Office of Science Education
and Technical Information

Our Commitment to
Quality
May 1995

U.S. DEPARTMENT OF ENERGY
Office of Science Education and Technical Information

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Preface

The United States Department of Energy Office of Science Education and Technical Information (OSETI) incorporates the principles of quality management and continuous improvement into all aspects of the functions of the Office. Organizational elements of OSETI include the Director's office in Washington, D.C.; the Office of Scientific and Technical Information (OSTI), in Oak Ridge, Tennessee; and the Office of Science Education Programs (OSEP), in Washington, D.C. This report outlines how these quality principles have been fully integrated into the management processes and discusses the benefits and successes which have accrued to the organization and to the Department of Energy as a result of that implementation.

The information included in this report was submitted as part of OSETI's 1995 Energy Quality Awards Application.

Washington, D.C.
May 1995

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Business Overview

Mission, Products, and Services

The Office of Science Education and Technical Information (OSETI) provides leadership in leveraging the Department of Energy's (DOE) unique scientific and technical resources to enhance the United States' (U.S.) global competitiveness and the development of a diverse, well-educated, scientifically literate workforce. The Office provides scientific and technical information management policy, guidance, and services, as well as education program assistance, to a wide range of customers to help the Department contribute to the Nation's welfare.

OSETI was established in July 1993 within the Science and Technology cluster. The Office has two subcomponents, the Office of Scientific and Technical Information (OSTI), located in Oak Ridge, Tennessee, and the Office of Science Education Programs (OSEP), located in Washington, D.C. (see organization chart on page 5). OSTI, the larger of the two offices, has 164 full-time equivalent (FTE) federal staff and 100 contractor employees, while OSEP has 21 federal and 5 contractor employees.

OSTI has three primary business areas, or programs, that provide products and services to customers.

1. *Collect and manage scientific and technical information (STI) resulting from DOE's yearly \$6 billion research and development (R&D) activities.* The primary product of DOE's R&D activities is STI. This information, which includes more than 22,000 reports per year, is produced by National Laboratories, DOE management and operating (M&O) contractors, technology centers, and other direct contractors. The information is collected for the purpose of being shared with U.S. industry, academic institutions, and other government researchers so that efforts are not duplicated and the knowledge can be used to promote economic competitiveness, environmental quality, and national security.

2. *Negotiate with multilateral international organizations to make worldwide STI available to DOE's customers.* Given the vast historic collection of DOE R&D results, OSTI is able to leverage the information to obtain worldwide information from foreign countries. OSTI represents the United States in two multilateral information exchange agreements, involving more than 100 countries, which result in the acquisition of 85,000 foreign research summaries per year. These are combined with U.S. information and made publicly available through a variety of channels to more than 200,000 people per year.
3. *Provide information management/delivery expertise to achieve DOE Programs' objectives.* As a result of its competency in the first two business areas, OSTI is in a position to provide specialized support to individual DOE Program Offices in designing and developing systems, databases, and publications to meet their own programmatic objectives. This support is provided on a cost-recovery basis. Out of OSTI's \$19 million budget, approximately \$4 million, or 21 percent, is cost-recovery work.

OSEP has three primary business areas that provide products and services to customers.

1. *Improve student and faculty scientific and technical skills and knowledge.* The Office leverages the internationally renowned scientific and technical resources of the Department's National Laboratories to make valuable contributions to math and science education. The Office administers several science education programs that use these resources to support the education of young people seeking careers in science, math, and engineering technology areas critical to the future success of business, industry, academia, and the Department.
2. *Develop and disseminate mechanisms to evaluate science education programs and develop long-term math and science goals and objectives that foster educational reforms.* The Office partners with other government agencies (e.g., National Science Foundation, Department of Education), industry, and academia to develop science education standards and curricula that ensure the long-term availability of trained scientists and engineers required by industry, academia, and government.
3. *Enhance public understanding of science and energy-related technology; capitalize on emerging information technologies to ensure broader public access to science education information.*

Implementation of Quality Management

When OSETI was established in 1993, the Director, Terry Cornwell Rumsey, formally instituted quality management concepts and principles. Before her appointment to the federal government, Ms. Rumsey was employed by the Xerox Corporation and played a significant role in Xerox's successful efforts to become a world-class quality organization. The government-wide reinvention and downsizing initiatives, combined with a genuine leader and employee orientation to serve customers, facilitated implementation of the quality effort.

Customers and Suppliers

OSETI's principal customers include DOE Program Offices; Operations Offices; government and private researchers and information professionals; state and local energy offices; U.S. industry; educational institutions, administrators, and faculty; general public information users; National Laboratories; and members of Congress.

Their requirements are

- Clear, helpful guidance on science education and technical information management policy and practices
- Timely and accurate scientific and technical information
- Worldwide energy information at minimal cost
- Information available in a variety of easy-to-use formats and media
- Information management systems and advice that meet customers' specialized needs
- Management tools to evaluate and prioritize science education funding proposals/decisions
- Timely decisions and responses on grant/contract proposals (solicited and unsolicited) and field work proposals

OSETI's main suppliers are

- Domestic R&D facilities producing STI, including other federal agencies
- Foreign countries providing energy research results
- Contractors that provide automated data processing (ADP), information management, and science education evaluation/systemic reform expertise
- Education partners both within and outside the Department, including other government agencies, academia, and U.S. industry, who provide resources and expertise
- DOE National Laboratories who provide expertise and administer many science education program

The following Legislative, Executive, and Departmental mandates guide OSETI's operations:

- DOE Act of 1977 (Title 1, Section 102, requires DOE to disseminate the information resulting from its R&D programs and reiterates the energy education role)
- International information exchange agreements under the auspices of the United Nations and the Organization for Economic Cooperation and Development
- Office of Management and Budget (OMB) Circular A-130 (Management and Dissemination of Government Information)
- National Information Infrastructure Initiative
- DOE mission statement
- DOE Order 1430.1D, "Scientific and Technical Information Management"
- Public Law 93-438, "Energy Reorganization Act of 1974," October 11, 1974, Title I, Section 103, (10) and (11), which provides the basic mandate for energy education/training activities and energy manpower assessment

- Public Law 101-510, "DOE Science Education Enhancement Act," November 5, 1990, Part E, which recognizes the human resource needs and the role of DOE in science, mathematics, and engineering technology training and employment
- Executive Order 12821, "Improving Math and Science Education in Support of the National Education Goals," November 5, 1992, which directs Federal agencies with scientific missions to assist in math and science education

Major Challenges

Changes in customer expectations and technology present major challenges.

- ***Public Access—Varying Customer Technological Capabilities***

OSETI has a vast array of customers (researchers, librarians, students, teachers, private citizens, etc.) whose technological capabilities cover a broad spectrum. The movement toward electronic information and education-related technologies is progressing, but many customers (with limited resources) will continue using traditional technologies and media. The challenge is to fulfill the diverse needs of different customers given limited funding and staffing resources.

- ***Decentralized Information Management***

Information management technology and standards are allowing OSTI to coordinate the DOE STI program with reduced processing of paper reports and production of microfiche. In addition to providing more timely availability of information, this change allows OSTI to use fewer resources to process information. The challenge comes in acquiring or developing the expertise and knowledge to establish common standards and implement appropriate technologies.

- ***Systemic Education Reform***

Education experts from academia, industry, and government agree that long-range math and science education reform is a prerequisite to meeting National Education Goals (in particular Goal 4: "By the year 2000, U.S. students will be first in the world in science and math achievement"). Criteria reflecting foremost educational techniques and best practice and research are being developed for math and science curricula. The challenge comes in gaining acceptance and active support for reform activities at all levels within a school district—from the administrators to the principals to the science teachers in the classrooms. The current Departmental approach to gaining this acceptance is through pilot projects with reform-minded school districts.

THE DEPARTMENT OF ENERGY

Office of Science Education and Technical Information Organization Chart

Leadership

Executive Leadership

The senior executives are Terry Cornwell Rumsey, OSETI Director, Elizabeth Buffum, OSTI Director, and William Lewis, OSEP Director. The executives lead by example in their commitment to quality and customer service. Ms. Rumsey, who spent 18 years in various management positions at Xerox Corporation, has been a leader in both OSETI's and DOE's implementation of quality management principles. In addition to serving on DOE's Quality Leadership Council, Ms. Rumsey volunteered to champion one of six goals in the Departmental quality action plan, *The Quality Transformation: A Catalyst for Achieving Energy's Strategic Vision*. Her goal states, "The Department leadership has provided the environment in which employees are enabled to satisfy customer requirements and realize their full potential." Under Ms. Rumsey's leadership, the team drafted six strategies with quantitative milestones. In OSETI, Ms. Rumsey and the Senior Management Team (which includes the three executives, OSTI's seven assistant managers, and OSEP's three team leaders) have gone above and beyond many of the plan's milestones.

For example, instead of reducing burdensome reporting requirements on customers by 50 percent (as the plan calls for), OSETI has reduced requirements by more than 75 percent. Additionally, a member of the Senior Management Team personally delivered over 300 hours of Customer Focus training to OSETI employees.

As the first order of business after OSETI was established in 1993, the executives assembled the Senior Management Team to craft the organizational vision, values, and strategic direction. These serve as the roadmap for developing OSETI strategic and operational plans.

Besides simply participating in the up-front, broad strategic quality guidance, the executives also take an active role in monitoring and getting involved in day-to-day quality and customer service operations. At the biweekly Senior Management Team meetings, quality and customer focus are standing agenda items, and leadership training is also provided regularly at these meetings. Quarterly progress reviews are also held to evaluate the effectiveness of the Strategic Plan and quality strategies. The executives also established an infrastructure of Exceptional

Service Advocates to support their respective managers in developing specific work unit quality action plans. In addition, this Advocates group also addresses such cross-cutting needs as training, process action teams, and employee suggestions.

Ms. Rumsey personally launched an employee recognition mechanism called the "Hats Off Award" (described below) that celebrates exceptional customer service, resource savings, and teamwork.

Other examples of executives' personal commitment include (1) quarterly participation in team-building exercises; (2) establishment of an Individual Development Plan program for employees; and (3) attendance of over 100 hours per person in quality-related leadership training courses.

The Office's vision, written in 1993:

The Office of Science Education and Technical Information is regarded as a fundamental partner with other Departmental elements, the educational community, and American businesses which have re-emerged as the most innovative in the world. The Office opens the floodgates of scientific research findings and technical information from all corners of the globe. The world witnesses DOE's contribution to the success of diverse American businesses as unquestioned leaders in setting new competitive standards in critical world markets. The American education system produces a populace of skillful innovators and informed decision makers prepared to meet new challenges.

OSETI formally adopted the values listed in the DOE Strategic Plan and placed special emphasis on valuing customers and employees. OSETI's Strategic Plan introduction states, "All work is designed to satisfy our customers," "It is clear to everyone that our employees make the difference," and "We consistently display role model management skills."

The Office's strategic goals also emphasize quality and customer focus: "customer-focused alliances," "information will be easily accessible," "solutions for the Department's education and information management needs," "achieve long-term improvements in student skills," "deliver world-class quality service to all of our customers," and "champion national and community service and partnerships with the nonprofit community."

In 1994, executives and employees alike joined in developing a credo—what OSETI believes in and delivers. A short, catchy phrase, it is meant to motivate employees and communicate value to customers. Combining the benefits provided by scientific and technical information and education, the credo is "Knowledge—The Competitive Edge" and is publicized in all external presentations and marketing literature.

Vision, quality values, and customer focus orientation are communicated to managers and supervisors by involving them in the implementation of strategic goals. Managers and

supervisors normally champion teams at the "objectives" level of the Strategic Plan, which is one level below the goals. This is where specific value-added activities are established. Executives, who champion the goals, provide overall guidance. Ms. Buffum and Mr. Lewis also hold weekly staff meetings with their managers and supervisors where quality and customer focus actions are reviewed.

Managing for Quality

The Office is on the forefront of the Department's initiative for improving the Performance Management Program for Managers and Supervisors. As a result of the revision of Senior Executive Service standards in 1993, two critical elements were established: Leadership and Program/Mission Accomplishment. Specific standards under the Leadership element include quality advocacy, customer orientation, interpersonal relationships, team building/teamwork, and vision/change agent. OSETI has "cascaded" these standards into the performance plans of all managers, supervisors, and team leaders by modifying them to fit the individual's role. Also, specific measures and results for each standard were developed and communicated to managers and supervisors.

Rating officials (OSETI's executives) get feedback from managers' and supervisors' peers and subordinates to form the bases for midyear reviews and annual ratings. Also, OSETI uses the Organizational Climate and Management Practices Questionnaire to get general ratings of managers' and supervisors' customer orientation. Illustrative rating statements are provided below:

- Our management routinely maintains contact with customers.
- Our management demonstrates commitment to high levels of customer satisfaction.

In addition to performance plan standards, roles and responsibilities have also been agreed on through a code of conduct and a list of managerial expectations. An illustrative summary is provided below:

- Advance the work and growth of the team.
- Lead by example; coach and mentor employees in developing the human resources of the team and the organization.
- Affirm and promote our shared vision, goals, and objectives, and be supportive of the organization's culture.
- Identify and strive to remove barriers to quality or team performance.
- Serve as a contributing member of the management team on a broad range of operational issues (e.g., employee safety and health, available employee services, leave usage, workload leveling, recognition of successes, etc.).
- Celebrate successes and give positive reinforcement for model behavior.

Ms. Rumsey holds quarterly roundtable meetings where employees are invited to ask questions on any topic. Ms. Rumsey uses these opportunities to communicate the Office's vision, values,

and customer focus. All-employee meetings and work group meetings are also held at least twice annually to discuss the Strategic Plan and quality-related issues. These "state of the organization addresses" are led by Ms. Buffum and Mr. Lewis. An annual listing of organizational accomplishments and customer success stories is also distributed to all employees. Success indicators (described below) are posted in OSETI and OSEP conference rooms to encourage employee ownership and communicate organizational goals.

One of the Strategic Plan's key success measures is "management and cultural change." In 1993, OSETI developed a comprehensive culture survey titled "Organizational Climate and Management Practices Questionnaire" to measure changes. Consisting of 57 statements, the questionnaire asks employees to respond on a scale of 1 to 5 ("strongly disagree" to "strongly agree") to each statement. The questionnaire is divided into six categories: Mission, Vision, and Goals; Organization and Structure; Management; Customer Service; Intra-Office Relations/Communications; and Job Satisfaction. Employees are encouraged to provide written comments, particularly for responses of 3 ("slightly agree") or lower.

Employee participation in the survey is voluntary with response rates averaging 60 percent. The questionnaire has been administered twice: November 1993 and March 1995. Following the analysis of results from the 1993 survey, improvement strategies were implemented in 1994. The survey was not administered in 1994. Many of the trend data provided in later criteria items are drawn from the questionnaire results and changes from 1993 to 1995.

Monthly operations reports are prepared by each line manager to report against planned accomplishments/targets. Graphs and charts are used heavily in this report. The Director of each subcomponent evaluates these reports and provides guidance and timelines for corrective actions. The Exceptional Service Advocates infrastructure also develops, monitors, and reviews specific quality improvement action plans for line organizations.

Members of collective bargaining units serve on the Exceptional Service Advocates infrastructure and the Customer Focus Initiative. Union leadership is consulted in the administration of the culture survey and in streamlining efforts.

A recurring theme in OSETI's Strategic Plan is "partnering" and "leveraging resources." Because the Office is relatively small, partnering is the only means for making valuable contributions to the Department's mission. Both subcomponents, OSTI and OSEP, have established a formal infrastructure of partners, stakeholders, and customers. They include Headquarters program managers, technical information managers and education directors at Operations Offices and National Laboratories, and students and teachers. Examples of partnering are provided below:

- *Order Consolidation.* Employees worked with 60 external stakeholders to reduce burdensome reporting requirements on customers. Four scientific and technical information Orders consisting of 143 pages were reduced to one Order with 8 pages.

- *Contractor Oversight.* OSETI is one of 14 DOE Offices working with major DOE contractors to reduce oversight and improve performance. Education programs and technical information management are included in the effort's pilot project.
- *DOE Home Page.* OSETI led the way in involving multiple DOE elements in establishing the DOE Home Page on the Internet. The Home Page is now being accessed by more than 20,000 customers per month.
- *Education and Information Outreach Pilot.* Employees have partnered with the education and business communities in Atlanta, Georgia, to provide technical information and education products.

Public Responsibility and Community Citizenship

Since the end users of most of OSETI's products and services are private citizens, many of the quality goals in the Strategic Plan focus directly on the public. Goal 2 sets a 30 percent increase in public access to DOE's scientific information. Goal 4 seeks to reach "63,000 teachers in 25 urban and rural school districts." Goal 6 was established solely for the purpose of "championing national and community service and partnerships with the nonprofit community."

Citizenship responsibilities are fulfilled by establishing specific action/implementation plans for each strategic goal associated with the public. In addition to the examples cited above, others include local contributions in the Oak Ridge and Washington, D.C., communities. OSTI employees have adopted a financially challenged school and annually volunteer more than 600 hours and \$2,000 to school programs. In the Combined Federal Campaign, 95 percent of employees contribute more than \$18,000 per year, the highest in the East Tennessee area for the last five years.

Strategic Quality Planning

Quality and Operational Performance Planning Process

Quality is inherent in each level of OSETI's strategic and operational planning process. At the beginning of each fiscal year, Ms. Rumsey convenes the Senior Management Team to initiate the planning process. In 1993, this involved defining a long-term vision and mission statement. Since 1993, this step has included a review and validation of the vision and mission. The next step is the identification and evaluation of market and customer requirements in order to define long- and short-term goals. Numerous customer and stakeholder meetings and feedback mechanisms are used to gather customer market data.

Senior managers use this information as background to define strategic goals. OSETI has established six goals that are stated for the long term (2-3 years). Each goal is championed by a member of the Senior Management Team. Following the establishment of long-term goals, the managers develop short-term objectives (1-2 years), and each objective has one-year "outcomes," or results, and "outputs/measurements," or milestones toward the results. These "outcomes" and "outputs" are considered standards or key indicators for customer service and process improvement because they are built around baselines and improvement targets.

The outcomes and outputs under each objective are focused on a dimension of quality, continuous improvement, or customer satisfaction. In addition to these specific outcomes and outputs, the senior managers "roll up" all goals into OSETI key success indicators for the year. The indicators are charted and displayed throughout the year as a means of communicating important business drivers to employees and encouraging employee ownership of the goals.

Plans are deployed to all work units through extensive employee involvement in the planning process. Each of the six strategic goal champions has a team of employees to work on goal actions and to link the goal to the work units' operating plans. Suppliers and partners (e.g., Program Offices, R&D facilities, education directors, and contractors) are involved through semiannual or annual meetings, mailings, or phone contact to provide input to the Strategic Plan. Following development of the OSETI Strategic Plan, work units of OSETI's subcomponents, OSTI and OSEP, develop operating plans that support strategic goals and give line

responsibility on a day-to-day basis to specific individuals and teams. In these operating plans, Assistant Managers or Team Leaders use employee-based teams to describe market and customer needs, skills and human resources needed (including the number of federal and contractor FTEs), and lower-level measures of success that support OSETI's broad success indicators.

The planning process is improved through regularly scheduled evaluation sessions. Champions of operating plans report monthly on progress toward strategies and milestones, and the Senior Management Team meets quarterly to review progress toward the six strategic goals. Customer feedback from stakeholder meetings is also analyzed and discussed, and the planning process is modified on the basis of this feedback to produce the results specified in the strategic goals.

Quality and Operational Performance Plans

OSETI's Strategic Plan calls for the following quality and operational performance improvements:

Goal 1: *We will form customer-focused alliances with the DOE family to integrate science education and technical information initiatives into critical business functions.*

Key Indicators: (1) 1,000 stakeholders involved in OSETI planning process; (2) one regional partnership established in the Southeast.

Goal 2: *The Department of Energy's information will be easily accessible.*

Key Indicators: (1) 30 percent of the Department's energy and environmental information made available via a virtual library; (2) five new pathways to DOE information made available; (3) three new media options used to inform 50 percent more Americans about DOE education programs.

Goal 3: *We will provide solutions for the Department's education, scientific, and technical information needs.*

Key Indicators: (1) Three major Departmental information management systems developed and implemented; (2) three new electronic mechanisms established for information sharing, announcement, and customer feedback.

Goal 4: *We will leverage the unique resources of our laboratories and facilities to achieve significant, long-term improvements in student science, mathematics, engineering, and technology skills.*

Key Indicators: (1) Criteria established to measure improvements of students and faculty in science, math, engineering, and technology; (2) five partnerships developed with public/private organizations representing underserved populations; (3) 50 percent

increase in teacher research, teacher development, and student programs incorporating systemic reform elements into program design; (4) instructional tools provided to 63,000 teachers in 25 urban and rural school districts using educational technologies; (5) increase number of National Science Bowl® participants by 20 percent.

Goal 5: *Our employees will be fully empowered to deliver world-class quality service to all of their customers.*

Key Indicators: (1) 10 percent improvement in key employee satisfaction ratings; (2) percentage increase in underrepresented groups as part of workforce; (3) 15 percent reduction in lost work days; (4) 5 percent reduction in hazardous waste streams; (5) 5 percent improvement in targeted customer satisfaction standards.

Goal 6: *We will champion national and community service and partnerships with the non-profit community to carry out the Department's missions.*

Key Indicators: (1) Involve and inform 15 DOE Program Offices in Americorps initiative; (2) achieve 85 percent participation by working group members.

Subcomponents then cascade these requirements into yearly operating plans, which include "resource requirements" (FTEs, contractors, capital equipment, and skills/ training) sections.

Multiyear projections are provided for the broad success indicators.

SUCCESS INDICATOR	1996	1997	1998
Customer Satisfaction (Composite)	75%	80%	85%
Employee Satisfaction (Composite)	75%	80%	85%
Correspondence Responded to on Time	97%	99%	100%
Program Impact*			

*A yearly goal of 5 to 20 percent increase or improvement in the programmatic items in Performance Plans.

Information and Analysis

Scope and Management of Quality and Performance Data and Information

The OSETI Strategic Plan, which reflects the needs of customers, drives the criteria for developing measures of success and selecting key data and information. The Plan itself lists under each of its six goals the specific "Results/Measurements" required for success. The key criteria for measures are that they are quantifiable (e.g., percent improvement, date accomplished, etc.) and directly support quality improvements and/or customer needs. For example, Goal 5 has "highly motivated workforce" and "world-class products and services" as two desired outcomes, and the associated measures include "10 percent improvement in key employee satisfaction ratings" and "20 percent increase in customer feedback." All measures have a target that is determined by market trends and analysis of customer needs and internal capabilities.

In addition to specific measurements in the Strategic Plan, the Senior Management Team has also identified four broad measurement categories as OSETI's primary indicators of success. These are (1) customer satisfaction, (2) program impact, (3) employee satisfaction, and (4) timely correspondence.

- *Customer Satisfaction.* Customer satisfaction baselines have been or are being established for all customer segments. Feedback is obtained in the following areas: service attitude, meeting customer needs, communications, recovery from mistakes, satisfaction with products and services, and working relationships. The purpose of customer satisfaction measures is to gauge the end result of quality improvement and integrate feedback into line operations.
- *Program Impact.* The measures within this category reflect how well the Office is accomplishing its mission, on the basis of customer needs, Legislative and Executive mandates, and Departmental priorities. Currently, program impact is measured by (1) the amount of public access to DOE scientific and technical information; (2) the amount of information made available from U.S. versus foreign sources; (3) information processing cycle time; and (4) usage levels of education programs, products, and services, including levels of assistance to underserved populations.

- *Employee Satisfaction.* Measures within this category provide feedback that is used to improve management practices and organizational climate. The specific subcategories are listed above.
- *Timely Correspondence.* This measure is used to monitor and reduce the turnaround time for responding to "controlled correspondence," that is, action items or correspondence that is tracked by the Executive Secretariat on behalf of the Secretary's Office. A database has been established to record the date when an action item is received and the date a response is given to the customer.

The first, second, and fourth measures above apply to all six goals in the Strategic Plan; the third measure applies to Goal 5.

Data reliability, consistency, and validity are assured by using accepted surveying and sampling techniques that yield "true results." To date, customer satisfaction surveys have been distributed to more than 1,000 customers, with roughly 15 percent responding. Employee satisfaction surveys have had 50-60 percent response rates. Both rates yield statistically significant results. "Program impact" measures are computer-generated, and the "timely correspondence" measure is produced by a tracking system. Ready access to the data is assured by PC-based local area networks and continuous "counting" operations systems.

Similar Provider Comparisons and Benchmarking

OSETI performs the unique government functions of collecting and managing scientific and technical information; acquiring and disseminating worldwide information; and improving science education programs. Few organizations exist that perform identical functions. There are, however, other federal agencies and international organizations that conduct fairly similar information management functions. OSETI represents the Department in an interagency forum that has the common theme of information management and dissemination. Other participating agencies include the Department of Commerce, the National Aeronautics and Space Administration, the National Library of Medicine, and the Department of Defense. OSETI also represents the United States in the International Nuclear Information System, a consortium of 78 countries who share non-defense nuclear information. Comparative data are shared in both organizations on throughput time for processing technical information on electronic magnetic tapes. Comparative results are provided in the section *Quality and Operational Results*. Quality standards, established by the American National Standards Institute and the International Standards Organization, are also used in the production of many print, microfiche, and electronic products.

Analysis and Uses of Organization-Level Data

In addition to OSETI's broad customer satisfaction surveys, a number of other sources are also used to form an aggregate customer/market data collection (see figure). The data are used quarterly to evaluate the Strategic Plan and make both short- and long-term modifications.

Operational information is collected on a weekly or monthly basis and is used to guide work units and teams in their daily process improvement efforts. Operational data apply primarily to Goals 2, 3, and 4 of the Strategic Plan and are used to make improvements in scientific and technical information processing time, quality and accuracy of information, and quality of information and education products (e.g., publications, databases, on-line systems).

Human Resource Development and Management

Human Resource Planning and Management

Goal 5 in the OSETI Strategic Plan is the primary driver of Human Resource Planning and Management. The goal states, "Our employees will be fully empowered to deliver world-class quality service to all of our customers." Three of the goal's four objectives focus solely on the workforce and working conditions (the fourth is on customer satisfaction).

In addition to the Strategic Plan's focus on human resources, more specific strategies, actions, and deliverables are described in subcomponents' operating plans and the performance plans of the Offices' SES executives and other managers and supervisors. In 1994 and 1995, these strategies and accomplishments include:

- Implement streamlined, flattened organizational structure.
- Establish strategically driven performance plans—cascading strategic/operating plans into individual performance plans.
- Develop employee skills through needs identified in strategic and operating plans.
- Recruit and promote diverse, highly qualified candidates.
- Provide a safe, healthful, and efficient workplace, emphasizing environmental stewardship for both on-site personnel and the surrounding community.

In addition to day-to-day feedback from employees, human resource operations and practices are improved through three primary mechanisms: (1) Organizational Climate and Management Practices Questionnaire; (2) periodic internal resource management surveys; and (3) the employee suggestion system. Each of these mechanisms provides feedback on Human Resource practices such as performance appraisals, rewards/recognition, training, communications, organizational structure and work design, teamwork, and empowerment.

Following the establishment of a baseline in 1993, the Office identified four key areas where significant improvement was desired: (1) open and honest communication, (2) empowerment, (3) rewards and promotions, and (4) decision making. Employees volunteered to serve on teams for each area. Teams identified root causes for problems and proposed solutions for improvement. The Senior Management Team took the solutions and integrated a three-strategy approach into the strategic and operational planning process. These strategies focused on organizational structure, management behavior, and systems/practices. A re-survey in 1995 indicates significant improvements as a result of these strategies. The same process for identifying key improvement areas and developing improvement strategies is being used in 1995.

Employee Involvement

OSETI encourages employee involvement through three principal involvement mechanisms: teams, suggestion system, and feedback surveys/questionnaires.

- *Teams.* Almost all teams are multi-level [involving a broad range of General Schedule (GS) employees] and multi-functional. Teams focus on such issues as strategic goals and action plans, waste reduction, information processing cycle time reduction, education outreach to the public, and internal communications. Employees volunteer or are selected to serve on teams on the basis of their skills, knowledge, and interest in the particular subject. Diversity among teams contributes to the quality of their recommendations.
- *Suggestion System.* A suggestion system was established by OSTI in 1990 and was adopted by OSETI in 1993. Employees can send an improvement suggestion to an electronic mail address called "QUALITY." To encourage specific, value-added suggestions, the Office has also used suggestion themes (e.g., "how to improve customer service," "how to reduce waste," etc.) and an Idea Day.
- *Surveys/Questionnaires.* The Office-wide Organizational Climate and Management Practices Questionnaire and lower-level internal satisfaction surveys are also used to encourage employee involvement.

Ms. Rumsey also encourages employee initiative when citing the "three-step rule": (1) Is it good for the customer; (2) is it legal and ethical; and (3) do we have the resources required? If yes, then "do" it.

In 1993, the Office's lowest rating by employees was in the area of micromanagement/empowerment. Only 35 percent of employees were satisfied with the level of empowerment and involvement. Today, that level stands at 59 percent as a result of several improvement actions initiated by the Senior Management Team. Changes were made in behavior, organizational structure, and systems/practices. Meetings were held with employees on a "before and after" basis to discuss their expectations and roles for becoming more involved. The

reduction of the number of supervisors by 65 percent and the number of organizational layers by 40 percent and the clear definition of team leader responsibilities left much more of the decision-making process to employees. This effectively raised their level of empowerment.

In addition to flattening the organizational structure, the performance management system has been changed to cascade OSETI goals into employees' performance plans. Rewards and recognition mechanisms have also been refocused to encourage risk taking, teamwork, and customer service.

The extent of employee involvement is measured by the percentage of employees participating on teams, the number of suggestions, and feedback on empowerment/ involvement questions in the culture survey. In 1995, 75 percent of employees are participating on teams, an increase from 61 percent in 1993. Since the suggestion system began, more than 700 employee ideas have been received and answered. The following table shows positive trends in employee ratings of empowerment and involvement.

EMPOWERMENT/INVOLVEMENT SURVEY RESULTS

% Satisfied		%change	Questions
1993	1995		
58	72	+24	Employees are empowered to resolve customer service problems.
40	65	+62	Employees are empowered to interact and give feedback to any level in the organization.
50	57	+14	I am involved in decisions that affect my work.
46	59	+28	Employees participate in decisions regarding service and delivery.

Employee Education and Training

OSETI has aligned the performance plans of managers and supervisors with each Office Director's SES performance plans. These, in turn, are aligned with the Strategic Plan. Managers and supervisors developed operating plans at the work unit level that support the Strategic Plan and that cascade into their performance plans. All of these plans contain measures of success for quality and customer service. The final step is cascading individual and work group expectations into employees' performance plans. At the time when employees and supervisors certify the performance plan, education and training needs are identified. The needs are then reviewed by the Senior Management Team, and a prioritization is established on the basis of the Office's strategic priorities.

Training for the entire workforce has been provided in the following areas

- Quality improvement concepts and philosophy
- Customer focus orientation training
- “Seven Habits of Highly Effective People,” Principle-Centered Leadership (50 percent have been trained with 100 percent expected by 1996)
- Facilitation and process improvement tools (training provided to 35 volunteer employees)

Work unit leaders hold group sessions soon after training to identify potential applications for training.

Following all training courses, employees complete a written evaluation of training for effectiveness, timeliness, and value added to the job. This feedback is used to determine future course selection. Since 1993, the Office has emphasized a “just-in-time” approach to training. This, coupled with funding limitations, has resulted in an increase in “self-development” training hours.

The Office’s Self-Development Center has become a key component of its training strategy. A significant commitment of funding has resulted in a sizable collection of training resources: 718 books, 232 audio cassettes, 187 videotapes, and 300 other media publications. The Center’s materials cover a variety of both general and specific subject areas (e.g., project management, facilitation techniques, self-directed teams, and leadership), and the Center has been used as a model that other DOE offices have replicated.

Employee Performance and Recognition

The Office’s approach to performance management and feedback have been described above. Essentially, performance is evaluated against the performance plan, which represents the employee’s contribution to the Office’s strategic and operating plans. In the past two years, the Office has moved toward more “just-in-time” and “on-the-spot” awards. On a biweekly basis, Ms. Rumsey gives “Hats Off” awards to individuals and groups for exceptional customer service, waste reduction, and process improvements. The award consists of a handwritten note from Ms. Rumsey on a typed award narrative with a “Hats Off” logo. Since the award was initiated, over

70 percent of employees have been recognized through 65 awards. Individual supervisors also use nonmonetary and monetary rewards such as "Time Off," "On-the-Spot," and "Special Act or Service."

Effectiveness of performance, feedback, reward, and recognition systems is evaluated primarily through the Organizational Climate and Management Practices Questionnaire. Out of all categories in the questionnaire, performance and rewards is the only one showing mixed results since 1993. However, this result has been more a product of employee uncertainty than dissatisfaction. Following the major reduction of organizational layers and the implementation of streamlining initiatives that were completed in 1995, the effort to cascade and streamline employee performance plans began. At the time the questionnaire was conducted in March 1995, this effort was ongoing. When the new plans have been in place for one year, it is expected that responses will improve in these areas. The overwhelmingly positive changes in other categories (e.g., empowerment, decision making, customer service) suggest that a positive trend in performance will follow.

EMPLOYEE PERFORMANCE AND RECOGNITION

% Satisfied		%change	Questions
1993	1995		
67	52	-22	I understand how my performance on the job is evaluated.
43	38	-12	Rewards given in our organization are fair and appropriate.
55	62	+13	Customer satisfaction is an important criterion in my performance evaluation.

Employee Well-Being and Satisfaction

Goal 5 of the OSETI Strategic Plan focuses on employee well-being and satisfaction. Objective 1 calls for a "10 percent improvement in key employee satisfaction ratings," and Objective 3 is to "provide a safe and healthful work environment." The desired "outcome" and "outputs" are listed below:

Outcome: A safe work environment with no lost-time accidents, resulting from improved working practices and facility conditions.

Outputs: (1) 15 percent reduction in lost work days compared to national average; (2) 10 percent improvement in employee rating of physical conditions; (3) 5 percent reduction in hazardous waste streams.

Key indicators for employee well-being and satisfaction are provided by the Organizational Climate and Management Practices Questionnaire.

EMPLOYEE WELL-BEING AND SATISFACTION

% Satisfied		%change	Questions
1993	1995		
55	61	+10	The physical conditions at our site are conducive to providing a safe and effective work environment (e.g., ventilation, temperature, space to work).
57	73	+28	I am satisfied with the Office of Science Education and Technical Information as a place to work.

Management of Process Quality

Design and Introduction of Quality Products and Services

New or improved products and services are designed to meet the quality or customer-focused targets outlined in the OSETI Strategic Plan. Products and services are also designed to promote the "Program Impact" success indicators. At OSTI, the lead responsibility for product and service design is in Information Systems Development. However, the Office's highly matrixed structure requires the active involvement of all seven work units. In OSEP, the specific work units operate as self-contained programmatic teams, directing and coordinating the work of contractors and grant recipients in product and service design.

The Account Executives at OSTI are responsible for interfacing with customers and ensuring their needs are translated accurately into design specifications. Through effective project management practices, engineers, physical scientists, and information specialists work as a team to design processes that will create the desired product or service. Designs are reviewed and validated with the involvement of the Account Executive, who is in regular communication with customers and arranges "in process" demonstrations for the customer in order to allow for mid-point corrections.

A specific illustration of the design, review, and validation process provides further clarification. The Business Overview described a major challenge facing OSETI as the decentralization of information management within DOE. In the Strategic Plan, the technical implementation of this falls under Goal 3 and, specifically, under the key indicator, "Three major Departmental information management systems developed and implemented."

A prototype Document Management System is being designed, developed, and implemented in order to facilitate the transition to electronic information sharing as opposed to paper document processing and storage and microfiche production. Departmental Relations, Policy and Planning; Marketing and External Relations; and Information Access and Delivery are the work units that communicate with Departmental and external stakeholders (including public information users) to define their current and long-term needs and capabilities. Information Management, Information Systems Development, and Technology Systems are the units that

work together to ensure the technical specifications result in a system that can handle the diverse mix of media using fewer resources than in the past.

Process Management: Product and Service Production and Delivery Processes

Several important processes directly relate to the production and delivery of OSETI's products and services:

- Records Processing System (RPS)
- Technical Information Management System (TIMS)
- Publications Systems (PUBS)
- Microfiche production and dissemination system

RPS	TIMS	PUBS	MICROFICHE
Requirements			
Process R&D contract deliverables for database updates	Track, monitor contract deliverables	Produce publications of scientific and technical information	Produce and disseminate microfiche products
Measures			
Quality information, throughput time	On-time delivery	Subject-specific publications to customers' requirements	Quality microfiche product delivery; timelines met
Standards			
87% error-free records	97% of contract deliverables received on time	88% completed on time	90% quality standards met on first "run"

Complete and thorough documentation on all systems and processes is maintained by the system manager and responsible work unit. Documentation includes process diagrams for manual and automated process inputs, outputs, and key processing steps (diagrammed and described in order of occurrences). Besides informal weekly and quarterly reviews, formal annual reviews are conducted by OSETI and on-site support contractors for each process. Weekly and quarterly reports are reviewed by contract task monitors, key users, and customers. Annual reviews are attended by employees, task monitors, and customers. Continuous Improvement reports are issued quarterly and contain continuous improvement efforts and outcomes for each process.

Project Managers and Account Executives/Program Managers interact within project-specific teams to accomplish required deliverables and goals defined in a project description. Processes are modeled, and project descriptions and requirements are written with input from team members representing all work units. Project sub-tasks are usually for discrete deliverables with

specific requirements and timelines. Project sub-tasks usually result in actions taken by Information Systems Development or Technology Systems to produce the enhanced and/or desired product or service.

Benchmarking data are used to determine process efficiency in the area of information processing and publications and microfiche production. OSETI uses national and international standards (American National Standards Institute and International Standards Organization) to ensure information and process quality.

Account Executives, as well as design and technology specialists, attend several new technology seminars, workshops, and demonstrations every year to discover and assess alternative technologies. Process improvements in key areas (relational database management and the Technical Information Management System) have been initiated based upon testing of alternative technologies. OSETI has also served as alpha and beta test sites for several new products, particularly search and retrieval database products.

Process Management: Business and Support Service Processes

Human and financial resources and business/support service processes are aligned with the primary "business areas" outlined in the Business Overview.

Travel, training, and other funding requirements are also aligned with each area. For more specific financial tracking of project costs, a Project Tracking System is used to provide "real-time" information on customer accounts. That is, the system provides financial information as well as progress toward project completion. At OSTI, Resource Management provides and/or coordinates business and support services, including facilities management; contract administration; procurement; environment, safety, and health; training; and personnel services. OSETI and OSEP each have an Administrative Officer who provides support to line units.

Business Area	Federal FTEs	Contractor FTEs	Funding
Collect and manage scientific and technical information	86	20	\$7.6 M
Make worldwide information available to customers	78	40	\$7.4 M
Provide information management expertise to DOE programs	0	40	\$4.0 M (cost recovery)
Improve student and faculty skills and knowledge	12	1	\$38.9 M
Develop mechanisms to evaluate science education programs	5	2	\$11.0 M
Enhance public science literacy	4	2	\$5.5 M

Administrative/support service staff are accountable for maintaining effective working relationships with internal staff. Administrative quality actions are established to support line organizations' activities. A summary is provided below:

- Improve timeliness, clarity, and user friendliness of financial reports and services.
- Improve responsiveness to facility work order and maintenance requests.
- Enhance phone system to allow 24-hour phone changes and improved customer service.
- Implement a preventive maintenance program to provide long-term facility/equipment life.
- Identify and implement time- and cost-saving options for personal security clearances and physical security.
- Establish mechanism to obtain customer feedback on contractors' products and services.

In addition to these goals, administrative/support service processes are improved through the use of an internal feedback survey. Statements on the survey are rated by internal employees on a scale from "strongly agree" to "strongly disagree." Sample statements are provided below:

- Financial reports are timely, accurate, and easily understood.
- Resource Management provides adequate, timely training support for me to be effective in my job.
- Security procedures adequately balance employee convenience against protection of property and information.
- The facility is adequately maintained (e.g., cleanliness, conference facilities, parking, telephones, etc.).
- Work orders are acknowledged and completed in a timely, satisfactory manner.
- Support services contractors provide products and services that meet customers' needs and requirements.
- Personnel matters are communicated and handled in a timely, professional manner.
- Support service staff are (a) knowledgeable, (b) helpful, (c) courteous.

Results from the surveys are used to analyze and improve support service processes.

Supplier and Intermediary Quality

Customer service and quality are heavily weighted (30 percent) in the evaluation and selection process for contractors. For large contract competitions, offerors are required to demonstrate that they have the ability to provide customer service comparable to that required in the statement of work through each of the following factors:

- Demonstrating experience with quality principles including continuous improvement and customer service.
- Level of customer satisfaction with services performed on previous jobs.
- Quality assurance system to ensure high-quality work, including subcontract work.
- Contracts successfully completed and if any contracts were terminated early, reasons why.

With smaller procurements, offerors are tested for quality through a sample task or job. In its technical proposal, all offerors are requested to explain how they would complete the task and provide actual data for what expected results would be.

Other suppliers include foreign countries providing scientific and technical information for use by the U.S. public. OSETI works within two multilateral agreements to set goals for error reduction and information accuracy. Results are provided in the following section, *Quality and Operational Results*.

Quality Assessment

The assessment process flows logically out of the planning process. As described earlier, the OSETI Strategic Plan cascades into work units' operating plans and individual performance plans. Quality and performance expectations are described at increasingly specific levels as this cascading process moves down the organization. Assessment, conversely, is a bottom-up process, where the day-to-day results are rolled up to determine their cumulative contributions to OSETI's strategic goals and success indicators.

Work units meet weekly or monthly to assess their performance results against operating plans. These results are reported monthly to the OSTI and OSEP Directors. On a quarterly basis, these results are then assessed against the OSETI Strategic Plan.

In addition to this assessment process, the Office initiated an informal quality self-assessment in July 1994, where the Senior Management Team used the President's Quality Award criteria to evaluate its quality performance and customer orientation. The informal assessment resulted in the identification of specific improvement areas as well as resource and training requirements needed to conduct a formal, data-based assessment. The Exceptional Service Advocates received training and were assigned responsibility for a formal annual assessment using the President's Award criteria.

Quality and Operational Results

Product and Service Quality Results

In Element 2, the appropriate “product and service” quality indicators fall under “program impact” measures, which include (1) increase in public access to DOE information; (2) foreign information acquired and made available in the United States; and (3) the number of students and teachers reached through education programs, including underserved populations. The following charts and data provide current or multiyear results.

Customers have indicated a need for low-cost foreign information. OSETI's goal is to provide both domestic and foreign information with at least 50 percent of the total coming from other countries. Since 1992, the foreign share has exceeded this target: 54 percent, or 90,000 to 100,000 records per year.

OSETI also committed to providing 63,000 teachers new and improved instructional materials in 1995. This commitment was also made by the Secretary of Energy in her Performance Agreement with the President. The chart to the left shows the goal being exceeded by 40,000.

Finally, the "timely correspondence" success indicator shows impressive completion of action items, as monitored by computerized tracking systems. More than 600 action items are logged in each year and since being declared a success

indicator, "timely correspondence" has increased by nearly 40 percent. Responses are more than 95 percent "on time."

Due to the uniqueness of these products and services, benchmark data are not available.

Operational Performance Results

Multiyear data show that OSETI has significantly reduced the processing time for making information available to U.S. industry and the public.

As OSTI moves away from paper-based products toward electronic information sharing, the resources committed to printing paper publications are declining. This chart shows a favorable downward trend.

Comparative data are provided by the International Nuclear Information System (INIS), which processes similar kinds of scientific and technical information. Whereas OSETI processes electronic tapes in less than 3 days, INIS requires 10 days.

Business and Support Service Results

Key results include major organization streamlining improvements and administrative savings and efficiencies. Work restructuring and organizational alignment resulted in 65 percent fewer supervisors and the elimination of forty percent of management layers. The streamlining raised the employee to supervisor ratio from 4:1 to 11.5:1.

In addition to streamlining successes, OSETI has achieved significant improvements in waste reduction, electricity savings, and paper recycling. The graph below shows significant overhead

reductions since 1992. These savings have resulted in a reduction of the overhead rate charged to customers for cost recovery products and services, from a high of 19 percent in 1991 to 15 percent in 1994.

Supplier and Intermediary Quality Results

Through close partnership with foreign suppliers of scientific and technical information, the accuracy rate has increased significantly.

Timeliness of satisfactory products provided by contractors and outside vendors has also increased. From 1992 to 1994, average product timeliness increased from 1.1 days "late" to 0.5 day "early."

Customer Focus and Satisfaction

Customer Expectations: Current and Future

OSETI's customers encompass a broad cross section of Departmental, contractor, academic, other government agency, international, and public communities. The identification of customer groups is determined in the initial phases of the strategic planning process. Groups' needs are further refined and clarified within work units. Although all work units are responsible for collecting and analyzing market and customer data, two units within OSTI and OSEP have primary responsibility: Marketing and External Relations and Field Staff (see organization chart in Business Overview).

Several systematic mechanisms are used to collect and analyze data.

Customer Needs Collection Mechanisms

User Needs Assessment System
Account Executives
Employee Suggestion System
Customer Focus Initiative
Stakeholder Infrastructure

- *The User Needs Assessment System* was designed to identify needs for scientific and technical information products and services and to collect and provide easy access to this information. Employees who receive a request from a customer or become aware of a customer need complete a User Needs Assessment Form.
- *Account Executives* have also been designated to work with specific DOE Program Offices and other customers in defining their needs and ensuring their satisfaction. Account Executives are trained in listening to their clients with an unbiased ear. Executives record this information and provide it to line organizations.
- *The Employee Suggestion System* provides valuable input from those working on the "front lines."

- *The Customer Focus Initiative*, started in 1994, led to the grouping of specific product and service customers. In OSTI, these products and services include Current Awareness publications (2,764 customers), advice and consultation (87 customers), on-line services (675 customers), microfiche (302 customers), and software (585). In OSEP, customers include 30 education directors at DOE facilities and hundreds of thousands of students and teachers. Currently, more than 1,000 of these customers have been surveyed.
- *Stakeholder Infrastructure*: OSETI has assiduously built an education and information community infrastructure that is in constant communication and meets twice yearly. The meetings are a valuable forum for determining customer needs. Proceedings are compiled and shared with employees.

Improving the process of needs collection and analysis is achieved by identifying gaps in OSETI's customer requirements knowledge base. When a programmatic decision requires input on customer needs and the information does not exist, the work units responsible for marketing are tasked with closing the gap and ensuring an adequate information base is available in the future. Customer feedback is also used to improve survey instruments.

Customer Relationship Management

Many employees have direct contact with customers, and the processes and transactions that lead to customer contact are identified in strategic and operating plans. Broad customer-focused quality indicators are defined in the Strategic Plan, and lower-level standards are established in subcomponents' operating plans.

Broad service standards for the OSETI Strategic Plan include

- 75 percent of customers served will rate products and services as "good" to "excellent" by 1998.
- 1,000 stakeholders contacted and requested to provide feedback.
- Customer Feedback Form established on the DOE Home Page.
- Baseline established for students' interests, skills, knowledge, and abilities.
- Two systemic education reform templates developed and tested.
- 20 percent increase in National Science Bowl[®] participants.

These broad standards are deployed to work units through more specific standards. All standards are tracked and reviewed through the planning evaluation process.

As part of the Account Executive role described above, OSETI uses customer contact software to manage client relationships, inform staff of ongoing relationships and activities, and develop partnerships. The program tracks contact information, schedules meeting times and follow-up, and logs information flow between customers and OSETI staff.

In addition to this software, OSETI also uses a customer hotline for customers of electronic information products (e.g., Energy Science and Technology Database). On the Internet-based DOE Home Page, an electronic customer feedback form is available. With approximately 20,000 accesses per month, more than 320 customers have made constructive comments or suggestions about the Home Page.

Account Executives are in weekly, sometimes daily, contact with DOE program managers to ensure their satisfaction with OSETI products and services. At OSTI, an on-site contractor takes customer orders for DOE technical reports. Periodic, routine follow-up calls are made to customers to ensure their orders are filled accurately and completely. Hotline phone calls are usually resolved immediately, and all are resolved within 24 hours. Finally, more than 1,000 customer surveys have been conducted since 1994. Customers are asked to indicate whether they would like to speak personally with an OSETI representative. Out of 35 requesting personal attention, 100 percent were contacted within one day.

Individual complaints are relayed immediately from Account Executives or anyone receiving them to the appropriate line organization. Complaints are aggregated in the User Needs Assessment System and then used to evaluate particular products and services.

Commitment to Customers

OSETI's commitment to customers is reflected in the Strategic Plan, including its six goals and objectives that are shared with all stakeholders and customers. Specific commitments in the Plan include

- "We use the most advanced technologies to provide information to our customers."
- "All work is designed to satisfy customers."

Other more specific commitments include

- "Regional partnerships created to better serve science education and technical information customers."
- "30 percent of the Department's energy and environmental information will be available via a virtual library."
- "Five partnerships developed with public/private organizations representing underserved populations."

The name given to OSETI's quality approach, Exceptional Service, is indicative of the emphasis that is placed on serving customers. Account Executives are empowered to communicate and guarantee customers' total satisfaction with OSETI products and services.

Determination of Customer Satisfaction

Prior to the Customer Focus Initiative in 1994, OSETI surveyed customers primarily to define their needs (the "what"), which was then used to establish the current product/service line. Several instruments, however, have also been used to measure satisfaction with specific products and services. Two hundred participants at the Technical Information meeting held in Oak Ridge each year are surveyed to rate their satisfaction with the meeting and OSTI products and services. Another measure is "repeat business," that is, the number of DOE Program Office customers who seek education and information management services every year. The results are reported below.

In early 1994, formal efforts were also initiated to define specific product/service characteristics that are important to all customers. The surveying process was initiated in fall 1994 to establish a composite customer satisfaction baseline.

The customer satisfaction measurement process has been improved by identifying gaps in customer feedback data. Specifically, data are analyzed to determine where they do not provide helpful insight. The task of filling these gaps is then assigned to the appropriate work units.

Customer Satisfaction Results

On the measure of "repeat business," a level of 20 Program Office customers is considered a baseline. The following chart shows that OSETI has exceeded the baseline for 5 years. The

same 22 offices have been "repeat customers," and 6 to 10 offices seek special one-time services each year.

Multiyear trend data are available for 200 customers attending the Technical Information meeting in Oak Ridge each year. The measures provide an indication that attendees are consistently getting the information needed to do their jobs more effectively.

Technical Information Meeting Customer Satisfaction Trends
(% Responding "Good" to "Excellent")

Measure	1992	1993	1994
Conference Proceedings	90	95	98
Conference Topics	94	95	98
Contacts/Tours	90	89	100

Customer groups were identified for the Customer Focus Initiative. In 1994, the two largest customer groups for OSTI and OSEP [Current Awareness Publication (CAP) customers and Library Science Education Staff (LSES)] were surveyed. The satisfaction levels are provided below:

Customer Satisfaction Report Card

Service Area	% Satisfied CAP	% Satisfied LSES	% Satisfied Composite
Service Attitude	91.8	58.9	72.1
Meeting Customer Needs	84.6	48.8	60.1
Communications	84.8	41.0	55.7
Recovery from Mistakes	88.9	66.7	74.1
Satisfaction with Product	95.7	50.0	66.0
Working Relationships	95.8	56.7	74.1

Customer Satisfaction Comparison

While similar organizations do exist in the federal government, customer satisfaction levels for these organizations are not available. As a proxy for comparison, OSETI selected a world-class organization, Wainwright Industries, the 1994 Malcolm Baldrige National Quality Award winner, as the standard for customer satisfaction. Wainwright uses the following scale to "grade" its products and services:

**Wainwright Industries
Customer Satisfaction Rating Scale**

Grade	Percent	Definition
A	100	Total Customer Satisfaction
B	90	Customer Consistently Satisfied
C	50	Customer Consistently Dissatisfied
D	0	Total Customer Dissatisfaction

OSETI products or services are rated as A, B, C, or D, and process action teams are formed to recommend improvement and set customer service standards for any product/service that falls below the B level. Goals for composite customer satisfaction are as follows: 1995—75 percent; 1996—80 percent; and 1997—85 percent.