics support for that system.

Key Support Services Provided by Parent Organization

Key support services provided by the parent MMAC organization or by the FAA include:

- Payroll and T&A processing.
- Personnel functions.
- Basic security.
- Legal.
- Contract awarding and procurement.
- Benefit programs (Health, Thrift Savings, etc.).
- Recruiting.
- Employee health clinic.
- Buildings and structures.
- Utilities.
- Telephone contracts.

2. PRINCIPAL FACTORS DETERMINING PERFORMANCE SUCCESS

The following factors influence the future success of the FAALC and will affect the results shown in Category 7 (Results).

As a federal government organization, the FAALC complies with federal, state, and local laws, and is regulated by FAA regulations, policies, and standards. The organization operates

under stringent safety and environmental regulations and guidelines as specified by the Occupational Safety and Health Administration (OSHA), and the Environmental Protection Agency (EPA). The FAALC is operating under congressional budget constraints. Our ability to support aging National Airspace System equipment in a timely and cost effective manner is a key to our success. Currently, the law prohibits the FAALC from competing directly with the private sectors and thus limits our opportunity to market products and services to non-governmental customers. Converting to a *Fee-for-Service* organization and developing an expanded customer base are critical elements. Congressional involvement complicates this issue. The bottom line is: “Our ability to meet our customers’ demands for the timely delivery of quality products is a major key to our continued success”.

3. CUSTOMER AND MARKET REQUIREMENTS

The FAALC meets key customer and market requirements by providing logistics support to other government organizations with quality products that work the first time, are delivered on-time, are provided at low cost to the buyer, and provide quality services that are highly responsive to the customers’ needs. The FAALC’s customers are government organizations. The parent FAA procures new NAS equipment and determines who provides logistics support for that system. If the FAALC is selected to supply logistics support, we have a captive customer base.

The FAA Aviation System Standards organization selects providers for replacement aircraft parts. This is a voluntary customer. They expect a part to be delivered within four hours after requisitioning it. A documented partnership between the FAALC, Acquisition Support (AMQ-100) (our purchasing partner), and the Aviation System Standard operations is in place. These organizations share common goals and facilities.

Agreements with the DOD, foreign, state, and local governments for logistics support are developed and controlled by the parent FAA.

These are voluntary customers. Our basis for selection by the FAA to provide National Airspace System and other federal organizations logistics support is our competitive edge derived from our rapid response time, the quality of our products, and the services we offer.

Partnerships with Customers

The FAALC has formed several partnerships with our customers to provide special opportunities for attaining our key strategic goals of customer satisfaction and fast response to customers’ needs. In the past, partnerships existed with the FAA New England Region, the FAA Southwest Region, and the FAA Alaskan Region. These partnerships with our customers provided a needed feedback forum. These partnerships are being replaced with FAALC Customer Service Representatives who periodically visit FAA field customers. The FAALC staffs a Customer Care Center providing one-stop customer shopping 24 hours per day, 7 days per week in order to assist customers in obtaining the product and/or services required.

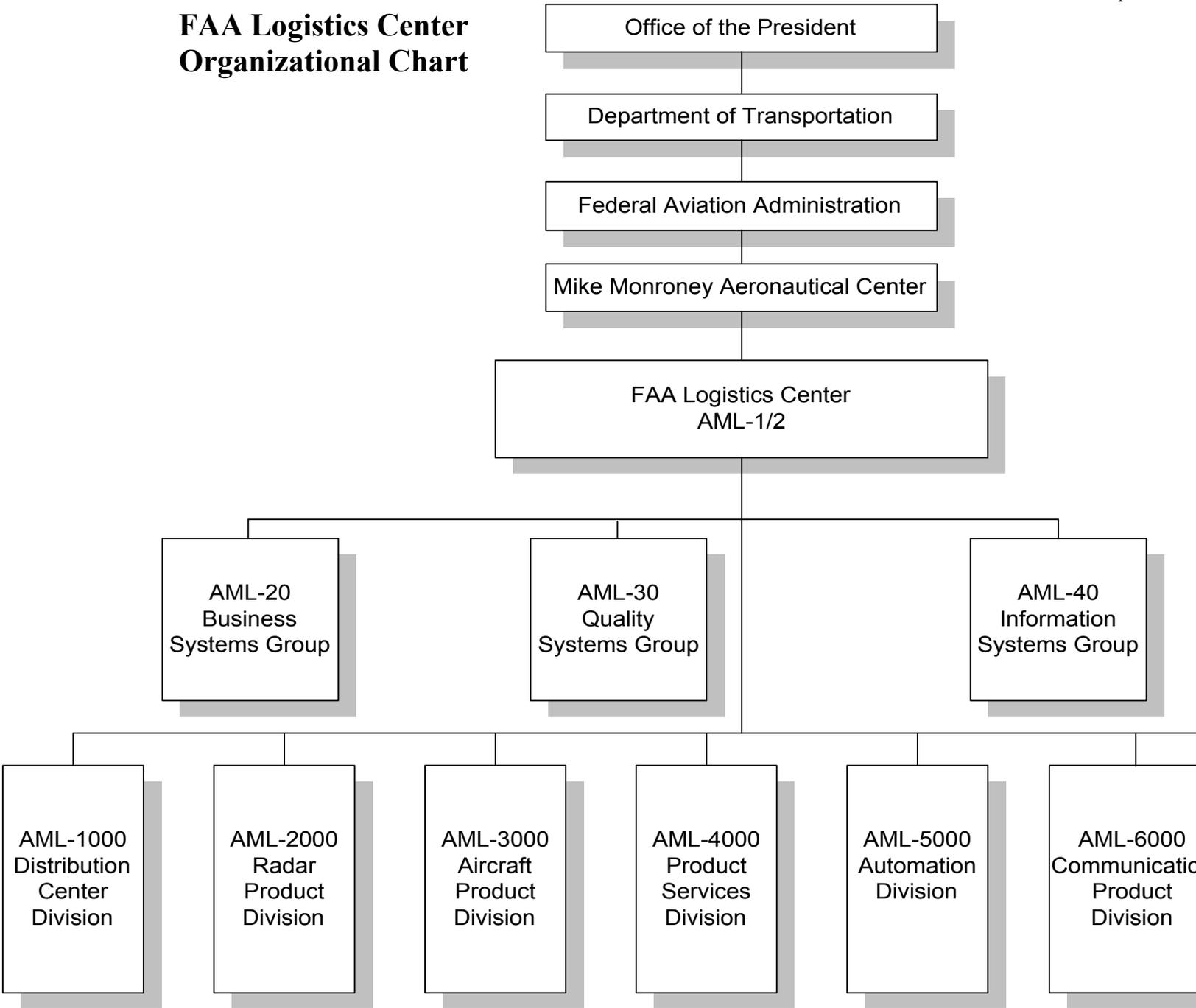
4. SUPPLIER AND PARTNERING RELATIONSHIPS

The FAALC does business with approximately 4,000 vendors in maintaining an inventory of approximately 100,000 different items. Vendors supplying critical electronic components are the most important. Partnerships with vendors are limited by regulatory restrictions. All vendors of the public sector must have equal opportunity to gain FAALC business. As a business policy, a certain portion of our purchases are set aside for small or minority-owned businesses.

5. OTHER STRATEGIC FACTORS

One of our strategic plan initiatives is to transition to *Fee-for-Service* practices. The FAALC is committed to “raising the bar” on government performance and is exporting our capabilities and initiatives. We have assisted FAA acquisition, MMAC acquisition, and Tinker Air Force Base in obtaining their ISO-9000 certification. The FAALC co-funded the Department of Transportation’s (DOT) membership in the American Benchmarking Consortium. 

FAA Logistics Center Organizational Chart



GLOSSARY OF TERMS AND ABBREVIATIONS

ABBR EVIATI ON	MEANING
AFGE	American Federation of Government Employees
AMQ - 100	The MMAC aircraft parts procurement organization
BSG	Business Systems Group
CAT	Customer Advocacy Team
CCC	Customer Care Center
CMD	Center for Management Development
CDLS	Contract Depot Level Support
CSA	Customer Service Action
DAFIS	Departmental Accounting & Financial Information System
DLA	Defense Logistics Agency
DOD	Department of Defense
E&R	Exchange and Repair
EAP	Employee Assistance Program
EAS	Employee Attitude Survey
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAALC	Federal Aviation Administration Logistics Center
FQCG	Federal Quality Consulting Group
FTE	Full Time Equivalent (Employee)
GPRA	Government and Performance Results Act
GSA	General Services Administration
HQ	FAA Headquarters
IDP	Individual Development Plan
IPI	Incremental Process Improvement
IPT	Integrated Product Team
ISG	Information Systems Group
ISO- 9002	An international Quality Management System Standard
LIS	Logistics Information System
LSF	Logistics Support Facility
MMAC	Mike Monroney Aeronautical Center
MRPS	Materials Requisition Planning System
MWE	Model Work Environment
NAS	National Airspace System
NASSEC	NAS Supply Support Executive Committee
NMOC	National Maintenance Operations Center
NOCC	National Operations Control Center

NPR	National Performance Review
NPRG	National Partnership for Reinventing Government
NWS	National Weather Service
OSHA	Occupational Safety and Health Administration
PAT	Process Action Team
PC&B	Personnel Costs and Benefits
PT	Product Team
QMS	Quality Management System
QSG	Quality Systems Group
RPD	Radar Product Division
T & A	Time and Attendance
TRF	Thomas Road Facility
Tulsa 27	The team that developed our mission, vision, values, and Strategic Plan
Y2K	Year 2000

1.0 LEADERSHIP

In 1993, the Clinton-Gore Administration laid the foundation to radically change the way the federal government conducts business. Vice-President Al Gore's National Partnership for Reinventing Government's (NPRG) report emphasized a government that costs less and operates more efficiently. In order to accomplish this, a variety of goals and objectives were established and implemented. These goals and objectives included creating a new culture and business-like environment throughout all levels of the federal government. Additionally, Congress passed the Government and Performance Results Act (GPRA) of 1993 which holds all government agencies accountable for achieving results. This Act placed uniform requirements on federal agencies for the establishment of strategic planning processes, including annual performance plans with measurable performance goals for each budgeted activity. (See Figures 1.1.3 and 2.1.1 for FAALC application.)

1.1 Organizational Leadership

The FAALC senior leaders decided to put customers and the flying public first by cutting unnecessary spending, serving customers and partners, empowering employees, helping communities solve their problems, and fostering excellence. The endeavor to become a world-class, customer-driven logistics organization has brought unprecedented challenges and opportunities to the organization.

1.1 a Senior Leadership Direction

Our commitment to succeed and set the pace for other government agencies is evident in our leadership team.

1.1 a (1) Setting, Communicating, and Deploying Organizational Values, Performance Expectations, and Focus on Balancing Values for all Stakeholders

The FAALC leadership system is illustrated in Figure 1.1.1. This graphic depicts most of the variables within our leadership system. The

triangle indicates the three sources of energy surrounding the system. The customer is at the apex of the figure, indicating the overall focus of our organization. The two points that form the foundation of the figure are management and the skilled workforce, indicating the stability of our work is based on full partnership between these two entities within the organization. In the middle, the major parts of the leadership system operate in a fluid, changing, overlapping environment; the arrows indicate our anticipation of movement, adjustment, and refinement of our work activities and products. The core of the figure is the source of the central direction of the organization within the framework of all the other variables in the system.

The FAALC leadership system consists of a team headed by the Program Director and Deputy Program Director. This team is composed of the senior managers, various committees, and special task groups who assist in the decision-making process. (See Figure 1.1.1.)

The senior leadership team recently led employees in changing the overall organizational culture from a traditional hierarchical base to a best business practice team based structure. Employee innovation is encouraged through extensive use of cross-functional teams. Extensive training on team formation and operation has been provided employees as the FAALC transitioned to a team based structure.

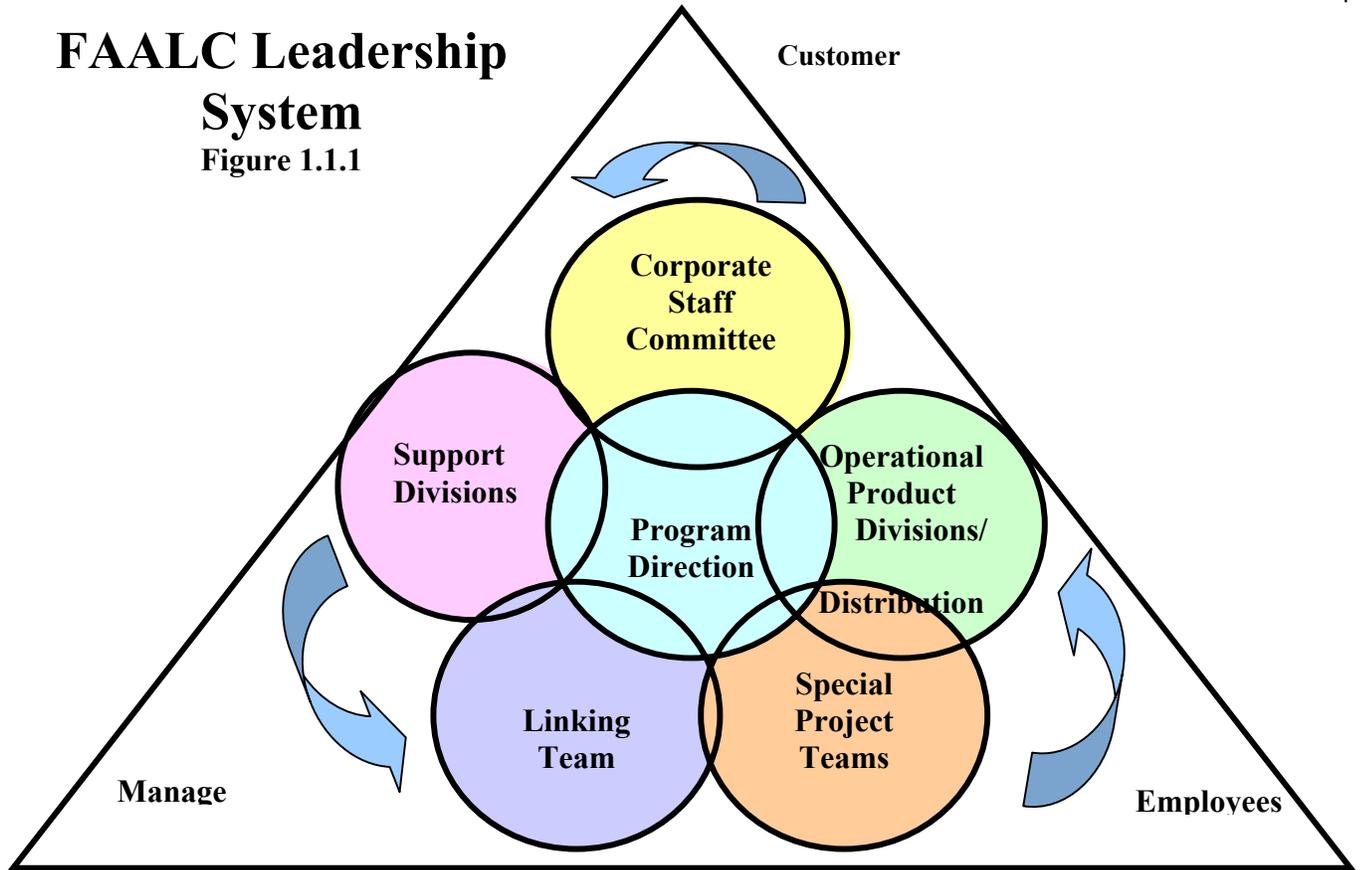
The Program Director and senior leadership team realized there were compelling reasons to make this change. They recognized that in order to change successfully, a customer-driven

foundation needed to be established and a vision needed to be created and communicated. Most importantly senior leaders recognized the need in spending time with employees building trust, demonstrating commitment, and explaining the dire need for change.

The organization's values provide the principles and basis for all organizational actions. These values are a reflection of the cultural pyramid as described by employees and managers during "Creating A Customer-Driven FAALC Training". All FAALC employees attended this training. In order to ensure that employees were able to draw reinforcement from the training, the cultural pyramids from all sessions (135 groups) were compiled, published, and given to each employee. The values are shown in Figure 1.1.2.

FAALC Leadership System

Figure 1.1.1



Program Director
 Deputy Program Director
 Provide program direction, leadership, motivation, and enthusiasm. Additionally,

Corporate Staff Committee
 Sets standards, policy, and procedures. Prioritizes actions consistent with corporate goals.

Program Director
 Deputy Program Director
 Manager, Business Systems Group
 Assistant Manager/Financial Officer, Business Systems Group
 Manager, Quality Systems Group
 Manager, Information Systems Group

Special Project Teams
 Perform functions as defined in their charter.

Strategic Planning Team
 Franchise Fund Team

Operational Product Divisions
 Define broad corporate goals into specification plans.

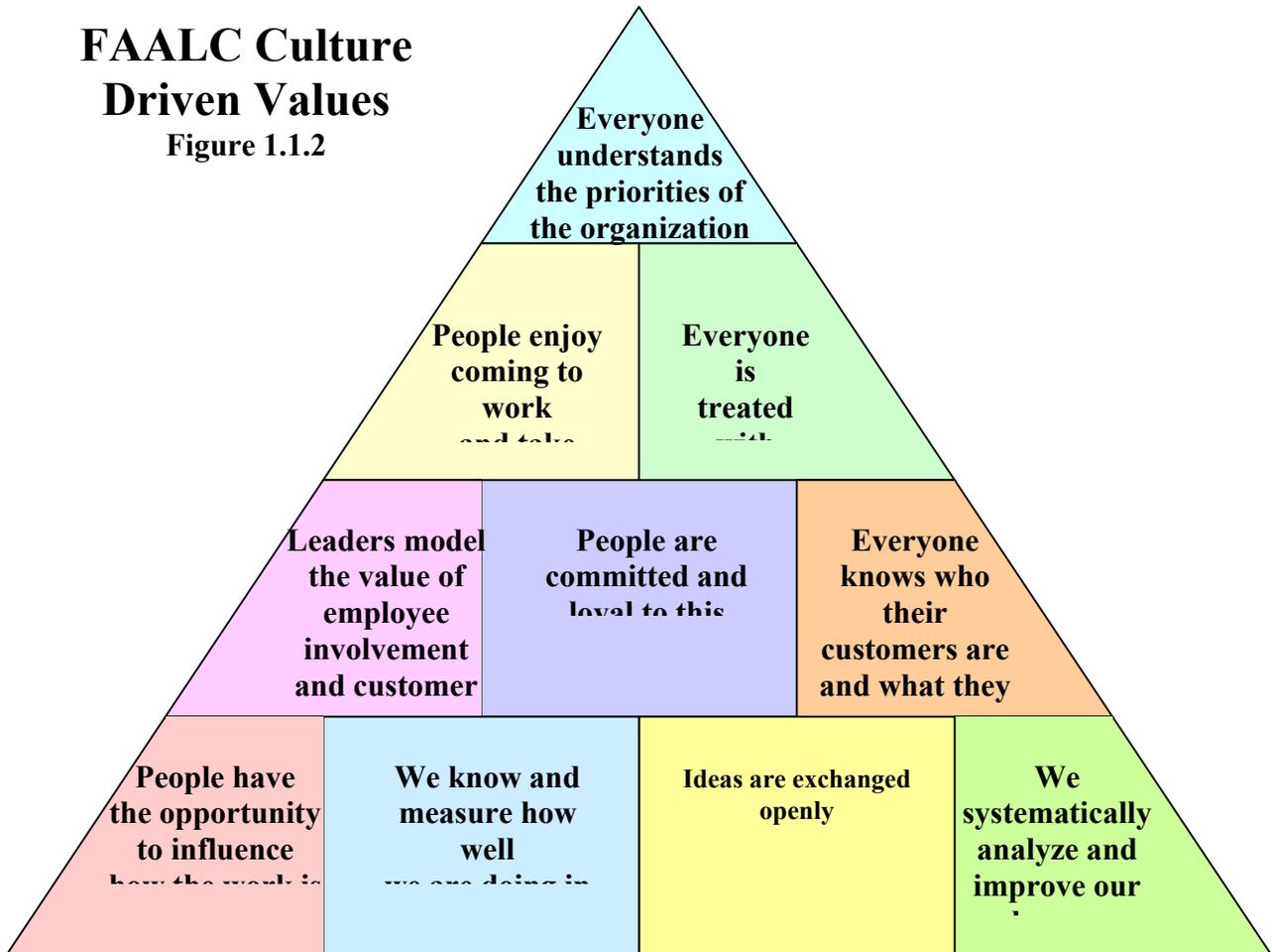
Cross-functional groups aligned along product lines:
 Radar Product Division
 Aircraft Product Division
 Product Services Division
 Automation Product Division
 Communications Product Division

Linking Team
 Uses collective process with active participation from all levels of the organization to provide strategies and decision making processes at functional level day-to-day operations.

Support Divisions
 Assist Corporate Staff & Operational Divisions achieve Strategic Goals.
 Business Systems Group

FAALC Culture Driven Values

Figure 1.1.2



Development of the mission, quality policy, and quality objectives were employee led and remain focused on our customers.

1.1 a (2) An Environment for Empowerment and Learning

The team structure of the organization fosters an environment of employee empowerment and learning. Our ISO-9002 quality management system requires that employee training needs be identified and training provided. The FAALC accomplishes this through the use of competency models, job task analyses, and supervisory appraisal of training needs. Training budgets for critical training needs are formulated. (See categories 5 and 7 for more details.)

1.1 a (3) Seeking Future Opportunities

The FAALC Leadership seeks future opportunities. This search has produced extensive plans for converting to a *Fee-for-Service* organization. A business plan "*Franchise Fund for FAA Material*" and a "*Design and Implementation Plan*" were developed in 1998,

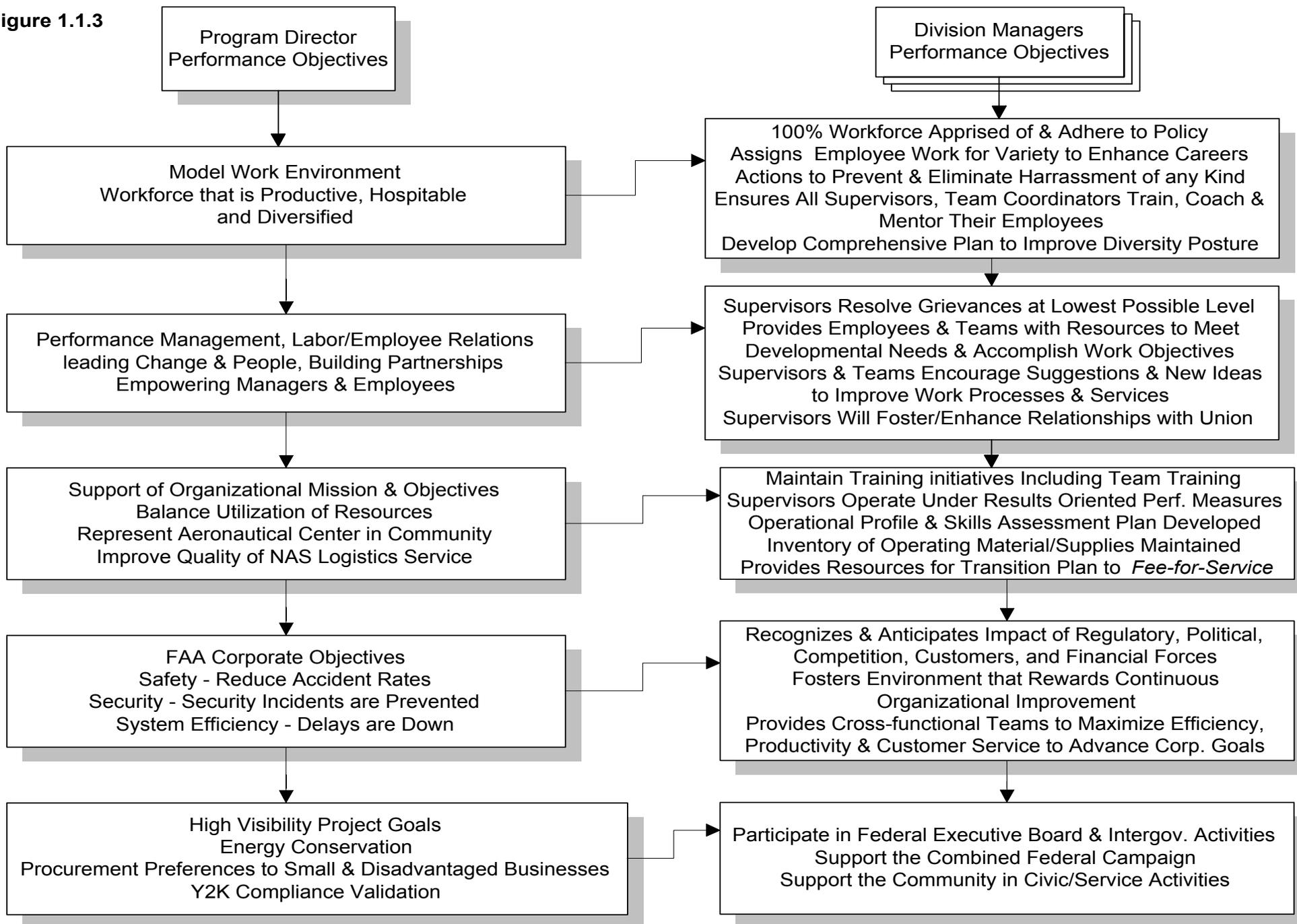
and identifies how the FAALC will convert to this structure in October of 1999.

1.1 b Organizational Performance Review

The FAALC Strategic Plan identifies a balanced scorecard, and establishes measures to ensure all stakeholders' concerns are addressed. (See category 2 for a discussion of the Strategic Plan.)

Strategic performance objectives link directly to leadership's performance expectations. The Program Director's performance objectives link directly to congressional mandates and FAA strategic goals and objectives. The Program Director's performance objectives cascade down to senior leadership and supervisory levels. Leadership team members are evaluated against these objectives to determine individual performance during the rating period. (See Figure 1.1.3.)

Figure 1.1.3



1.1 b (1) How Senior Leaders Review Organizational Performance and Capabilities

Key performance measures are reviewed during an annual ISO-9002 Quality Management review and in quarterly program reviews. Category 4 contains a complete list of key measures.

The Program Director and senior leadership team remain customer focused through the use of information sharing forums such as National Maintenance Operations Center (NMOC) Telecons and NAS Support Executive Committee (NASSEC) meetings, customer surveys, and customer service representative feedback. These forums are discussed in Categories 2, 3, and 7.

1.1 b (2) Translating Review Findings into Priorities for Improvement

The key performance measures relate to measuring our progress towards being a customer-driven organization. The management team actively participates in such reviews and identifies and prioritizes opportunities for improvement, innovation, and reinvention. Action items are assigned which often result in the formation of a cross-functional team to develop and implement improvement plans.

1.1 b (3) Key Recent Performance Review Findings

Our most recent reviews have shown the most critical item relates to converting to a *Fee-for-Service* organization. Documented studies and plans support this decision. These studies include an extensive search for new customers within the scope of our allowable operations. Customers are receiving briefings on the effects of a *Fee-for-Service* through our customer service organization. Employees are informed through a variety of briefings and meetings. The plan for *Fee-for-Service* is available for review on the Intranet. The FAALC has established an extensive home page for our Intranet web site. Linkages are available to such things as our Quality Manual, Quality Procedures, Work Instructions, Safety Committee meeting minutes, reinvention lab documentation, and many other subjects. The Intranet is a major factor in keeping employees aware of our operations and keeps

them focused on maintaining a balance of stakeholder needs.

The leadership team has established several venues to ensure a balance between stakeholders' priorities. The Program Director and senior managers attend Management Review meetings. These meetings serve as a review of the quality management system, evaluate the suitability and effectiveness of the overall system, and are tied into the FAALC Strategic Plan. Additionally, the leadership team hosts quarterly all-hands meetings to keep employees informed of past accomplishments, current status of initiatives, and future goals.

1.1 b (4) Using Organizational Review Findings and Employee Feedback to Improve Leadership Effectiveness

The FAA conducts extensive biannual Employee Attitude Surveys (EAPS). The results of these surveys are tabulated to show comparisons between the FAA, MMAC, and FAALC. Management reviews and the results of the Employee Satisfaction Survey are a basis for evaluating management performance. Plans for improving the quality of leadership result from these reviews. The leadership team has led the FAALC in becoming a flexible, responsible, high quality, and versatile organization that attracts a wider range of tasks, projects, and new lines of business.

1.2 Organization Responsibility and Citizenship

The parent organization (MMAC) has an Environment, Health and Safety Strategic Plan. This plan ensures accountable, integrated, sound environmental policies, procedures, and practices. The strategic focus of this plan involves three elements: goals, recurring evaluation, and management focus. Over 100 goals are documented. Periodic status reports are presented to senior management. During the past two years, the MMAC evaluations of FAALC operations show no safety violations, no OSHA violations, and no hazardous material handling violations. The Strategic Plan addresses such things as safety, clean air, as well as public right-to-know policy.

1.2 a Responsibilities to the Public

One element in the MMAC Environment Health and Safety Strategic Plan is “Impact and Risk Assessment”. The goal of this element is to minimize adverse impacts of proposed Aeronautical Center policies, programs, and projects on the environment, human health, and the FAA mission. The FAALC proactively supports and participates in this Strategic Plan.

1.2 a (1) Impact on Society of Products Services and Operations

The MMAC and FAA monitor environmental controls. The FAALC operates within strict guidelines to prevent problems relating to the environment. The MMAC provides environmental impact studies for the construction of new structures.

The handling of hazardous materials is controlled such that these type materials are properly stored, shipped, or disposed of in a safe manner. The FAALC has a building dedicated to the storage of hazardous materials. Further, a proactive safety program involving the FAALC safety committee focuses on safe working conditions and accident prevention.

1.2 a (2) Public Concerns with Current and Future Products and Services

During product development, environmental studies, deployment readiness studies, safety, and process capability studies are made. Before a product is brought into the FAALC for repair or storage, a process capability study is accomplished. This study includes environmental and safety concerns. The impact on the community is a factor. All changes in operations at the MMAC, including new facilities are referred to the Oklahoma City Airport Authority for comment and approval. The Authority is a watchdog organization that owns the buildings occupied by the MMAC and controls activities on and near the MMAC. They are the conscience of the public.

1.2 a (3) Ethical Business Practices

The FAALC ensures ethical business practices in all stakeholders’ transactions by first training all key players on the requirements of the job, and the associated legal requirements. The FAALC values and ethical practices are established and made known to all employees. The FAA Code of Ethics applies to all employees. Financial disclosure statements are required of all senior managers. The legal requirements for procurement are very well spelled out in DOT/FAA regulations. Our dealings with our customers are all documented in the Logistics Information System (LIS) data bank.

1.2 b Support of Key Communities

Community involvement is one factor in the managers’ performance standards. The FAALC acts in many ways to support our communities. Applications for assistance are received from various organizations. The FAALC works with the MMAC Public Relations Office in reviewing applicants’ needs and making a decision on which applicants we can support.

The Combined Federal Campaign (CFC) is one such avenue. Organizations that benefit from this campaign are selected by higher governmental organizations. Our managers and employees actively support this charity by having a CFC week.

Partnering with local public schools is a major program. The MMAC has been so successful in this program that we receive more requests than we have staff to support.

The FAALC has developed a partnership with the Moore-Norman Technology Center. We work with the institution in providing ISO-9000 trained and qualified assessors to provide guidance and auditing services to Oklahoma based organizations at no cost.

We have had ample opportunities to identify and assist individuals and organizations. After the tornado demolished many homes in adjoining communities, the FAALC employees established a fund to assist victims.

The FAALC Divisions identify a special Christmas project. The FAALC provides a cadre of volunteer support for a number of charitable projects and services throughout the community. A more complete listing of community activities is listed in Figure 7.5.10. 

2.0 STRATEGIC PLANNING

2.1 Strategy Development

Our current Strategic Plan is based in part on a historic model of a fixed market, budget, customer base, product design, and a controlled vendor selection process. Another part addresses the future *Fee-for-Service* environment and takes on an entirely different view of risk analysis, financial management, and methods for legally expanding our product and customer base within government guidelines.

2.1 a Strategy Development Process

In 1996, the FAALC teamed with the Federal Quality Consulting Group (FQCG) to align the vision of the FAALC's top leaders into a customer-driven focus. In August 1996, the leadership team attended a two-day training program, "Creating a Customer-Driven FAA Logistics Center". A powerful leadership base consisting of a cross-section of twenty-seven employees and managers developed the vision, mission, and values forming the base of our Strategic Plan. Figure 2.1.1 depicts the developmental process used to create our current Strategic Plan, our objectives, and develop associated action plans. Figure 2.1.2 shows the factors currently being considered in the revision of the Strategic Plan.

2.1 a (1) Strategic Planning Process

The FAALC develops strategy by performing a gap analysis. We compare our current state to a future desired state and note the differences or gaps. Our Planning Team identifies key issues/barriers to achieving our vision and map out a strategy or a series of strategies to close the gaps. We use a balanced scorecard as a framework. Our scorecard addresses customers, financial stakeholders, internal business, and learning and innovation perspectives. A revised Strategic Plan for 1999-2002 will be completed in September 1999. During this revision cycle, additional emphasis is placed on pre-planning research and analysis of environmental factors to enable a more comprehensive situational analysis. The primary planning team, comprised of senior managers, mid-level supervisors, and non-supervisory employees commissioned a planning

support team to conduct pre-planning research and analysis and revise the planning process. The planning support team membership included managers and support staff personnel.

2.1 a (2) Key Planning Factors

Key planning factors are discussed as follow:

Customer and Mission Expectations

The needs and desires of the flying public and the aviation industry dictate our customers and products and our mission remains constant. The support team reviewed the FAA's Strategic Plan, primary customers' strategic plans, and even potential competitors' strategic plans to assess external factors and ensure consistency with the FAA strategic direction. One key FAA goal is to "Improve service delivery by maintaining operational availability of equipment...". Our supply support of equipment is a key to Airway Facilities, success. We examined what our customers need now, will need in the future, and addressed any differences. A comprehensive analysis of future workload demand, completed by the FAALC Business Systems Group, was used extensively by the support group to predict future potential markets for FAALC services.

Mission Environment and Changing Technologies

We are legally restricted to supporting the FAA and cannot compete with private industry. We keep abreast of changing technologies through training seminars, and benchmarking. We determine current and future needs to support our processes and update our capabilities to ensure we meet FAA needs.

Human Resources

We question what are the major enabling processes or programs that will support the internal business processes necessary to meet customer expectations of the future. These include human resource programs, policies or issues, equipment, technology and facilities. Are they adequate to meet future demands? What new skills will be required? What are the new systems or facilities? Do we have significant weaknesses

in these areas that prevent optimum performance of the current processes? We plan accordingly.

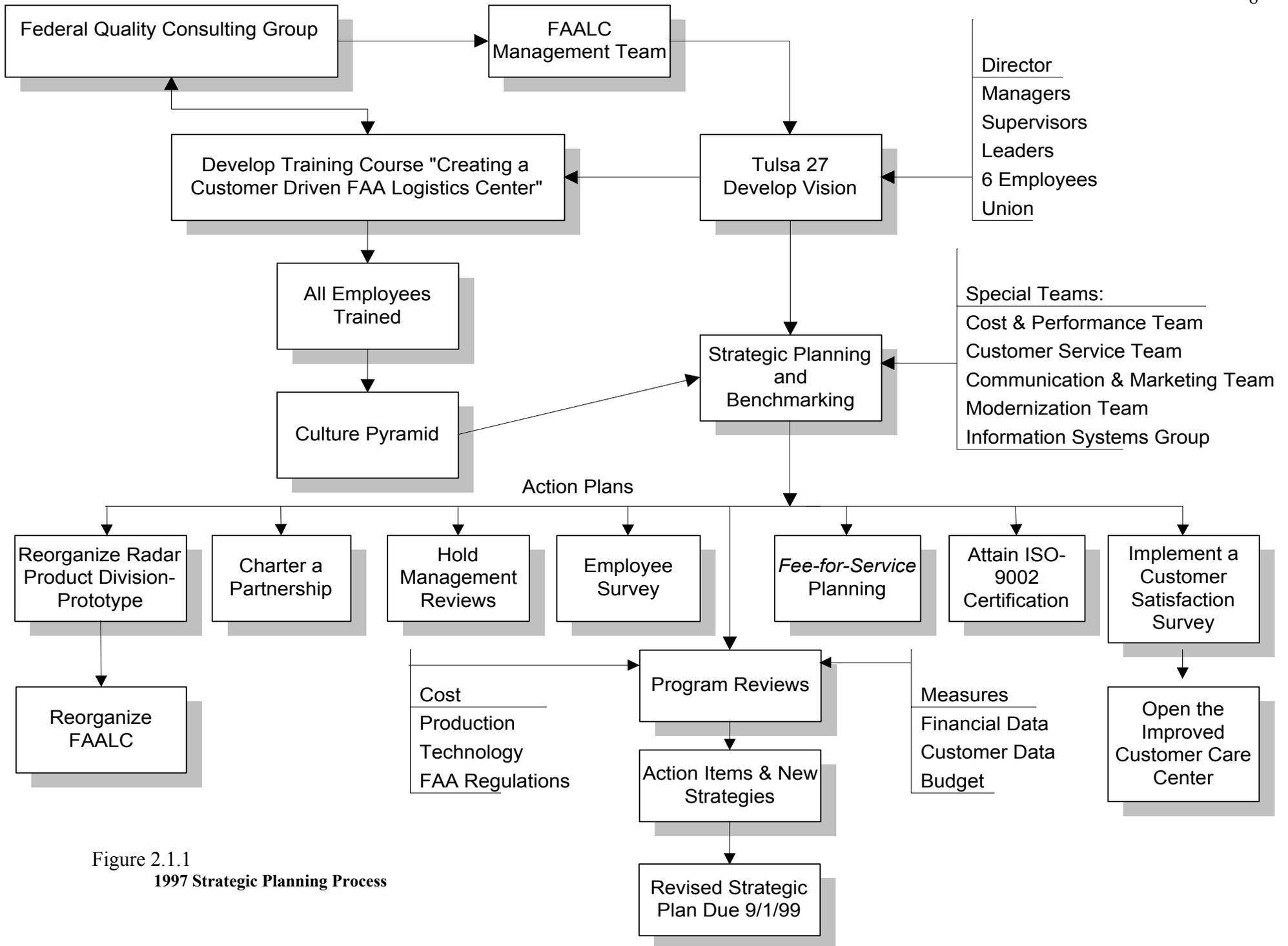
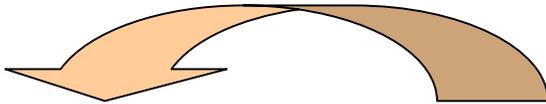


Figure 2.1.1
1997 Strategic Planning Process

FAALC

- Mission
- Vision
- Quality Objectives
- Values
- Cultural Pyramid
- Market
- Customers (NASSEC, NMOC)
- Future Projections
- Human Resources
- Model Work

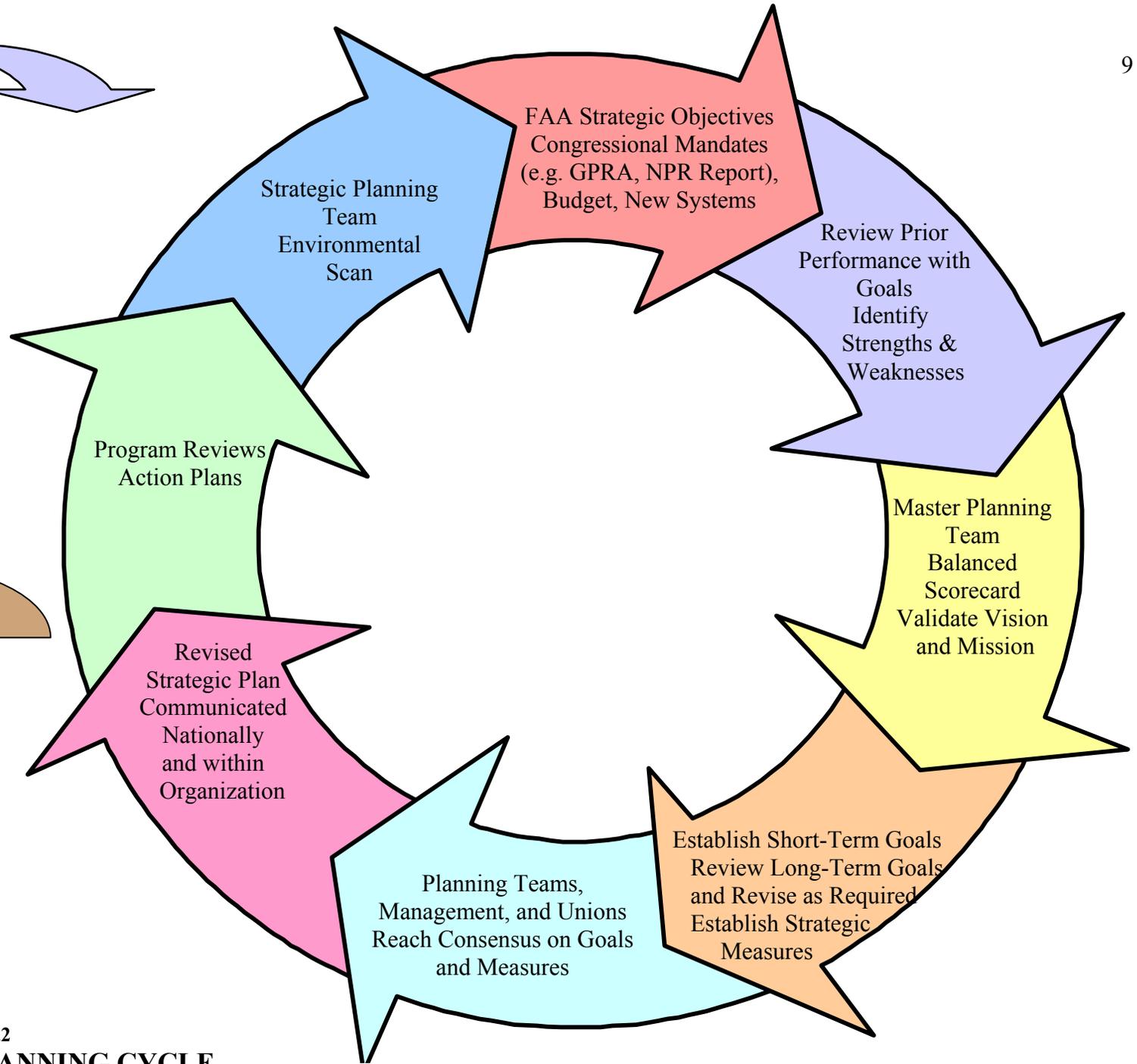


Deployment

- Program Reviews
- All Hands Meetings
- Employee Team Involvement
- Intranet
- Newsletter Articles
- Customer Service Team
- Management Chain

FIGURE 2.1.2

FAALC STRATEGIC PLANNING CYCLE



STRATEGIES	MEASURES	GOALS	YEAR	ACTIONS
Improve Customer Satisfaction	Defective shipments	Quality of items	FY 99	Maintain ISO Certification
	No. of backorders	100% on time delivery	FY 99	Item Manager training
	No. of customer complaints	Zero defective shipments	FY 99 FY 00	New Distribution Center procedures and Bar Coding System
	No. of queries satisfied first time	100% satisfaction	FY 99	Ongoing improvement in Customer Care Center
Improve Employee Satisfaction and Productivity	Training dollars & biannual employee survey	Attract, develop & Retain knowledgeable workers	FY 99	World-Class Organization Training Mgr. Financial Training Cross-training technicians
Increase customer and market base	Sales	Retain existing base Increase sales by 20%	Oct. 99 2001	Convert to <i>Fee for Service</i> Aggressive marketing
Improve Data Sys. to Meet Employee & Customer Needs	System Access Availability Time	75% improvement in system availability Produce clean Financial Statements	FY 99	Institute LIS enhancements
			FY 00	Bar coding System
			FY 00	Oracle based Expenditure System
			FY 03	Convert LIS to Oracle
Reduce Cost	Cycle time Inventory Turns	50% Reduction in Cycle time	FY 99	IBM Inventory Optimization Study

FIGURE 2.2.1 STRATEGIES and ACTION PLANS

Operational Capabilities and Resource Availability

Over the years, our operational capability to meet FAA requirements has been established. Our resource needs are made known in annual budgets submitted to the FAA. The FAALC operates on funds appropriated by Congress and distributed by the FAA. The FAA controls both dollars and the number of full-time employees.

Supplier and Partner Capabilities and Needs

We have over 4,000 vendors who provide products and services. Our efforts have been to identify their needs for assistance in meeting the FAALC ISO-9000 quality management system

requirements. This is to help them qualify to share in the FAALC incentive program.

2.1 b Strategic Objectives

Our key strategies were developed based on a situational analysis considering current environmental factors, both internal and external, that could affect the future of the FAALC. The strengths, weaknesses, opportunities, and threats associated with each were also analyzed. The results of this analysis formed our basis for identification of our strategic objectives. The analysis of the environment included evaluating our planned entrance into a competitive market, including such factors as new technology, resource availability, financial risks, societal responsibilities, and human resource capabilities

and needs. The key strategic objectives identified for the next three years are:

- Grow support and business associated with the operational National Airspace System.
- Grow support and business associated with the planned National Airspace System.
- Establish the FAALC as the fastest delivery source of quality products in the government sector.

Options for attaining our goals are evaluated by management. Our present state is compared to the desired state and options are examined for cost, ease of implementation, and the probability of success.

2.2 Strategy Deployment

Our strategies, performance measures, and action plans are summarized in Figure 2.2.1. Our development and deployment of strategies and plans are accomplished through cross-functional teamwork.

2.2 a (1) Action Plan Development and Deployment

A strategy describes or indicates the need for action, and it provides a framework or parameters for action plans. Subject matter experts and employees at the “grass roots” level who will implement the action plan develop the FAALC action plans. Figure 2.1.1 indicates the major action plans developed from the Strategic Plan. Figure 2.1.2 depicts ongoing strategic planning and plan deployment. Our key short-term plan is to become a *Fee-for-Service* organization in 1999. Our long-term plans involve developing a larger customer base through the *Fee-for-Service* opportunities. Our key ongoing action plan is the conversion to a *Fee-for-Service* organization. Our situational analysis resulted in a 61-page draft document, “*FAALC Demand Analysis and Opportunities*”, published in April 1999. This is an extensive evaluation of the risks and rewards of a *Fee-for-Service* operation. It includes trend analysis and long-range planning. The study will drive the final implementation stages of the *Fee-for-Service* operation.

2.2 a (2) Key Human Resource Requirements:

The FAALC requires a mixture of engineers, technicians, systems analysts, and inventory management specialists. We plan to provide training when needed as indicated in competency models and performance studies. We plan to provide a safe workplace free of bias or prejudice. We utilize FAA and MMAC assistance in hiring those employees who ensure that the Model Work Environment plan objectives are met.

2.2 a (3) Resource Management

The FAALC Corporate Staff is responsible for reviewing resource needs and budget allocations and correlating the needs to strategic action plans.

2.2 a (4) Key Performance Measures and Indicators

The key measures and indicators identified in Figure 4.1.1 are used to track progress towards accomplishment of our action plans.

2.2 a (5) Communication

All of the methods of communicating to employees discussed in 1.1.3 (b) are used to deploy plans, goals, and objectives.

2.2 b Performance Projection

2.2 b (1) Two-to-Five Year Projections

Our key performance indicators of success can be summarized as customer satisfaction, expanding our customer base, and reducing our costs of operation. The next two years will see the FAALC transition to the *Fee-for-Service* concept. Based upon benchmark studies, the new business environment will likely result in a slight reduction in sales of expendable items during the next two years. Our five year outlook is that an aggressive marketing approach will find new customers. Our focus is on contracts which FAA awards for initial depot level repair and support and capturing that market. Our customer satisfaction is expected to increase and our operating costs to reduce.

2.2 b (2) Projected Performance Comparison with Competitors

In reality, we have no competitors at this time. Our strategic plan provides a basis for measuring our success. Most of our key performance

measures have improved over the past three years. 🇺🇸

3.0 CUSTOMER FOCUS

Customer and market focus processes are designed and implemented to create value for the FAA, customers, stakeholders, and flying public as stated in the FAALC vision, mission, and values (See the Organizational Overview and Category 1 Leadership.)

3.1 Customer and Market Knowledge

The FAA provides materiel support to the National Airspace System operations through a field infrastructure of technicians and Logistics Specialists. The field infrastructure is supplemented by national-level materiel management and by repair operations provided by the FAALC.

3.1 a (1) Customer Determination

Our primary customer is the American flying public. The needs and desires of the aviation industry dictate our internal customers and the products we provide.

Figure 3.1.1 shows the relationship between FAALC customers, their selection, and the product or service we provide to them. The FAALC cannot compete for private sector customers due to the FAA mission and statutory limitations. The FAALC has extensive plans for converting to a *Fee-for-Service* organization, which should enhance our marketing possibilities.

The *Fee-for-Service* plan is documented in a report entitled “*Design and Implementation Plan*”. A major part of this plan is devoted to

expanding the Logistics Center’s customer and market base. The plan is based on the premise that the FAALC will not be in direct competition with the private sector. However, the FAALC expects to retain and expand services to FAA, other federal agencies, as well as state and local governments. Expansion will be accomplished in accordance with statutory limitations and without violating the spirit or intent of restrictions on private sector competition.

3.1 a (2) Customers’ Key Requirements

We keep aware of our customer’s needs and priorities through customer surveys, the Customer Care Center, management participation in customer conferences, and new system implementation to meet the needs of the aviation industry.

3.1 a (3) Business Developments and Relevant Data

As part of the FAALC’s overall marketing strategy, an FAALC demand analysis and opportunity study was completed in 1999. It had a goal of expanding current business and moving into new business areas consistent with our business model and regulatory guidance. Trend charts were developed for the last three years of Logistics Center sales. Based on these trends, projections were made on sales for the next two years. As the *Fee-for-Service* plan is

Figure 3.1.1 Customer Selection

CUSTOMER NAME	CUSTOMER SELECTION	PRODUCT/SERVICE
Airway Facilities National Airspace System	FAA	Logistics, repair, & inventory control
Other FAA Organizations	FAALC	Expendable items
FAA Aircraft	Aviation System Standards	Certified aircraft parts
Department of Defense	FAALC/DOD agreements	Logistics support of specific equipment
International Governments	FAALC/International agreements	Logistics support of specific equipment
Private Airports	Congressional interest or a sole source provider	Parts unavailable from other sources

implemented, we will continue to monitor sales activity and customer feedback on current and expanded lines of business through Customer Service Action (CSA), customer surveys, and similar tools described elsewhere in this document. Some new or expanded business opportunities identified are:

- On-site Maintenance.
- Fiber Optics and Cable Technologies.
- State of the Art Automated Testing Laboratory.
- Microcomputer Repair Laboratory.
- Regional Acquisitions and other Regional Services.
- International Support.
- Engineering Consulting Services.
- Municipality Support.
- Department of Defense.
- National Weather Services.

Depot Level Repair and Supply Support are an area of consideration for expansion. As the FAA deploys new National Airspace System equipment, the FAA assigns a source for depot level maintenance (repair and spares) to either the FAALC or the original manufacturer of the equipment. Traditionally, the equipment is maintained by contractor support for the first few years following installation and commissioning. Following this period, the systems are transitioned to the FAALC for life-cycle maintenance and support as well as decommissioning.

3.1 a (4) Keeping Current

The FAALC is examining ways to improve marketing techniques and become the provider of choice as quickly as possible after system commissioning. Expansion of logistics services provided to federal, state, local, and international governments are areas for business expansion. Opportunities for improvement will be developed based on information gathered from FAA Headquarters, other government agencies, and international businesses.

With the establishment of a marketing organization within the FAALC, we will continue to enhance our understanding of the marketplace through continuous monitoring of market forces and expansion of business opportunities within the confines of our authority. Figure 3.1.2 shows the correlation between customer segments, requirements, importance, and measures.

3.2 Customer Satisfaction and Relationships

The FAALC has retained its current customer base for nearly a half century. Customer desires have driven the methodology of customer access to the FAALC. New technological advances are incorporated and implemented as necessary.

Figure 3.1.2 Customer Segments

CUSTOMER SEGMENT	REQUIREMENTS	IMPORTANCE (% of Customer Base)	MEASURES
FAA NAS	On-time delivery and product reliability	Our prime customer	Customer surveys, reliability measures, delivery times
Flight Standards Offices	On-time delivery of certified aircraft replacement parts	Our second most important customer	Customer data on aircraft delays due to late delivery
United States Air Force	On-time delivery and product reliability	Our third most important customer	Delivery time and product reliability data
International Customers	Delivery of obsolete repair and hard to find parts	Low percentage of our customer base	Quality of product delivered as agreed to in contracts
State and local governments	Delivery of sole source items	Low percentage of our customer base	Delivery of items as per contract.

3.2 a Customer Relationships

3.2 a (1) Key Customer Access Mechanisms

The key mechanisms used by the FAALC to determine customer access needs for ordering, seeking assistance and information, or making complaints are summarized in Table 3.2.1.

Table 3.2.1 Key Customer Access Mechanisms

Customer Surveys	Survey by mail
Customer Service Representatives	Personal Visits
NMOC Telephone Conferences	Daily participation in National Telcons
NAS SSEC	Periodic Conferences
FAA Program Reviews	FAALC participates
Customer Care Center	24 Hrs per day on-line customer assistance telephone and LIS linkages.

3.2a (2) Determination of Customer Access Requirements and Associated Deployment

The 1997 Customer Satisfaction Survey identified those things important to the customer. The survey results are available to all employees via our Intranet web site. Results of this survey and the final results of the 1999 survey can be found in Category 7. These surveys created the focus of recent action plans in those areas identified as opportunities for improvement.

Essential needs that have been identified and actions taken include:

- Making it easier to access LIS, and improving the tracking of shipments. This system provides on-line catalog information, requisitioning, shipment data, and package tracking. This system is described in more detail in Category 4.
- Implementing the Customer Care Center (CCC). This Center was established to provide 24 hour one-stop customer shopping for FAALC customers. In the 1997 survey, customers stated they needed a central point of contact 24 hours a day at the FAALC.
- Implementing the Customer Service Action (CSA) Database to provide better feedback to the customer and to better track customer complaints. This database is used throughout the FAALC to collect data and identify current trends in product and services. Collection and evaluation of this data are discussed in Category 4.1.

Data captured in the CSA database is based on customer complaints and is available on-line to all FAALC employees and managers. This database is real-time and information is immediately available to all areas of the FAALC. CSA provides data for trend analysis of many of our key performance measures.

3.2 a (3) Customer Complaint Management

The Customer Care Center captures complaint data and alerts the proper person to react.

Based on the complaint, the appropriate Product Division or support group is responsible for initiating and completing the necessary corrective action in accordance with our ISO-9002 Quality Procedures. Trend analysis is made on CSA data.

A vital link to our customers is provided through a daily telephone conference call with a collection of FAA engineers, technicians, analysts, and managers. The National Operations Control Center (NOCC)

monitors all failures in the Air Traffic Control System. This team gathers data and information relating to problems that occur. They host a daily telephone conference call with the major organizations concerned with system maintenance, system usage, and logistics support. The FAALC participates in these daily conferences. Our major concern is the determination of whether a system failure is caused or extended by FAALC products or delivery systems. Any FAALC problems that are discovered in this manner receive top priority corrective action.

3.2 a (4) Building Relationships with Customers

Our Oklahoma City customers who operate the FAA aircraft are now collocated with our FAALC Inventory Management team. Together, they operate as a team and provide daily, face-to-face feedback on FAALC products and services. This allows for rapid response and immediate corrective actions if needed. Our Customer Service Representatives build relationships with field customers through personal visits.

3.2 a (5) Business Currency

The NAS Supply Support Executive Committee (NASSEC) is an advisory group composed of FAA regional managers and Headquarters directors. They meet periodically with FAALC management and personnel to verify the needs of FAALC customers.

3.2 b Customer Satisfaction Determination

The FAALC builds customer loyalty and positive relationships with our customers through fulfilling our quality objectives. We further build relationships through the Customer Field Representative visits.

3.2 b (1) Processes for Determining Satisfaction

The key measure of customer satisfaction is the on-time delivery of a satisfactory product. On-time delivery and product reliability are measures reviewed by management as indicators of customer satisfaction. The daily NOCC telecons and the review of CSA data in periodic program reviews are vital to ensuring customer satisfaction. The Customer Care Center provides the initial point of contact for the customers 24 hours a day. The Care Center provides easy access for customers by offering a variety of communication methods such as operating a 24-hour toll-free hotline. Thus, customer complaint data is captured. Customer complaint data is entered in real time into the CSA database. The data is routed to the proper individual to resolve any problem and respond to the customer as necessary. Managers can monitor complaint resolution through the CSA database. Analysis of the database is part of program reviews. The CSA database provides the ability to sort the data into various components and provide data for measures as described in Category 4.

A second source of customer satisfaction is the FAALC Customer Representatives. They are the primary face-to-face customer contact points for FAALC products and services because they have frequent customer interaction.

3.2 b (2) Customer follow up

We have a chartered partnership with our aircraft customers that assures day-to-day contact and opportunities for evaluating and improving our relationship. The FAALC encourages all customers to provide feedback. The opening screen of our on-line requisitioning system lists the Customer Care Center telephone number. Additionally, the Care Center's telephone number and toll-free number are both listed in customer service brochures and on labels distributed to our customers. Our customers can access customer service information through our intranet/internet pages, and they can send inquiries or complaints through e-mail. All calls to the Customer Care Center go through a call directer system. The call directer system automatically sends incoming calls to the next available Customer Specialist and

captures information used by management to monitor the telephone activity. Information recorded in the call directory system includes number of hang-ups, how long a caller waits to be connected to an agent, caller identification, length of call, and call transfer information.

3.2 b (3) Benchmarks and Comparisons

Since the majority of the FAALC customers are assigned by the FAA, the FAALC has limited access to benchmark competitors. What benchmarking has accomplished is based on a desire to find role models for FAALC operations

3.2 b (4) Keeping Current

The FAALC monitors FAA and other government operations and keeps current of potential opportunities. The FAALC managers participate in FAA program reviews. This allows the FAALC to keep tabs on FAA plans for future FAALC missions, and opportunities. The daily conference calls with the NOCC ensure timely knowledge of FAA regional and national events. Technical seminars and trade shows allow us to keep abreast of current technology. 🇺🇸

4.0 INFORMATION AND ANALYSIS

Figure 4.1.1 KEY PERFORMANCE MEASURES

Performance Measure	Stakeholders				Process	Strategic Goals
	C	F	I	L		
Number of backorders	X	X	X		Inventory Control	On-time delivery
Warehouse refusals	X	X	X		Inventory Control	On-time delivery
Number of defective shipments	X	X		X	Equipment Repair	Increase quality of items
CSA Data	X	X	X	X	Customer Satisfaction	Rapid response
Number of employees		X	X		Fiscal Control	Reduce costs
Inventory turnover		X	X		Inventory Control	Reduce costs
Ratio of PC&B cost to sales		X	X		Fiscal Control	Reduce costs
Capture 10% of commercial repair In-house		X	X		Fiscal Control	Increase income
Average unit cost of items repaired		X	X		Equipment Repair	Reduce costs
Cycle time		X	X		Equipment Repair	On-time delivery/reduce costs
Non-cataloged requisitions	X		X		Inventory Control	On-time delivery
CSA activity per issue			X		Quality Control	On-time delivery/quality of items
Employee survey		X		X	Human Resources	Retain current workers
Employee training		X		X	Continuous Education	Retain knowledgeable workers
Employee grievances				X	Employee Satisfaction	Retain current workers
Number of accidents		X		X	Employee Safety	Safety of workers
Employee sick leave		X		X	Human Resources	Employee satisfaction/productivity
Vendor measures	X	X	X		Quality Control	Reliability
Environmental measures		X	X	X	Societal Responsibilities	Employee/community safety
Inventory accuracy		X	X		Inventory Control	Reduce costs
LIS down time				X	Internal Business	Efficiency

(Note: C = Customer, F = Financial, I = Internal Business, L = Learning)

The FAALC performance measuring system selects key performance measurements for use in management analysis of organizational performance. Periodic performance and management reviews are mandatory.

4.1 Measurement of Organizational Performance

Certain data is collected and distributed for use in day-to-day operations, and other data is accumulated for program reviews. Much of this data is available to FAALC employees and customers through the LIS or CSA database.

4.1 a (1) Performance Measurement System

The following are key performance measures:

Data Selection

The goals and related measures arising from the 1997 FAALC Strategic Planning session were referred to the Cost & Performance team for refinement. From the consensus of the team of cross-functional employees and seven subject matter experts, emerged the measures in use today.

Data and Key Process Alignment

Figure 4.1.1 relates key performance measures, stakeholders, and strategic goals. This data was selected from the balanced scorecard of the Strategic Plan. Such measures provide a look at the total organization's health. The FAALC key processes are listed in Figure 6.1.1 and serve as a basis for selection of the data in Figure 4.1.1.

Data Effectiveness and Completeness

The completeness and effectiveness of the measures are evaluated in annual quality management reviews. The primary focus of the FAA and its customers is the safety of our National Air Space System. Minimizing downtime of equipment failures is essential to the safety of the flying public. Thus, rapid response in on-site repairs, on-time delivery of parts and equipment, and ensuring that repaired items operate properly are critical measures of our success. Customer orders, inventory, stock levels, shipping data, and customer complaints are all on-line and used daily to ensure the customers' orders are correctly filled in a timely manner. Performance measures are readily available to all managers. Periodic program and performance reviews examine the compiled data relating to the balanced scorecard to ensure all stakeholders' interests are secure. Such reviews provide an overview of organizational health.

Comparative Data

To effectively implement the changes discussed in the strategic planning session, the FAALC recognized the need for comparative data and information. In the time frame of 1996 through 1998, the FAALC made 28 formal and informal

benchmark studies including some site visits to world-class organizations such as Federal Express and NCR Worldwide Service Logistics. The benchmarking was used primarily to find role models for the changes planned for the FAALC. Observations were made on how businesses managed costs and used performance measures as a management tool. Figure 4.1.2 summarizes the FAALC benchmarking activity and purpose of the study.

Figure 4.1.2 Benchmarks

PURPOSE	No. VISITS
Strategic Planning Model	1
Customer Service Operating Model	5
Receiving Inspection Models	7
Cost and Performance Practices	4
Performance Measurement Model	2
Oracle Database Demonstration	1
"Counter-to-Counter" Delivery Service	1
Distribution Process Model	1
Quality Management System	6

Defense Distribution Depots are government distribution centers. To improve our warehousing and repair processes the Modernization Team toured those facilities to review their shipping and receiving docks, distribution center, storage practices, and inventory and automation systems. Also reviewed were the repair facility asset and bench stock management and distribution practices. Figure 7.5.2 (Results) shows comparative data.

The Quality Systems Group studied numerous corporations for their ISO-9000 compliance and registration processes. As preparation for the comparative studies, team members attended training at American Productivity and Quality Centers. Additionally, the FAALC participated in the National Performance Review headed by Vice-President Al Gore. Representatives from 30 government agencies studied the best practices in performance measurement.

Participation included hosting a national benchmarking web site for one year.

Reliability of Data and Information

Electronic data is safeguarded and a daily backup of the LIS and CSA system is performed and maintained at a separate facility. The FAALC has verified that their computerized data is not susceptible to the Y2K problems, and no disruption of activities is anticipated in the year 2000. Accuracy of data is ensured by having state-of-the-art data systems, by comparing data from differing sources, and by utilizing expert data analyst accuracy reviews.

Cost of Options

Entering the competitive environment of *Fee-for-Service* places emphasis on decreasing costs for competing with commercial business enterprises for our customers' funding. Costs of various operations and options are detailed in "*A Study of the FAA Logistics Center's Costs of Doing Business, Fiscal Year 1999*". Costs, sales, and other performance measures were used in compiling the data included in the *Fee-for-Service* study reported in the FAALC "*Demand Analysis and Opportunities*" report of 1999. Such studies provide a review of measurements and ensure they are current and business oriented.

Correlation of Data

As Figure 4.2.1 indicates, the Corporate Staff is responsible for monitoring initiatives and setting priorities to insure conformity to goals and strategies. (See Category 1.) They also ensure that the data collected is proper for tracking changing processes, business objectives, and goals.

4.1 a (2) Keeping Data Current

The extensive research required for the *Fee-for-Service* plan recognized the need for changes in the FAALC data systems. The current information systems operate on two independent mainframe systems. LIS is the Logistics and Information System and DAFIS is the appropriation and expenditure system. The first performance measures were collected on a FAALC wide basis on a Microsoft Access

database. In December 1998, the first phase of an Oracle based system, Data Mart, emerged which accumulates information on a monthly basis from LIS. This provides the user the capability of retrieving data in summary or in detail by product, region, type of issue, item manager, Product Division, month and year, or any combination of the above. The elements in Phase I of Data Mart include sales, inventory items, inventory turn, and activity by issues and receipts. Thus, the initial performance measures applied on a center-wide basis are now available on a monthly basis by Product Division.

Plans are underway to modernize DAFIS by using a more flexible off-the-shelf Oracle system. This is a multi-agency project so customizing will be limited. In the interim, DAFIS has been modified to accumulate costs in total and by division. Financial costs by Division are currently being accessed through several sub-systems. Since the Oracle product is a financial system it should have the capability of generating financial statements and the expenditure data from one source. Financial data and performance measures relating to the Customer Care Center, warehouse statistics and repair shop activity are prepared on a monthly basis. This information is placed in folders by Division on a share drive in the network.

Monthly distribution allows Division Managers to take action on a more timely basis.

The Information Systems Group (ISG) is responsible for the systems that collect and deploy data among the FAALC and its customers. The Division has many initiatives to meet the changing operating environment of the FAALC. One priority has been assistance in the *Fee-for-Service* efforts such as spending/budget tracking, inventory-pricing support, and major code changes due to the reorganization. To improve the efficiency of the distribution and warehouse facility, the ISG is designing a bar coding system to track inventory. Other automation applications include serial number control/tracking, shop floor automation, and movement of production control data to an Oracle application. Every third Tuesday the ISG

manager briefs the Corporate Staff on the progress of their initiatives.

4.2 Analysis of Organizational Performance

A key factor to success is dissemination of information throughout the organization to all users, including customers and partners.

4.2 a Analysis Process

Quality Management Reviews are mandatory under the ISO-9002 certification. Such reviews determine the effectiveness of the Quality Management System. The review includes

measures of how we are approaching our Quality Objectives as expressed in the overview. Both internal and third party audits are mandatory under ISO-9002. Audit reports must be a part of the Management review. Another requirement of the quality review is a discussion of areas for improvement and subsequent actions. The Customer Satisfaction survey of 1997 was reviewed at top management level and resulted in changes to the Strategic Plan. In 1998, the review of all pertinent data was examined at manager level and in January 1999, an “*Internal Program Review Template*” was produced.

Figure 4.2.1 DATA REVIEW AND DISTRIBUTION

Data Review Source	Method	Type of Information
Customers (CSA Reports)	On-Line	Customer complaints, requests, problems etc.
Information Systems Group	On-Line	Assure reliability, effectiveness, and rapid access of data and information.
Corporate Staff Committee	Weekly Corporate Staff meeting minutes posted on Intranet	Logistic Center wide decisions and prioritizing of actions consistent with corporate goals and strategies.
Linking Team	Weekly Management and Union Representative meeting minutes posted on the Intranet	Priorities and decisions on current projects. Discussion of items requiring action.
Customer Advocacy Team	Weekly meeting, minutes posted on the Intranet	Ensure all customer inputs are considered and appropriate actions in place to address the inputs. Identify processes to standardize and re-engineer from customer input.
Program Review	Quarterly meeting Division Management and Financial Team Hard copy of minutes	Review of FAALC-wide key performance measures and financial data. Discuss results and action required. Presented overall and by Division.
QMS Management Review	Annual meeting as required by ISO-9002 Hard copy of minutes	Review of suitability and effectiveness of the Quality Management System.
FAALC News	Monthly newsletter	Events, news stories, recognition, and awards.
FAALC Intranet Web sites: LIS User Guide	Updated on Intranet	Users manual for FAALC inventory programs.
Benchmarking Team	Web sites; Links to other Web sites	What is benchmarking, methods used, case studies.
Human Resources	Web site on Intranet	Department vision, benefits, handbooks, training information, tips on interviewing, career planning.
Employee Express	Web site information service	Secured employee access to personnel information, changes to employee benefits.

Franchise Fund Team	Intranet web site news updates	Implementation plan, business plan, concept, customer and employee briefings, contacts.
Other web sites	Intranet web sites	ISO 9000 information, FAALC Quality Manual, Document Master List, Reinvention Lab status.

4.2 a (1) Deployment and Linkages

Key performance measures identified in the Strategic Plan are tracked. Key business results and strategic measures are used in program reviews to analyze the overall organizational health. Figure 4.2.1 lists responsibilities for the review of data, and information for communicating policies, progress, and priorities to employees and other major stakeholders.

4.2 a (2) Supporting Daily Operations

LIS provides on-line requisitioning of parts by our customers. An integrated cataloging system allows our customers to cross reference catalog part numbers with numbers utilized by the FAALC and the MMAC Procurement office. System updates occur real time on-line.



5.0 HUMAN RESOURCE FOCUS

5.1 Work Systems

The FAALC’s organizational values state that people are the most important resource. The broad diversity of our workforce is our definite strength.

5.1 a Model Work Environment

Our Model Work Environment (MWE) policy is part of our culture and is used as a fundamental platform for employee development.

Management's continuous dialogue with employees, unions, and employee associations identifies the best compensation and recognition approaches.

5.1 a (1) Work and Job Design

The FAALC ISO-9002 certification and the reorganization of the FAALC into Integrated Product Teams forced a restructuring of jobs and working relationships. Such changes required a rewrite of work instructions and extensive team development. Team training has been provided in accordance with our goal of the team becoming self-directed. The World Class Organizational Training Phase I and II for development of teams have been provided for all employees.

Our Quality Management System (QMS) requires documented work instructions, process control, and demonstrations of process capability. A cross-functional team designed the Radar Product Division as a model for the FAALC reorganization. The system designed was a self-directed team with the freedom to use innovative ideas for improvement. All people required to support a product line are now collocated. These changes have made communication easier and cooperation and knowledge sharing commonplace.

5.1 a (2) Employee Motivation

Flexibility and rapid responses are team characteristics. Employees are encouraged to find answers within their own organization.

Employees are urged to participate at every level of the organization, especially serving on cross-functional teams. Employees are empowered to

create new processes and improve existing processes.

Employees participate in strategic planning. Designing and implementing new or improved services empowers cross-functional teams.

Figure 5.1.1 is an example of how teams support the FAALC's Key Action Plans.

Figure 5.1.1 Cross-Functional Teams

Team	Function
Data Mart Team	Team to provide financial information.
Integrated Product Teams	Teams that provide logistics support to the National Airspace System family.
Modernization Team	Team to review and redesign the practices associated with warehousing, storage techniques, and facilities and equipment of the Logistics Support Facility.
Centers of Excellence	Teams to provide a source of policy, procedures, continuity, and expertise on related issues.
Customer Advocacy Team	Team to provide an integrated process used to correct customer reported deficiencies.

Employees are encouraged to request to be considered for a job detail or “shadow” cross-training as a result of developing their Individual Development Plan (IDP). The IDP is a document prepared by the employee and approved by their supervisor, which is used to broaden the employee's career opportunities by branching out into new areas of expertise that the employee does not currently possess.

5.1 a (3) Supporting High Employee Performance

Figure 1.1.3 (Leadership Category) indicates that performance expectations and measurement ripple down from the Program Director. Annual

performance evaluations record employee performance and supervisory feedback to employees.

5.1 a (4) Compensation and Incentives

The FAALC welcomes and rewards innovation and creativity. Supervisors and managers recognize employee contributions to quality improvement. The FAA Performance Plan and Recognition Procedures direct the approval of awards. Monetary, honorary, and time off awards are given to recognize efforts that improve quality. The FAALC operates under the Federal Pay Comparability System as administered by the Office of Personnel Management.

5.1 a (5) Communication

Communication, cooperation, and knowledge sharing is encouraged through our team alignment. Our Centers of Excellence are Centers of knowledge shared by all Divisions. All team members have had extensive training on team formation, expectations, and operations.

5.1 a (6) Recruiting and Hiring

The FAALC has developed a comprehensive competency modeling system for all 32 of our occupation fields. These models are augmented by specific position descriptions, which are classified by the Office of Personnel Management (OPM) standards and the applicable OPM qualifications. Applicants are required to address knowledge, skills, and other abilities and job based questionnaires when applying for federal employment. The FAALC utilizes a web-based centralized vacancy announcement system to hire new employees. The FAALC has used several different recruitment tools ranging from newspaper advertising to employing interns.

Training is linked to key performance requirements that are determined by the Division Managers. The performance requirements are based on the FAALC Strategic Plan and other

performance initiatives that are cascaded down from the FAALC Program Director.

Diversity of our community and fair workforce practices are taken into account. The provisions of the FAA Merit Promotion Plan are applied to all individuals in a fair and equitable manner. It is applied without regard to race, color, religion, national origin, sex, physical or mental handicap, marital status, political affiliation, or employee organization affiliation.

5.2 Employee Education, Training, and Development

The FAALC invests in training and education to give employees the tools to make the FAALC workforce the best that it can be.

5.2 a Balancing Training Needs

Our quality procedures, in accordance with ISO 9002, require ongoing competency studies and supervisory/employee skill assessments. Emphasis is placed on scheduling training to ensure key competencies are maintained for present and future work processes.

5.2 a (1) Keeping Training Current

The MMAC Human Relations Department performed a detailed job task analysis of FAALC jobs. This provided a foundation that identified existing job skills and the current knowledge base. From this point it was further identified what future training would be required to support the organization's work systems. Managers and Supervisors evaluate organizational performance and employees performance and determine current training needs. All newly selected managers and supervisors must successfully complete a management training curriculum taught by the FAA Center for Management Development(CMD). Process capability studies for new processes identify specialized skills training needs.

5.2 a (2) Employee and Supervisor Input to Training

During performance evaluations, employees, and supervisors identify training needs and provide input to the FAALC training budget. Training budgets project training needs for three consecutive years. Budgets are updated annually.

Training is accomplished within monetary limitations.

5.2 a (4) Training Delivery and Evaluation

The knowledge and skills necessary for an employee to complete assigned tasks and processes have been identified and documented. Such required training is provided in a variety of methods. One source of formal technical training is that which is conducted and administered by the FAA Academy. Other formal training is administered by the FAA CDM, Office of Personnel Training, and Regional, Center, and Headquarter training staffs. With ever increasing federal budget demands, more on-the-job training is required. On-the-job training is planned training conducted at a work site by the supervisor or a designee appointed by the supervisor. This type of training provides direct experience in the work environment in which the employee is performing or will be performing their job.

A course evaluation is provided at the end of each training course. The training coordinator solicits input from the students regarding the quality and content of the course, the effectiveness of the instructor, and the value added by the course to enhance the employee's skills and abilities. The effectiveness of the training is evaluated by students, supervisors, and training coordinators. Supervisors evaluate the learning process by observing employee performance.

5.2 a (5) Key Developmental Training

The FAA, MMAC, and FAALC all manage diversity training. Such training is mandatory and is provided to every employee, and training is updated periodically. Safety training is provided in quarterly all hands safety meetings. It is mandatory that all managers and supervisors successfully complete management training curriculum at the FAA CMD.

5.2 a (6) Training on Measurement Skills, Training in skills associated with performance excellence is provided primarily through classroom instruction. Every

FAALC employee was trained on the requirements of the ISO-9002 Standard. Approximately 100 employees were trained as Internal Quality Auditors before our ISO-9002 certification. Eight employees were trained as ISO-9000 Lead Assessors.

The various benchmarking teams received training as discussed in section 4.1 a. Skills used in measurements, use of standards, and quality control methods are taught in classrooms supplemented by on-the-job training.

5.2 a (7) Reinforcing Training on the Job Pairing a trainee with a journeyman or supervisor who coaches the newer employee attains reinforcement of key skills and knowledge of the job. On-the-job training is documented.

5.3 Employee Well-Being and Satisfaction

The personal safety and health of each FAALC employee receives precedence over all other work requirements.

5.3 a Work Environment

The FAA and MMAC provide guidance and assistance in ensuring the FAALC employees' work environment is the best possible, consistent with mission and resources. The FAALC has a Safety Committee, which meets regularly and identifies important issues. Minutes of the meeting are available on our Intranet home page. A new facility to house the repair functions of the FAALC is being constructed. In addition to meeting all required environmental planning requirements, employee focus teams were instrumental in designing their future workplace.

As a safety concern after the Federal Building bombing in Oklahoma City, the MMAC was made into a closed campus. In accordance with FAA directives, an assessment is currently being

conducted to evaluate the FAALC security needs and plan effectiveness in the areas of terrorist attacks, violence in the workplace, and loss and theft prevention.

The FAALC participates in the MMAC Environmental Safety and Health Strategic Plan. This plan has established goals and measures, some of which are presented in Category 7 (Results).

5.3 b (1) Employee Services, Benefits, and Policies

Some of the many employee benefits and services are listed in Figure 5.3.2.

The FAA, MMAC, and FAALC tailor programs to meet individual needs. Employee surveys provide suggestions for improvement. Examples of program tailoring are the on-site day care center for employees children, the voluntary leave transfer program, and the flexible work schedule. An extensive Employee Assistance Program provides professional counseling for employees and their families at no cost.

Figure 5.3.2 Employee Services and Benefits

Program	Purpose
Employee Assistance Program (EAP)	Free, confidential counseling service for employees and family.
Thrift Savings Plan (401-K)	Retirement savings plan.
Voluntary Leave Transfer Program	Employees voluntarily donate annual leave to co-workers who are experiencing a personal or family medical emergency.
Leave	Paid annual, sick and holiday leave
Medical Clinic	Emergency treatment, flu shots, blood screening, etc.
Retirement	Specified retirement benefits
Community involvement	Employees encouraged to support community activities
Alternate work schedules	Employees have a choice of flexible

	work schedules
Federal Women's Program	Career progression assistance
Training Symposiums	Free training
People with Disabilities Program	Promote well-being for disabled employees
Fitness Center	Physical training
Childcare Program	On-site day care center

5.3 b (2) Diverse Workforce

The FAALC senior management has embraced the Model Work Environment concept, which states that the FAALC is committed to a comprehensive approach of managing diversity. The FAALC encourages equal employment opportunities, engages in affirmative efforts to create and maintain an environment that supports and encourages the contribution of all employees, and provides a workplace free of inappropriate and unlawful behavior.

5.3 c Employee Satisfaction

5.3 c (1) Determining Key Factors

One of the formal methods that the FAALC uses to assess the work environment and work climate is conducting biannual Employee Attitude Surveys (EAS). In 1997 and again in 1999, an EAS was conducted across the FAALC and the FAA. Random samples of employees were selected to participate in the survey. Past surveys have identified those factors important to employees. In the areas of resource availability, equity in pay and benefits, organizational communication, and quality of work life, the FAALC performed well compared to the FAA. Results of this survey are included as results in Category 7.

5.3 c (2) Assessments and Measures

The Employee Attitude Survey provides data relating to employee satisfaction. This data provides a comparison of the FAALC workforce to the rest of the FAA. Sick leave is monitored and measured. Division Managers use weekly all-hands meetings to assess employee satisfaction and well-being. Indicators such as absenteeism, employee turnover, and grievances are examined during management reviews and provide a barometer of employee satisfaction and well-being.

5.3 c (3) Relationship between Employee Well-Being and Key Business Results

One of the goals of the FAALC Strategic Plan is defined as the learning and innovation goal which is to develop, train, and retain employees; align data systems to the way we work; enhance lowest level decision-making; tie incentives to quality; and increase employee satisfaction and productivity.

Management review of key business results and employee satisfaction and well-being identifies areas of success and areas for improvement. Based on our findings of employee satisfaction, we relate those findings to our key business results by Management review and prioritize work environment improvements to make sure we achieve our key business results. The EAS results are published biannually and made available to all FAALC employees. 

6.0 PROCESS MANAGEMENT

The FAALC does not design products. The FAA purchases systems and assigns them to the FAALC after purchase and deployment. The FAALC does participate in such procurement by designing life-cycle logistics support plans for new equipment purchases. The requirements of the President's Quality Award criteria element 6 are first described as they relate to our involvement in FAA purchases. Our response to the criteria for equipment and services already provided by the FAALC is presented next.

The FAALC is an integral member of a team that controls design of new systems to be deployed at FAA field locations. Our responsibilities are especially in the area of life-cycle logistics support. The customers, air traffic controllers, originally identify major new systems to be deployed by the FAA. System requirements are generated by elements of the FAA outside of the FAALC. System design and acquisition are the responsibility of a cross-functional Product Team (PT). Product Teams are based in FAA Headquarters, but have membership from all affected areas of the FAA. The FAALC actively participates in PT activities in accordance with the Integrated Product Development System (IPDS). The FAALC provides the life-cycle logistics support plan.

The PT controls and coordinates design reviews, design testing, delivery schedules, and deployment to ensure trouble free system design, installation, and operation. Customers provide the needs, user requirements, human engineering, and other requirements, and must agree with the initial system design. They are involved in prototype demonstrations and constantly provide input to design changes.

At contract award, a system developer is selected and then becomes a part of the team. The original Contract Statement of Work usually requires the manufacturer to provide state of the art products and services.

Throughout the acquisition and deployment cycle, the PT holds design reviews to ensure that the

project is on track. The FAALC participates in all design activities to ensure that system support processes and resources are in place when the acquired system is deployed.

The FAALC is a major participant in a deployment readiness review to ensure that necessary facilities, tools, test equipment, technical expertise, training, and documented work and test instructions for depot level repair are in place. Customers participate as well to ensure that field-level support processes are in place at deployment.

FAALC In-House Process Management

Process management is based upon the analysis of customer-based data and information and making needed process improvements.

6.1 Product and Service Processes

Key FAALC processes are managed to ensure the key customer requirements of rapid response and reliable product delivery are met. The key measurements identified in Category 4.1 are reviewed by management and result in revised plans and processes as needed.

6.1 a Design Processes

On an annual basis, the FAALC reviews our process capabilities to assure the FAA that we can support the systems assigned to us. Also, before any new equipment is assigned to the FAALC, a process capability review is made.

6.1 a (1) Production and Delivery Processes

A process capability study is conducted before systems are transitioned to the FAALC for support and repair. This study is to ensure the following items are in place and are adequate to support the FAA and FAALC needs: drawings and schematics; parts breakdown and numbers; component parts availability; proper test equipment; test procedures; facilities (space, power, lighting, etc.); a safe environment (safety procedures and equipment); staffing; technical training; a proven repair and support process; adequate budgeting (staffing and dollars); and, coordination with eventual customers.

6.1 a (2) Changing Customer and Mission Requirements

In order to ensure changing missions and FAALC capabilities are considered, the FAALC uses a Supportability Review process to evaluate and improve products and services. Any FAALC team member may request a Supportability Review whenever a concern with mission capability or a problem with product quality or delivery occurs. Such requests are based on information such as obsolescence of repair parts, inability to acquire replacement parts, customer complaints, and personal knowledge or experience. When a Supportability Review is called, FAALC engineers, inventory management specialists, and others attend as needed to resolve the logistics problems. The review results in plans for addressing and resolving the issues.

6.1 a (3) Incorporating New Technology

As technology develops, the FAALC can select improved versions of items and replace them on a form, fit, and function basis. Such improvements are based on an analysis of components that most often fail. Selection is based upon availability and engineering data specifications. This action is cost effective and improves the reliability of the system. Such parts are selected or designed based upon the original customer's requirements. When the component is selected, it is installed in FAA operational equipment and the performance verified by the customers.

6.1 a (4) Quality, Cycle Time Efficiency, etc.

The FAALC has an ISO-9002 certified Quality Management System. Our Quality Manual, procedures, and work instructions are used to ensure our products and services are the quality expected by our customers. Process capability studies are required of new processes or designs. Quality audits by our Registrar, ABS, and internal audits verify the quality management system is followed and is adequate. The FAALC uses a method of supplier selection that provides a 12% advantage to an ISO-9000 certified vendor.

Past experience is a great teacher. Our trained technicians are experienced in supporting older systems. When new systems arrive, the technicians' skills can easily be upgraded by training. Technology is transferred from system to system as well as from technician to technician. For example, a technician experienced in the repair of an existing radar system is selected for training on a new generation of radar. As a rule, when the FAA purchases new equipment, a training package is part of that purchase. The FAALC technicians receive depot level repair training provided by the original equipment manufacturer or by the FAA Academy.

In the FAALC repair shops, there is no continuous repair assembly line. Most items are repaired on an exchange and repair basis. Items are repaired on an "as required" basis. The unit cost to repair is monitored along with repair cycle time. Performance reviews allow control of costs. Cycle time in procurement actions and customer delivery is monitored and measured to ensure the

ability to meet customer demands as well as control costs.

6.1 a (5) Assuring process key requirements

Our ISO-9002 certified quality management system requires documented work instructions for all processes except "where the absence of such will have no effect on the product or service quality". Also, the ISO-9002 Standard requires proof of process capability. Quality audits by our ISO registrar have verified compliance with these requirements.

6.1 a (6) Trouble Free Introduction of New Products or Services

When new systems are assigned to the FAALC for depot level repair, a process capability study is performed. This ensures that all necessary assets are available. A prototype repair is accomplished. Our customers do final testing. The process is then documented for subsequent repairs.

Figure 6.1.1 KEY PRODUCTS SERVICES AND MAJOR PROCESSES

KEY PRODUCT/SERVICE	MAJOR PROCESSES
Equipment repair	Testing, repair of electronic and mechanical subsystems
Inventory control	Inventory stocking and issuing procurement requests
Storage (warehouse)	Receiving inspections, storage location assignment, stocking
Handling	Packaging, stocking
Shipping	Retrieving from storage, packing, selecting carriers, dispatching shipment
Aircraft parts delivery	Retrieval from storage, direct immediate delivery to customer
Field assistance	On-site repair of equipment
Form, fit, and function engineering	Select replacement parts
Logistic design	Participate as a PT member

6.1 b Production and Delivery Processes

6.1 b (1) Key Processes and Their Performance

Key processes and their performance requirements are summarized in Figure 6.1.1.

6.1 b (2) Meeting Key Performance Requirements

Our ISO-9002 certified quality management system provides the basis for ensuring that our key processes meet their requirement. Our employees are trained and follow documented procedures. The work instructions conform to ISO-9002 requirements. Quality audits verify the validity and use of work instructions. In the equipment repair and fabrication area, all test and measuring equipment is calibrated at regular

intervals. Final testing of repaired items is documented. Technical expertise is shared.

The FAALC is now organized into integrated product divisions. Employees such as engineers are distributed to teams, and no centralized engineering division exists. In order to ensure all teams have the same information and to standardize operations where possible, Centers of Excellence were developed. These Centers of Excellence provide centralized guidance such as common work instructions and common process controls. Centers of Excellence include: engineering & technicians; inventory management; provisioning; equipment specialists; production control; and, element managers.

6.1 b (3) In-Process Measures and Indicators

Key process standards, measurements, and control strategies are summarized in Figure 6.1.2. Real-time customer input is solicited by the Customer Service representatives.

6.1 b (4) Process Improvement

When areas of concern about process control are detected, several options are available to address the situation. The most effective is the use of the Customer Advocacy Team (CAT). This is a cross-functional team chartered and authorized to study a process, identify opportunities for improvement and drive the implementation of the changes. One tool used by the CAT is the Incremental Process Improvement (IPI), a documented procedure for breaking a process down into its components, analyzing any

problems, improving the process, testing, implementing, and later testing the effectiveness of the changed process. The IPI process is defined in the FAALC procedures manual. Our ISO-9002 certified Quality Management System requires process control and a process capability determination. Our conformance to these requirements has been verified by external third party audits and continually revalidated by internal quality audits.

Another method used to improve processes is the use of a Process Action Team (PAT). A PAT is formed as needed and directed to audit a process, evaluate process deficiencies, and recommend appropriate management actions for process improvement.

Figure 6.1.2 KEY PROCESSES, STANDARDS/MEASURES & CONTROL STRATEGIES

KEY PROCESSES	STANDARDS/MEASURES	CONTROL STRATEGIES
Equipment repair	FAA specifications/ defective rate (customer complaints).	Documented procedures. ISO-9002 Process control. Internal and external quality audits.
Inventory control	FAA Procurement regulations. Inventory Managers' Handbook of work instructions /warehouse refusals, back orders, inventory accuracy.	Computerized automated inventory balance and storage locations. ISO-9002 process control. Internal and external quality audits Inventory audit.
Storage, handling, shipping	FAA Regulations, misdirected shipments, damage in transit, wrong item shipped.	Computerized storage locations, carrier selection and shipment tracking. Internal and external quality audits.
Engineering	FAA specifications, rules, regulations, original equipment specifications/ item failures.	Process capability reviews. Internal and external quality audits.
Aircraft parts delivery	Partnership Charter, on time delivery, product reliability.	Customer reviews, and internal and external quality audits.
Logistics planning	Integrated Logistics Support procedures/ cycle time.	Integrated Logistics Support reviews.

Another method used to improve processes is the process of collecting customer data, evaluating the

data on cross-functional team studies, and taking corrective action. The key measures that relate to

customer requirements, as related in the Strategic Plan, are analyzed and corrective actions taken as required.

Corrective actions are best described by an example. One FAALC customer is the FAA organization that owns and operates the FAA aircraft fleet. Evaluation of customer complaints revealed a major disappointment in the delivery time of aircraft replacement parts. The customer was even considering contracting out the services supplied by the FAALC. The FAALC formed a cross-functional team to study the problem and propose solutions. The team found the customer was expecting a faster response than what had been considered acceptable in the past. A team was formed with the customer organization, the FAALC, and the organization that purchases products for the FAALC. This team developed guidelines and then entered into a formal

partnership. This resulted in many changes in the FAALC process, including movement of some FAALC employees into the customer’s facilities.

Still, yet another method we use to improve processes, is to study new technologies for application to FAALC operations. Most new technologies are related to day-to-day operations and services. Benchmarking, as discussed in Category 4.2, was performed to see how other organizations used new technologies in the shipping, handling, and storage of products. A variety of customer input is collected as indicated in Category 3 of this application. Such data is analyzed to identify needs for change of process design or control. External and internal quality audits identify the effectiveness of the processes and their control. Immediately after an audit, assignments are made to correct any deficiencies. Corrective actions are taken.

Figure 6.2.1 SUPPORT FUNCTION: OWNER: FAALC RESPONSIBILITY

SUPPORT FUNCTION	OWNER	FAALC RESPONSIBILITY
<i>Quality Assurance</i>	<i>FAALC-Quality Systems Group</i>	Provide Quality Assurance
Information Management	FAALC-Information Systems Group	Collect and Provide Data through LIS
Financial Management	FAALC-Business Systems Group	Provide Financial Guidance
Payroll	FAA	T&A, Overtime Leave Approval/Control
Salary	FAA Fixed & Regulated	No Control
HR	MMAC	Provide Input, Follow Guidance
Physical Plant	MMAC & Oklahoma City	Partnership
Security	MMAC	Property Protection
Purchasing	MMAC	Prepare Purchase Requests

6.2 SUPPORT PROCESSES

Most support processes are furnished and controlled by the MMAC and/or the FAA. Although we have no direct control over these processes, we can influence them by focusing on impacts their support has on our customers. The FAALC responsibilities are interpreting and implementing the FAA orders. The FAALC Quality Management System guides the operation of the BSG, ISG, and QSG. Quality audits verify their compliance with the quality manual, procedures and work instructions.

Figure 6.2.1 summarizes support functions and their owner and FAALC responsibilities.

6.2 a 2 (2) Determining Key Support Requirements

The one important support process controlled by the FAALC is the LIS system. This data as discussed in Category 4, provides cataloging data, parts information, customer orders, customer complaints, CSA data, and inventory control and management tools. Our customers requiring ease

of ordering supplies and our internal customers requiring to fill such orders in a timely manner drove the development, implementation, and improvement of the LIS.

6.2 a (3) Meeting Key Process Requirements

The key requirement of LIS is availability and accuracy of data. Our ISO-9002 certified quality management system requires documented work procedures, data control, and data backup.

6.2 a (4) Day-to-Day Operations

Our key support process, LIS, is essential to day-to-day operations and ensuring we meet performance requirements. The customer orders, transaction history, shipping data, and CSA data are all captured and deployed by LIS. Maintaining LIS in operating status is a key measurable factor in our business success.

6.2 a (5) Updating Support Processes

Annual customer surveys are used as indicators of customer satisfaction with our support process.

Figure 6.3.1 1998 Supplier Performance

16 Desk audits were performed of prospective vendor quality management systems.
7 Quality audit corrective action reports relating to vendor quality.
7 Second party audits were completed.
28 Vendors received numerically integrated supplier operations classification (qualified vendors list).
Technical inspections decreased from 609 in FY-97 to 171 in FY-98.

to system components such as high power radar are sometimes contracted out.

6.3.a (2) Performance Requirements

In order to better communicate our needs and specifications to suppliers, the FAALC follows the procedures of its ISO-9002 Certified Quality Management System. The first step is a documented process for writing procurement requests, statements of work, specifications, and receiving, inspection, and quality requirements. When necessary, pre-award conferences are held to ensure suppliers understand the requirements, and post-award conferences are held, as needed, to further clarify what is expected of the supplier. A numerical method of rating the complexity of

The Customer Care Center and Customer Service Representatives provide daily feedback from our customers. Such feedback influences the upgrading of our processes. As a result of customer feedback, we have improved the cataloging function of LIS. Feedback to external and internal customers is verbal, as well as advertised on our Intranet home page.

6.3 Supplier and Partnering Process

Rigid U.S. Government rules regulate the selection and relationship with vendors. Long-term partnering is not allowed and vendor selection and relations with vendors are closely regulated.

6.3 a (1) Purchased Products and Services

The FAALC has approximately 4000 suppliers. Nearly 100,000 different items are purchased by the FAALC. These items range from expendable items, such as pencils to elaborate electronic equipment and computers. Key purchases relate

an item, its importance to the FAA, and item cost is used to select the appropriate Quality Standards and to select suppliers

6.3 a (3) Ensuring Requirements are Met

On larger contracts, the FAALC utilizes Quality Reliability Officers furnished by other government agencies to monitor their contracts. In certain purchases, a first article approval is required. Quality inspections at the vendor's site are always an option in government contracts. When complex items are purchased, we do receiving inspections. Audits of vendor quality management systems are accomplished.

6.3 a (4) Minimizing Inspection Costs

The FAALC does no routine receiving inspections. We do only those that are absolutely necessary. We reduce the need for inspections, test, and audits by writing a proper statement of work. Also, we coordinate with other government offices and share a Quality Reliability Officer at vendor's sites when available. We share qualified vendor lists and quality audit results with other government agencies.

6.3 a (5) Supplier Assistance

Federal regulations limit the partnerships that the FAALC can enter into with vendors. We do assist suppliers in qualifying as ISO-9000 compliant or certified. We offer a 12% incentive to suppliers who are ISO-9000 certified, or a 6% incentive if they are ISO-9000 compliant.

6.3 a (6) Improving Partner Processes

We are limited by Federal regulations on how we partner with suppliers. One key partnership has been established with the Moore-Norman Technology Center relating to ISO-9002. FAALC employees, private industry employees, and the Moore-Norman Technology Center ISO-9000 coordinator have joined to provide low or no cost quality auditing services to Oklahoma based organizations. 

7.1 CUSTOMER SATISFACTION RESULTS

Figure 7.1.1 shows the results of a Customer Survey conducted in 1997 by the Take Charge Consultants, Inc. The objectives of the survey were to: provide an FAALC customer satisfaction index; provide actionable data on how to improve service to FAALC Customers; integrate customer data into FAALC Cost and Performance Measurements; assess FAALC customers' perceived value of service received; and increase customer satisfaction and quality of service at the FAALC.

This survey has served as a basis for an expanded Customer Care Center, creating regional FAA customer Representatives and the selection of

performance measures. The customer rated the importance of the subjects and how well we are meeting those expectations. Delivery condition was number one in their rating. Delivery timeliness, accessibility, responsiveness, and on-line requisitioning were also highly regarded. The gaps between expectations and our delivery drove the strategic planning. The gaps between expectations and rating in the categories of delivery condition, delivery timeliness, and delivery accuracy reinforced our belief that the primary customer requirement is: on-time delivery of a reliable product. These gaps drove short-term goals for improvement.

Figure 7.1.1 Customer Satisfaction 1997

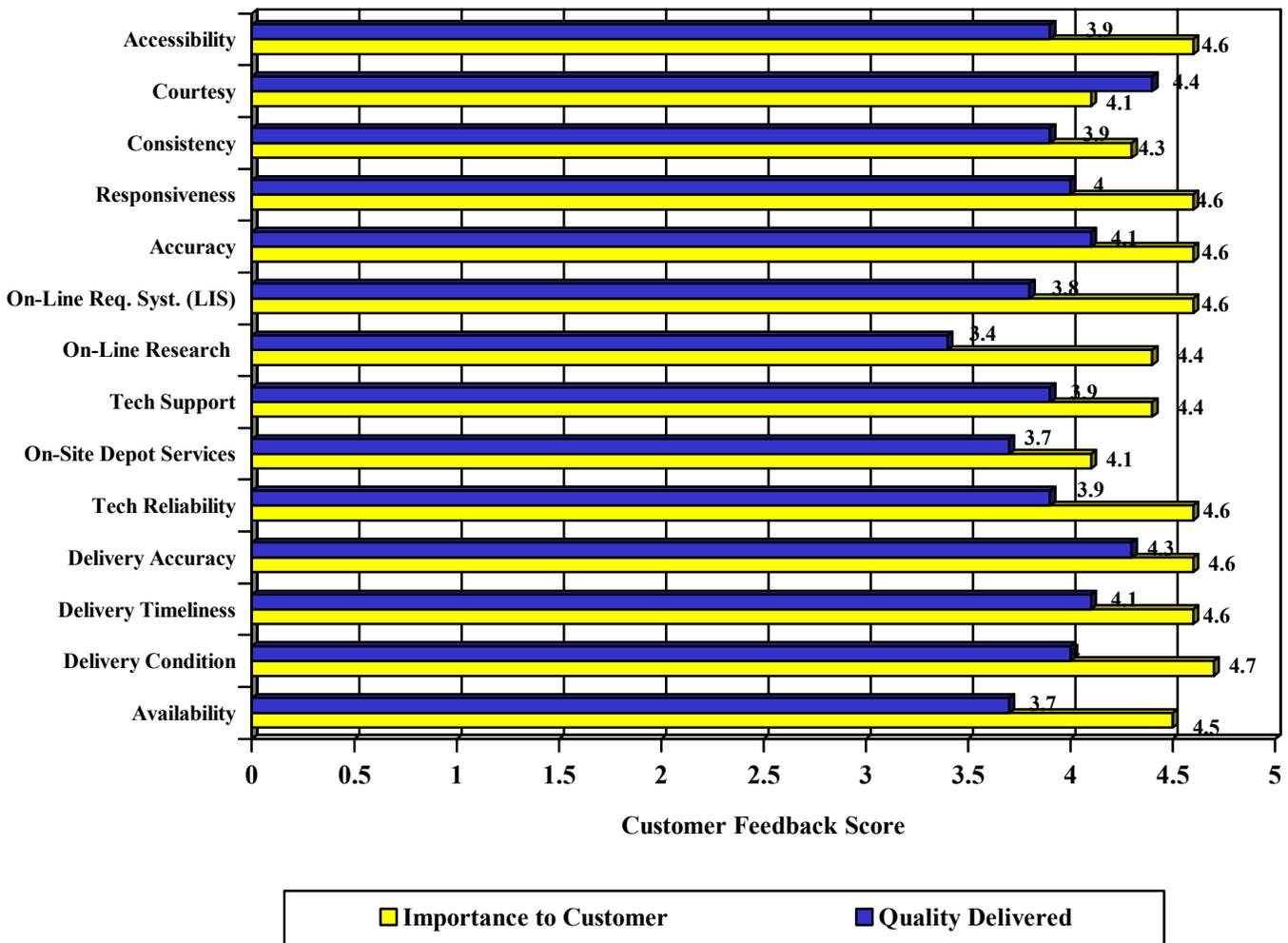


Figure 7.1.2 shows the results of the 1999 customer satisfaction survey. In each year a Customer Satisfaction Index was calculated as an average of the following categories of the questionnaire: product service quality; customer needs/expectations; perceived value; and complaint handling.

A comparison of the 1997 vs. 1999 survey shows changes in customer expectations. This is not unusual and does not affect the quality of the survey.

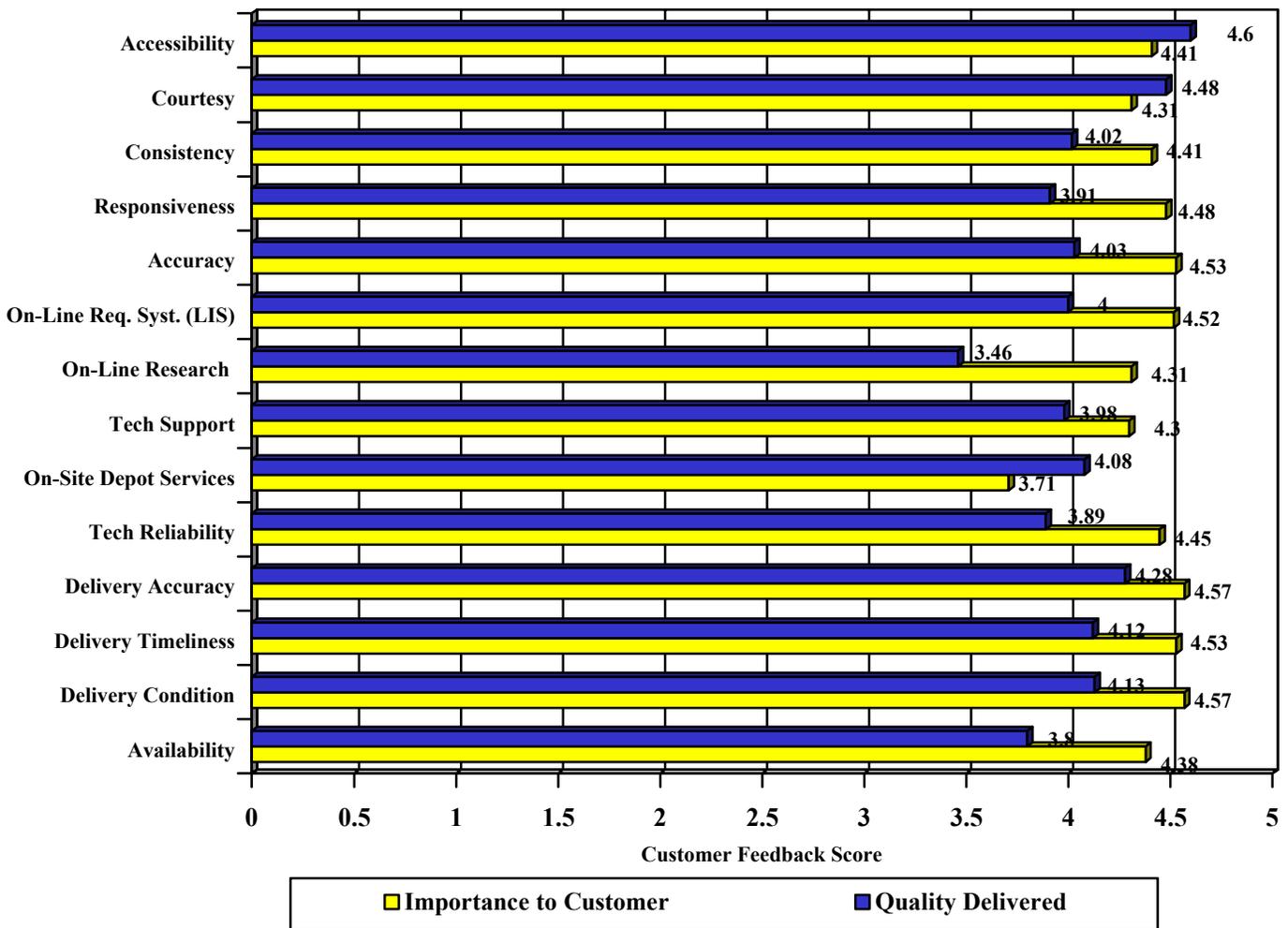
One consistent expectation is a better method of accomplishing on-line catalogue research.

Actions have been taken to add more cataloging options to the LIS on-line system. This should result in a better customer satisfaction rating on accessibility.

Also noticeable in a comparison of the 1997 and 1999 data is that in 1999, there was a definite closure of the gap between expectations and results in many categories. Complete survey reports are available for review.

A comparison of the two surveys shows a customer satisfaction index of 3.664 in 1999 as compared to 3.578 in 1997.

Figure 7.1.2 Customer Satisfaction 1999



Figures 7.1.3, 7.1.4, and 7.1.5 show data obtained from our customer who owns and operates the FAA fleet of aircraft. Significant improvements in our services is attributable to the chartering of the FAALC, Aviation System Standards (AVN), and Acquisition Support Division (AMQ-100) partnership on January 13, 1998, and the subsequent FAALC reorganization and relocation

of some FAALC employees into the customer's facilities in October 1998. An "aircraft out of service awaiting parts" occurs when a parts requisition is not delivered within four hours. We are improving on meeting the customer's expectation of parts delivery in four hours or less.

Figure 7.1.3 represents the number of **times** an aircraft was out of service awaiting a part.

Figure 7.1.3 Customer Data – Aircraft Out of Service by Number of Times

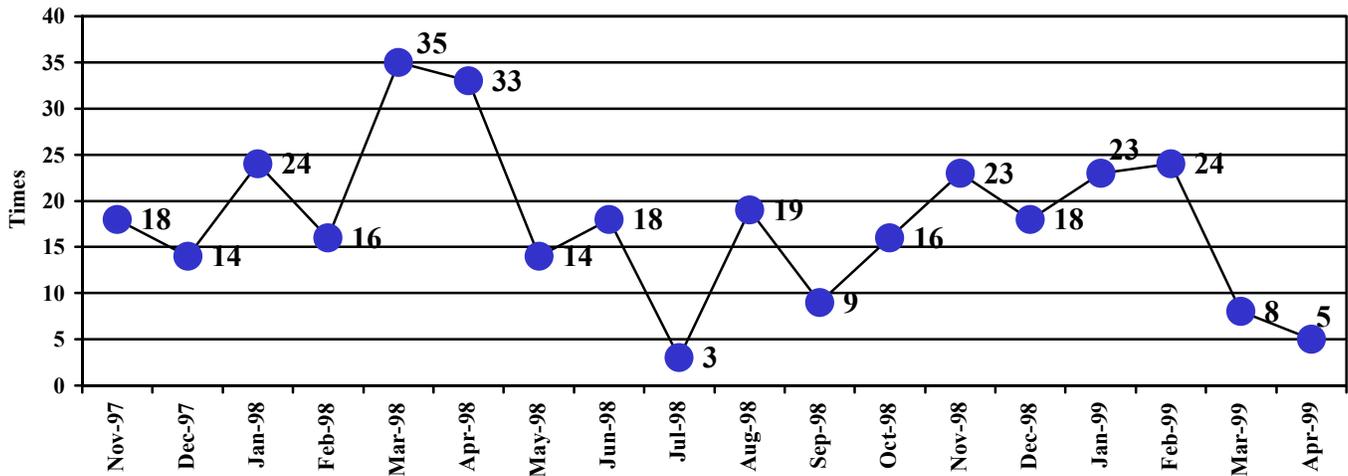


Figure 7.1.4 represents the number of **days** an aircraft was out of service awaiting parts.

Figure 7.1.4 Customer Data – Aircraft Out of Service by Days

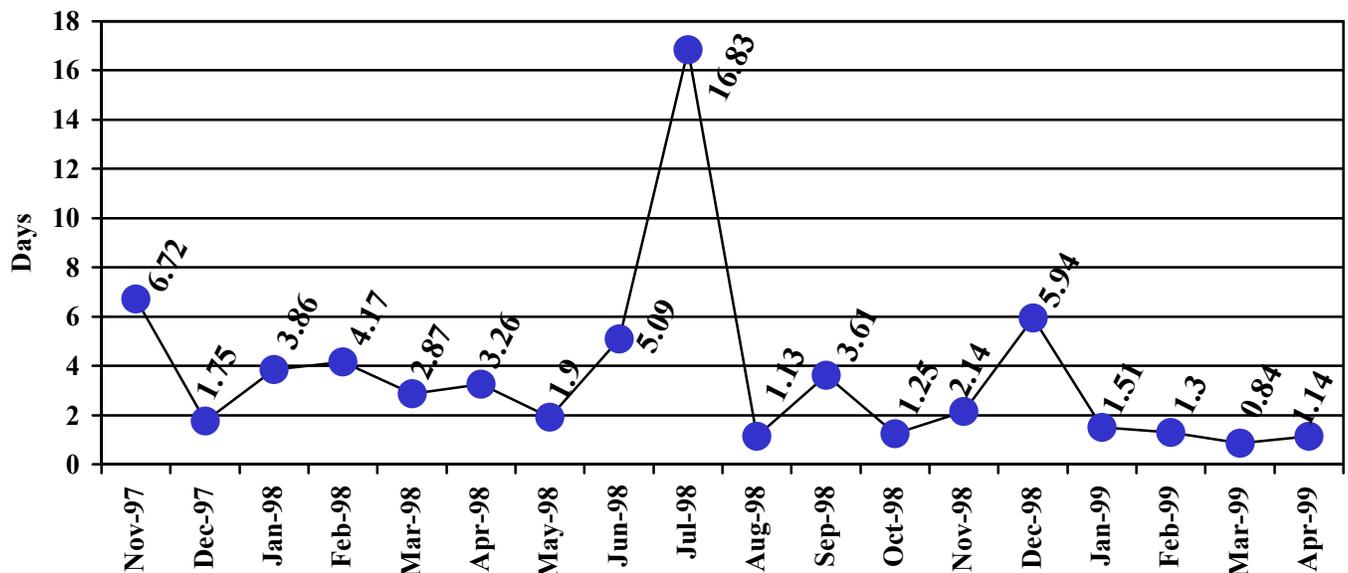


Figure 7.1.5 represents the monthly total number of flying hours lost due to awaiting parts.

Figure 7.1.5 Lost Flying Hours – Awaiting Parts

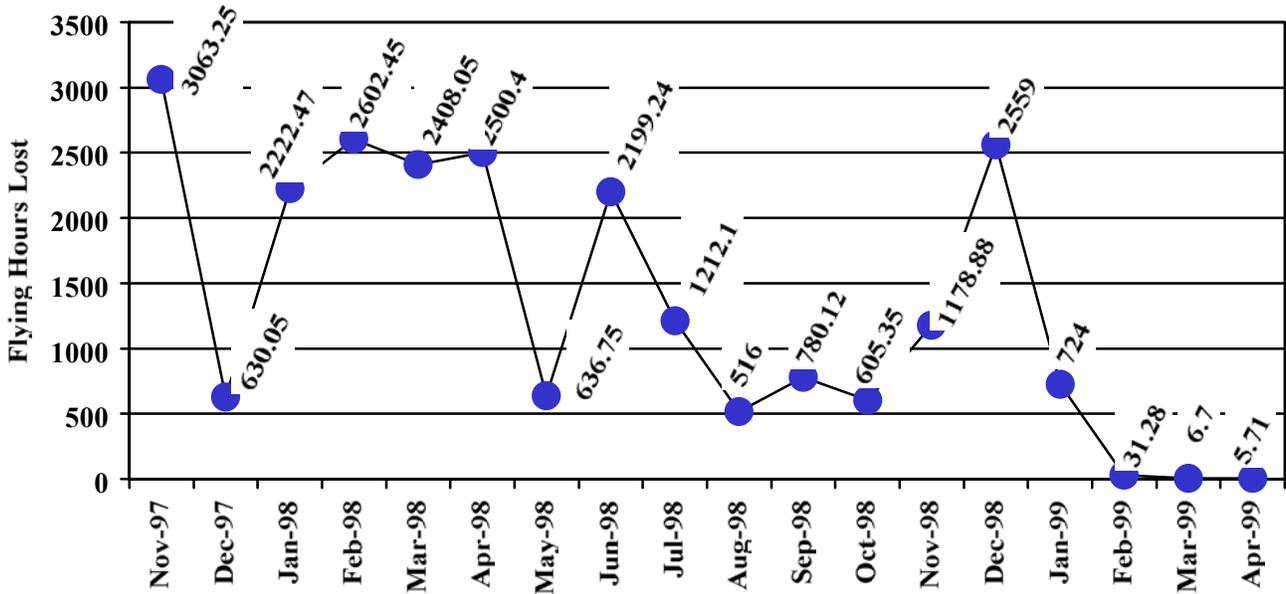


Figure 7.1.6 represents a significant increase in our ability to meet our goal of rapid response. In 1997, 68% of the priority-1 requisitions were filled within 24 hours. In 1999, the response time was 85% for priority-1 requisitions.

Figure 7.1.6 Customer Orders Filled Within 24 Hours

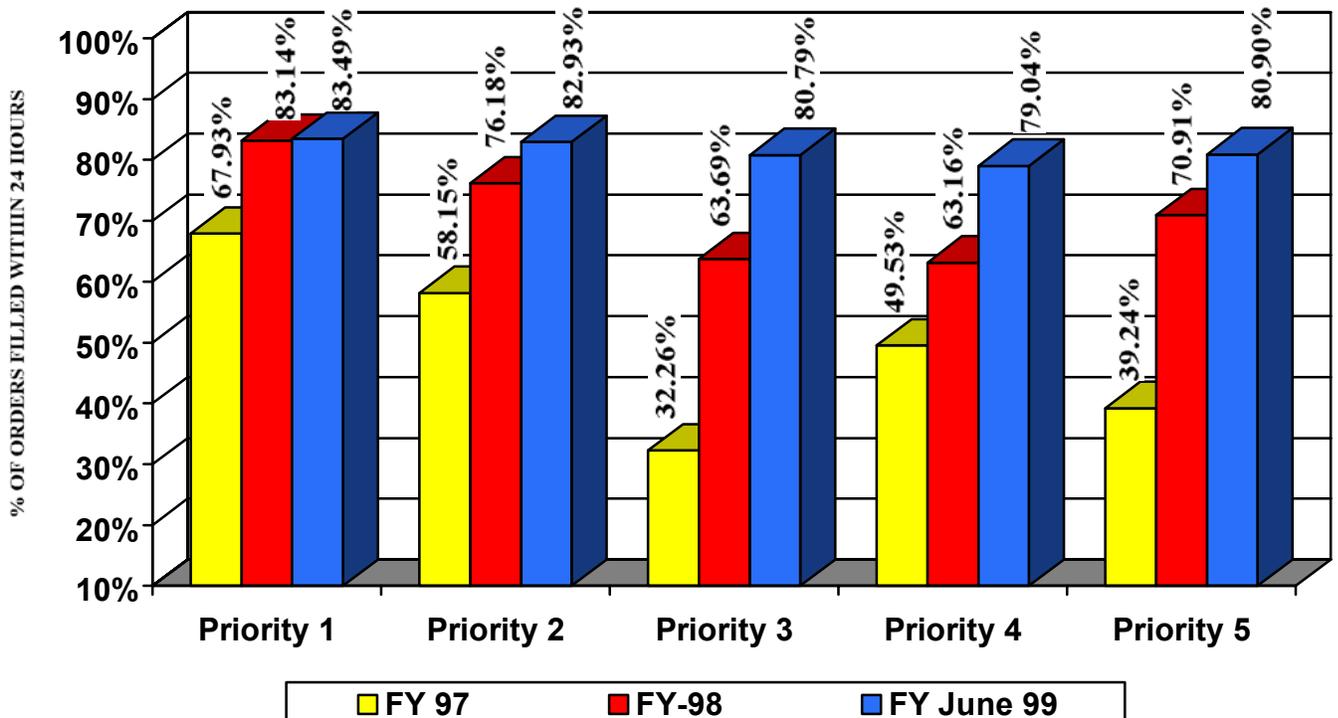


Figure 7.1.7 This represents the number of warehouse refusals per 1,000 issues. A refusal occurs when a requisition is issued, but there is no stock on hand to fill the order. Significant improvement is noted. On time delivery is our goal.

Figure 7.1.7 Warehouse Refusals Per 1,000 Issues

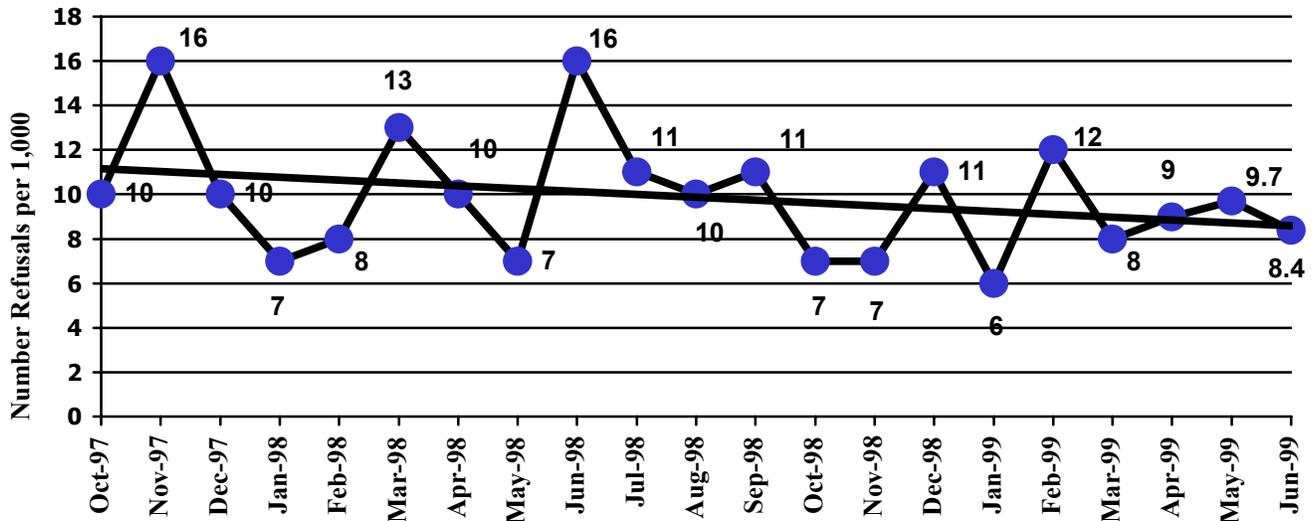


Figure 7.1.8 This represents the number of non-catalogued requisitions. The goal is to improve product delivery time by reducing non-catalogued requisitions by 50%. A non-catalogued requisition occurs when the customer orders items that do not have an established part number in LIS. This creates delays in the delivery process.

Figure 7.1.8 Non-Catalogued Requisitions

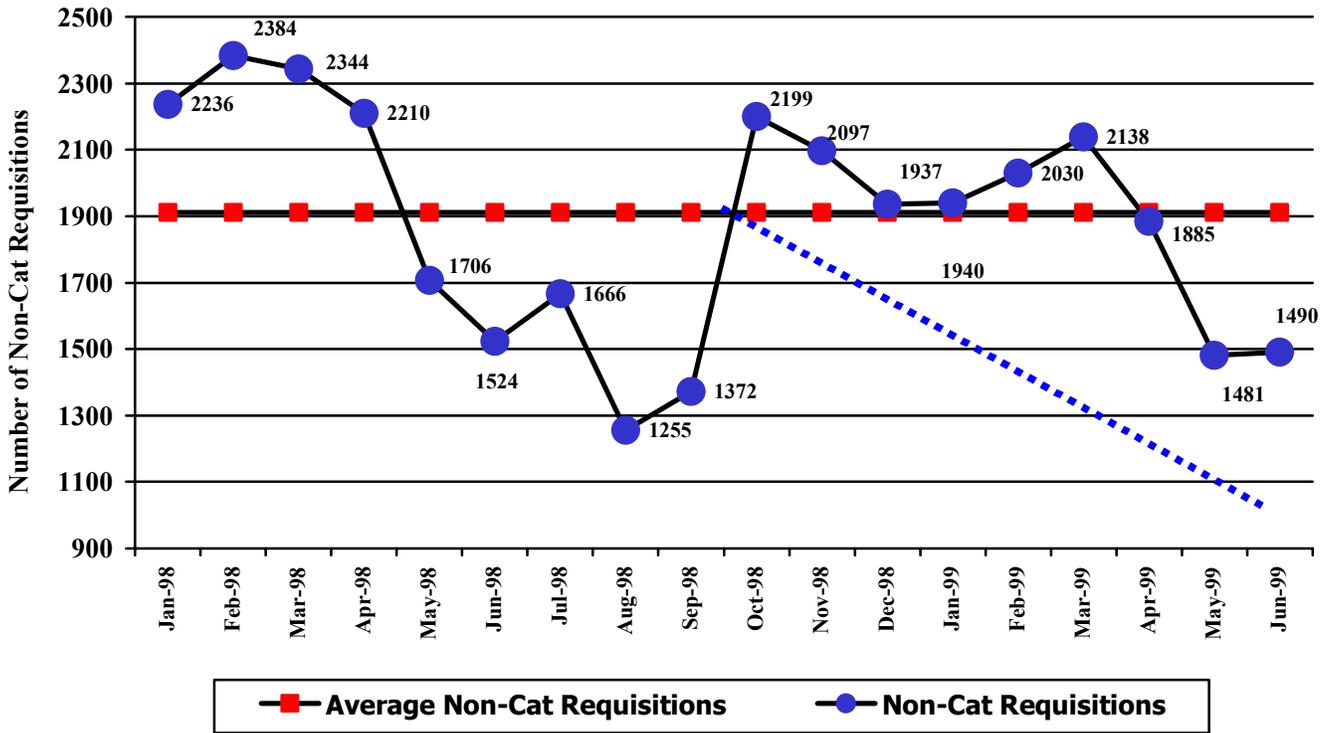


Figure 7.1.9 represents the number of backorders reported in LIS. The FY-99 goal is to reduce the number of backorders by 50%. A reduction in backorders represents that customers are receiving their orders on time.

Figure 7.1.9 Backorders

Figure 7.1.10 represents the number of customer contacts per 1,000 issues. This includes requests for information as well as customer complaints. The creation of the Customer Care Center and customer service representatives caused an increase in contacts.

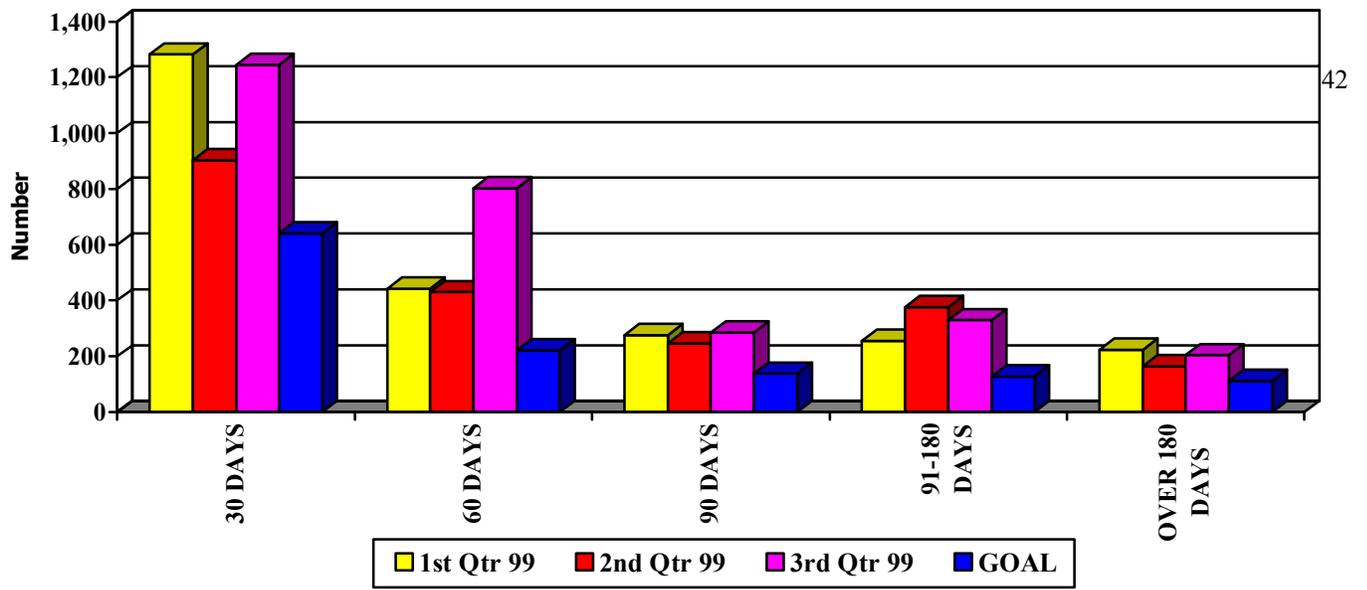
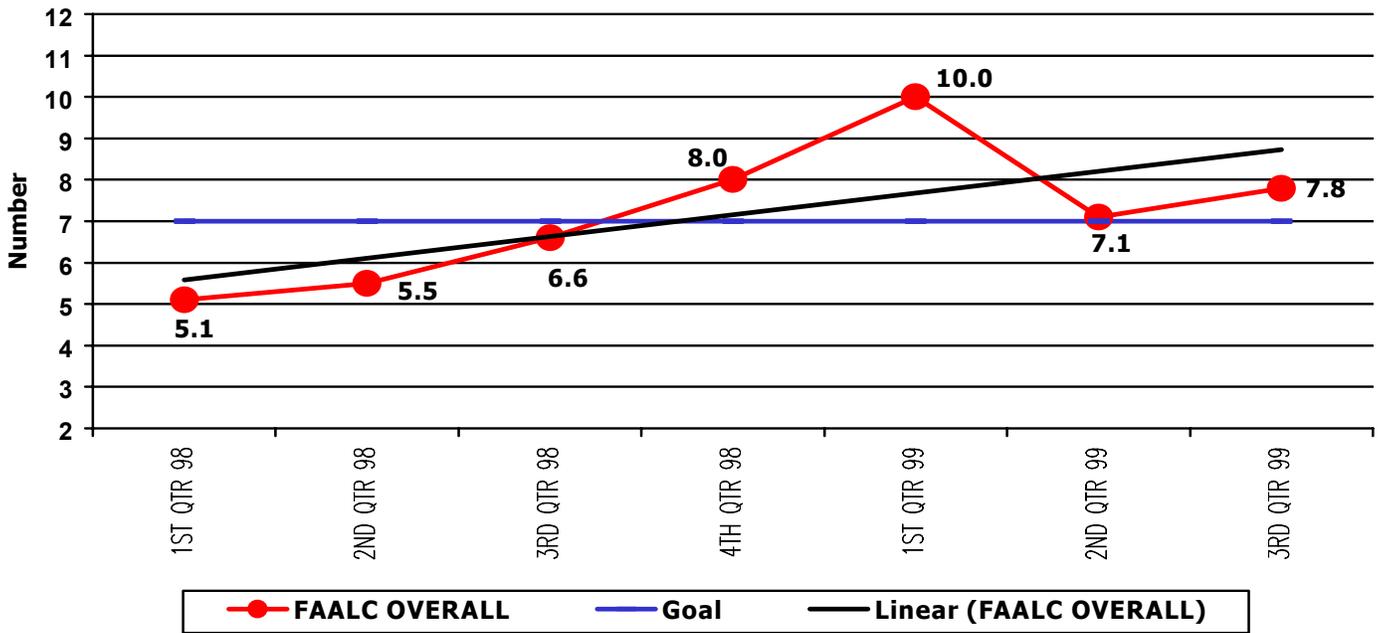


Figure 7.1.10 Customer Contacts



7.2. FINANCIAL AND MARKET RESULTS

Figure 7.2.1 shows the percent of total repairs completed in-house. The FAALC does not always have the capacity to do all electronic and mechanical repairs in the FAALC shops. Fluctuating demand, new systems, and number of trained employees also have a bearing on how much of the total workload can be done in house. Any work not accomplished by the FAALC goes to the private sector for repair. Our 1999 goal is to bring 10% of the 1998 private sector repair back to in-house repair. Staffing in February of 1999, we exceeded that goal. A new repair facility is under construction to provide additional space for repairs.

Figure 7.2.1 Percent of Repairs Done In-House

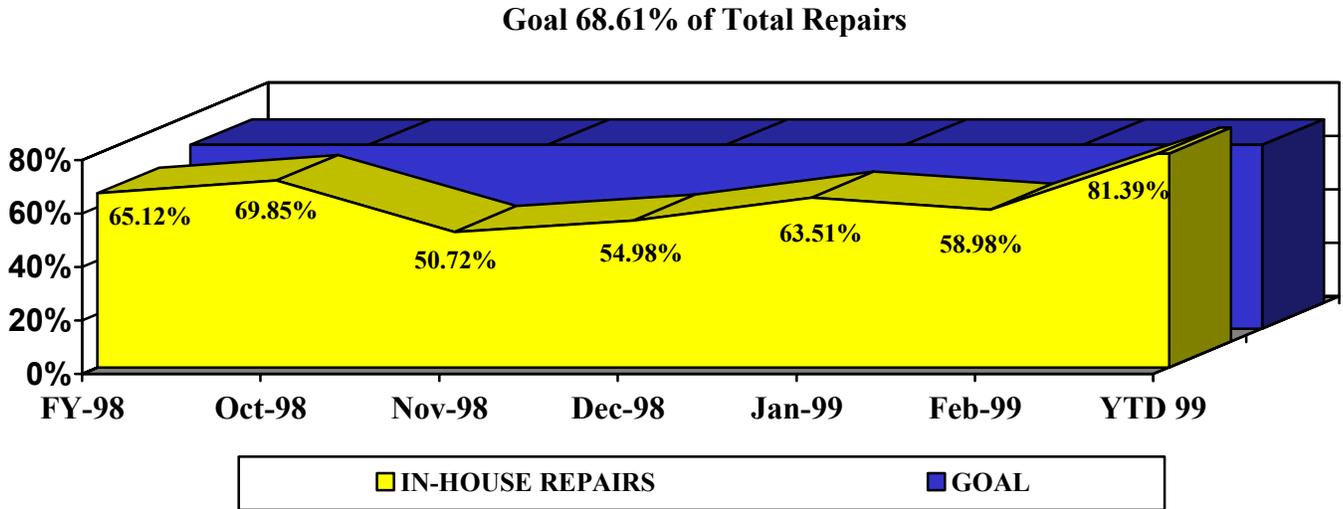


Figure 7.2.2 shows the average unit cost of in-house repairs. The average unit cost has decreased from the FY-98 value. In mid FY-99, we are on track toward attaining our goal of a 10% reduction from the FY-98 cost.

Figure 7.2.2 Average Unit Cost of In-House Repairs

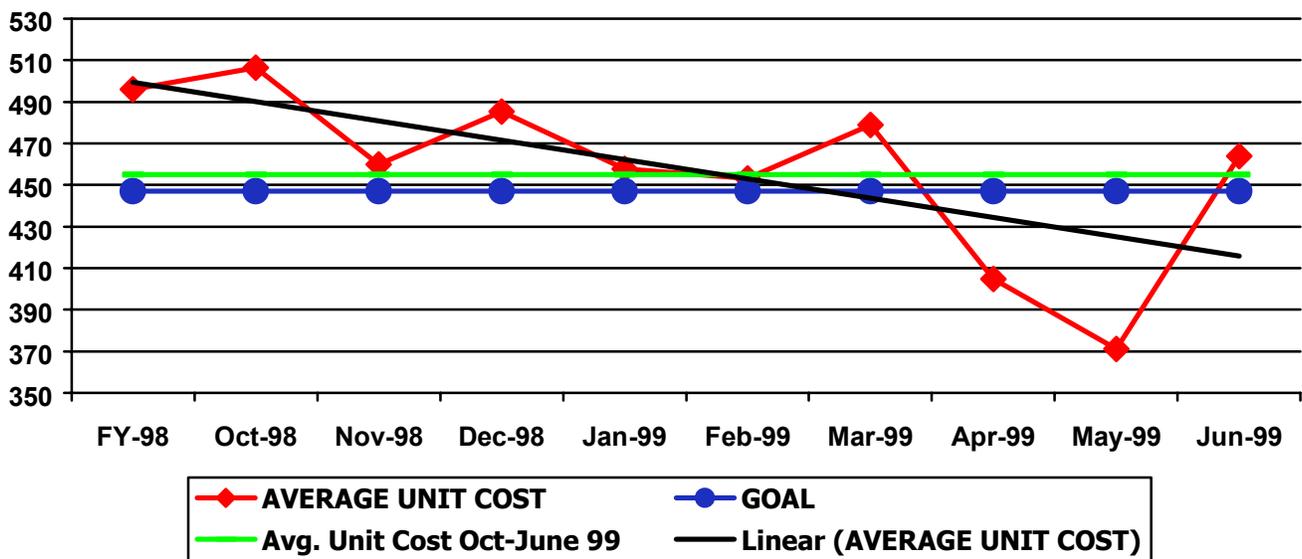


Figure 7.2.3 shows the inventory turnover rate. We are approaching our goal in the turnover rate in stocked consumable products. The Exchange and Repair (E&R) turnover rate is harder to control because of the randomness of customer demands, the number of available spares, and other factors beyond our control.

Figure 7.2.3 Inventory Turn Over

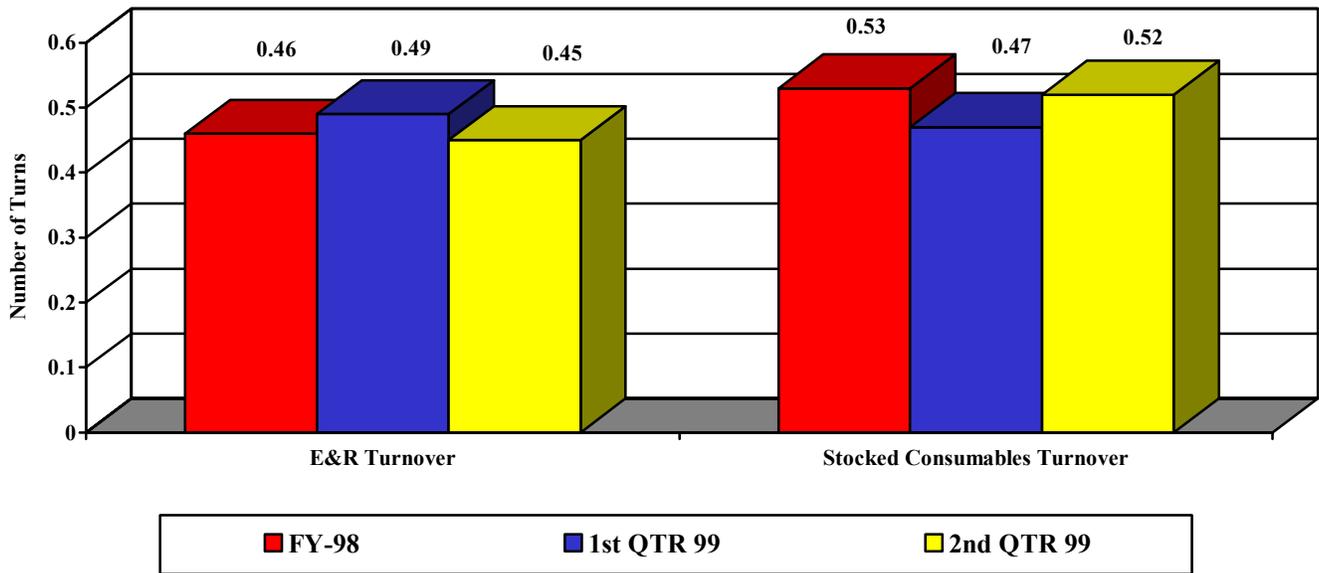


Figure 7.2.4 shows a significant reduction in the total value of the FAALC inventory since 1998.

Figure 7.2.4 Inventory Value

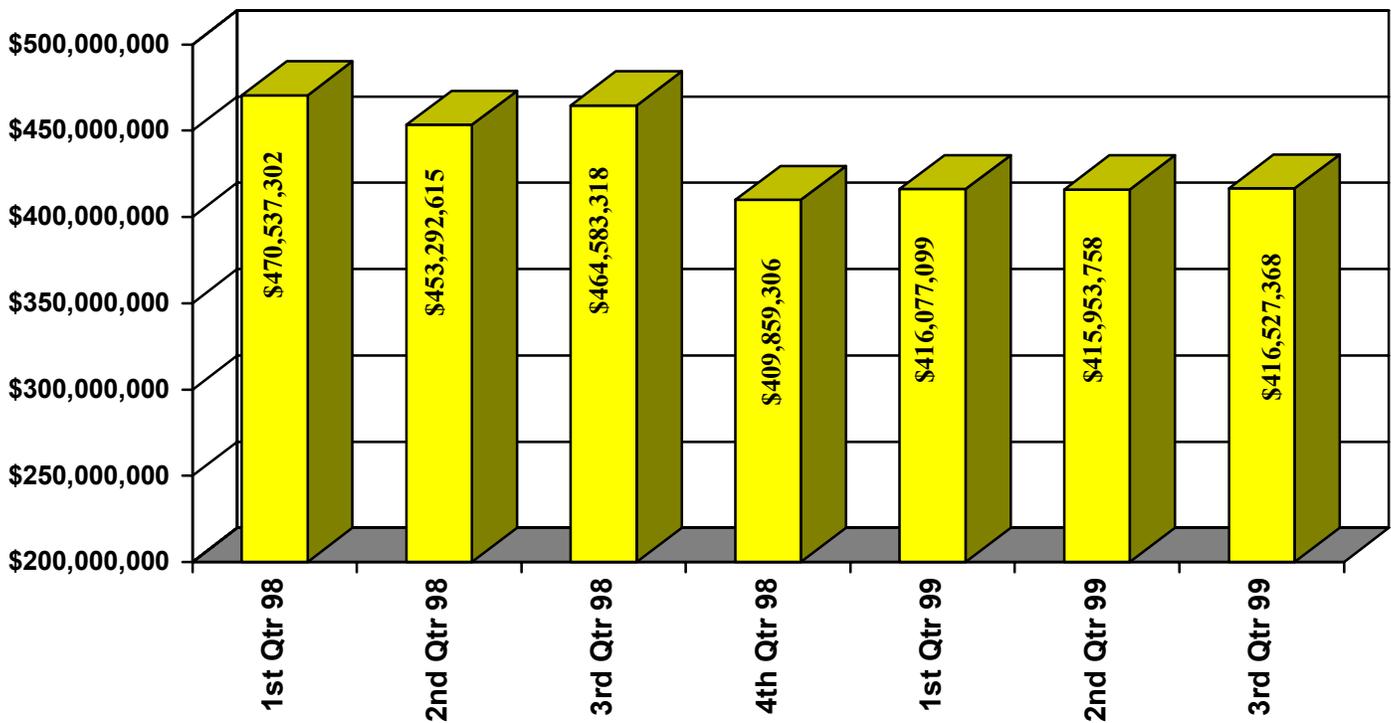


Figure 7.2.5 indicates the FAALC performance in rapid response has increased while our budget has decreased.

Figure 7.2.5 Funding

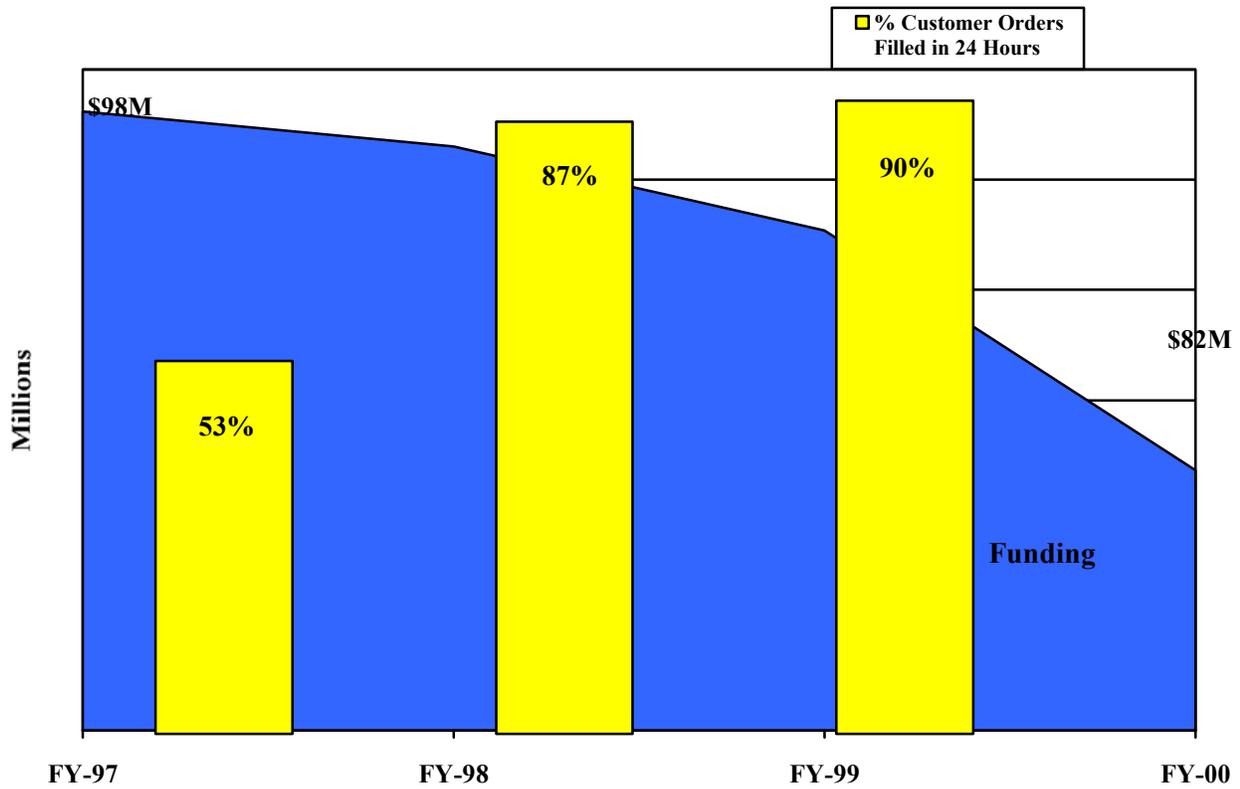


Figure 7.2.6 shows average sick leave per employee.

Figure 7.2.6 Average Sick Leave Usage

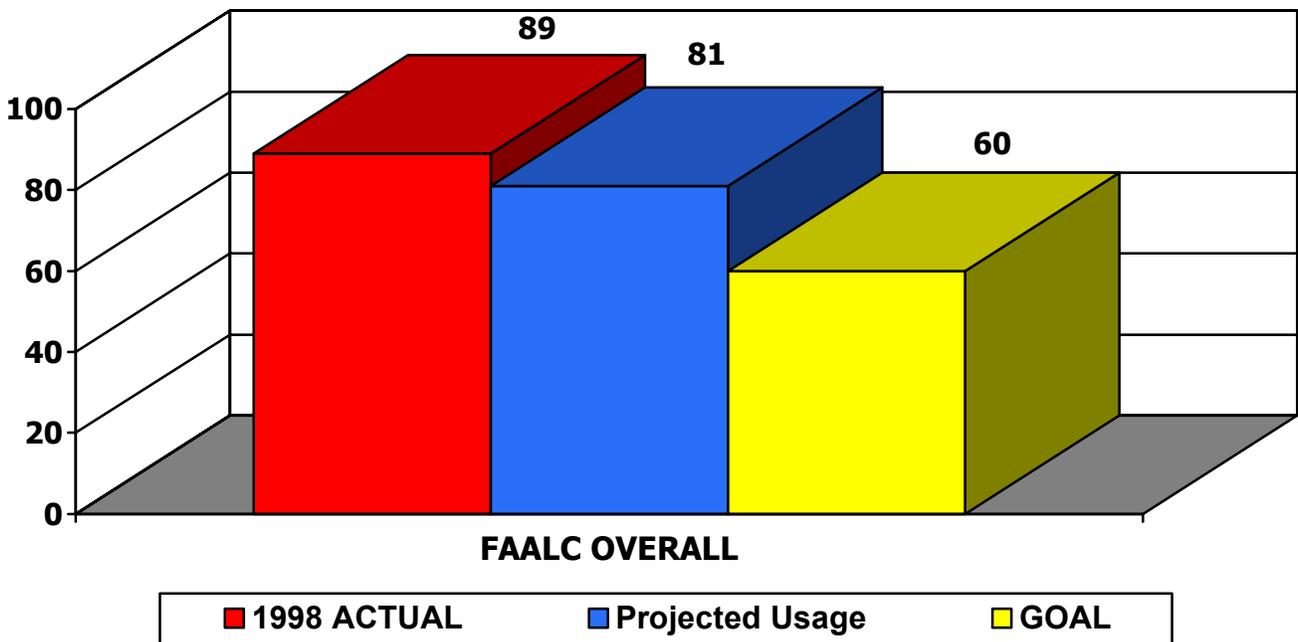


Figure 7.2. through 7.2.10 are graphs prepared for the FAALC market study completed in April 1999. Figure 7.2.7 represents the Distribution Center market trend. The result is a stable market. Stable is defined as market forces and/or historical trends that may result in demand loss. Distribution is dependent on the combination of expendable shipments and repair workload.

Figure 7.2.7 Market Trend

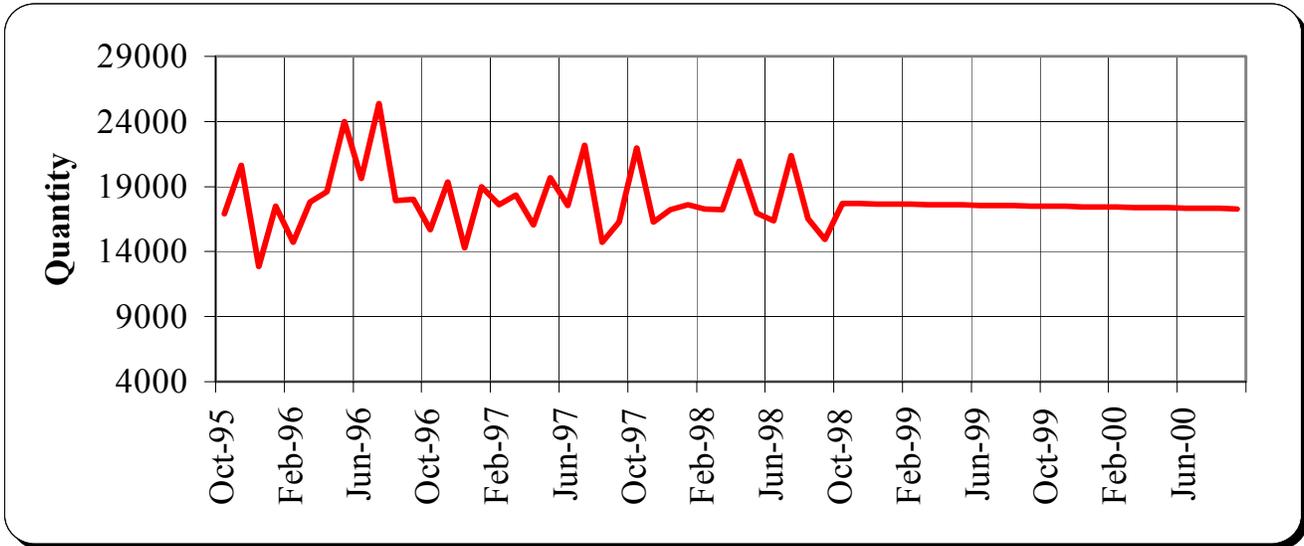


Figure 7.2.8 represents the trend in expendable goods sales for the FAALC overall. The result for expendables is a stable market. Stable is defined as market forces and/or historical trends that may result in demand loss. The market varies by Division with Communications Product Division being a possible increase in demand to a likely drop in demand for the Automation, Navigation, and Product Services Divisions.

Figure 7.2.8 Sales

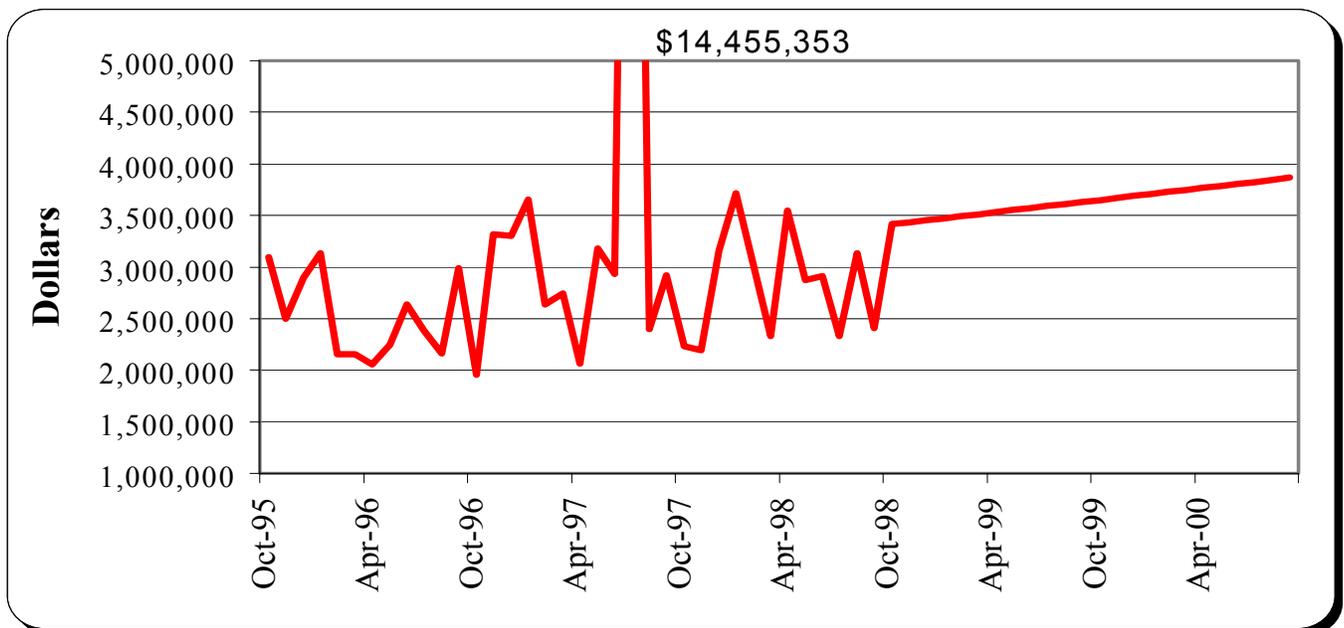


Figure 7.2.9 represents the market trend of direct ship products. The market is represented as being soft overall. This indicates market forces and/or historical trends are likely to result in demand loss. This is true of all Product Divisions except Aircraft whose market is rated as stable.

Figure 7.2.9 Direct Ship Products

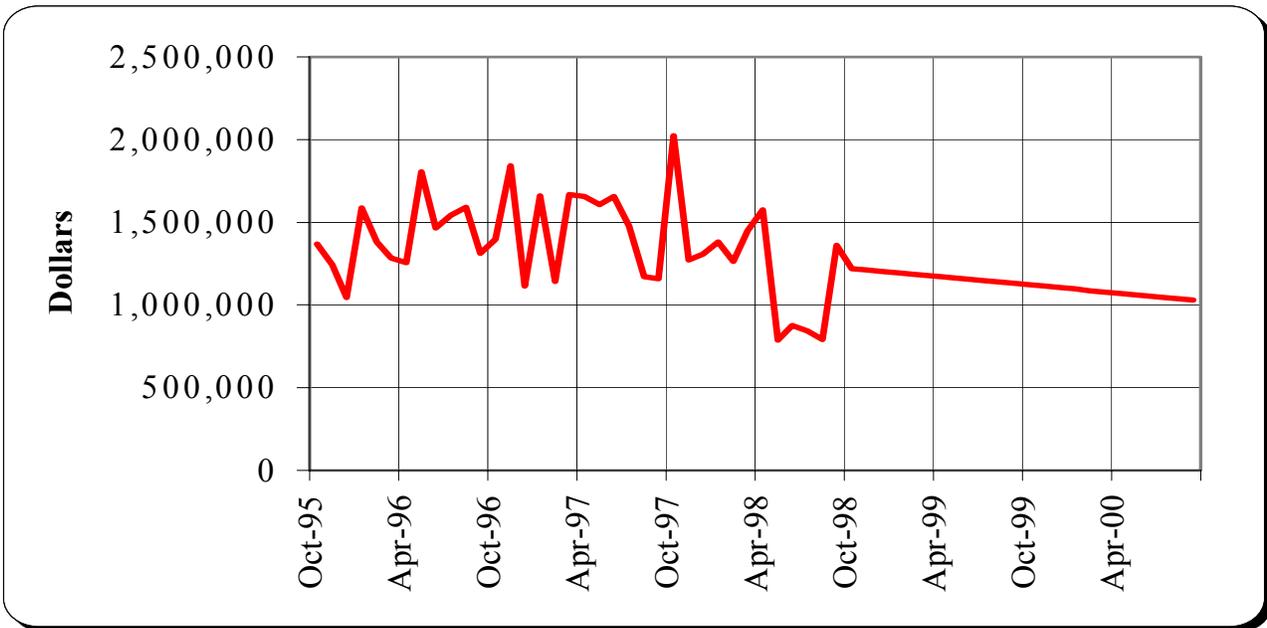
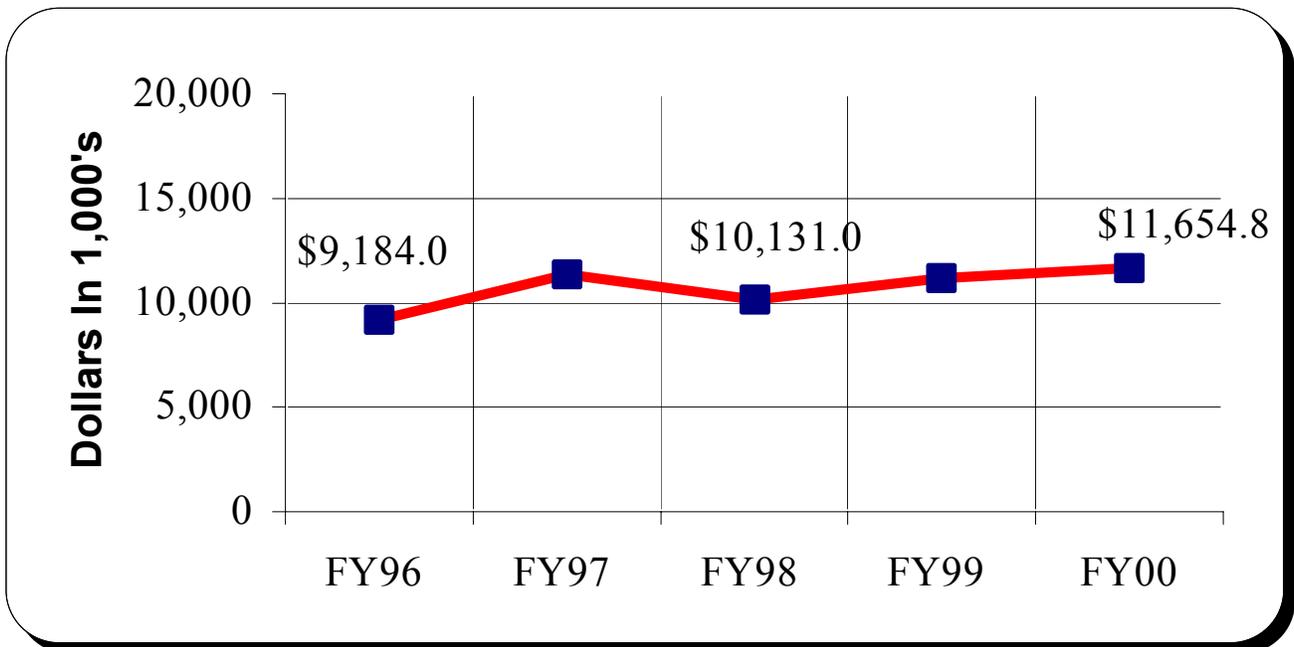


Figure 7.2.10 represents E&R product trend for the FAALC overall. The market is rated hard. This means market forces and/or historical trends are unlikely to result in any loss of demand and increases in demand are possible. This is true of all Product Divisions except Automation, which is rated soft, and the Product Services Division, which is rated as stable.

Figure 7.2.10 E&R Product Trend



7.3 HUMAN RELATIONS RESULTS

Figure 7.3.1 shows the results of the 1997 Employee Attitude Survey that asked the following question to determine Resource Availability: “To what extent do you have the tools needed to do your job efficiently (computers, test equipment, communication devices, etc)?”

Figure 7.3.1 Employee Attitude Survey

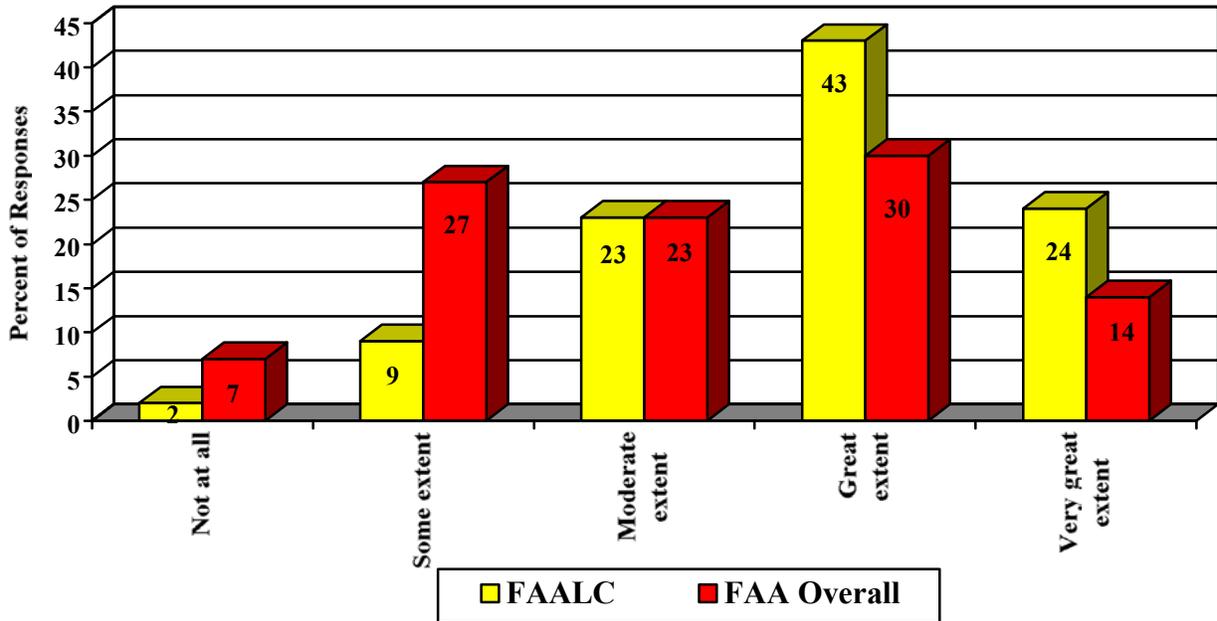


Figure 7.3.2 shows the results of the 1997 Employee Attitude Survey that asked the following questions to determine Equity in Pay and Benefits: “Compared to other places, to what extent does the FAA pay well, offer good job security, and have a good retirement plan?” “Finally, compared to other places, to what extent does the FAA have other good employee benefits (holiday, leave, insurance)?”

Figure 7.3.2 Employee Satisfaction Survey

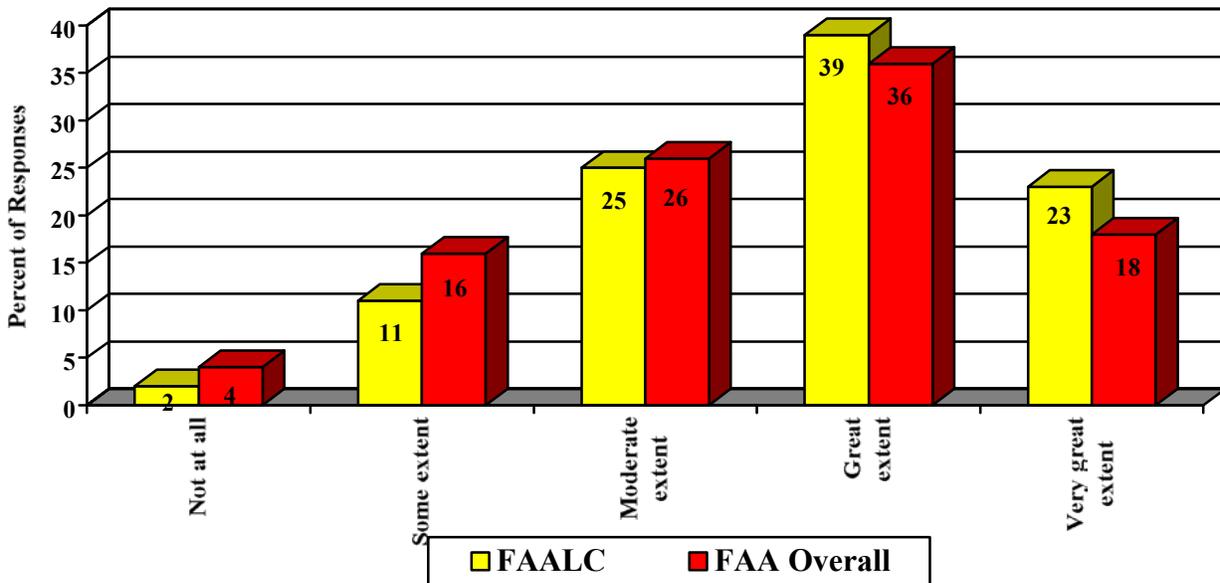


Figure 7.3.3 represents expenditures for training. Extensive training in 1998 for ISO-9002 Quality Training and extensive team training reduced the training needs for 1999.

Figure 7.3.3 Training Expenditures

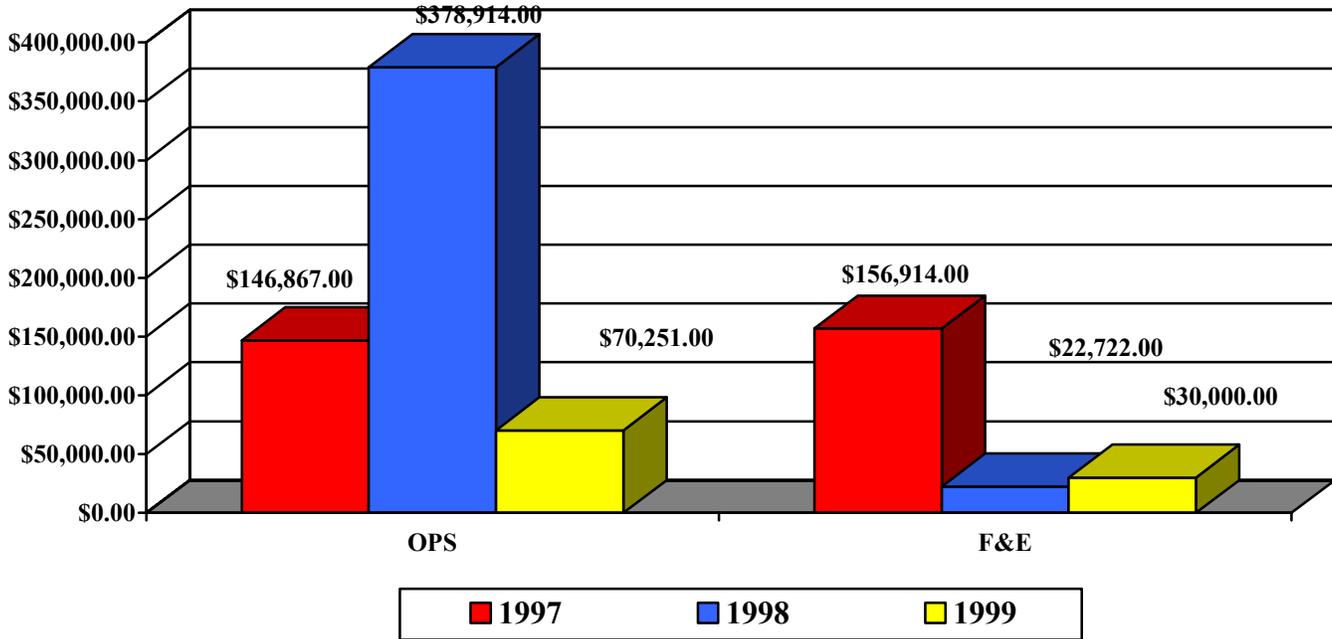
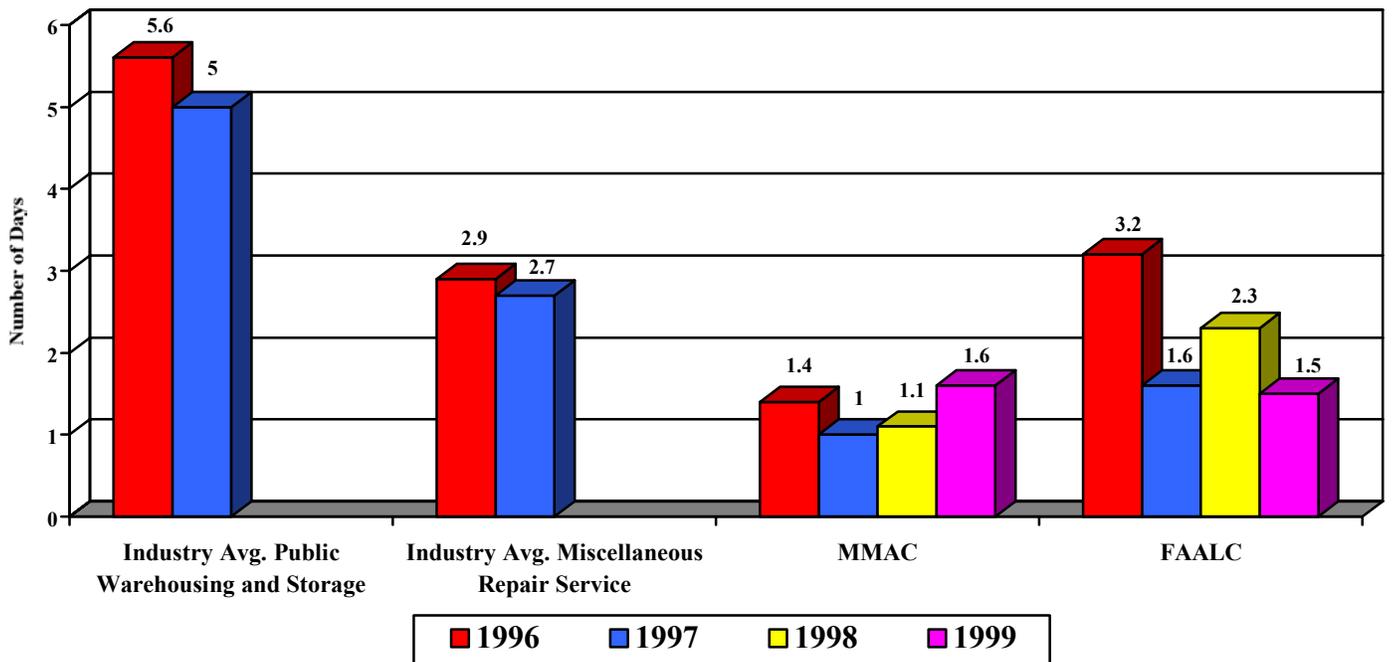


Figure 7.3.4 represents the number of work days lost due to accidents. OSHA data is available only for 1996 and 1997. Public warehousing and miscellaneous repair service are the industries related closest to the FAALC operations.

Figure 7.3.4 Lost Work Days Due to Accidents



7.5 ORGANIZATION RESULTS

Figure 7.5.1 indicates the cycle of planning, preparing, deployment, and measurement of the FAALC Strategic Plan. Defining the strategic goals in 1996 was followed by the preparation required to accomplish these goals. This resulted in realizing several organizational accomplishments. The one change, *Fee-for-Service*, remains to be completed. By all indications, the changes are almost over and a

stable performance based operation will be a reality. Note that the FAALC budget has decreased from \$80 million to \$55 million. This was accomplished by introducing major change strategies such as implementing new buying policies, reducing acquisition pipeline, revising safety stock levels, and drawing down inventory, as well as re-deploying several million dollars in field spares to the FAALC.

Figure 7.5.1 Strategic Planning Results

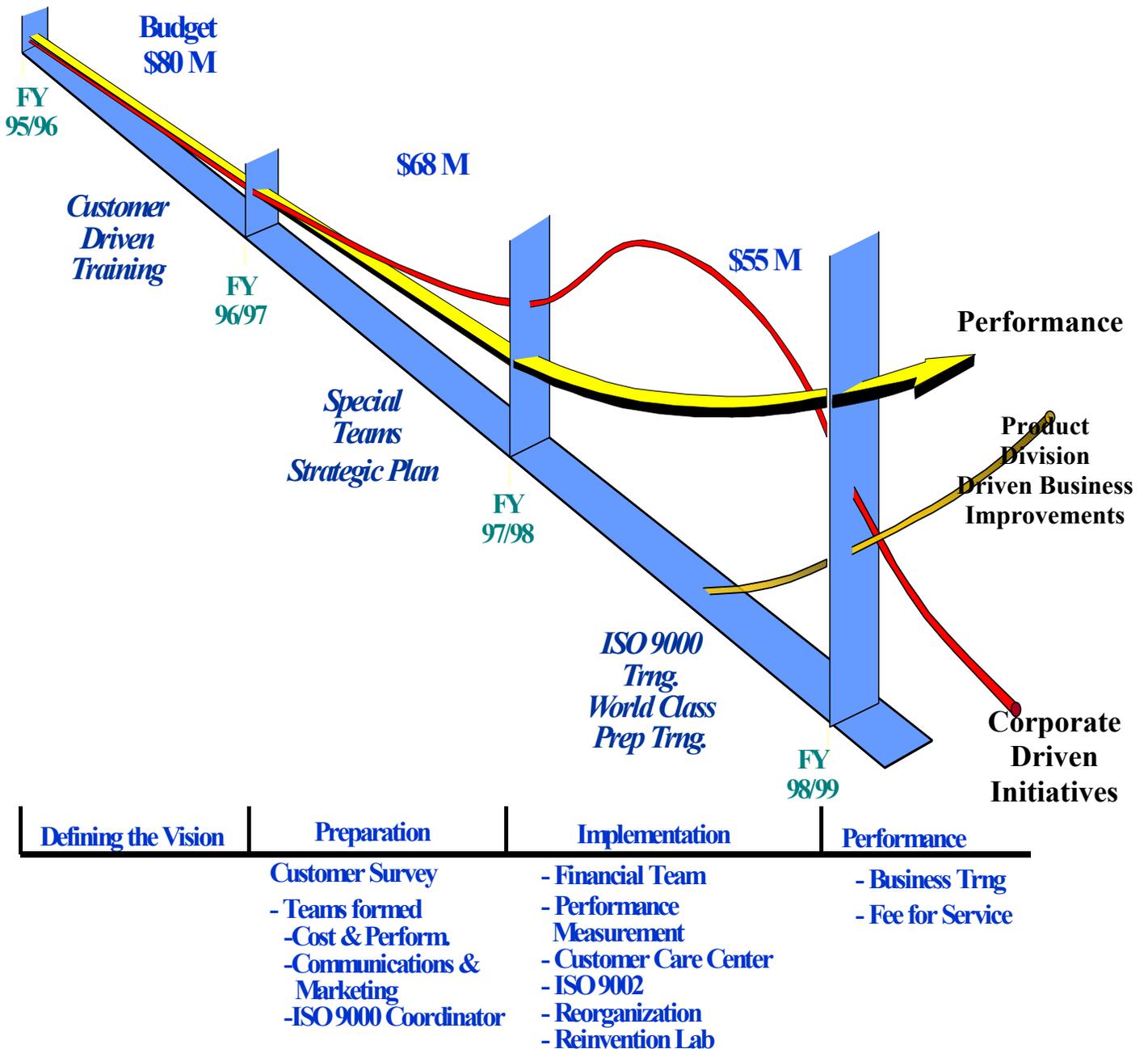


Table 7.5.2 shows the private corporations and the government organizations benchmarked by the FAALC.

Table 7.5.2 Benchmarks

PURPOSE	ORGANIZATION
Strategic Planning	City of Oklahoma City, Oklahoma
Logistics	Dana Corporation, Oklahoma City, Oklahoma
Logistics	Century Inc., Oklahoma City, Oklahoma
Logistics	Defense Distribution Depot, Jacksonville, Florida
Logistics	Defense Distribution Depot, Oklahoma City, Oklahoma
Logistics	Defense Distribution Depot, Warner Robbins, Georgia
Logistics	Southwest Distribution Center, Fort Worth, Texas
Logistics	NCR Worldwide Service Logistics, Peachtree, Georgia
Cost and Performance	Defense Logistics Agency, Mechanicsburg, Pennsylvania
Cost and Performance	City of Indianapolis, Indiana
Cost and Performance	City of Phoenix, Arizona
Cost and Performance	Harris Corporation, Melbourne, Florida
Information Systems	DSC Communications Inc., Plano, Texas
Quality System	Pace-Butler, Oklahoma City, Oklahoma
ISO-9000	Eaton Corporation, Shawnee, Oklahoma
ISO-9000	Charles Machine Works, Perry, Oklahoma
ISO-9000	Goff Industries, Seminole, Oklahoma
ISO-9000	Seagate Corporation, Oklahoma City, Oklahoma
ISO-9000	Love Box Corporation, Oklahoma City, Oklahoma
ISO-9000	U.S. Coast Guard Yard, Baltimore, Maryland
ISO-9000	Naval Surface Warfare Center, Philadelphia, Pennsylvania

Table 7.5.3 shows the results of converting to a *Fee-for-Service* operation by the U.S. Navy and the projected benefits of the FAALC. The benefits to the FAA, flying public, and aviation industry are much greater than just the immediate improvements in the logistics system. Because the logistics system underlies so much, the conversion to *Fee-for-Service*/revolving fund for material support produces improvements throughout the National Airspace System operations. This will also accelerate the modernization of the National Airspace System and there will be fewer failures and downtime in the Air Traffic Control System.

Table 7.5.3 Benefits of *Fee-for-Service*

BENEFITS	NAVY (ACTUAL)	FAALC (PROJECTED)
Demands	Down 20%	Down 10%
Return Rates	Up 17%	Up 5%
Return Times	Down 15%	Down 50%
Material Availability	Up 12%	Up 12%
High Priority Requisitions	Down 69%	Down 10%
High Priority Response Time	Up 42%	Up 10%
Backorders	Down 11%	Down 11%

Figure 7.5.4 depicts the change from a free issue system to a *Fee-for-Service* operation. Currently, the FAALC gets its appropriated National Logistics Support funds for parts and salaries directly in one sum from FAA Headquarters. With these funds, the FAALC pays salaries and benefits, and buys parts for National Airspace System. These parts are issued free to maintenance personnel in the field. This is known as the “free issue” system.

Under the *Fee-for-Service* system, the logistics and material support will be provided in a “free-market” setting. The FAALC will receive no direct appropriation funding as in the past. National Logistics Support funds previously given to the FAALC will be given to the field or in some instances to headquarters organizations. The field maintenance will pay for all FAALC products and services. The FAALC will use the revenues to acquire replacement inventory, pay workforce salaries, and acquire necessary support services.

Figure 7.5.4 Fee-for-Service

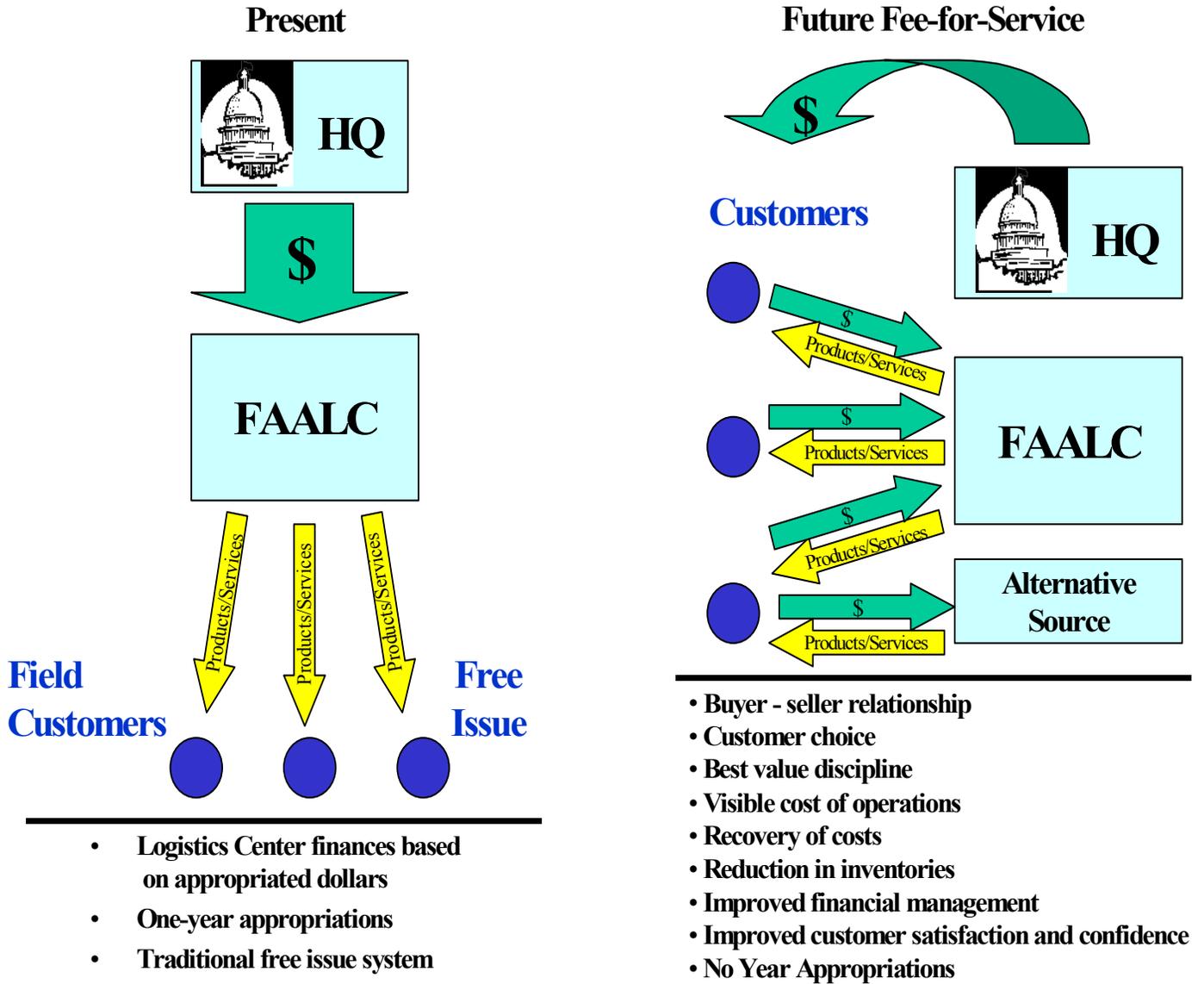


Figure 7.5.5 shows the average Item Manager time in days. The goal is to reduce acquisition lead-time for stock replenishment by 30%.

Figure 7.5.5 Average Item Manager Time to Prepare Purchase Order

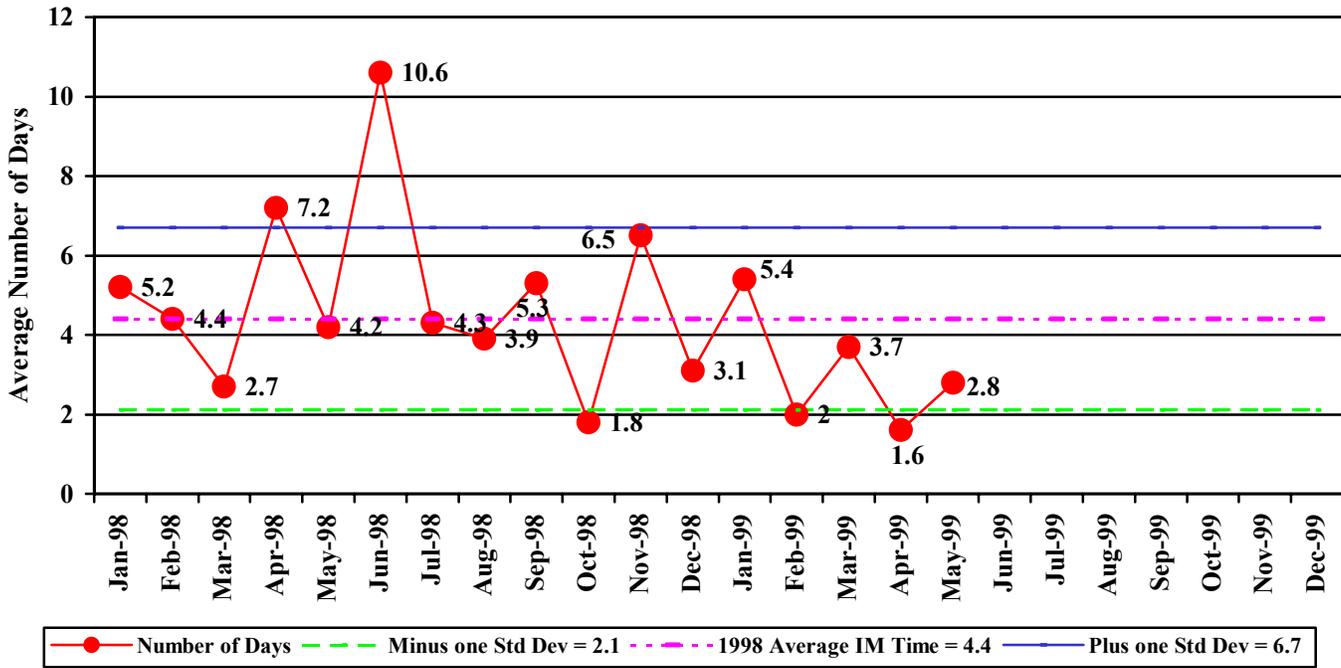


Figure 7.5.6 is a summary of the Radar Product Team accomplishments. Listed are comparative measures of the effectiveness of the reorganization into Product Divisions over the old organization on functional lines. The results achieved by the Radar Product Division proved the feasibility of the reorganization and the benefits of the new alignment.

Figure 7.5.6 Improved Operations

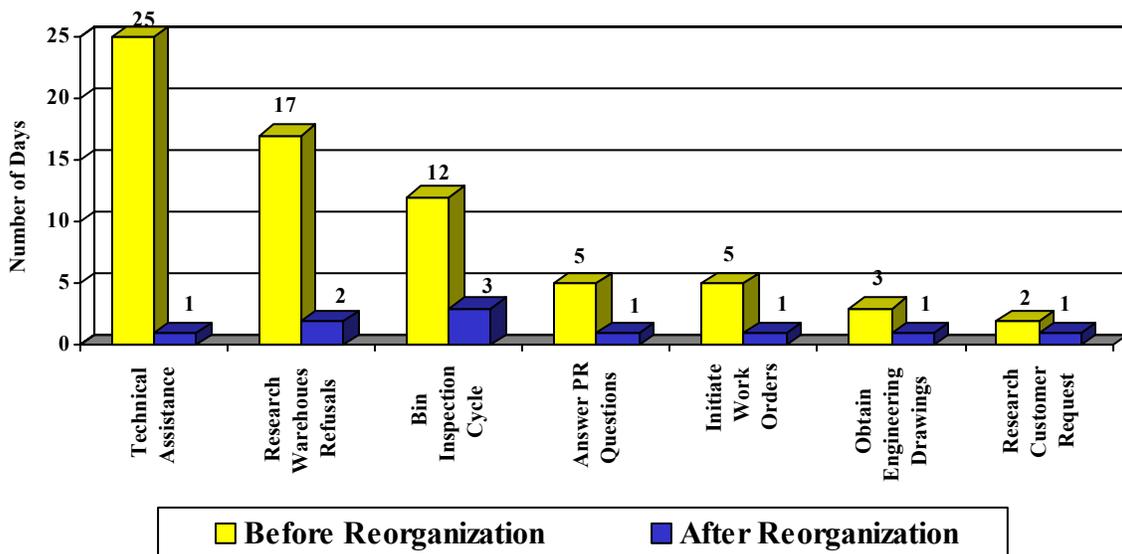


Figure 7.5.7 shows a summary of the civic activities of the FAALC.

Figure 7.5.7 Civic Activities

CIVIC ORGANIZATION	ACTION PLAN	RESULT
United Ways, Combined Federal Campaign (CFC) for 1998.	Reach or exceed 100% of FAALC contribution goal.	Reached 136% of 1998 goal. Awards earned: Spirit Award; Overall Top and Top Carnival Fundraising Award.
Department of Human Services (DHS).	Provide Christmas gifts for between 4 to 7 children in DHS care annually.	Children given new coats, clothing, and toys. AML-100 recognized with Outstanding Volunteer Service Award.
Kirkpatrick Center Museum.	Add aviation display to the Museum to attract and educate potential workforce.	A Fiber Optics Display and an Air Traffic Mobile Control Tower were donated to the Museum.
Metro Tech Aviation Career Center and Local Junior Colleges.	Assist with developing courses that support aviation occupations/careers.	The Metro Tech and local Junior Colleges were provided with new insight in aviation technology.
Federal Executive Board's Council on Disability Concerns (CODC).	Assist with initiating and implementing projects that promote the employment, advancement, and awareness of people with disabilities in the Federal Government.	In June 1998, the CODC co-sponsored "Challenge Air" for students with disabilities. Approximately 50 local students with disabilities participated. Students received free airplane rides and information on flying by the sponsoring pilots who were also people with disabilities.
Hispanic Association of Colleges & Universities (HACU) Natl. Interns.	Sponsor a Hispanic college student to intern at the FAALC.	The Intern is given an opportunity to gain experience on the Budget and Finance operations of the FAALC.
Mentoring Program	Mentor in Coolidge Elementary School	Starting September 1999.
Christmas in April.	Partner with other Federal agency employees to rehabilitate a home for an elderly disabled woman.	In April 1998, FAALC employees partnered with other Federal agency employees to renovate an elderly disabled woman's home.

Figure 7.5.8 list some of over one hundred goals set by the MMAC in their Environment, Health, and Safety Strategic Plan.

Figure 7.5.8 Mmac Goals For Environment Health And Safety

CATEGORY	GOALS
HEALTH	Comply with the Clean Air Act
HEALTH	Comply with regulations for control of blood borne pathogens. 29CFR 1910, subpart L

HEALTH	Comply with respiratory protection regulation
HEALTH	Comply with regulations for first aid. 29 1910.151, order 3940.2ACFR
HAZARDOUS MATERIAL	Comply with toxic and hazardous substance requirements addressed in subpart Z of 329CFR 1910
ENVIRONMENT	Comply with applicable asbestos management regulations
ENVIRONMENT	Comply with ventilation requirements to limit contamination and employee exposure
ENVIRONMENT	Evaluate the need for a noise pollution plan
PROGRAM	Establish a "bench mark" environmental, health, and safety program
EMPLOYEE	Comply with employee Right-to-Know regulations, 29CFR1910.109
RISK ANALYSIS	Minimize adverse effects of proposed MMAC policies, programs, and projects on the environmental health and the mission

Figure 7.5.9 represents the FAALC activity for 1997, 1998, and 1999.

Figure 7.5.9 Total FAA Logistics Center Activity

