Application Summary for the Missouri Quality Award

2004

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CATEGORY 1 - LEADERSHIP

1.1 Organizational Leadership

Through the leadership system (Figure 1.1-1), our leaders set and communicate direction, review performance, and maintain sufficient controls for effective organizational governance. This model, based on the Baldrige framework, focuses on balancing the needs of all our stakeholders, customers, workforce, and suppliers, the communities in which we live and work, and our shareholders.

1.1a The Leadership Team (LT) implements the Leadership System. They set the enterprise-wide strategic direction and lead the Weapons ECC in pursuing our vision, mission, and goals, in reinforcing our values, and in addressing our strategic challenges.

1.1a(1) In order for our senior leaders to set and deploy short- and longer-term directions, it is first necessary to understand and consider all stakeholder requirements and expectations ❶ **Involve and Communicate**, Figure 1.1-1.

One of the primary duties of our leaders is understanding customer requirements. Through our Integrated Business Acquisition process (IBAP Figure 3.1-2), we gather data to ensure that both current and future Weapons ECC products meet and/or exceed the requirements of our customers.

A key aspect of our leadership system is understanding and acting on input from our workforce. Leaders at all levels are visible and accessible to the workforce. Two-way communication opportunities include all-hands meetings, roundtables, focus group meetings, personal e-mail, and team celebrations. Leaders also gather input from our workforce through an annual employee survey that provides actionable feedback to improve both individual leaders and the Leadership System. Our employee survey indicates that 73% of employees feel their supervisor is doing a good job, which compares favorably to other premier companies.

We also work actively with our suppliers to understand their unique requirements. We host supplier conferences at the program and enterprise level and encourage dialogue between Weapons ECC senior executives and supplier senior executives to communicate and address supplier concerns. Suppliers partner with us on Integrated Product Teams (IPTs), and are given the opportunity to participate in key product decisions.

We systematically seek the opinions of and interact with community leaders to understand their requirements and expectations.

Boeing shareholder requirements and expectations are established and shared with senior leaders through goal flowdown from both IDS and The Boeing Company. These requirements are incorporated into the Weapons Strategic Plan, Long Range Business Plan (LRBP) and the Weapons ECC Vision Support Plan (VSP), with performance results reported through regular Business Performance Reviews (BPR).

Figure 1.1-1 Leadership System

The Weapons ECC LT has adopted The Boeing Company's values and created a Weapons ECC Vision and Mission aligned with The Boeing Company's. During the Annual Planning Process (APP), the Leadership Team (LT) reviews, and refines, if necessary, the organization's Mission, Vision and Values to ensure continued applicability (Figure 2.1-1). Based on stakeholder expectations and requirements, and driven by our Vision, Mission and Values, senior executives then ❷ **Set and Communicate Direction** through Annual Planning Process (APP) development and deployment.

Our leaders then ❸ **Organize, Plan, and Align**. We are primarily organized by programs and functions, each with its own specific set of responsibilities. The LT sets short- and long-term directions through the APP (Figure 2.1-1). It also provides the necessary tools and resources and consistent flowdown of executive direction to both run (short-term goals as reflected in VSP's) and change (long-term goals captured in the LRBP) the business.

As a part of the APP, all Weapons ECC businesses and major functions develop implementation plans for both short- and long-term time horizons. These plans and corresponding performance expectations are aligned with our Vision, Mission and Values and are deployed throughout the enterprise using our goal flowdown process, which includes our Vision Support Plan (VSP) process. Goal flowdown is designed to balance the needs of all stakeholders with a built-in feedback loop that ensures two-way communication. Methods to ensure deployment and two-way communication of our Vision, Mission and Values include the annual employee survey, the yearly employee Performance Evaluation (PE) process, and Performance Management System (PMS) (Figure 5.1-2) that includes personal development plans for employees.

1.1a(2) Our leadership system enables our senior leaders to create an environment for empowerment. As we transition to a more involved workforce structure, leaders have received training through multiple forums on how to lead an empowered workforce.

We empower our teams by giving them the Responsibility, Authority, and Accountability (RAA) to produce products and services, develop approaches, and manage results. We are a team-based organization that encourages both natural work teams and cross-functional teams. Our employee survey indicates that 62% of employees are satisfied with the involvement they have in decisions that affect their work. This significantly exceeds the industry average of 51%.

An environment for innovation is created at the Weapons ECC through investment and rewards. Employee Satisfaction Index (ESI) results indicate that 77% of employees feel encouraged to generate new and better ways of doing things, which surpasses the average for Premier Top Quartile companies of 73%.

Leaders create an environment for organizational agility through our organizational structure. Our focus on lifelong learning is exemplified by a generous tuition assistance program that can be used for education in any field of the employee's choice. Additionally, councils have been established at the Boeing, IDS, and Weapons ECC levels to improve focus on organizational agility and knowledge sharing. Each of the Weapons ECC councils is led by LT members and supported by other leaders as appropriate. Each council is accountable to the LT for its respective focus area.

We create an environment for organizational and employee learning through multiple approaches. Weapons ECC employees have access to the Boeing Leadership Center (BLC), where training and development prepare our leaders for both current and future leadership positions. A number of Weapons ECC leaders have participated in executive MBA programs through Washington and St. Louis Universities. The Performance Development Partnership (PDP) process aligns organizational and employee developmental needs.

Our leaders proactively promote legal and ethical behavior in all areas of our business. Boeing Policy 2 sets the standard for ethical business conduct. This is implemented through 10 Boeing procedures. Integrity is one of our key values and is an integral part of our culture. Boeing has institutionalized ethics and proper business conduct in the organization by establishing an ethics position at the Boeing, IDS, and Weapons ECC levels.

Brenda Konersman, our St. Louis Ethics Advisor, helps managers and employees focus on proper ethical business conduct by providing training, giving employees access to ethics advisors, and maintaining an ethics hotline through which any employee may report potential ethics violations.

1.1b Our governance system ensures accountability for the organization's actions by defining this specific role at the corporate level. It begins with Boeing Policy 1, which defines decision-making authority at the highest levels. Policy 6 – Internal Control, flows oversight requirements down to all managers within the corporation. It also guides reliability of financial reporting and compliance with applicable laws and regulations.

Fiscal accountability is also governed by the above policies. In addition, our accounting practices are aligned with both Generally Accepted Accounting Principles (GAAP) and the more stringent U.S. Government Corporate Accounting Standards (CAS) because our business is conducted almost exclusively with U.S. and other national defense agencies. The independence of our external auditors is maintained by allowing them to perform audit functions only.

1.1c(1) Through the actions of our empowered teams, we ❹ **Perform to Plan** and analyze and compare our performance (Figure 1.1-1) with relevant benchmarks. Our senior leaders formally review program and functional

performance at various forums. Changes in organizational needs and directions are addressed in an iterative process between these review forums and our APP.

1.1c(2) Key performance measures are reviewed regularly by the Leadership.

1.1c(3) Organizational performance review findings are translated into priorities for continuous and breakthrough improvement and opportunities for innovation through the APP (Figure 2.1-1). Lessons learned from performance review findings, including improvement and innovation ideas, are incorporated into the planning cycle in APP Step 8. The APP produces plans that are deployed through the goal flowdown process to the organization. Suppliers and partners are apprised of changing priorities through appropriate communication lines.

Every person on our team plays an important role in continuous improvement, so therefore ❺ **Reward and Recognize** is a key step in our leadership system. We have a well-deployed employee recognition program that reinforces our values and recognizes excellence through a variety of means (Category 5.1b).

1.1c(4) Senior leaders are evaluated through multiple processes including the Multiple Viewpoints (MVP), and Performance Evaluation (PE) processes, performance against VSP, and through the employee survey. In addition, the BLC also evaluates leaders for essential leadership competencies.

Our senior leaders use performance review findings to improve their own leadership effectiveness through incorporation of learning into the PE and PDP processes. Senior leaders also review and improve their own leadership effectiveness using the employee survey.

Through these methods, the approaches described in 1.1a(2), and through the use of the Baldrige criteria as our business model we achieve ❻ **Organizational and Employee Learning**. These combined approaches help ensure continuous improvement.

1.2 Social Responsibility

We recognize the community as a key stakeholder (Figure 1.1-1). Its interests, requirements and expectations, and the impact of our operations upon them, are integral to the success of our business.

1.2a(1) We operate in a highly regulated environment. Many of these requirements are designed to mitigate either societal impact or risks to the users of our products. We manage these requirements through established procedures, processes, training, and audits.

We meet or exceed the requirements for environmental and hazardous material protection through a systematic approach. We meet or exceed the requirements of many other regulatory agencies through established processes. Our government contracts are controlled by Federal Acquisition Regulations (FAR) and our international business transactions must be compliant with the International Traffic in Arms Regulations (ITAR) and export control licenses. Our operations also are evaluated by on-site Defense Contract Administration Agency representatives, who often work closely with our leaders in an IPT approach. Our measures for compliance are requirement-specific. Our compliance goals are 100%.

1.2a(2) We anticipate public concerns largely through our functional organizations, where we consider environmental impacts and other public concerns of products, services, and operations that address all stakeholder groups. Other methods include: our Washington, DC office evaluating the potential impact of pending legislation, Gate Reviews as part of our Integrated Business Acquisition Process, and the annual SHEA Strategic Management Planning and Risk Evaluation process.

By working closely with local and state governments, we maintain our awareness of and proactively anticipate public concerns. We are then able to address issues that arise by leading and participating in governmental and professional task forces and maintaining a strong interface with regulatory agencies.

1.2b As part of The Boeing Company, we have a comprehensive process for ensuring ethical behavior in all stakeholder transactions and interactions.

Ethical requirements are communicated to all levels of the organization during new employee orientation and at mandatory annual refresher courses. We also have a 24-hour ethics line that employees may call to anonymously report questionable practices or to ask for situational advice. A full-time ethics advisor is also available to answer ethical questions. To further protect stakeholder interests, the Boeing organizational governance process maintains a comprehensive audit program to ensure compliance with all legal requirements and ethical standards. Supplier responsibilities are communicated through contracts, personal contact with Boeing employees, and the "Doing Business" website.

1.2c The Boeing Company and its employees are actively involved in the community. In 2003, they contributed more than $88 million, $35 million of which came from the Boeing Employee Community Fund (ECF), the largest employee-owned charitable organization in the world. Employee-controlled ECF charitable programs are established at 71 Boeing locations, including all Weapons ECC sites.

CATEGORY 2 - STRATEGIC PLANNING

2.1 Strategy Development

The objective of the Weapons ECC Annual Planning Process (APP) is to develop a sound long-term strategy and create a competitive advantage by systematically converting our strategic intent into meaningful action. Through a defined, systematic approach to planning and goal flow down, we have developed and executed key strategies to provide value-added products and services to our customers through our focus on performance excellence. Our strategic planning process has evolved from a simple planning framework, to a more systematic process that integrates existing enterprise wide planning processes to assure a uniform approach. Figure 2.1-1 illustrates this process. Through the APP, we align the organization to achieve our goals and objectives through the deployment of executable plans, such as the Long Range Business Plan (LRBP), Technology and Innovation Development Plan (TIDP), the Vision Support Plans (VSPs) of individual managers, and the Performance Evaluation (PE) goals of all employees.

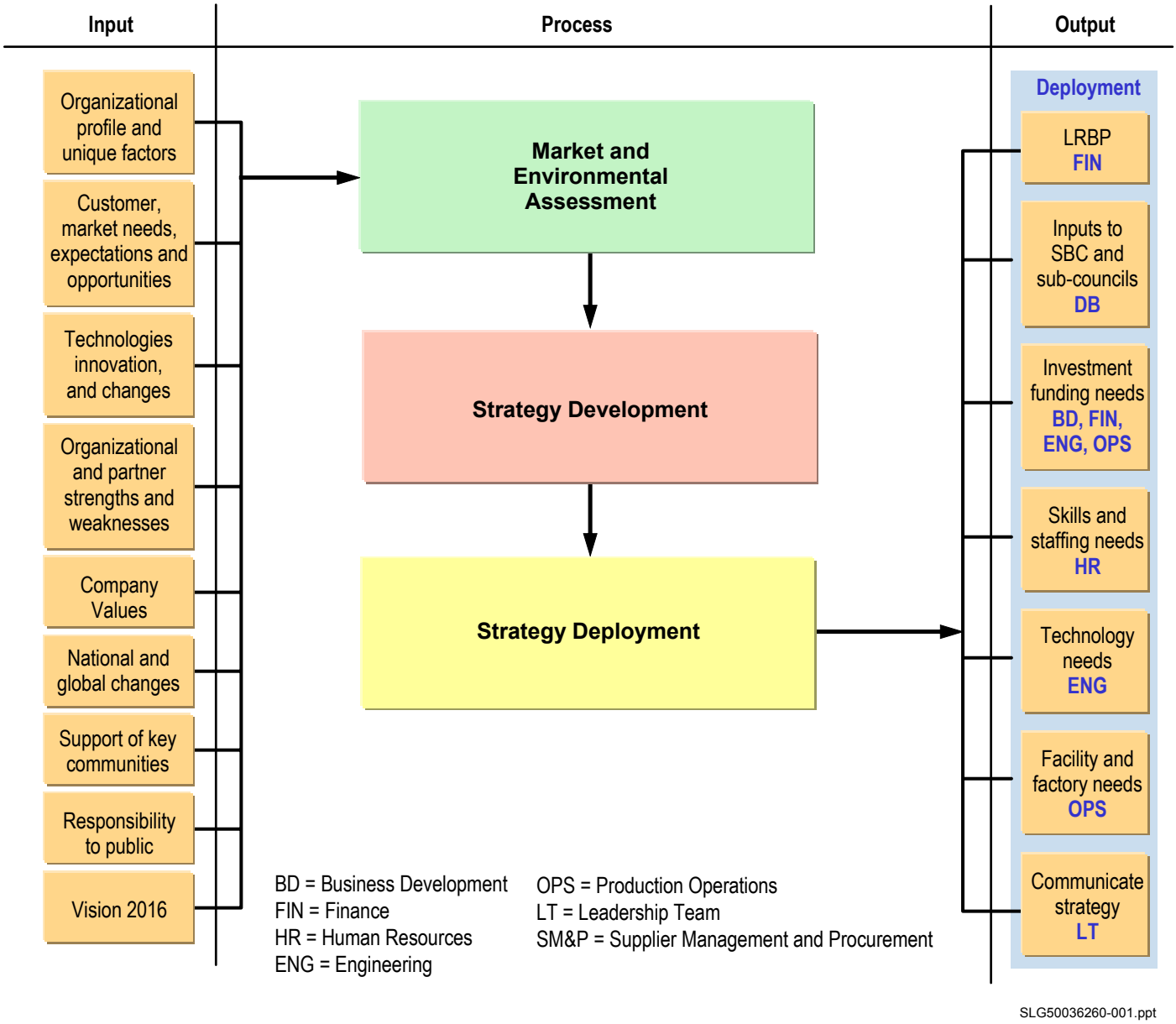

Figure 2.1-1 Annual Planning Process

An effective APP relies heavily on an understanding of the external and internal environment that the Weapons ECC must operate in. Figure 2.1-1shows the Annual Planning Process in use by the Weapons ECC. The left side of this chart shows the **Key environmental factors**, which define the environment in which our strategy must be executed. The center of the figure defines **key steps** of the **overall strategic planning process** used to develop and deploy the Weapons ECC strategy. The right side of the figure shows the outputs of the process, where **strategy deployment** occurs, by publishing various executable, measurable plans. **Key players** in the APP are shown in the figure. They consist of the Leadership Team, Business Development, and Programs and Functions, such as Finance, Production Operations, and Supplier Management and Procurement.

2.2 Strategy Deployment

In order to achieve our strategic objectives, we strive to engage the entire organization. Communication of the Company, IDS, and Weapons ECC strategies to all levels of the workforce is a major leadership emphasis area. Communication by itself will not produce the desired benefits of a fully engaged workforce. Additional powerful tools to achieve full engagement include **Goal Flow down and Deployment of Actionable and Measurable Plans**. These processes ensure that our overall measurement system for action plans, the Vision Support Plan (VSP), is aligned and integrated with goal flow down to all contributors. Once goals have been flowed throughout the organization, **Execution of the Plan** begins and continues throughout the year. On a monthly basis we **Monitor the Plan** using our VSPs and other key metrics.

Deployment of Action Plans The Programs and Functional Organizations develop action plans in support of the Weapons ECC strategy. These action plans become a key element in the strategy deployment process. These plans are the outputs of the APP and are shown on the right side of Figure 2.1-1 under the heading of deployment. These plans are actionable and measurable, and are essentially where our strategy is committed to actions.

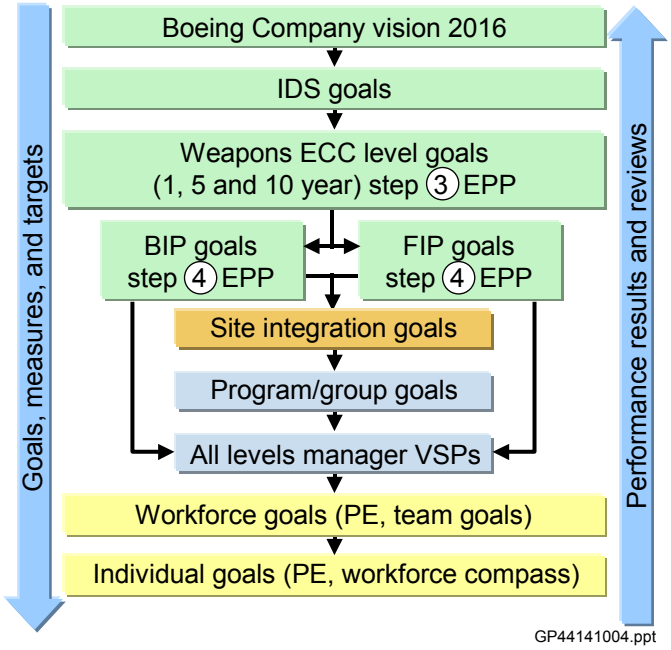

Figure 2.2-1 Goal Flow Down Process

The Weapons ECC tracks the progress of our action plans through key performance measures and indicators centered around Flawless Execution, Growing Profitably, and Implementing Effective Leadership. Using goal flow down we identify the short- and long-term targets that we need to accomplish to achieve our strategic objectives. Our integrated VSPs contain one-year goals and objectives, and provide linkage to key strategies from first-line managers through senior leaders. Our goal flow down process enables us to systematically align the organization by flowing down goals, measures and targets to the appropriate level, while "flowing up" performance on key measures to give visibility to performance across the organization.

Our APP establishes strategic objectives that address the needs of each key stakeholder. Through goal flow down, we establish measures at the appropriate level to ensure that we cover all key deployment actions. The Weapons ECC VSP is summarized in Figure 2.2-2.

Type	*Strategy/ Metric	Description	Focal
Execute Flawlessly	E-01-A, B, C, DA	Financial, Schedule, and Mission Performance	Program, Business and Functional Managers
	E-02-A, B	Improve Quality and Cost	Program, and Functional Managers
	E-C	Supplier Diversity	SM&P Managers
Shape Markets and Grow Profitably	G-01-A, B, C	Orders, Earnings, and Customer Performance Assessments	Program and Functional Managers
	G-02	Leverage Product and Process Technology	Weapons ECC/ Program Chief Engineers
	G-03	Embed Network Centric Architecture in all programs	Program Managers
Effective Leadership	L-01	Commitment to Integrity and Ethics	All Managers
	L-02-A, B, C, D, E.2	Enable Employee potential through, Diversity, Satisfaction, Involvement,	All Managers, leads, HR
	L-20-C	Expand, strengthen relationship with community	VP/GM, Weapons ECC LT

* Strategy/Metric numbers refer to actual Weapons ECC Strategies and the metrics used to measure their implementation each month

Figure 2.2-2 Weapons VSP Summary

CATEGORY 3 - CUSTOMER AND MARKET FOCUS

Detailed **Customer and Market Focus** is a Boeing core competency and **Customer Relationships and Satisfaction** is a Boeing value. Through our Customer and Market Focus process, shown in Figure 3.1-1, we obtain Ⓐ **Market Knowledge**, shape Ⓑ **Customer Requirements**, develop Ⓒ **Customer Relationships**, and create Ⓓ **Customer Satisfaction.**

As we pursue new business, maintain existing business, and deliver products and services to customers within our market segments, we achieve business expansion through the **①Create, ②Acquire**, and **③Maintain and Grow** phases of the Boeing/IDS Integrated Business Acquisition Process (IBAP). IBAP success requires continuous customer communication and integration with our Weapons Annual Planning Process (APP) as shown in Figure 2.1-1.

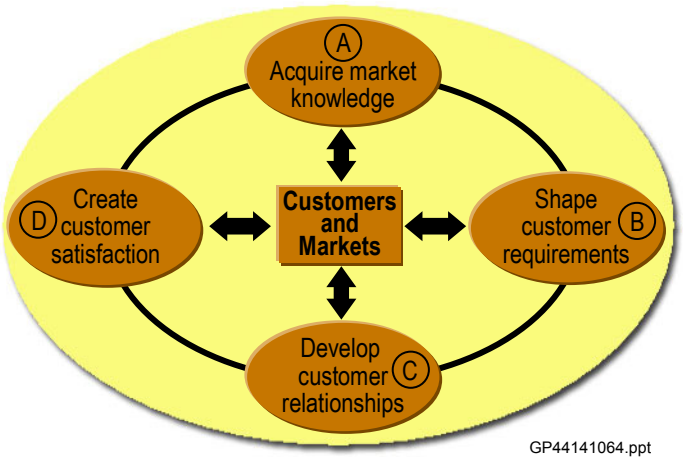

Figure 3.1-1 Customer and Market Focus

3.1 Customer and Market Knowledge

3.1.a(1) To determine or target our customer and market segments (Figure 3.1-1 Ⓐ **Market Knowledge)**, our Weapons ECC leadership team uses three resources. First, it initiates the APP with a Market and Environmental Assessment (Figure 2.1-1, Steps 1-4). Key assessment inputs include multi-sourced, comprehensive data on customer expectations/ roadmaps, market needs/opportunities, technological innovation, customer organizational profiles, customers of competitors, and potential customers. This assessment of opportunities, capabilities, and roadmaps feeds the APP's Strategy Development phase resulting in a Weapons Strategic Plan (WSP) (Figure 2.1-1, Step 9). The WSP, subsequently, produces the Long Range Business Plan (LRBP) (Figure 2.1-1, Step 13).

Next, to engage all Weapons ECC customers and potential customers, the weapons team uses a disciplined, common Customer Contact Plan (Category 3.2.a) for each program opportunity. During the IBAP's **①Create and ②Acquire** phases, detailed customer knowledge obtained from the customer contacts is linked to specific opportunities in our identified customer segments. The **③Maintain and Grow** phase addresses Customer satisfaction and complaints.

Finally, to heighten our understanding of our competitive position, we receive post-competition ratings of our rival's proposal generic strengths and weaknesses.

3.1.a(2) Throughout the entire product/service lifecycle, we use formal and informal processes to assess our understandings of our customers' requirements. In a complex affiliation, a three-dimensional interplay drives the customer/Weapons ECC relationship (See Category 3.2.a). Our Customer/Market Segmentation Cube, Figure 3.1-2, defines this interplay between our customers' unique cultures/differing needs, decision makers, and our market segments. Reflecting our key customers' purchasing requirements, we organize our WSP by market segments as shown on the cube's top face. The cube's front face defines our customer segments. Within these customer segments are positioned the diverse customer decision-makers, influencers, and implementers shown on the cube's right face. When a Weapons ECC product/service has multiple customers, the appropriate Boeing business unit is matched to a lead customer. Our Satisfy Customer Process, Category 3.2.b(1) further defines the Boeing/Customer counterpart relationship.

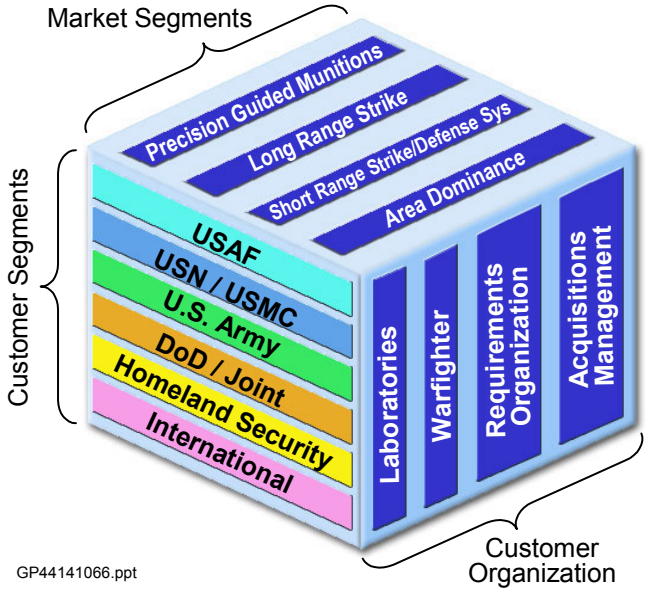

Figure 3.1-2 Weapons ECC Customer/Market Segmentation Cube

Applying the formal customer contact plan throughout the IBAP, we glean formal and informal customer and market knowledge from various listening events, including customer visits, quality function deployment, voice of the customer, user advisory groups, and war games. During the **①Create** phase, recurring interactions between the customer and our contact people systematically explore the customers' requirements generation process and facilitate our development of proactive solutions, Figure 3.1-3. During the

②**Acquire** phase, customer-generated Requests For Information (RFI) and Requests For Proposals (RFP) define customer requirements and expectations. With our analysis and understanding, we then link our proactive solutions with the detailed customer requirements. ③**Maintain and Grow,** usually the longest phase in a product's lifecycle, embraces formal and informal communications with diverse customer segments to ensure a maturing program satisfies customer requirements, enhances customer loyalty, and resolves any customer complaints. An example of ③**Maintain and Grow** success is the Harpoon missile program that has adapted to changing requirements and relevancy for 30 years.

To strategically plan product, service, marketing, and process improvements, our business development team gathers information relevant to customer requirements, expectations, and purchasing priorities from current and former customers, key suppliers, marketing and sales information, customer loyalty and retention evaluations, win/loss analyses and complaints.

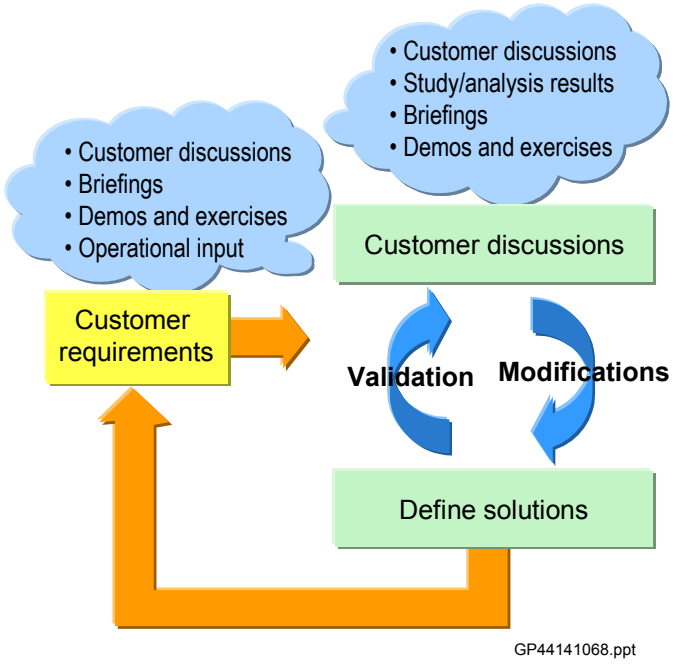

Figure 3.1-3 Customer Requirements – Solutions Cycle

Our product planning includes market evaluations. As our WSP and customer contact plan feed new market opportunities into the IBAP's ①**Create** phase, an analysis process evaluates market viability, (Figure 3.1-1 Ⓑ**Customer Requirements**). Depicted in Figure 3.1-4, the evaluation includes an effect-based analysis, an alternative concepts assessment, and a technology integration/value appraisal.

Thus, we can use relevant technology and customer information to "Shape the Market" by offering a cost-effective new technology-push such as the JDAM program. Or, where Weapons ECC and a customer have jointly identified a capability gap, the analysis may suggest our customer generate

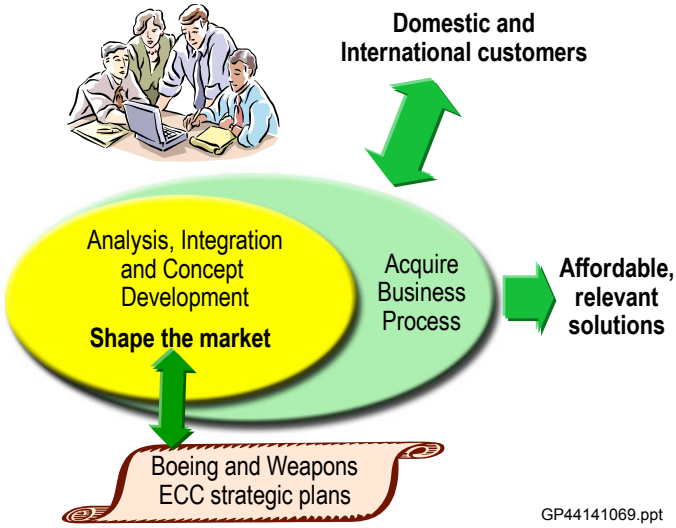

Figure 3.1-4 Using Customer & Market Knowledge

a cost-effective technology-pull, such as SLAM ER**.** We also leverage our supplier technologies to meet our customers' requirements, such as guidance, GPS, and data links from Honeywell and Rockwell Collins. With full customer coordination, the IPTs on established programs and ATMS on emerging programs consistently develop preliminary system concepts, perform value analyses, and conduct trade studies for new technology opportunities.

To maintain our customer focus throughout the IBAP, our listening and learning determination methods adapt to fluctuations in our customers' current and unique profiles.

3.1.a(3) We continually adapt our listening and learning methods to changing customer organizations and cultures to maximize our effectiveness. We incorporate information gathered from customer contacts and modify our processes based on relevant feedback.

3.2 Customer Relationships and Satisfaction

Through strong partnerships with our key customers and through their subsequent involvement in all aspects of our business, we build long-term customer relationships and transition our satisfied customers into loyal customers (Figure 3.1-1, Ⓒ **Customer Relationships**). Per Program Management Best Practices, we develop and manage our Boeing/customer partnership approach. Experience from several Weapons ECC programs applying customer contact relationship development contributes to outstanding business results (see Category 7.1). Subsequent routine contacts by our field office personnel, periodic contacts by program people, and creating and improving customer relationships through joint teams form our working customer relationships. These activities are fundamental to future business expansion.

Our Customer Relationship Model (Figure 3.2-1) helps our customer contact people understand the developmental flow of relationships and prepares them for "relationship

management." Our Customer Relationship for Satisfaction Model (Figure 3.2-2) also illustrates the dual, complementary focus of performance and relationship excellence.

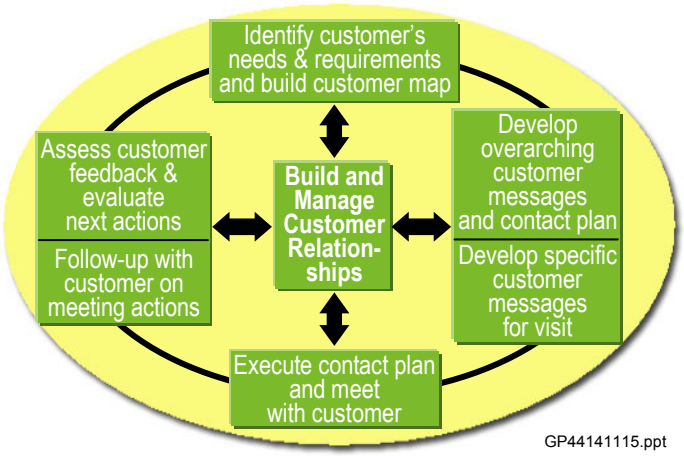

Figure 3.2-1 Customer Relationship Model

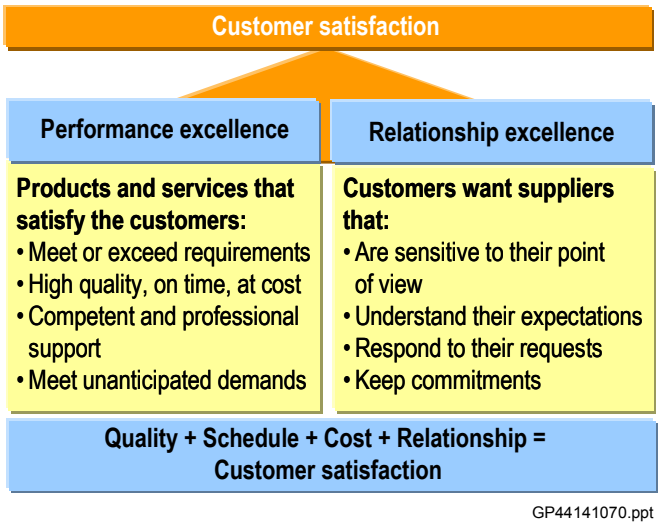

Figure 3.2-2 Customer Relationships for Satisfaction

3.2a(1) Weapons ECC recognizes customer satisfaction is improved through relationship excellence as shown in Figure 3.2-1. To develop customer contact skills for the IBAP ①**Create** and ②**Acquire** Phases, the business development team and executive leadership learn similar principles in the Achieving Market Leadership course offered at the BLC. This course emphasizes building and maintaining strong customer relationships that contribute to customer confidence and to the overarching goal of customer loyalty which is repeat business. One person at a time, we form partnerships with our customers through their involvement on IPTs, by locating our field service representatives at customer sites, and by integrating their representatives on our team at our production facilities.

Recognizing the importance of building and maintaining strong customer relationships, our **Manage Customer Satisfaction Approach and Deployment** value creation process ensures consistency in our customer satisfaction approaches, in the augmentation of key competencies, and in the implementation of Boeing/industry best practices.

3.2.a(2) Our customers use multiple mechanisms to seek information, conduct business, and submit complaints. Ranging from daily to annual contacts, formal access mechanisms include IRAD reviews, our RFI/RFP responses, design/management reviews, satisfaction surveys, scheduled assessments (including award fees and CPARs), Weapons reliability and availability measures, onsite representatives, offsite team meetings, and warfighter briefs. Informal access points include onsite representatives, assigned contact people/alternate contact people, and business development representatives in Washington, D.C. To bridge time zone differences, our partnerships and customers share a high dependence on e-interfaces, such as Federal Business Opportunity (FBO) database and Electronic Proposal Contract Systems (EPCS), email, file sharing, Boeing Partners Network, WebEx teleconferencing, and cell phones. To facilitate communication, problem resolution, and contractual oversight, we also house customer representatives (such as DCMA) within our facility.

To support IBAP, our business development team leads the review/update customer contact plans. Our customer contact plan matches Weapons ECC personnel with a counterpart in the customer organization. In the ①**Create** phase, the customer contact plan systematically gathers and analyzes high-level domestic/international customer access requirements versus our products/services. In the ③**Maintain and Grow** phase, customer contact plan refinements match each customer function with Weapons ECC counterparts and emphasize our Integrated Product Team (IPT) approach: IPT leaders manage contact people responsibilities for contractual obligations, keeping the response chain strong by linking the right employees with the right customers and by updating customer contact requirements at the team level.

Following Program Management Best Practices, Weapons ECC formally includes the customer contact plan in its VSP scorecards.

Integral to our customer contact plan, domestic representatives and international consultants daily "face" the customer.

3.2a(3) In our culture, we build, maintain, and improve our customer relationship by including the customer in the complaint resolution process. We directly address customer issues through regular program communication between counterparts. Issue complexities, individual preferences, and urgency determine the medium of access, the resolution approach, and management level involved. The MET system is being implemented as the central repository for tracking top management issues. Our leadership organization reviews open actions for progress to resolution. Some programs use either the CLEAR II or TipQA database to generate a Quality Discrepancy Report (QDR) of hardware/production complaints, trouble reports, and problems. Other issues are

worked and tracked real-time within each program's IPT/customer relationship.

In Weapons ECC, complaints are used to improve production, design, and management processes. After promptly performing a collective analysis of various pertinent data, IPTs complete trend analyses. The results are provided to our LT, our strategic partners or Supplier/IPT executive councils for determining business impact, resolution support, and/or appropriate team-wide application.

3.2a(4) Our Customer Contact Plan regularly evaluates our customer relationships and customer access; and, our APP process schedules strategic assessments of our customers' roadmaps versus Boeing/IDS/IDeAS strategies flow down. To identify improvements to our existing processes, systems and measures, our LT has reviewed past Baldrige recipients including Boeing Aerospace Support and C-17 Programs. By applying Program Best Management Practices, we adapt our organization and processes to the customers' and deploy lessons learned to improve processes.

3.2b(1) To determine customer satisfaction (Figure 3.1-1, Ⓓ **Customer Satisfaction**), we measure and analyze customer data. Customer satisfaction data is recorded in Figure 7.1-1.

- **Formal** – U.S. Government assessments such as CPAR, Award Fee, and Corrective Action Requests (CAR). We also receive formal feedback from quarterly PMRs and competitive proposal out briefs.
- **Informal** – Regular internal assessments, such as CPI/SPI, deliveries, win rate, repeat business
- **Counterpart** – As defined in the Program Management Best Practices and managed by our customer contact plan, effective communications with our domestic and international customers ensures all customer issues and actions are addressed in a timely manner.

Scores and trends from these three sources feed into our established improvement processes as defined by Program Management Best Practice**s**. Customer-focused process measures of government related products and services are compiled in our IDS Program Quality Health Matrix. This matrix, based on informal and formal customer feedback, is shared with each respective program.

Our use of multiple performance-focused formal customer feedback sources, such as CPAR and Award Fee is further balanced by subjective customer relationship measures, including external and field service surveys and by continuing customer interaction. Relating subjective relationship measures (Figure 3.2-2) to the Satisfy Customer Process Model and to our VSP enables us to detect requirements variations and unique customer expectations.

Whether customer-driven or identified by referencing internal metrics, each program has an integral process for capturing actionable customer feedback. Real-time feedback during issue closure in the Satisfy Customer Process (SCP) shows a commitment to meeting customer expectations.

Our Program Management Best Practices influence how we handle customer issues both formally and informally.

We measure customer loyalty through the CPAR Block 20 narrative rating which requires the customer to choose from the following applicable statements: "Given what I know today about the contractor's ability to execute what he promised in his proposal, I (definitely would, probably would, might or might not, probably would not, definitely would not) award to him today given that I had a choice." The APP's annual assessment phase incorporates these measures. (See Figure 2.1-1).

3.2b(2) To receive prompt and actionable feedback from customers on products, services, and transaction quality, we use the SCP, a defined process. Open communication between the LT/IPTs and the customer is a critical element in the SCP. Business development manages the communication flow through its customer contact plan (see Category 3.2.a(2)). For product quality follow-up, we use Customer Satisfaction Visits, Disciplined Line Check Processes, and Rework and Repair metrics to help determine satisfaction. For transaction quality follow-up, the monthly EAC process provides visibility into delivery and cost metrics (SPI/CPI). We also conduct field surveys and track field service response time for some programs.

3.2b(3) As inputs to our APP and the IBAP's ①**Create** phase, we use industry comparative data extracted from DoD e-databases for items such as overall CPAR and CPAR Block 20, see Figure 7.1-1. Regular Program Management Best Practice reviews internally compare Weapons ECC programs for common customer processes and measures. Focusing on improvement, our LT reviews best practices, strategic areas for improvement, VSP, and lessons learned.

3.2b(4) Through continuing customer feedback and process improvements Weapons ECC keeps its approach to achieving customer satisfaction current with business needs and directions. Visible in all program reviews, VSP is embedded in our culture and measures our strategic progress toward flawless and effective leadership and toward shaping the market while growing profitably.

CATEGORY 4 - MEASUREMENT, ANALYSIS, AND KNOWLEDGE MANAGEMENT

4.1 Measurement and Analysis of Organizational Performance

Our performance measurement system drives what we measure at all levels of the organization. We select, analyze, and align data and information to improve our performance using the five-step performance measurement system (Figure 4.1-1) that we adopted from Boeing Aerospace Support, a Baldrige winner in 2003.

Our performance measurement system begins with gathering requirements and expectations from stakeholders through frequent and ongoing interaction between the stakeholders and our Contracts and Business Development teams, Program Managers, VP/GM, Subcontract Managers, Quality Manager, and others. We facilitate the analysis of this data and information through the integration of ❶ **The Leadership System and APP.** The result is a set of action plans, performance goals, and metrics.

We communicate our goals and direction with our employees through the ❷ **VSP Goal Flowdown** process. In addition the goals and direction are also shared with our customers and suppliers at each organizational level as appropriate.

Goals and performance expectations are measured through the ❸**Weapons ECC Organization** at organizational, departmental/team, and individual levels. Employee personal and professional development goals are defined and documented through the Performance Development Partnership (PDP) process. Individual performance goals are established in the Performance Evaluation (PE) process and tied to the VSP goals of each employee's manager.

Our performance measurement uses integrated ❹ **Measurement, Analysis and Knowledge Management** systems, which provide performance status and other information needed for organizational decision-making and innovation. ❺ **Performance Review and Communication** is conducted at the Weapons ECC, business, function, program, and organization/team levels and reported through the VSP system. Performance analyses and reviews are conducted regularly throughout the organization (Figure 1.1-2) resulting in recommendations or action plans to achieve desired performance levels. In addition, regularly scheduled reviews are conducted with the customer through Program Management Reviews and Program Management Meetings. Items such as EVM, CPI/SPI, Deliveries, Risk, Action Items, and Help Needed are discussed.

4.1a(1) Our Goal flowdown process (Figure 2.2-1) is our system for selecting, aligning, and integrating our performance goals and measures. The VSP is our system for setting and communicating goals and then monitoring and reporting progress towards these goals. The VSP system allows all employees to view goals and metrics through the Boeing Intranet. Goals and plans are set annually. Progress and explanations of variances to plans are updated and reviewed monthly at all levels. The goals and progress are shared with employees, internal and external customers, and suppliers, as appropriate.

Our selection process for key measures attempts to balance leading and lagging indicators with stakeholder requirements and process measures.

Data for tracking daily operations are selected and collected at the ❸ **program/function level.** These data are aligned through process metrics in our value creation processes and our process management methodology to support decision-making. Process measures include quality, timeliness,

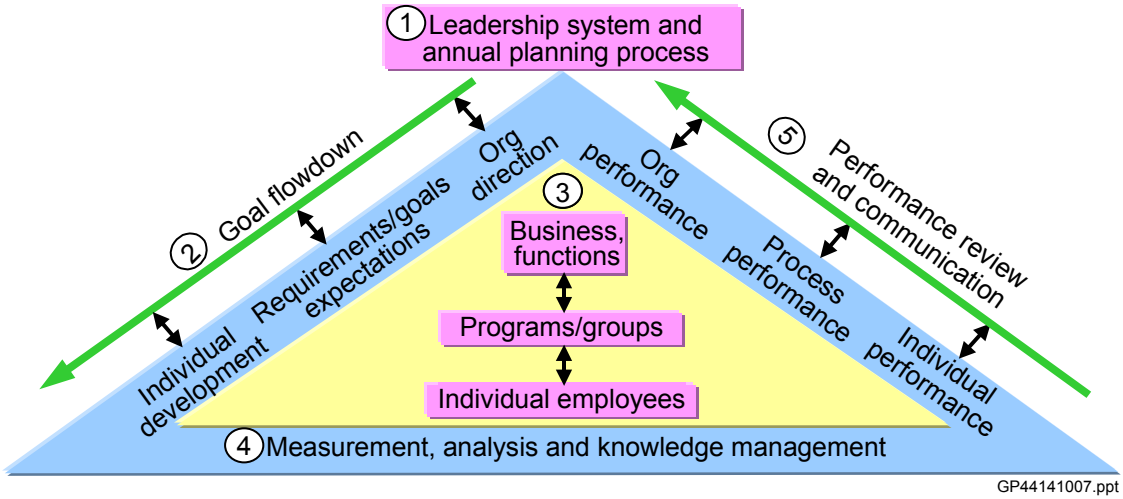

Figure 4.1-1 Performance Measurement System

efficiency, and cycle time. To ensure integration, key measures for programs and functions are based on the organizational Responsibility, Authority, and Accountability (RAA).

The VSP documents our goals, monitors our progress, and provides a common format and location for performance reporting and communication across the organization.

4.1a(2) We select and use comparative data to drive improvement and innovation in organizational and operational processes. In initial self and internal assessments to the Baldrige criteria, the use of comparative data for operational measures was identified as an opportunity for improvement. We have since initiated efforts to gather comparative data to begin comparative reviews. Our approach is increasing awareness of comparative techniques. To date, our "benchmarking" has been informal and limited to Baldrige-winning organizations within Boeing.

We analyze comparative data to identify strategic opportunities for process improvement and to increase our long-term competitiveness. Our APP (Figure 2.1-1) uses competitive market data in the market and environmental assessment to drive customer-focused improvement efforts, achieve business strategies, or enter new markets. In addition, we use competitive market data in our IBAP Process (Figure 3.1-2) to win new business. Through our process management methodology (Figure 6.1-1), process owners select comparative data and information that will best help them to determine areas for operational process improvement.

4.1a(3) We keep our performance measurement system current with changing business needs and directions through several methods:

- Alignment with Boeing and IDS functional organizations and the Air Force, Army and Navy Business Units
- Performance reviews conducted at regular intervals throughout the organization
- Process management approach, which requires regular review and reporting of process health
- Annual internal and external assessments using the Baldrige criteria, ISO9001, and AS9100B
- Internal improvement initiatives such as Lean and Program Management Best Practices

4.1b(1) We conduct a variety of analyses to support our organizational leadership reviews and strategic planning. A sample of the measures, analyses performed, and review forum is shown in Figure 4.1-2. These measures drive

Type	Metric	Review Forum	Analyses Performed	Process Linkage	Category 7 Results
Execute Flawlessly					
	Revenue	LTR/BR	Trend/Internal Comparative Analysis	APP	7.3
	Operating Earnings	LTR/BR	Trend/Internal Comparative Analysis	APP	7.3
	Cash Flow	LTR/BR	Trend/Internal Comparative Analysis	APP	7.3
	Net Asset Turns	LTR/BR	Trend/Internal Comparative Analysis	APP	7.3
	SPI/CPI	LTR/BR	Performance and Trend Analysis	Manage Programs	7.5
	On-Time Delivery of Significant Hardware	LTR/BR	Trend Analysis, Root Cause and Preventive/Corrective Action	Manage Programs	7.1
	Lean Scores	SFR	Performance and Trend Analysis	Manage Programs	7.5
	Supplier Acceptance Rate	LTR/BR	Performance and Trend Analysis	Manage Supplier Quality	7.2
	Supplier On-Time Delivery	LTR/BR	Performance and Trend Analysis	Manage Supplier Performance	7.5
Shape the Markets & Grow Profitably					
	Orders	LTR/BR	Trend/Internal Comparative Analysis	APP, Acquire New Business	7.3
	International Orders	LTR/BR	Trend/Market Share	Acquire New Business	7.3
	Award Fee Capture	LTR/BR	Performance and Trend Analysis	Manage Programs	7.1
	CPAR	LTR/BR	Trend/Internal Comparative Analysis	Customer Satisfaction	7.1
Lead Effectively					
	Community Involvement, ECF Contributions	Staff Mtg	Contributions to Target	Communication	7.6
	Reward and Recognition	PR	Performance and Trend Analysis	Employee Involvement	7.4
	Employee Satisfaction Index	PR	Survey, Results, Trend Analysis, Internal/External Comparative Analysis	Human Resource Services	7.4
	Lost Work Day Case Rate per 100 Employees	SFR/ LTR	Trend/Internal Comparative Analysis	Provide Safety, Health and Environmental Services	7.4

Figure 4.1-2 Performance Measurement Metrics and Analyses

decision-making, action plans and improvement throughout the organization. The data and analyses of our performance measurement system support our strategy by providing inputs to APP yearly assessments, such as customer, financial, and people factors.

4.1b(2) The primary methods of communicating the results of our performance are weekly LT meetings, the VSP system, staff meetings, "Weapons Newsletter," and business and program reviews.

Additional forums for communication include IPT's, workgroup or team meetings, all-hands staff meetings, web/Intranet, e-mail distributions, and hard copy distributions. Leaders encourage two-way communication through mechanisms such as Management By Walking Around (MBWA), informal "breakfast with the boss" and 360 degree assessments.

Effective decision-making is supported throughout the organization at all levels through the various performance reviews and communication mechanisms. We ensure that goals and measures are supported by the appropriate level of responsibility in the organization through the VSP process.

4.2 Information and Knowledge Management

4.2a(1) Weapons ECC relies on an integrated set of tools, technologies, and processes to provide reliable, pertinent, and current information to customers, suppliers/partners, and employees. Information availability is based on the following three considerations (also shown in Figure 4.2-1).

❶ **Who and What** – who (customer, supplier/partner, employee) is requesting access and what specific system, data item, or information is being requested.
❷ **Policies and Procedures** – which Boeing or regulatory factors, such as Security, DoD Clearance, Boeing proprietary data protection and Export Control, govern what information can be provided.
❸ **How** – what mode of access (internal versus external, electronic versus physical) and what account or other access mechanism is required.

We are open to sharing data with both customers and suppliers. Our U.S. military customers gain detailed quality information through monthly Corrective Action Board (CAB) meetings, programmatic information through Program Management Meetings (PMM), and financial data through access to our Integrated Management Information Cost System (IMICS). Customers and suppliers also have access to data through our Contractor Integrated Technical Information Services (CITIS) system. We also provide our DCMA government customers with access to our systems for policies and procedures, contracts, and non-conformance records. We use these access methods to partner with others in collaborative efforts, such as to provide suppliers access to our engineering drawings.

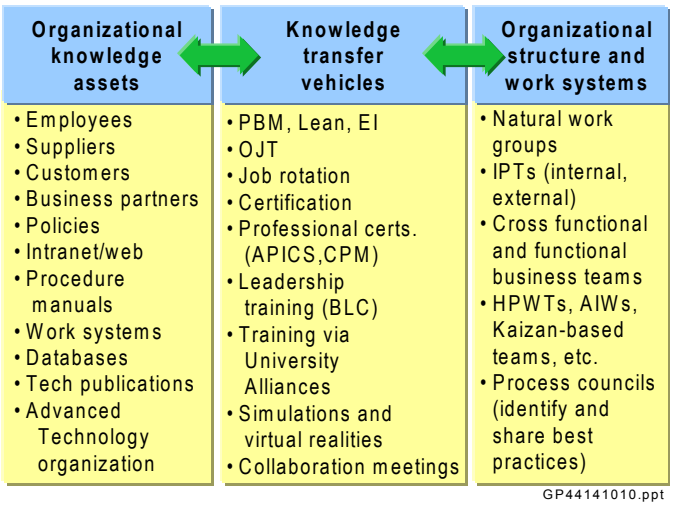

Figure 4.2-1 Knowledge Management Approach

Employees have broader access to data and information. Since much of our information is electronic, we have made provisions for shop areas where employees may not have a dedicated PC to access information. Terminals in the shop areas provide shop employees access to needed information. In addition, managers also post information in the work area or otherwise provide it to employees.

4.2a(2) Our Information Technology (IT) group uses many methods to maintain reliable and secure hardware and software and to deliver user-friendly systems to end users (Figure 4.2-2). We use Boeing standards, processes, and hardware/software configurations to achieve reliability and security. We also use Software Engineering Institute/ Capability Maturity Model (SEI/CMM) disciplines to manage our IT processes, products, and services throughout the organization. In 2004, the St. Louis site IT organization was assessed at a SEI/CMM level 4. Also, in 2004 we have initiated a program to address the CMMI model for maturity assessment to broaden the maturity process and are executing plans across engineering organizations in the Weapons ECC. The IT organization conducts user surveys of its internal customers and uses the results from the annual employee survey to identify opportunities for improving systems, hardware, and software.

4.2a(3) We continue to invest resources to provide high-quality data through integrated systems, tools, and processes. Weapons ECC keeps hardware and software current by analyzing business needs and direction in the APP and by comparing business unit requirements with Boeing's company-wide Computing Architecture Council (CAC) standards.

4.2b(1) We manage organizational knowledge in a variety of ways to provide employees the ability to apply, acquire, and update market knowledge assets to serve customers and business partners.

Property	Data, Information, and Organizational Knowledge	How Properties are Ensured
Integrity	Code of ethics, Certification (employee, suppliers), Process and Systems Audits training	Ethics training, Annual Ethics Re-certification, Audits, SEI/CMM
Accuracy	Experience and skill level, Patents, Training	SEI/CMM, Error proofing and validation for entry, field masks, audits
Timeliness	OJT, Just In Time Training, Employee Orientation, Intranet and Systems Access (employees, customers, suppliers)	Pilots of new software systems and user group testing
Reliability	PBM, Metrics, Certification of financial statements, ISO, AS9100B, QA	Change boards, SEI/CMM, CMMI, service level agreements; backup systems
Security	DoD security clearances, ITAR, Access Control, Export Control, Boeing sensitive/proprietary IP, Classified Programs, Nondisclosure agreements	Account permissions processes, firewalls, reverse proxy, anti-virus software, standard PC configurations, Computing Security Policy, physical access control
Confidentiality	Governed by business agreements, DoD specified, Boeing proprietary	Account permissions processes, firewalls, reverse proxy, anti-virus software, markings identifying Limited, Proprietary, DoD classifications
User Friendliness	Training, Accessibility to references and resources via Web and Boeing contacts	Help Desk, user pilots and training labs, user surveys, SEI/CMM, CMMI, ergonomics

Figure 4.2-2 Properties of Data, Information, and Organizational Knowledge – 4.2a(2) and 4.2b(2)

Additionally, information is shared through Employee Involvement and IPTs. IPT's typically include our suppliers and customers to improve our customer service, product knowledge, and supplier knowledge.

IDS process councils are chartered with identifying best practices and organizational lessons learned in functional and program areas. In 2004, IDS created the Enterprise Integration Board to integrate the activities of all of the process councils to integrate people, processes, and tools across IDS to increase cost effectiveness and flexibility in all business units.

4.2b(2) Figure 4.2-2 lists our approaches for ensuring that various properties of data, information, and knowledge are protected.

We ensure consistency of data with other Boeing organizations through a number of mechanisms, including functional ownership of processes, process councils, centralized Program Management Best Practices, and other tools applied across the Weapons ECC, IDS, and Boeing.

Generally, information provided to Boeing by another company may be used only for the purpose it was provided and it is granted the same level of protection as Boeing proprietary information. Numerous controls, policies, and procedures ensure security of our organizational knowledge, data, and information.

CATEGORY 5 - HUMAN RESOURCE FOCUS

5.1 Work Systems

5.1a(1) Our Leadership System (Figure 1.1-1) provides the framework for the Weapon People System (Figure 5.1-1). In concert, these systems integrate leadership responsibilities with human resource processes to support a culture in which an empowered workforce successfully achieves business objectives.

Each element of the People System has key interrelationships with the Leadership System. ❶ Our **Workforce Strategies** identify the resources and approaches necessary to achieve strategic business objectives flowing from the APP (Figure 2.1-1). ❷ **Design Work, Acquire Workforce, Set Direction, and Define Expectations** ensures we successfully maintain capable employees who fully understand our priorities and expectations for their performance through our team-based work system. Through ❸ **Lead Workforce and Assess Performance,** empowered teams are provided with the knowledge and tools to perform, plan, and assess performance against goals and objectives. Reward and recognition programs are provided to ❹ **Retain Motivated High Performing Workforce** and ensure that individuals and teams are recognized for their contributions to Weapons ECC business objectives. Comprehensive development and training are provided to ❺ **Develop Workforce**.

Through the collaboration of business, site, and functional leaders, our organization's matrix structure provides a framework to organize and ❷ **Design Work** and job assignments. Business leaders focus on ensuring that customer needs are met, and functional leaders provide skilled employees to perform work to meet those needs.

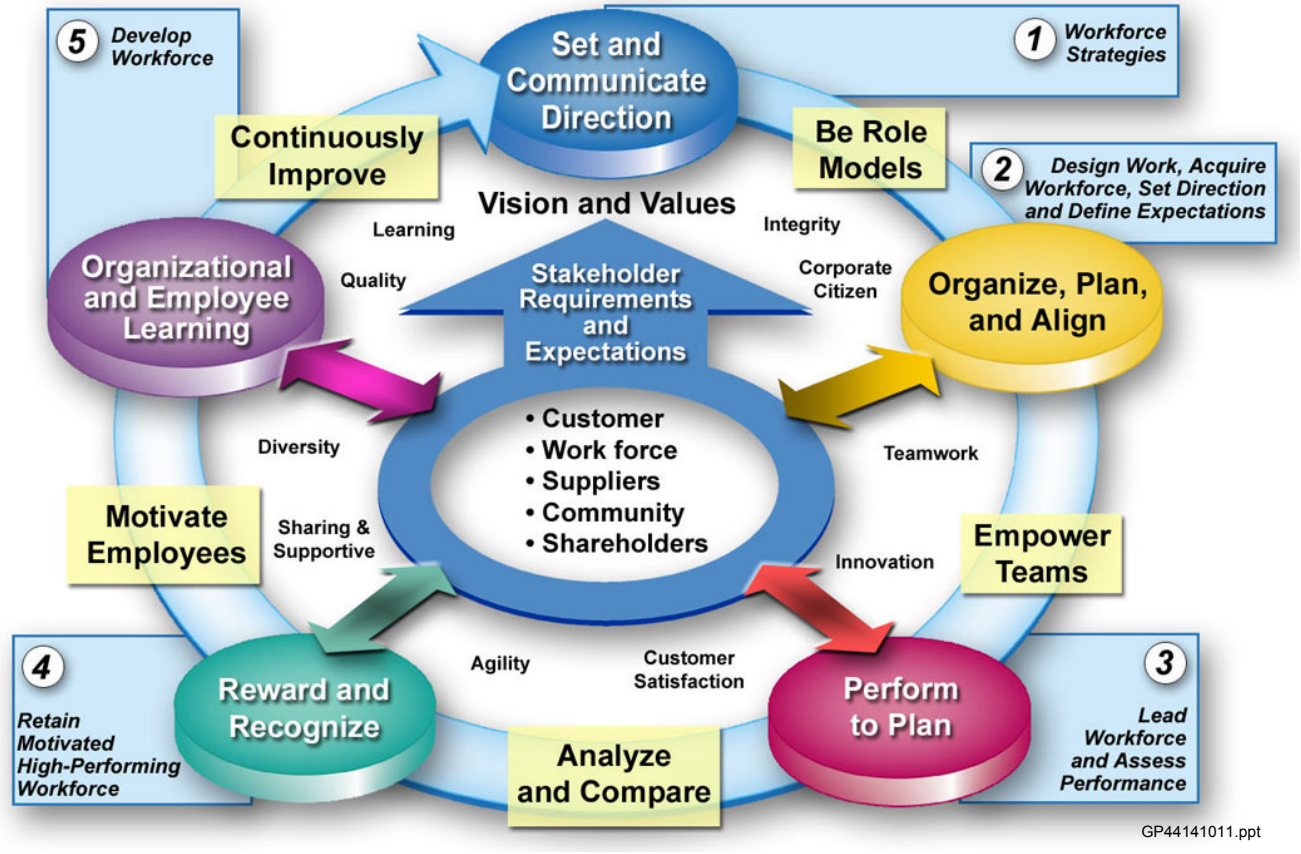

Figure 5.1-1 Weapons ECC People System

The Weapons ECC has long been a team-based organization where most work is performed by employees working in teams.

5.1a(2) ❸ **Lead Workforce** and ❹ **Retain Motivated High-Performing Workforce** are accomplished through our team-based structure, which allows us to capitalize fully on the diversity of our employees. Our matrix structure of functions providing people to programs, allows us to easily assign employees to capitalize on the skill, experience, knowledge and regional diversity of our employees. We support the Boeing Diversity Mission – to value and leverage multiple perspectives, experiences, and capabilities by driving the integration of diversity, equity, and fairness principles into all practices and processes to achieve enterprise objectives.

5.1a(3) Weapons ECC communicates and shares skills effectively through program and functional leaders. Each function has a leadership team that links to site and higher level functional process councils in The Boeing Company. These councils are chartered to ensure that discipline-specific knowledge is shared across the organization and that resources are effectively used, standards are established and deployed, and recommendations for company-level business decisions are coordinated. Many of our teams are cross-functional, ensuring communication and skill-sharing across work units, jobs, and functions.

5.1b ❸ **Assess Performance** and ❺ **Develop Workforce** are achieved through our Performance Management system (Figure 5.1-2) and supporting tools (Figure 5.1-3). The Boeing Vision 2016 serves as a roadmap to the future, focusing on key strategies, core competencies, and values that

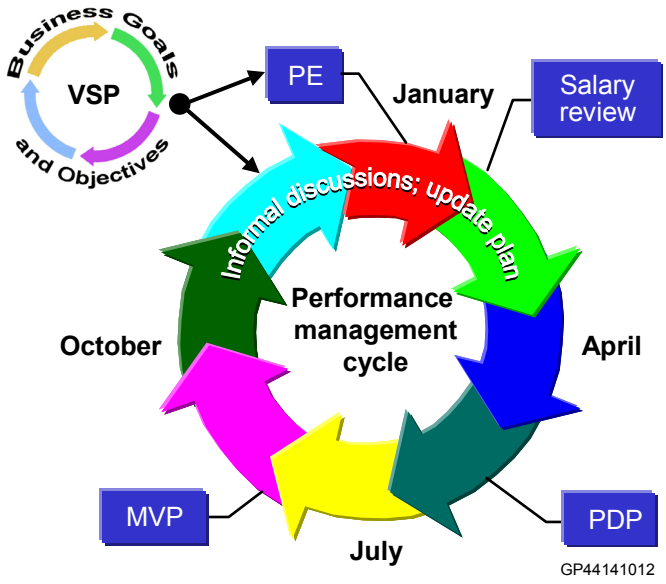

Figure 5.1-2 Performance Management System

Tool	Purpose
Performance Evaluation (PE)	Formal employee evaluation aligned to Vision 2016. Focuses on goal achievement and demonstrated behaviors.
Salary Review	Salary determination based upon: documented performance, business considerations, salary, value relative to peers and salary position.
Performance Development Partnership (PDP)	Development tool for salaried employees. Incorporates management coaching as a developmental tool.
Multiple View Points (MVP)	Developmental tool for leaders with 360-degree assessment. Collects input from peers, direct reports, internal customers, and suppliers.

Figure 5.1-3 Tools and Events of Our Performance Management System

form the foundation of our culture. Our performance management system links Vision 2016 values to individual performance. This connection encourages and enables employees to contribute effectively. Individual development objectives and performance evaluations are structured to reinforce our values.

Weapons ECC offers many reward and recognition programs to ❹ **Retain a Motivated High Performing Workforce.** Our approaches are designed to optimize performance while reinforcing organizational objectives and values. We have a comprehensive reward and recognition system that recognizes both individuals and teams.

5.1c(1) Functional organizations work with businesses and programs to identify characteristics and skills required for open positions based on job requirements and the SJC system (Figure 5.1-4). A corporate-wide staffing system, known as the Boeing Enterprise Staffing System (BESS), supports employment processes from creating job requisitions through pre-employment processing. It also allows internal and external job seekers to easily search for jobs throughout Boeing and be notified automatically of job openings matching their job interest and experience.

5.1c(2) A variety of methods are used to recruit qualified candidates, including on-line job posting, college recruiting, internships, experienced professional recruiting, and contract labor conversion. We make extensive use of college recruiting and focus on both undergraduates and graduates. We actively recruit minority students at historically black colleges and universities and through minority engineering programs at other institutions. We also support campus-based affinity groups such as the Society of Women Engineers, the National Society of Black Engineers, and the Society of Hispanic Professionals. Our Inroads program helps attract and retain top minority students by providing them summer jobs throughout their college experience.

5.1c(3) Formal succession planning is used to prepare and develop employees for future executive leadership positions. Executive succession plans identify ready-now and development candidates. Key development actions for these candidates, including training, mentoring, and developmental assignments, are defined and monitored.

Weapons succession plans support the Air Force System (AFS) Radar Screen process. High potential employees are placed on the Radar Screen to be developed further as leaders. Radar Screen candidates are reviewed bi-annually by the AFS leadership team and moved into AFS Succession Plans as appropriate.

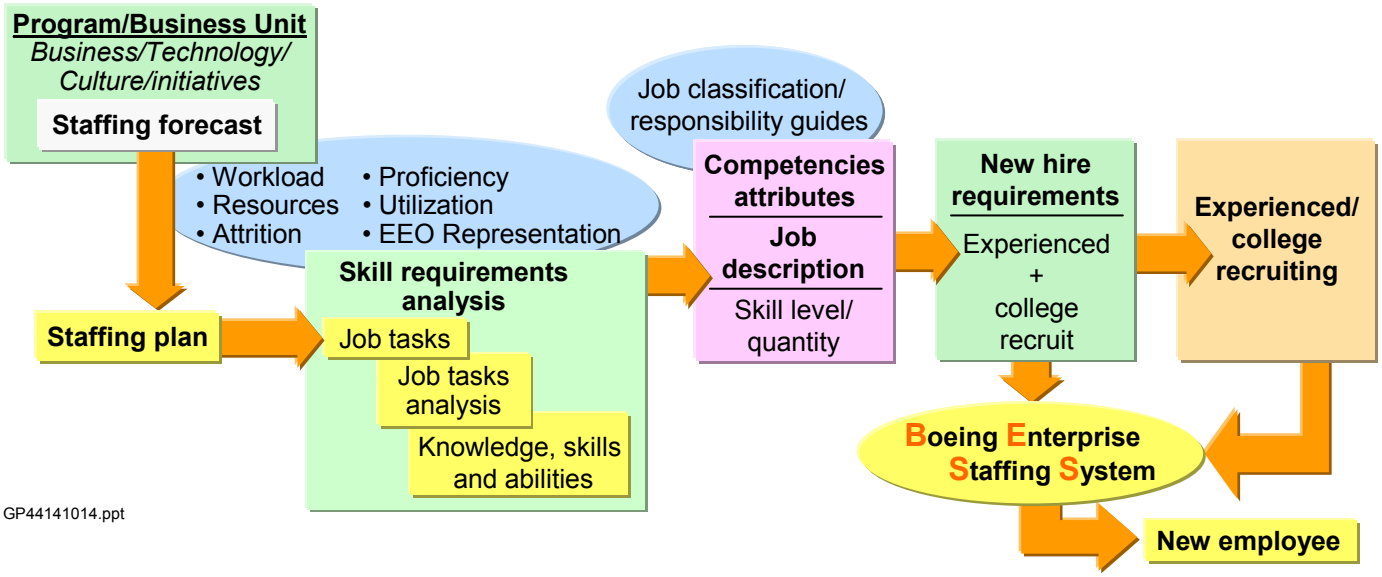

Figure 5.1-4 New Hire Skills/Staffing Requirements Model

Effective career progression for all employees is managed through functional process councils, which establish development activities and career paths for their employees.

5.2 Employee Learning and Motivation

The Boeing Company has created an environment of continual personal and organizational learning through ❺ **Develop Workforce.** We believe highly skilled employees are critical to achieving our short- and long-term goals; therefore, we invest significantly in the education, training, and development of our people.

5.2a(1) The role of education and training in achieving our action plans is defined through our organization's goal flow-down process (Figure 2.2-1) as strategy and objectives are communicated throughout the organization. Individual goals and objectives are identified through the PE process. Supporting learning and skill development action plans are defined in the PDP process (Figure 5.2-1).

5.2a(2) The Boeing Company provides a comprehensive training curriculum to ensure a capable workforce. Employees receive training through an increasing variety of media. One example is our New Employee Experience program, developed to increase attention on the transition of new employees into our organization.

5.2a(3) PDP (Figure 5.2-1) shows our primary process for incorporating employee and manager perspectives on employee training and education needs. An action plan that identifies training and development needs is developed in this collaborative process. The plan also identifies the best delivery method for receiving the training and education.

Our functional process councils have primary responsibility for incorporating organizational knowledge into training and education.

5.2a(4) Understanding that each employee learns in different ways, we deliver education and training through a variety of methods. In addition to participation in formal training courses, employees and their managers may identify special assignments, job shadowing opportunities, or mentoring to address developmental needs. Finally, our tuition assistance program provides employees the opportunity to gain learning not necessarily related to their specific job.

The quality of delivery methods is assessed through the use of student feedback questionnaires.

5.2a(5) The Boeing Company uses various methods and tools to reinforce on-the-job use of new knowledge and skills. Much training is delivered "just-in-time," providing the opportunity for instant application of the new knowledge and skills, thus increasing the likelihood of retention. A number of jobs require certifications; tests assess knowledge and reinforce levels of understanding. In addition, leaders use formal program and project reviews to coach job execution and provide feedback.

5.2a(6) Training effectiveness is evaluated through a variety of approaches that encompass the full spectrum of the Kirkpatrick Model.

5.2b Boeing supports lifelong learning through 100% tuition reimbursement. The Boeing Company's strategy fosters lifelong employability, because it recognizes that no company can guarantee lifelong employment. We pay the cost of tuition and books for employees to pursue degrees at accredited institutions. After successful completion of a degree program, the employee is awarded shares of stock.

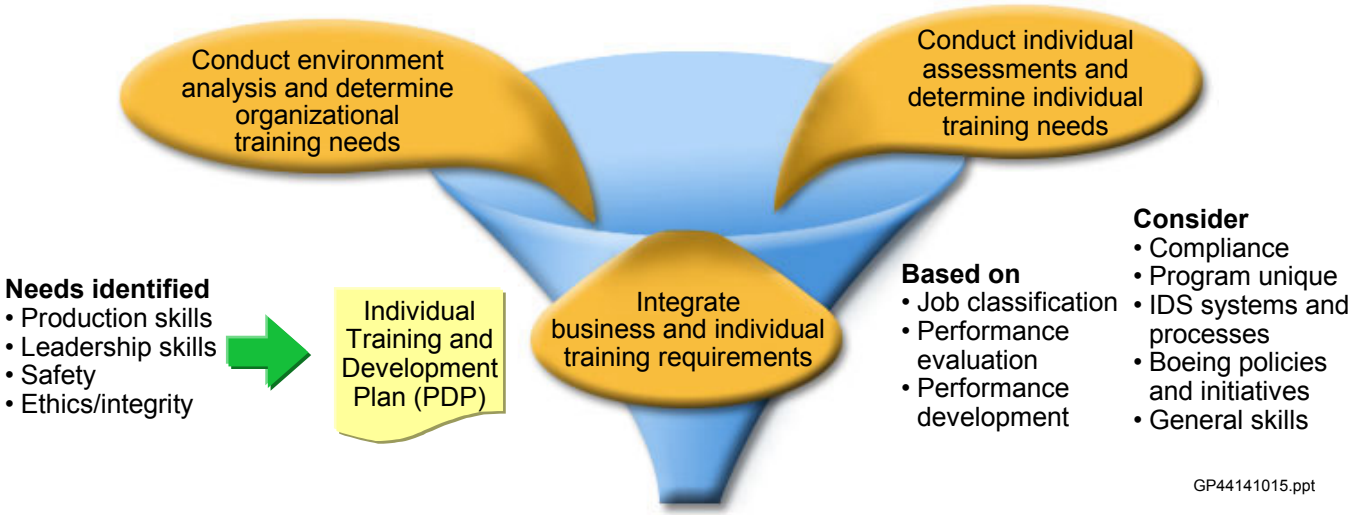

Figure 5.2-1 Performance Development Partnership Process

Other examples of opportunities for employees to pursue learning and development include off-shift and on-shift training, such as the St. Louis "Voluntary Improvement Program" and Boeing's institutionalized "BenExpress," a satellite distance learning delivery system available to all employees.

Boeing offers formal training, on-the-job learning, as well as opportunities with mentoring programs, job rotation programs, leadership development programs, and the associated reward/recognition programs to create a motivating environment for employees.

5.3 Employee Well-Being and Satisfaction

The Boeing Company is committed to providing a safe, hazard-free, and secure work environment for all employees through preventive approaches and frequent feedback from our employees. We enhance employee well-being, satisfaction, and motivation through a wide range of services and activities that form the essential elements of ❹ **Retain Motivated High-Performing Workforce** of the People System (Figure 5.1-1). Our Employee Survey results continually indicate high levels of satisfaction with our work environment.

5.3a(1) Our commitment to a safe, secure, and healthy work place is based on the Vision 2016 value of Good Corporate Citizenship. We have a comprehensive approach to SHEA and industrial security that goes beyond mere compliance with government regulations. We achieve this by involving employees in these processes through participation on shop safety, office ergonomics, and facility security teams.

Results of our focus on safety are demonstrated in the 2003 employee survey, with a 81% positive response rate to the questions relating to safety and health.

5.3a(2) Workplace Preparedness for emergencies or disasters is supported by robust processes and procedures to ensure responsiveness and business continuity.

5.3b(1) The Weapons Leadership Team uses multiple tools to identify factors that drive employee well being, satisfaction and motivation. Our primary tools to determine this are our annual Employee Survey and the embedded Employee Satisfaction Index (ESI) (Figure 7.4-2). Our Leadership Team interacts regularly with employees through all-hands meetings, small group sessions, and one-on-one meetings. The Weapons ECC organization also identifies factors through union negotiations, academic research, focus groups, recognition events, and Boeing corporate-wide research.

The annual employee survey is designed to provide feedback on work elements that correlate to employee satisfaction. Those elements with the highest correlation relate to the level of the employee's involvement in his/her work (Figure 5.3-1) Understanding that "involvement in decisions" has the highest correlation to employee satisfaction, Weapons ECC has deployed Employee Involvement (EI) throughout the organization.

5.3b(2) By offering a wide variety of excellent benefits and services, we are able to attract, retain, and meet the diverse needs of our workforce. Benefits and services are reviewed annually or on an as-needed basis and apply to all employee groups across the enterprise. Union employees have benefits negotiated into their collective bargaining agreements. The Benefits Organization conducts needs analysis through employee feedback, utilization records, and benchmarking.

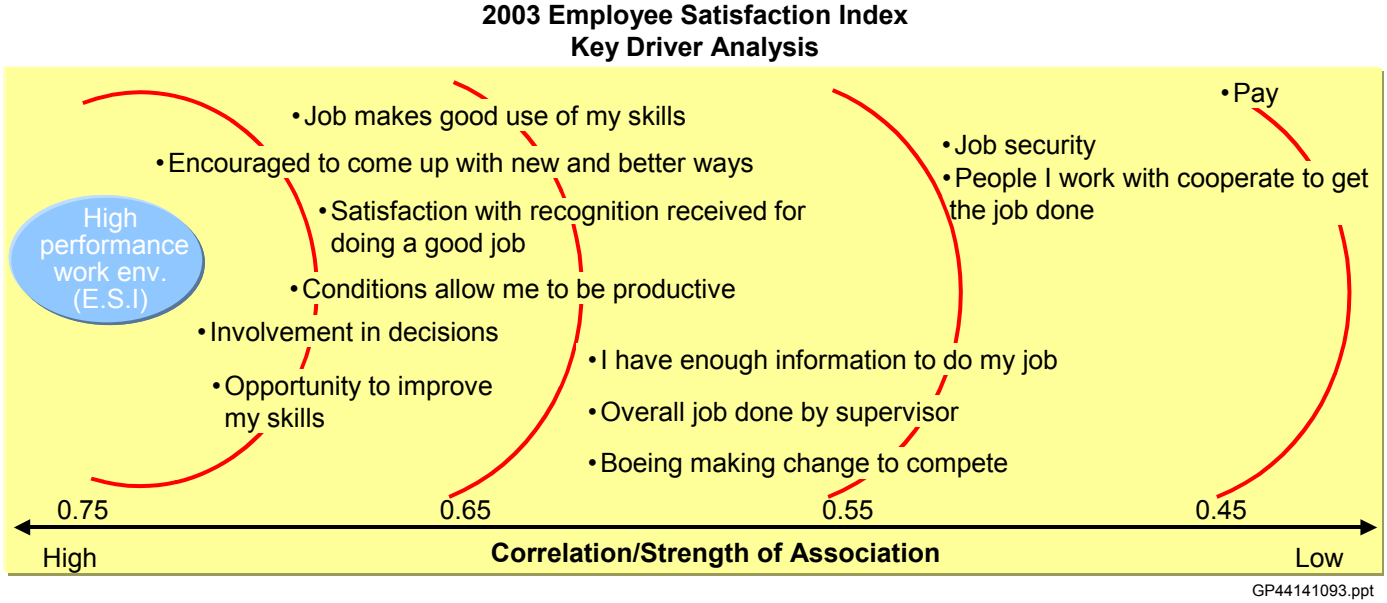

Figure 5.3-1 AS 2002 ESI Key Motivators

5.3b(3) Weapons ECC uses a variety of formal and informal methods/tools to assess employee well-being, satisfaction, and motivation. Our primary formal assessment tool is the Boeing Employee Survey. This survey is distributed to all employees on an annual basis across Boeing. Survey results are available at the Weapons ECC level and segmented by programs, functions and employee population groups. The leadership team follows a systematic process to analyze the ESI results and define specific action plans to address key employee issues at the organizational level.

5.3b(4) Our Leadership Team understands the positive correlation between employee satisfaction and superior business performance. Each senior leader reviews employee survey results and the ESI. Focus groups are implemented to assess and improve the lowest scores from the survey results. The correlation between individual satisfiers and overall satisfaction (Figure 5.3-1) is used by the leaders to establish action plans for their VSPs.

CATEGORY 6 - PROCESS MANAGEMENT

Process management is critical to delivering high-quality products and services as well as ensuring that process improvements are identified and sustained. Our strong focus on process management is reflected in our organization where functional leaders are responsible for people, processes, and tools/technology as integral members of the Leadership Team (LT). Our senior leadership's involvement ensures that RAA for process management are at the highest levels within the organization.

Functional Councils provide process leadership across IDS to ensure that Best Practices, tools and processes are defined, shared, and implemented throughout the organization. Weapons ECC functional leadership are active participants on these councils to develop, share and deploy best practices, tasks, training, and processes. Examples include the Supplier Management, Business Development and Manufacturing Councils.

6.1 Value Creation Processes

6.1a(1) Our overarching process management approach, which stems from the Baldrige criteria, is organized in three categories of ❶ **Define**, ❷ **Measure** and ❸ **Improve**, as shown in Figure 6.1-1. The St. Louis Process Model (SPM), which identifies 6 key processes, is the framework used to identify and show the interconnections of our organization's top-level processes. The SPM consists of seven process families and several process levels within each family. We align our top-level processes with the St. Louis model, based on our business focus and customer feedback. The SPM provides the vital foundation for ❶ **Process Management** (Figure 6.1-1) for the organization. With the SPM established, our key value-creation processes were determined by our LT to be process families 1.0 through 6.0. Value creation processes were identified as those meeting the following criteria: key to achieving the Weapons ECC strategic objectives (Process family 1.0) or part of delivering a product or service to the customer (Process families 2.0 – 6.0).

The value-creation processes address key stakeholder requirements, expectations, and perceptions relating to our key success factors.

The value creation processes are aligned to achieve business success (customer satisfaction and profitability) and are vital to providing full customer lifecycle support.

6.1a(2) Process requirements are identified in contract requirements, supplier Memorandums of Agreement, and internal/external customer inputs and agreements (Figure 6.1-1 ❶) as well as through customer involvement in a proposal or development effort, such as a member of an IPT.

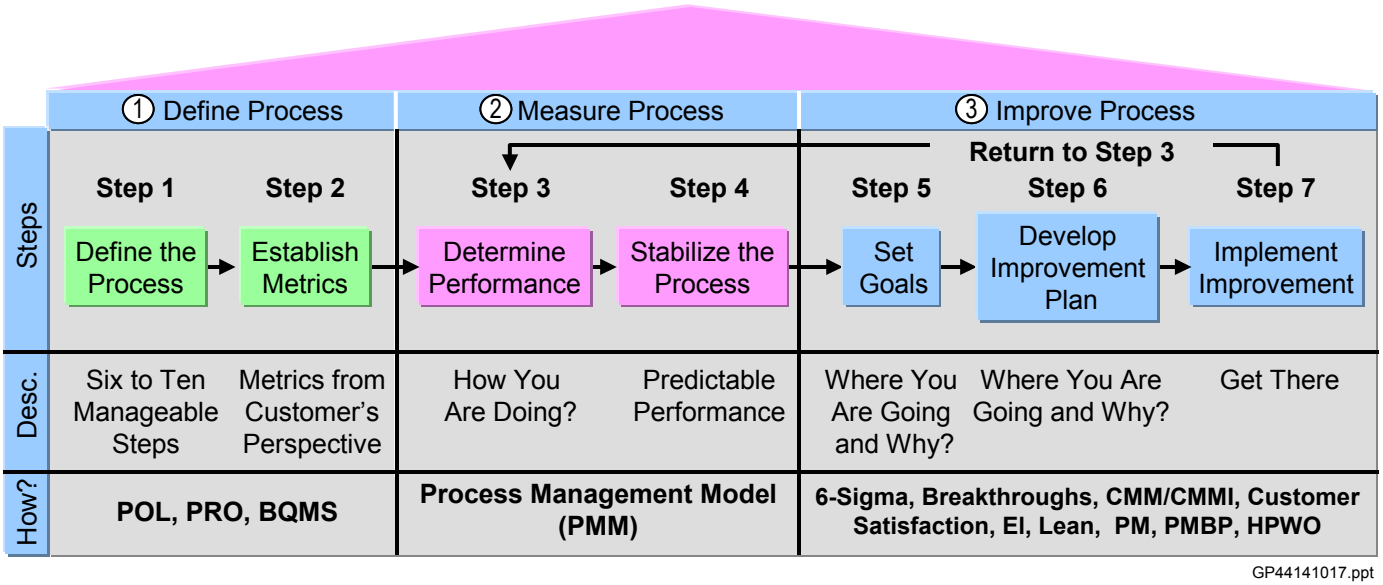

Figure 6.1-1 Process Management

6.1a(3) For all value creation processes, we use a defined set of tools and methods to design our processes (Process Management Step 1) and incorporate efficiency and effectiveness metrics (PM Step 2). To ensure that processes continue to meet requirements, process owners are required to periodically review process metrics with process stakeholders (PM Step 3 & 4) and make process improvements (PM Step 5, 6 & 7) using the tools described in Figure 6.1-2.

Design and maintenance of the top-level processes within the St. Louis Process Model are the responsibility of the IDS/St. Louis core functional organizations. Operating organizations such as the Weapons ECC are responsible for deployment and execution of processes and implementation of detailed processes to meet their unique needs.

Technology needs are identified through the completion of our Annual Planning Process (APP). During completion of the APP, needs for new product and process technology are identified based on the global environment, emerging customer needs, availability of technological breakthroughs, or other triggers for new technology. These needs are summarized and a technology roadmap is developed, along with our product roadmaps. These technology needs are prioritized based on return on investment (ROI). Final investment decisions are determined by the Weapons ECC LT.

6.1a(4) Day-to-day management of processes is primarily performed by our first-level managers and their team members. As described in area 4.1a, Weapons ECC strategies and goals are aligned with the efforts of first-level managers and teams through goal flowdown. Each manager or team is then able to review performance against its own action plans and goals and take action as required. Higher level data and process performance can be reviewed relative to action plans at various levels during Business, General Manager, Program or Functional Council reviews, and staff or team reviews (Figure 6.1-1).

6.1a(5) Our customers demand a high level of quality and often define our selection and use of inspections, tests, and audits. Costs associated with these activities are minimized through several approaches in cooperation with our key customers.

Weapons ECC has achieved an unprecedented level of process control that has resulted in product quality and customer satisfaction sufficient to permit **Contract Self-Oversight** in a normally heavily controlled business. Only approximately 30 companies in the nation have earned the privilege of managing government-owned property this way.

Defects and rework are minimized through a systems engineering approach to ensure delivery of robust designs and processes to the line. Additionally, we employ certified 6-Sigma Navigators to facilitate projects for increased process capability and performance. Our Closed-Loop Corrective Action approach helps prevent costs associated with potentially recurring issues by systematically identifying root causes and implementing corrective action.

6.1a(6) Figure 6.1-1 step ❸ (PM Steps 5, 6 and 7) shows the feedback loop in our methodology used to continuously improve processes. Figure 6.1-2 identifies the primary methods we use to improve our processes. Functional Councils provide process leadership across IDS to ensure that Best Practices, tools, and processes are defined, shared, and implemented throughout the organization; resources are used effectively; standards are established and deployed; organizational knowledge is shared so decisions are made in the best interest of the company as a whole; and recommendations for company-level business decisions are coordinated. Policies (POL), Procedures (PROs), and PM are the main mechanisms used to provide direction to employees regarding which processes to use. The Boeing Quality Management System manages this process documentation and makes it easily accessible on the web.

6.2 Support Processes

As demonstrated in the SPM, we have evolved to the point where all business functions are treated as processes and we hold them to the same standards of discipline. Internal customers for our support processes are treated like the external customers that benefit from our value-added processes. Likewise, metrics for Support Processes are reviewed on a regular basis by the Weapons ECC LT.

Methods	Purpose
Six-Sigma	Statistical approach to measure, analyze, and improve processes
Re-engineering/Breakthrough	Provides a process for radical/rapid improvements
Capability Maturity Models (CMM/CMMI)	Provides a structured framework for systems and software development
Employee Involvement (EI) / HPWO	Empowers teams to achieve high performance
Lean	Eliminates waste and variance and streamlines process flows
Process Management (PM)	Standardizes process management with a focus on customers and suppliers
Program Management Best Practices (PMBP)	Shares proven program management processes

Figure 6.1-2. Process Improvement Methods

CATEGORY 7 - BUSINESS RESULTS

7.1 Customer-Focused Results

7.1 We collect and analyze customer-focused data that indicates customers' satisfaction, perceived value, loyalty, retention, and positive referral to understand our level of performance and relationship excellence. In addition, we have aligned our results by customer group and market segment. Contractor Performance Assessment Reports, Award Fee, and external customer survey results are aggregated to the Weapons ECC level. Weapons Programs surpasses industry satisfaction levels as shown in Figure 7.1-1.

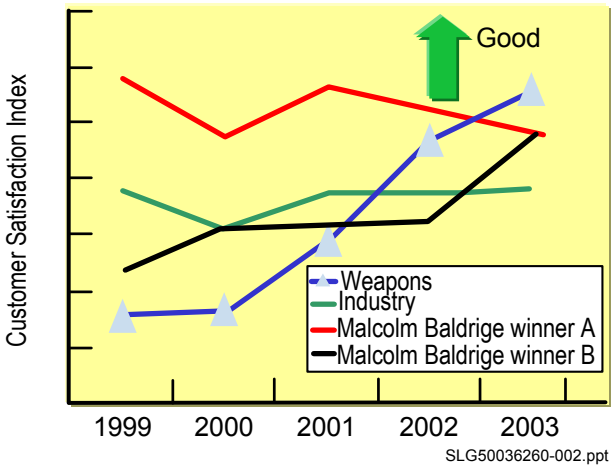

Figure 7.1-1 Customer Satisfaction

7.2 Product and Service Results

The overall positive trends in Product and Service results reflect continually increasing customer focus, increased understanding by our team of expectations, improved response time, improved quality, increased employee involvement, and effective leadership. The Weapons ECC selected key metrics that profile the Product and Service sector in line with our customers' focus areas and to depict business execution and process capability. The quality of our supplier's products and services are reflected in our contractual commitments and our own economic and customer satisfaction achievements.

Figure 7.2-1 depicts our Supplier Quality Acceptance Rate, which is one measure of our confidence that the products we are building and delivering will meet our customer requirements. The combination of the implementation of Supplier Management Best Practices and our use of process verification audits as in-process verification of our supplier's processes have contributed to a positive trend in our supply base quality acceptance rate. These results

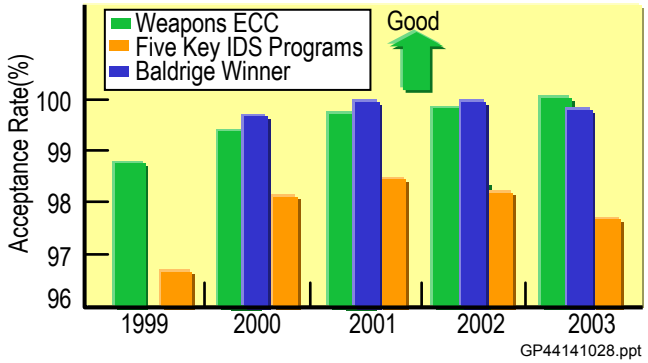

Figure 7.2-1 Supplier Quality Acceptance Rate

compare favorably with the performance of a Malcolm Baldrige winner and other Boeing IDS Programs.

Technical Quality as measured by customer scoring, is better than the industry average, as shown in Figure 7.2-2.

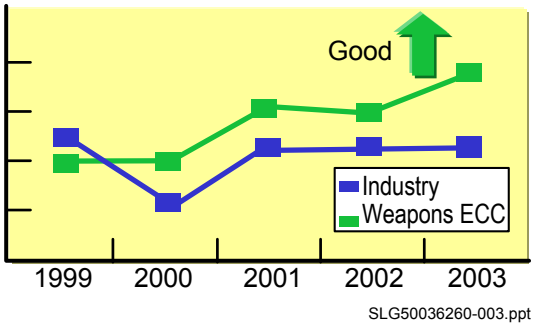

Figure 7.2-2 Technical Quality Satisfaction

7.3 Financial and Market Results

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7.4 Human Resource Results

We continue to evolve a team-based organization that allows our employees to maximize the use of their skills, experience, education, and creativity to achieve their potential and help the organization meet its objectives. To ensure that we are creating the desired culture, we collect, review, analyze, and act on a set of key human resource measures.

Within the Weapons ECC, supervisors lead their teams through IPT and HPWO activities, which help to maximize employee effectiveness and efficiency. As discussed in Section 6, a variety of tools assure continuous improvement. Figure 7.4-1 shows the "bottom line" effectiveness of our work systems as measured by substantial growth in Orders, Revenue, Earnings, Backlog and Cash Flow. 1999-2000 values are indexed to 1998 such that 1998 equals one.

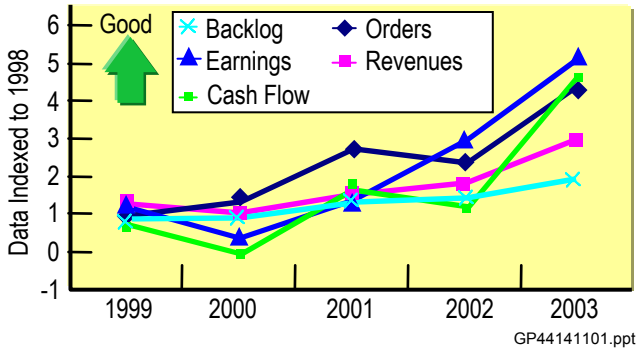

Figure 7.4-1 Weapons ECC Work System Performance

Weapons ECC promotes employee well-being and satisfaction through the programs discussed in Section 5 and by two-way communication to ensure that employees are aware of the direction and health of the business and understand their part in its success. Our primary tool in checking the effectiveness of our efforts to maintain a feeling of well-being and satisfaction is the annual employee survey.

The overall Employee Satisfaction Indicator (ESI) is the top level metric in the survey. Figure 7.4-2, indicates that Weapons ECC's overall ESI has increased somewhat in the last four years, is above the industry average and ranks with the cross-industries "premier companies" in 2003.

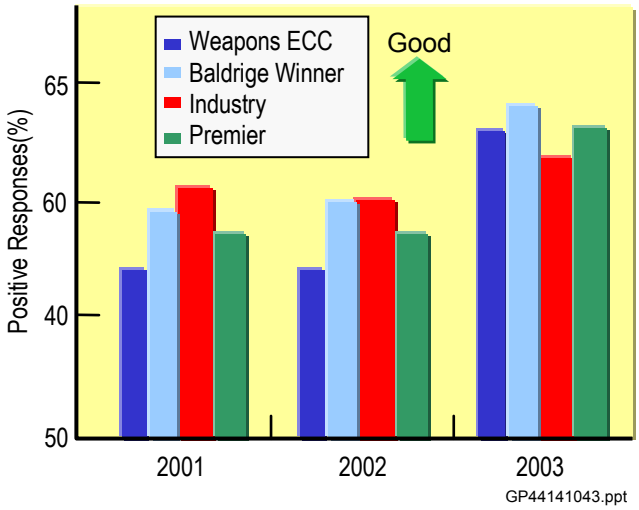

Figure 7.4-2 Employee Satisfaction Index (ESI)

7.5 Organizational Effectiveness Results

One of the most valuable metrics to Organizational Effectiveness is Earned Value Management (EVM), typified by the Cost Performance Index (CPI) and the Schedule Performance Index (SPI). Although EVM is usually a contract requirement on development efforts funded by the U.S. Government, the Weapons ECC uses EVM on fixed price production efforts as shown in Figure 7.5-1 and on internally funded development efforts. Used both weekly and monthly, these fundamental measures, applied whenever we can use them, ensure organizational effectiveness through good planning and strong execution.

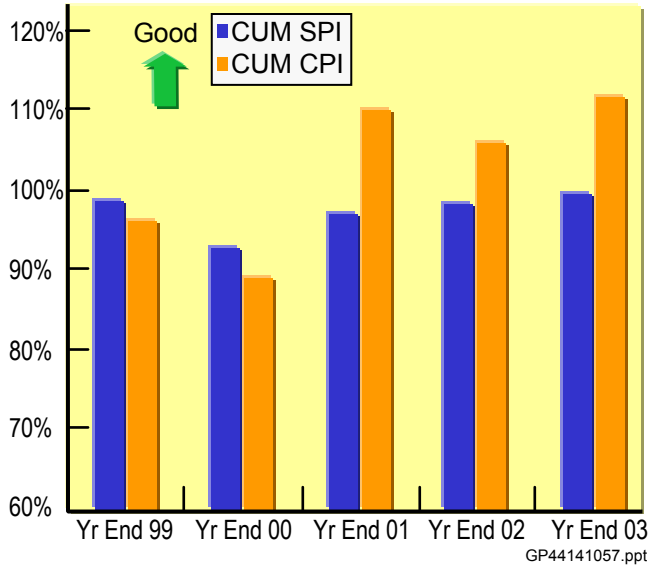

Figure 7.5-1 Earned Value Management (EVM)

Weapons ECC program management defines organizational strategies to reduce defects on a constant basis. Figure 7.5-2 shows that since 1999 the Weapons ECC has reduced defects substantially in this case for Harpoon and SLAM ER.

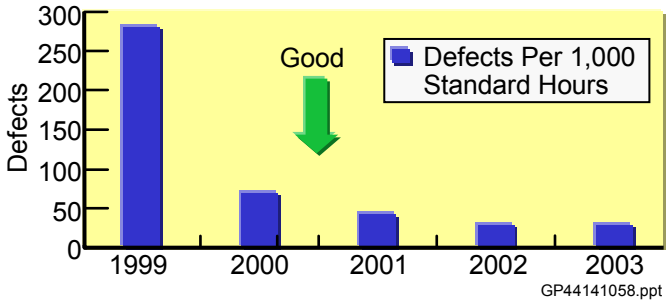

Figure 7.5-2 Defect Reductions

7.6 Governance and Social Responsibility Results

The Weapons ECC is accountable to conduct its operations as expected by the government and the community.

One measure of effectiveness is ISO audit results. The ISO third-party quality system is in most cases an integral part of our government contracts. Third-party certification requires an assessment by an external auditing organization certified by the ISO Registrar Accreditation Board. Figure 7.6-1 shows a favorable trend in minor findings and no major findings.

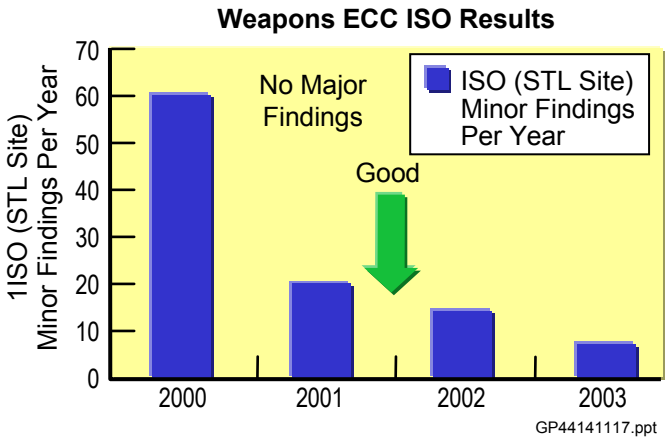

Figure 7.6-1 ISO 9000 Compliance