

# **FY 2000 Information Management Plan**



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**U.S. Department of Energy (DOE)  
Oak Ridge Operations (ORO)**

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# Revision Log

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## Oak Ridge Operations Office Information Management Plan

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# Approval Sheet

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## DOE ORO Information Management Plan

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# 1. Introduction

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The purpose of the Oak Ridge Operations (ORO), Information Management (IM) Plan is to: 1) identify the approach that ORO will take to manage the information it needs in support of its missions; 2) document the ORO IM function; 3) identify the roles and responsibilities of ORO staff and organizations supporting the IM function; and 4) describe ORO's current IM environment, future IM goals, and road map to the future. This plan was developed under guidance provided by, and will be implemented in concert with, IM planning activities coordinated by the Office of Science IT Collaborative Group and guidance provided by the ORO Corporate Information Management (CIM) Steering Council.

The IM Plan contains a description of: the missions of ORO, the IM support function within ORO, the IM goals through which ORO defines its IM future, the current IM environment at ORO, and a road map of projects that will help lead ORO from its current status toward its IM vision. To make timely progress in achieving vision objectives, the Information Resources Management Division (IRMD), as the steward of this plan, will recommend road map projects for the ORO CIM Steering Council. The council, as owner of this plan, will concur on these projects and their prioritization as presented by IRMD. IRMD will then coordinate the implementation of road map projects. The Road Map Section (Section 6) and Appendix A provide details concerning these opportunities.

To gather input for this plan, interviews were held with groups representing all business activities at ORO. These interviews discussed functional responsibilities, information requirements and interfaces, and specific needs for information management-related support. The information gathered in these interviews is the primary source for the vision and the road map projects included in this plan. Additional input for the Plan is guidance provided by The Office of Science IT Collaborative Group, and proposed SC-wide collaborative projects (See Appendix C). These projects have been endorsed by the IRMD Computing Management Group for presentation to appropriate approval bodies, including the ORO CIM Steering Council.

This IM Plan is the result of a collaborative effort and will be maintained as a living document. Comments or questions may be directed to IRMD.

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## 2. Oak Ridge Operations (ORO) Office

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DOE faces a new era. We are being asked to redirect our focus from energy production and use to strengthening the economy, protecting the environment, and reducing the nuclear danger. As one of the Department's operations offices, Oak Ridge has strategically aligned itself to support the new direction of the Department. ORO's vision, management objectives, and missions have evolved to support the Department's changing direction, and ORO's major functional areas have been appropriately realigned.

### 2.1 ORO Vision

East Tennessee is becoming a vital "Technology Corridor" from Chattanooga to the Tri-Cities, with a government-industry partnership at its core. A world-class array of capabilities and highly trained personnel make the Oak Ridge Complex a unique, user-friendly regional and national resource. Partnerships among government, universities, and private industry create an infrastructure where scientific research, technology application, and industrial opportunity combine to leverage resources and attract wide participation. Capabilities of the Department of Energy's Oak Ridge facilities—the scientific magnet for the Corridor—include research and development, environmental restoration, waste management, education, and national security programs.

**Environmental and Waste Management Expertise.** Success has resulted from taking advantage of the considerable environmental and waste management expertise that exists throughout the region, from forming unique partnerships to enhance private sector capabilities, and from spawning related industries in East Tennessee. By 2010, the K-25 Site will have been de-federalized, making its physical and infrastructure assets available to a wide variety of potential users in the environmental restoration and waste management industry.

**Research and Development Opportunities.** The scope and influence of activities originated in East Tennessee extend far beyond the region, strengthened by alliances with industry, academia, and a range of federal basic science programs. Facilities for neutron science, biological and environmental science and technology, and high-performance computing are key resources. Modern scientific facilities include the High Temperature Materials Laboratory, the High Flux Isotope Reactor, and the Radiochemical Engineering Development Center. Partnership opportunities at Oak Ridge National Laboratory will be enhanced by the Spallation Neutron Source and the Center for Biological Sciences. The Complex maintains its leadership in advanced materials development; application of high-performance computing; utilization of extensive mammalian genetics research to understand human disease, epidemiology, and occupational medicine; and development and deployment of sustainable energy technologies. Application of computational and environmental sciences to complex environmental issues makes Oak Ridge an international leader in environmental cleanup. The Centers for Manufacturing Technology leverage and capitalize on this national security expertise to support industrial manufacture of highly intricate equipment and prototypes.



**Contributions to National Security.** Facilities and expertise developed and maintained in Oak Ridge are essential to the National Security Program, downsized to meet a reduced global threat. Capability for nuclear weapons production and quality evaluation is maintained, as well as that for dismantling and storing nuclear materials from retired weapons.

**A Vigorous Economic Climate.** Partnerships among the private sector, community groups, the academic community, and government optimize use of human resources, physical assets, and business opportunities. As DOE's Oak Ridge missions continue to change, alliances are fostered based on principles of sustainable development, effective use of assets, and intelligent application of standards.

Key partners include the following:

- Oak Ridge Operations Office (DOE)
- Oak Ridge National Laboratory
- Lockheed Martin Energy Systems
- Oak Ridge Associated Universities
- Oak Ridge Institute for Science and Education
- Community Reuse Organization of East Tennessee
- Tennessee Resource Valley
- Technology 2020
- University of Tennessee
- Waste Management Association
- Local supporting contractors
- Innovative Ventures Corporation
- Local governments
- Tennessee Valley Authority

The Oak Ridge Complex offers these core competencies:

- Neutron-based science and technology
- Integrated biological, environmental, and chemical science with development, demonstration, and operation of advanced technology
- Advanced materials synthesis, processing, and characterization
- Computational and information science and advanced computing
- Energy production and end-use technology
- Environmental restoration technologies
- Waste management
- Special and hazardous materials processing, fabrication, handling, and sequestering
- Advanced manufacturing technology
- Science education and training
- Epidemiology and occupational medicine
- International radiation emergency assistance and training
- Integrated technology transfer programs that span the Complex

**The Center for Neutron Science**, to be located at Oak Ridge National Laboratory (ORNL), will comprise an upgraded High Flux Isotope Reactor and a Spallation Neutron Source. This modern facility will be used for neutron scattering studies, isotope production, neutron activation analyses, and materials irradiation. It will enable major research activities to be carried out in areas such as biology, materials science, superconductivity, pharmaceuticals, and electronic materials. Extensive use of these facilities is projected by industry and universities.

**The Center for Biological Sciences** is proposed for ORNL to realize DOE's vision in biomedicine and biotechnology. Building on ORNL's strengths, such as mammalian genome mapping, computational biology, protein engineering, and structural biology, the

Center will enable major discoveries in biology in understanding inheritance of human diseases, and developing new designer drugs and radiopharmaceuticals to treat disease and will advance nuclear medicine to detect, diagnose, and treat illness. This Center will strengthen ORNL's partnership with the University of Tennessee/ORNL Graduate School for Biomedical Sciences and provide new opportunities for teaming with industry, academia, and other national laboratories.

The Center for Advanced Material Science, located at ORNL and employing 400 professionals, is one of the nation's largest contributors to materials R&D. Current programs include ceramics and composites, metals and alloys, surfaces and thin films, polymers, superconductivity, and materials processing and characterization. Annually, more than 4000 scientists and engineers from industry, universities, and other national laboratories are guests at ORNL research facilities.

**At the ORNL Center for Computational Sciences** (one of two DOE High-Performance Computing Research Centers), expertise, facilities, and equipment for advanced computational science help make the Oak Ridge Complex a world leader in computational materials science and plasma physics, nuclear physics and transport calculations, matrix computations, geographic information systems, and management of environmental information. ORNL is developing world-class expertise in parallel computing, informatics, global climate simulation, groundwater contaminant transport, and computing tools and data storage systems. The Partnership in Computational Science Consortium has been established within the Center for Computational Sciences. This group of four national laboratories and five universities-all leading computational science institutions in their own right-collaborates on a variety of Grand Challenges and other research projects.

**The Center for Environmental Science and Technology** uses extensive resources of the National Environmental Research Park in Oak Ridge coupled with state-of-the-art computational resources to model the effects of contaminants on plants, animals, the environment, and ultimately on humans. Research conducted at this center improves the understanding of environmental processes and provides a scientific basis for implementing environmental technologies for monitoring, mitigation, and remediation.

**The Demonstration Center for Environment and Waste Management Technology** is bringing industry to a significant portion of the Oak Ridge Reservation by defederalizing the K-25 Site. Privatization of land and facilities for economic development of a self-sustaining government-industry partnership will attract new technical companies to the area for demonstration and certification of their effectiveness and access to the Oak Ridge scientific, technical, and manufacturing expertise. Emphasis is placed on cleaning up legacy waste, completing all remedial measures, reclaiming valuable assets, ensuring that new waste streams do not create further environmental burden, and furthering cooperating relationships with stakeholders and economic partners.

**The Oak Ridge National Security Program at Y-12** uniquely supports a small, enduring nuclear weapons stockpile with the minimum of people, infrastructure, and facilities needed to manufacture any secondary part. Surveillance and analysis of aging secondary and related components are effectively verified, and cost-effective solutions are found to resolve any identified problem. The program provides an innovative, cost-

effective mechanism to maintain critical manufacturing skills and certifications at reduced overall cost to the taxpayer. In keeping with our vision of government-industry partnerships, this process also provides national and regional companies and other federal agencies with access to world-class solutions to tough manufacturing problems using simulation, modeling and virtual prototyping, and performance analysis to improve fabrication and reduce waste.

**The Oak Ridge Complex will serve as the Center for DOE Asset Management.**

Individual strategies will be implemented for each category of departmental assets including base, precious, and scrap metals; fuel oil; coal; industrial gases; and excess equipment. Oak Ridge will develop and implement a plan ensuring cost-effective management of these assets through integration of the interests of DOE, its contractors, other government agencies, and private industry.

**Technology Transfer** is a highly integrated and enhanced program that supports mission accomplishment while leveraging federal resources to yield economic and other benefits to the region and the nation. It bridges the gap from research to industrial applications, serves as a focal point with the academic community and state and local governments, and continually fosters technological advances as a fuel for regional growth and job creation.

**The Center for Epidemiological Research** is one of the nation's premier resources for epidemiological studies of worker populations. It conducts both long-term analytical studies and short-term quick response studies focusing on investigations of suspected facility health problems. In addition to work for DOE and the National Institute for Occupational Safety and Health, epidemiologists provide quality control for the State of Tennessee's Cancer Reporting System and Birth Defects Registry. Through the Radiation Emergency Assistance Center/Training Site (REAC/TS), Oak Ridge Complex personnel provide a medical response capability and consultation for radiation accidents worldwide, furnishing technical support to the Federal Emergency Management Agency and the World Health Organization as well as many medical and health physics organizations. REAC/TS physicians, nurses, and health physicists are on call 24 hours a day to respond to radiation accidents. REAC/TS staff also conduct radiation accident medical management training and have trained more than 3,500 physicians, nurses, health physicists, and paramedical personnel.

**The National Center for Science Education and Training** will bring together educators and trainers from academia, government, and industry to promote a coordinated continuum of performance-based learning in science, engineering, and technology. The Center will ensure that the nation meets the challenge of preparing scientists, engineers, and technical workers to meet the demands of the twenty-first century.

## 2.2 ORO Missions



Oak Ridge Operations has a diverse blend of missions, with major national programs in energy research, national defense, reindustrialization, and environmental cleanup. We are based in Oak Ridge, Tennessee, and are responsible for managing programs and facilities in five states. Oak Ridge Operations is one of eight major Department of Energy (DOE) operations offices located across the United States.

Most of our programs are performed in Oak Ridge, at three major DOE facilities located on the 35,252-acre Oak Ridge Reservation. These include the Oak Ridge National Laboratory, Oak Ridge Y-12 Plant, and the East Tennessee Technology Park. Also located in Oak Ridge is the Oak Ridge Institute for Science and Education and the American Museum of Science and Energy. These facilities are a unique technological and educational resource and a major component of the thriving East Tennessee Technology Corridor.

Oak Ridge Operations also operates the Thomas Jefferson National Accelerator Facility, a nuclear physics research center located in Newport News, Virginia. Our environmental cleanup program also includes activities at uranium enrichment facilities in Portsmouth, Ohio, and Paducah, Kentucky, and at the Weldon Spring Site, located near St. Louis, Missouri.

## 2.3 ORO Major Functional Areas

ORO has established several functional areas within its organizational structure to provide support services to its primary missions:

- Defense Programs
- Environmental Management
- Laboratories
- Uranium and Engineering Services

The major supporting functions are:

- Administration
- Assets Management
- Facility Management
- Financial Management
- Legal
- Human Resource Management
- Policy and Guidance
- Procurement and Contracts
- Quality
- Public Affairs
- Partnerships and program Development
- Diversity and Employee Concerns
- Records Management
- Safeguards and Security
- Environment, Safety, and Quality
- Information Resources Management

The next section of this document describes ORO's Information Resources Management function.

## **3. Information Management Function**

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ORO recognizes that information is a valuable corporate resource that requires proper management analogous to other corporate resources such as materials, property, and people. Therefore, ORO has adopted the following approach in managing its information resources: 1) document the business processes conducted by ORO; 2) identify the information needed to support the business processes along with establishing the owners of the information and the information flow; 3) define and implement automated applications to efficiently and effectively supply the right information to the right sources; and 4) identify and procure technologies to provide mechanisms to run the applications. To further ensure this proper management, ORO has established an information management function within its organizational structure and has assigned responsibility of this function to the Information Resources Management Division (IRMD).

### **3.1 Information Resources Management Division (IRMD)**

IRMD, through the Computing Management Group, provides leadership in the development and implementation of the strategies and architectures for a sound corporate information infrastructure. This leadership is guided by input received through the DOE Departmental management structure, including Lead Program Secretarial Officers and field managers, and particularly the Office of Science IT Collaborative Group. IRMD works closely with the ORO CIM Steering Council as well as users and information technologists throughout the ORO complex to identify and implement appropriate IM projects. A variety of matrix assignments, teaming arrangements, enterprise working groups, and other coordination mechanisms have been established to ensure the active involvement of all interested organizations and individuals.

### **3.2 ORO Corporate Information Management (CIM) Steering Council**

Oversight for the management of ORO information is provided by the ORO CIM Steering Council. This council has been appointed to effectively plan, develop, and manage our "sharable" information (used by more than one ORO organization) and information assets. The council is chaired by a member of the senior management staff. Council membership consists of representatives from each major ORO organization and strategic functional area. The council provides leadership and steering in the development of the IM function and establishes a forum for the analysis and resolution of information management issues. In addition, the council is the owner of this IM Plan and is responsible for its successful implementation.

During recent organizational realignments, the CIM Steering Council has not been meeting formally. In concert with the issuance of the FY 2000 IM Plan, the Council will

be re-established and re-energized to approve the final release of this Plan and oversee its implementation.

A top priority task for Council will to validate a revised Business Model for ORO. This model will establish a common understanding of what functions are performed by ORO (using the major functional areas in Section 2 as a starting point), what organizations perform those functions, and what information is needed to support those functions. The Business Model will become the cornerstone of ORO's IM program by establishing a basis for ownership and stewardship of information resources across ORO.

### **3.3 ORO Safeguards and Security**

IRMD receives support in the area of computer security from the ORO Safeguards and Security team. The Computer Security and Inspections Team within the Safeguards and Security Division has responsibility for the Classified Automated Information Systems Security Program and the Unclassified Computer Security Program. These responsibilities include direct responsibility for the implementation of these programs at Oak Ridge Operations (ORO). The purpose of these programs is to ensure the computers have the capabilities to protect the confidentiality, integrity, and availability of information required for ORO and contractor staff in compliance with Federal law, Executive Branch policy, Departmental policy, and Departmental Orders, as well as State and local laws.

### **3.4 ADP Coordinators**

Coordination between IRMD and other ORO organizations is provided by ADP coordinators. As representatives of various ORO organizations, the duties of the ADP coordinators are to:

- participate in the evaluation and improvement of processes, such as the ADP support services request process,
- participate in the evaluation of hardware and software,
- serve as organizational points of contact for checking the status of service requests,
- assist in the formulation of organizational computing requirements,
- respond to the annual Budget call for computing requirements,
- provide updates to the organization concerning the implementation of the new technologies,
- provide updates to the organization concerning the implementation of the new technologies,
- coordinate the installation of hardware and software upgrades, and
- maintain organizational ADP documentation libraries.

In concert with the re-establishment of the CIM Steering Council, ADP Coordinator assignments will be validated, modified as necessary, and communicated to all stakeholder groups.

### **3.5 ORO World Wide Web Coordinating Committee (WCC)**

Another team that assists in the support of information management is the ORO WCC. The WCC is working to produce a set of standards and procedures for the creation, preparation, and submission of DOE/ORO-related information to be placed on the Internet (ORO WWW Home Page Guidelines).

### **3.6 ORO Employees**

The key constituency for this Plan is the ORO employees who depend on a responsive, efficient IT infrastructure to perform ORO missions. They, along with the ORO contractor staff, are considered to be valued members of the ORO IM team and vital to the success of the ORO IM function. As part of the team, ORO employees were the primary source of input for this IM Plan and will be instrumental in the successful identification and implementation of this plan's proposed projects.

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## 4. Information Management (IM) Goals

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To guide the Information Management Resources Division (IRMD) in the effective management of ORO's information resources, an IM vision, along with supporting goals and objectives are defined below. This vision embodies Corporate Objectives for FY 2000 as defined by SC:

- Develop SC-Wide Corporate FY 2000 IM Plan
- Develop an SC-Wide Architecture
- Establish SC-Wide Corporate Systems (Where Appropriate)
  - Improve communication / integration
  - Avoid / eliminate duplicative systems
  - Collaborate as much as possible
- Upgrade Technology Infrastructure in Field
- Establish Close Working Relationship
- Bring SC Labs / Contractors Into the Family

Collectively, these goals and objectives will allow IRMD to focus its efforts, prioritize its commitments, and assess its progress in realizing the achievement of ORO's IM vision.

### 4.1 IM Vision Statement

This Plan reflects ORO's IM vision, which is:

“Recognize the value of ORO's information resources and maximize return on information-related investments through the utilization of cost-effective, quality applications of sharable information management solutions in support of ORO's business processes, organizations, contractors, stakeholders, and other DOE entities”.

### 4.2 IM Goals

To realize the IM vision, the following goals must be accomplished:

1. **Accessibility** – Information users will be provided with timely, convenient access to information they need. This information will be available in formats that meet the needs of respective users.

2. **Connectivity** - ORO will have an information technology infrastructure that seamlessly links ORO offices and programs and any other organizations needed to support the business of ORO.
3. **Corporate Approach** - ORO will implement global solutions to IM needs where appropriate.
4. **Ownership and Stewardship** - Ownership and stewardship of information resources will be established to ensure that these resources are appropriately managed and shared.
5. **User Focus** - Information products and services will be user-focused and accepted by the user as an efficient and effective way to help them accomplish their work.
6. **Awareness**- Effective communications will keep users informed of availability, options, new developments, and other important information resource issues and opportunities.
7. **Security** - Information security will be designed into all IM components, balancing accessibility and ease of use with protection of data.
8. **Paper-Lite Environment** - ORO will minimize the use of paper through the application of automation and technologies.
9. **New Methods and Technologies** - ORO will utilize state-of-the-art IM methods and technologies.
10. **Process** - ORO will develop and implement a comprehensive IM process, including planning, configuration management, and quality assurance.

### 4.3 IM Benefits

With the accomplishment of these goals, ORO will realize the following benefits:

- increased effectiveness of information management and strategic planning,
- improved access to information resources,
- increased responsiveness to changing business and information technology conditions,
- improved data sharing, integrity, and quality,
- corporate solutions that satisfy local information requirements,
- improved program and project management,
- continued process improvement,
- increased benefits from partnerships, and
- increased user productivity.

## 4.4 IM Objectives

One to effective IM Management is the clear articulation and wide acceptance of IM objectives and goals. The most recent ORO IM Plan contained the goals and objectives outlined below. These were defined based on interviews with users throughout ORO. This is valuable information that will be validated and modified as necessary over the next two months as the final version of this Plan is developed.

### Objectives for Goal 1 - Accessibility

- 1-1 A highly responsive ORO-wide information infrastructure will be established that will allow people to locate and collect the information they need quickly and easily, have assurance that the information is accurate, and be able to quickly communicate answers and information to others, both internally and externally.
- 1-2 Shared information resources will be available at the desktop with the Web as the primary delivery mechanism.
- 1-3 All ORO organizations will have a common document management and workflow capability. [Also supports goal 11 - Corporate Approach.]
- 1-4 Data files will be exchanged via e-mail attachments, shared server directories, or through network access with an ability to convert files to the user's preferred format.
- 1-5 Availability of electronic information resources will be maximized to support ORO's daily business.

### Objectives for Goal 2 - Connectivity

- 2-1 ORO will have state-of-the-art, high-speed network connectivity both internally and externally.
- 2-2 ORO staff will have the capability to access all of their desktop functionality from any geographic location.
- 2-3 ORO staff will have the capability to form virtual (not bounded by geographic location) work groups.

### Objectives for Goal 3 - Corporate Approach

- 3-1 ORO IM-related projects will be in compliance with DOE's corporate IM guidance.
- 3-2 Information requirements will be met using a shared corporate technology architecture.
- 3-3 ORO users will identify all data needed to perform their jobs to allow integration of data across ORO.
- 3-4 Applications will be integrated across ORO.

### Objectives for Goal 4 - Ownership and Stewardship

- 4-1 Information owners/stewards will be clearly identified and have responsibility for the accuracy, timeliness, and sharability of their information resources.

### **Objectives for Goal 5 - User Focus**

- 5-1 Improved user productivity will be the foremost consideration in the development, selection, and implementation of IM products and services.
- 5-2 Corporate systems within ORO's control will have a common look and feel and useful help facilities.
- 5-3 A robust user help-desk function will provide customer-oriented support to ensure customer satisfaction.
- 5-4 Every ORO desktop unit will have ergonomically-designed input devices (keyboards and mice).

### **Objectives for Goal 6 - Awareness**

- 6-1 The ORO user community will be informed of emerging technology advances and their potential application to ORO business practices.
- 6-2 ORO staff will be informed of the most effective means of finding information resources and how to use them.
- 6-3 Effective training will be provided to help users gain maximum productivity from desktop applications.

### **Objectives for Goal 7 - Security**

- 7-1 ORO information owners/stewards will be responsible for defining requirements for the integrity, availability, and confidentiality of information resources within their area of responsibility sufficient to meet government policy and legal requirements.

### **Objectives for Goal 8 - Paper-Lite Environment**

- 8-1 ORO will aggressively pursue the use of automation to eliminate paper documents.
- 8-2 ORO will endorse the use of electronic documents, making ORO as paperless as possible.

### **Objectives for Goal 9 - New Methods and Technologies**

- 9-1 State-of-the-art methods and tools will be identified by surveying and analyzing new vendor products for application to ORO business requirements.
- 9-2 New methods and technologies will be implemented to enhance the productivity of ORO staff.
- 9-3 Desktop computers will be replaced on a standard cycle. However, since many ORO desktop units are used exclusively for e-mail and word processing, these units will only be replaced as needed.

### **Objectives for Goal 10 - Process**

- 10-1 IM planning will be an integral part of the ORO business planning process.

- 10-2 A comprehensive quality assurance plan will be created and implemented for the IM function.
- 10-3 A comprehensive configuration management plan will be created and implemented for the IM function.
- 10-4 Changes to the ORO corporate IM environment will be appropriately planned to minimize impact on ORO staff.
- 10-5 Use of redundant information systems and supporting databases will be minimized.
- 10-6 ORO information resources will be clearly identified and inventoried.

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## 5. Current Information Management Environment

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A sound IM Plan requires a thorough understanding of the current baseline and operating environment. Many ORO organizations are successfully using IM tools and technologies to support ORO missions. There are, however, numerous opportunities for improvements within specific organizations and across ORO. As the final release of this Plan is developed, both positive factors and improvement opportunities will be defined for each IM goal defined in Section 4.2. The format will be as follows:

### Goal

Positive Factors

Improvement Opportunities

## 6. Road Map to the Future

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Once the current environment of information management is known, a road map can be developed to route ORO from its present IM situation to its future goals. The road map that has been created for ORO defines the IM projects that address the opportunities for improvement identified in Section 5. All of these projects will contribute to the achievement of the goals documented in Section 4. A Master Plan (created and maintained separately from this IM Plan) will show schedules and interdependencies of all road map projects. The ORO CIM Steering Council will concur on assignments and priorities of these projects. The IM goals and objectives (from Section 4) that will be supported through the implementation of each corporate-level road map project are listed in a matrix at the end of this section (Section 6).

### 6.1 FY 2000 Projects List

The FY 2000 Projects List of road map projects is a compilation of projects for which funding FY 2000 funding has been requested. This list was arrived at through interviews with DOE-ORO managers and users, previous versions of this Plan, and interactions the Office of Science.

The projects in this list were prioritized based on the following criteria and given a ranking of high (h), medium (m), or low (l).

#### 6.1.1 Prioritization Criteria

##### **Mandated (by law or regulation for example)**

These are initiatives or investments that have been directly mandated, or are critical to a function, process, event, or condition that has been mandated.

##### **Mission Critical**

These are initiatives or investments that have been deemed critical to accomplishment of DOE-wide or DOE-ORO missions.

##### **Contribution to DOE-Wide Objectives**

These are initiatives or investments that not only meet DOE-ORO needs, but have been deemed good candidates for Office of Science or DOE-wide use.

##### **Cost Savings / ROI -Driven**

These are initiatives or investments that offer significant cost savings or otherwise provide a sound return-on-investment.

The projects are grouped into the major categories used by IRMD for planning and budgeting purposes. Cost estimates for each project, each category, and the complete project list are provided.

### **6.1.2 Definition of High, Medium, and Low Rankings**

High (H): These projects are critical to the success of the ORO mission. They reflect mandates, regulations, mission critical requirements, exceptional ROI potential, and other compelling justifications for immediate funding. Available funding will be allocated to these projects on a first priority basis to ensure that substantial progress is made during FY 2000.

Medium (M): These projects are extremely important to the success of the ORO mission. These projects support major process improvements, provide a very high ROI, allow necessary improvements to the IT infrastructure, or otherwise contribute significantly to the effective management and operation of ORO programs and functions. Some are high priority projects that have less severe timing constraints, which allows them to be given a medium priority for the current planning period. Most of the funding that remains after high priority projects have been funded will be allocated to medium priority projects.

Low (L): These projects are important to the success of the ORO mission. Some fall into the category of "low-hanging" fruit, which offer a substantial return for modest investment. Others are medium priority projects that do not have rigid timing constraints, allowing them to receive a low priority during the current planning period. The project may also fall into the category of "good business practice." Low priority projects would be funded subject to available funding after key elements of high and medium priority projects have been funded.

### **6.1.3 FY 2000 Project Summary**

FY 2000 projects are summarized in the following table and are described in more detail in following sections. The total estimated FY 2000 cost for all projects is \$6,942,000.00.

<b>Category and System Identifier</b>	<b>Priority</b>	<b>ORO ID</b>	<b>Cost (\$000)</b>
<b>Strategic Planing and Architecture</b>			
ORO Business Model	M	7a	5
ORO Technical Architecture Specification	M	7b	8
ORO Information Architecture	M	7c	27
ORO IM Steering Committee	M	7d	14
DOE IT Council	H	7e	5
Software Development Methodology	M	7f	5
Strategic Plan	M	7g	16
IM Plan	H	7h	20
Technology Lifecycle Management	H	13	485
<b>SPA SUBTOTAL</b>			<b>585</b>
<b>System Development (SD)</b>			
Web Utilization	M	5	300
Corporate Data Management / Data Warehousing	L	12	50
AMESQ Issues and Open Items Tracking System	H	16a	15
ORO Issues and Open Items Tracking System	L	16b	50
Migration of Legacy Databases	M	17	150
Manager's Q/A for ORO Employees	M	20	25
Access/Query/Download for ORO Contractor Data	L	21	50
<b>SD SUBTOTAL</b>			<b>640</b>
<b>Systems Engineering (SE)</b>			
Ethernet Upgrade	H	3	150
NT2000, Office 2000 Migration	H	8	200
Upgrade Infrastructure Connectivity	H	23b	150
<b>SE SUBTOTAL</b>			<b>500</b>
<b>Application Integration and Maintenance (AIM)</b>			
Continue Support to Chris	H	1	60
DOCS	H	2	450
Desktop Videoconferencing	L	6	40
Budget Automation (ORO-Wide Users)	L	9	TBD
E-Mail Improvements	L	11	50
<b>AIM SUBTOTAL</b>			<b>600</b>
<b>Production</b>			
Inventory	M	19	100
Maintain Existing Infrastructure Connectivity	H	23a	200
Ergonomics	H	10	40
Computer Security (PKI/Firewall/Virus Scanner)	H	27	90
<b>PRODUCTION SUBTOTAL</b>			<b>430</b>
<b>Program Management (PM)</b>			
OMB A-011 Reporting (Budget)	H	22	10
IT Support Services Contract	H	24	2000
Financial Services Support Contract	H	25	1200
<b>PM SUBTOTAL</b>			<b>3210</b>

<b>HQ Corporate Initiatives</b>			
Year 2000	H	4	575
Corporate Initiatives Support	H	18	100
SC Collaborative Projects	H	26	302
<b>HQ Initiatives Total</b>			977
<b>FY 2000 Projects Total</b>			6942

#### **6.1.4 FY2000 Project Details**

Detail information for the projects listed above is provided in this section.

(Note: Some of the detailed information is provided in this Draft release. Details for all projects be provided in the Final release.)

##### **6.1.4.1 Strategic Planning and Architecture (SPA)**

###### ORO Business Model

This project will build on the information previously gathered to complete a Business Model for ORO. The Business Model will include a functional model for ORO to be used to establish ownership of information resources (currently the responsibility of IRMD and the CFO), and will provide a basis for building the Information Systems inventory and plan.

###### Technical Architecture Specification

A Technical Architecture Specification (TAS) for ORO is being developed. The TAS is an organized collection of information technology (IT) guidelines, standards, and preferred deployment strategies. The purpose of the TAS is to provide guidance in support of IT resource acquisitions, the design and development of information systems, the formulation of plans, and the resolution of issues involving or affecting ORO's general-use computing resources. The TAS is basically a technical reference document (or specification) and is structured accordingly. However, it does include summary information about the current business and technical objectives that have influenced its design. This project would complete the work towards publishing the initial version of the ORO TAS.

The TAS will be developed and implemented in conjunction with SC Collaborative Projects activities, most notably the Information Architecture and Minimum Infrastructure tasks defined in Appendix C.

###### Information Architecture

Working with the SC IT Collaboration group, develop a comprehensive information architecture that supports both DOE-ORO needs and the needs for DOE-ORO to function effectively as member of the broader DOE community.

### IM Steering Committee

Re-establish and support the ORO Corporate Information Management Steering Council.

### DOE IT Council

Provide responsive, effective support to the DOE IT Council.

### Software Development Methodology

Develop a methodology to guide the development of new information systems or significant changes to existing systems. The methodology could have separate guidance for different computing environments (an applications server, a desktop application). The new Energy Systems Software Workpackage Methods (SWM) methodology could be used as a starting point for this project.

### Strategic Plan

The Strategic Plan is a Vision document that looks beyond FY 2000 and outlines a direction and major out year goals for the use of information technology to further DOE and DOE-ORO missions.

### IM Plan

Define and implement a comprehensive IM process and plan for ORO. This process will implement various IM components (tools, strategies, architectures, and plans) to establish and support ORO's business, information, applications, and technology infrastructures. Business infrastructure components include a Business Model and the IM Plan. Information infrastructure components include an Information index and major information sources. Applications infrastructure components include an applications inventory, an applications architecture (a model showing all major ORO applications and automated flows of information supporting the applications), and an information systems plan. Technology Infrastructure components include a Technical Architecture Specification (a guide for the evolution and acquisition of information technology) and a Technology Architecture (a model of what technologies currently exist and how they are connected).

### Technology Lifecycle Management

This plan would document a corporate strategy for PC, server, other hardware, and network replacements including definitions of standard configurations for future purchases. This plan would ensure that purchased systems will support the ORO IM vision.

## 6.1.4.2 System Development (SD)

### Web Utilization

A number of Web-related projects have been suggested. They include:

- creating an index of useful Internet/Web resources - There are a tremendous number of Web resources with information needed by ORO users. This project would organize a set of Web links to support each functional area within ORO. Specific request have already come from EMPO; Chief Counsel; Procurement and Contracts; Training and Development; Environment, Safety, and Quality; Construction and Engineering; and Public Affairs.
- consolidating Web server information on ORO servers - Currently, various ORO organizations have already established Web pages - the ORO home page on the ORNL server, Procurement and Contracts on the DOE/HQ server, Training and Development on the ORISE ORAU server, FUSRAP on the FUSRAP server, Diversity pages to be added to the ORNL server by March 30, and Partnerships and Program Development soon to be on the ORNL server. This project would consolidate this information on the new ORO Web servers. This would still allow service to be performed by the current support groups.
- using the Web for publication of newsletters - Several groups asked how they could publish a paper or an existing newsletter on the Web. This project would facilitate and document how to do this.
- creating Web pages - Several organizations would like to create Web pages but do not know how or don't have time to learn how. This project would make it easy for these people to obtain Web development services.
- managing the external Web server content. The ORO Public Information Office has volunteered to assume business ownership of the external Web server content. This group will need some Web management software and procedures for creating and maintaining Web pages.

### Corporate Data Management

There were several efforts suggested for this function. They include:

- provide a data administration function to manage corporate data assets through planning and implementing databases shared across business systems - This function includes activities required for the development of shared data management policies and strategies, corporate data planning through the development and maintenance of enterprise architectures, and managing the design, implementation, and use of the shared databases
- eliminate duplication, unneeded data entry (re-keying) - This project would identify the proper sources of data for all ORO applications to pull from. This would prevent users from having to input data that already exists (e.g., retrieve all personnel information associated with an SSN that is required on a form).

- new systems integration - PeopleSoft (personnel and payroll), PAI (procurement), implementation of the budget formulation functions in the Budget Execution and Formulation System (BEFS) - This project would look for opportunities to use PeopleSoft, PAI, and BEFS as sources for data and factor these into the implementation plans for these products. The new PAI system will not tie purchases to budget data. An interface will be needed to check with finance systems to make sure funds are available before payments are made.
- ORO data warehouse (personnel, procurement, budget) - Create a repository of frequently needed data for general use, reporting, and query.

#### AMESQ Issues and Open Items Tracking System

**TO BE PROVIDED**

#### ORO Issues and Open Items Tracking System

**TO BE PROVIDED**

#### Migration of Legacy Databases

**TO BE PROVIDED**

#### Manager's Q/A for ORO Employees

**TO BE PROVIDED**

#### Access/Query/Download for ORO Contractor Data

An applications access management function would help organizations obtain access to a variety of information systems. Several ORO groups want access to existing information systems and/or the ability to download data from these systems to their favorite desktop software packages such as Excel and Access. System-to-system connections are also needed. The Application Access Management function would facilitate information system access and document access procedures.

Arrangements have already been made with Lockheed Martin for reduced rates for ORO network users who do not access Lockheed Martin corporate systems. For those who have requested access to Energy Systems information systems the rate is the same as for Energy Systems users.

The following systems were identified:

- ORNL Site Office - the Program Management Tracking System (PMTS), the Financial Information Management System (FIMS), the FaMOUS Financial Reporting System, the Energy Systems Action Management System (ESAMS), and the Facility and Maintenance Management Information System (FAMMIS)

- Emergency Operations Center - There is a need to access the security clearance database for the Federal Building and OSTI clearance checks and to access the new DOE Integrated Security System (DISS)
- Safeguards and Security - Energy Systems, M.K. Ferguson, and ORAU need access to the Foreign Ownership, Control, or Influence (FOCI), Safeguards and Security (SAS), and Procurement databases. Also, there is a need to establish a connection from the Document Accountability and Tracking System (DATS) to the DOE Integrated Security System (DISS).
- Construction and Engineering - DOE/HQ needs read access to systems like the Incentive Task Order (ITO) tracking system, Engineering Management Information System (EMIS), Management and Control Information System (MCIS), Task Based Management System (TBMS), Program Management Tracking System (PMTS), HAZWRAP Information Management System (HIMS), Management Information and Reporting System (MIRS), Energy Systems Action Management System (ESAMS), Facilities and Maintenance Management Information System (FAMMIS), Maintenance Information Data Acquisition System (MIDAS), Maintenance Distributed System (MDS), COMPASS (Y-12 Maintenance), Oak Ridge Environmental Information System (OREIS), Automated Estimating System (AES), Property Information System (PRISM), Capital Assets System, Capital Equipment and Construction Work in Process (WIP), SAP R/3, Engineering Design Information System (EDIS) Selected staff participate in the Defense Nuclear Facility Technical Qualification Program, but they do not have direct access to the system
- Reactor Operations - Energy Systems Action Tracking System (ESAMS) and Lockheed Martin's procurement data for contracts and deliveries
- Environment, Safety, and Quality (ES&Q) - ES&Q has been trying to get access to ESAMS for about a year. Access is expected soon. ES&Q also wants access to the contractor systems used to gather the data used to support performance measure and safety index reporting and would like help in developing a download capability from the Computerized Accident/Incident Reporting System (CAIRS) and the DOE Occurrence Reporting and Processing System (ORPS).

Improve ORO accessibility to site environmental data and create an electronic public browser for these data (i.e., an OREIS station for the public at IRC).

#### **6.1.4.3 Systems Engineering (SE)**

Ethernet Upgrade

**TO BE PROVIDED**

NT2000, Office 2000 Migration

**TO BE PROVIDED**

## Upgrade Infrastructure Connectivity

### **TO BE PROVIDED**

#### **6.1.4.4 Application Integration and Maintenance (AIM)**

##### Continue Support to CHRIS

### **TO BE PROVIDED**

##### DOCS

### **TO BE PROVIDED**

##### Desktop Videoconferencing

This project could build on the capabilities already implemented at the ORNL Site Office by communicating to the rest of ORO what options are available and how to purchase and implement them. The ORNL Site Office already has a conference room set up with a workstation with videoconferencing capability, a broadband connection, a VCR, and a desktop video projector. The site office is evaluating less expensive stand-alone units. Several offices want and need this capability.

##### Budget Automation (ORO-Wide Users)

Several divisions expressed a desire to input and track their budget information electronically. This project would make her aware of the opportunities for improvement that were identified, and support the implementation of improvements.

##### E-Mail Improvements

This project would investigate, document and implement solutions to current e-mail issues (problems with attachments, directories, non-deliveries, delays, multiple accounts, bulletins, confusing 3-character user ids, finding e-mail names at other locations; the need for classified e-mail; etc;). Solutions may require coordination with ORO contractors to provide, for example, a common lookup facility across all of Oak Ridge and to specify the default e-mail address for people with more than one e-mail account.

#### **6.1.4.5 Production**

##### Inventory

Develop a corporate-level information systems inventory and plan for ORO. The inventory would be an automated repository of information about ORO's corporate information systems. The information systems plan would have current and target information systems architecture models (diagrams showing all major ORO applications and automated flows of information supporting the applications), and the planned projects/tasks to evolve from the current architecture to the target. Subordinate

information systems plans could also be created for key mission and functional business areas. A key part of the plan would be to periodically review existing systems to ensure that they are meeting current requirements. It is possible that systems could be replaced, re-written, retired, or re-hosted in a different software or hardware environment. For systems that need to be modified, the first analysis would seek to modernize the business practices embedded in the old system. After modernization, an attempt would be made to find an existing commercial system solution.

#### Maintain Existing Infrastructure Connectivity

**TO BE PROVIDED**

#### Ergonomics

**TO BE PROVIDED**

#### Computer Security

Provide PKI, Firewall protection, virus scanner and other capabilities to ensure that DOE-ORO information assets are adequately protected.

#### **6.1.4.6 Program Management (PM)**

##### OMB A-011 Reporting (Budget)

**TO BE PROVIDED**

##### IT Support Services Contract

**TO BE PROVIDED**

#### **6.1.4.7 HO Corporate Initiatives**

##### Year 2000

DOE-ORO is working with other federal agencies and the President's Year 2000 Conversion to ensure core services will continue to function uninterrupted during and after the Year 2000 transition. DOE Oak Ridge Operations (ORO) has evaluated potential Y2K failures, prepared contingency plans, and participated in practice drills with other DOE sites nationwide and the electric power industry to ensure Y2K preparedness. ORO's mission-critical systems are Y2K compliant or ready.

According to the Presidents Council, which coordinated the efforts of federal government agencies, there is no indication at this time that the Y2K problem will cause national disruptions in basic infrastructures, such as electric power, telecommunications, banking, and transportation. The Council and many agencies also are working with businesses, state and local government, and foreign governments to help them in their Y2K efforts.

### Corporate Initiatives Support

Respond promptly and effectively to corporate requests and initiatives (LPSO initiatives, corporate systems implementation at ORO, corporate data calls, emerging issues, etc.)

### SC Collaborative Projects

Lead, support, or otherwise participate in the Collaborative projects outlined in Appendix C.

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## Appendix A - Glossary

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The definitions below are intended to be applied within the context of this IM Plan.

**Application:** A software package (e.g., cc-Mail, Microsoft Office) or information system (e.g., PAY/PERS) resulting from the application of computer technology to a problem, process, activity, or function to achieve a practical purpose.

**Business Model:** Documentation that establishes a common understanding of what functions are performed by ORO, what organizations perform those functions, and what information is needed to support those functions. The Business Model will become the cornerstone of ORO's IM program by establishing a basis for ownership and stewardship of information resources across ORO.

**Desktop:** A user's desktop refers to the computer workstation (usually an IBM-compatible PC), its associated peripherals (like an attached printer), and the user interface (like the Windows 95 or Netscape interface) on the workstation that enables the user to access applications, files, and other information resources stored on the workstation or available through the ORO network. The standard ORO desktop includes access to several software packages (Microsoft Office, cc-Mail, and Netscape) stored on each user's workstation.

**Information:** Any communication or representation of knowledge such as facts, data, or opinions in any medium or form, including textual, numerical, graphic, cartographic, narrative, or audiovisual forms.

**Information Management (IM):** The integration of a variety of activities designed to manage information and information resources throughout their life cycle. Activities include planning, budgeting, organizing, manipulating, directing, training, promoting, and controlling the information resources. The information resources life cycle includes collection, processing, transmission, dissemination, and disposal.

**Information Resources (IR):** The data, information collections, software, computers, communications networks, and other information technologies that support the organization.

**Information Technology (IT):** A broad term that includes information resources and the methodologies, practices, and skills necessary to manage, deploy, and use these resources.

**Information Technology Architecture:** A physical configuration of information technology infrastructure components.

**Information Technology Infrastructure:** The IT infrastructure includes all of the IT components that enable the delivery of information resources to information users.

**Master Plan:** A term defined by the ORO CIM Steering Council to represent a comprehensive set of IM road map project costs, schedules, interdependencies, milestones, and deliverables.

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## **Appendix B – Completed Projects**

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A number of projects outlined in the previous IM Plan (issued September 1998) have been completed. These are listed below. Other projects made progress but were not completed. Where appropriate, these are listed in the FY 2000 projects list.

**PeopleSoft Implementation** - This project will support the implementation and integration of the DOE-wide human resources and payroll software.

**Electronic Document Management** - This project would provide scan, store, and retrieval capabilities for records management; electronic forms; and document signature and routing. Almost every ORO group that was interviewed expressed interest in having an Electronic Document Management System. IRMD is currently coordinating a workflow analysis of the document management process at ORO which will culminate with a standard document process for all of ORO. The Enrichment office has had document management capabilities since 1987. The Enrichment office system has recently been upgraded for Windows 95 and can store both text and images in a non-proprietary format thus allowing for full text search and retrieval. Environmental Restoration is using Documentum, a full-featured, commercial off-the-shelf (COTS) document management system. Another candidate is Lockheed Martin's Electronic Document Management Systems (EDMS), a customized suite of applications providing life-cycle support for electronic documents. Some ORO groups are waiting for management to make a commitment to electronic forms, signature, etc. The use of electronic forms and signatures could eliminate some unnecessary paper flows in those areas where there is currently an option to use either a paper or an electronic form. Some groups, however, such as Diversity and Chief Counsel, have security and Privacy Act requirements that may need access control. The PeopleSoft and PAI implementations will include electronic forms and routing for personnel and procurement related forms.

**Personnel Locator** - ORO needs to identify an official source for personnel locator information (name, phone number, building, room, division, etc.). PeopleSoft will only have the DOE employees and not the contractors. The Telecommunications Management System (TMS) could be a source for this information. This project would utilize the personnel information in TMS to build a locator system with both lookup and update capabilities.

**Year 2000 Compliance** - Some divisions noted that their systems have been identified as needing an upgrade for the Year 2000. A survey was done by Pragmatics to identify all the systems with Year 2000 problems that they support.

**Desktop Calendaring** - This project would implement a desktop calendaring routine for use across all of ORO. Staff could access the software to schedule meetings or to determine if someone is away from the office. ORO has purchased ONTIME software to provide this capability, but there are some problems with a site-wide implementation to be resolved. As an intermediate step, Ontime will be available at a departmental level. The calendaring/scheduling issue will be readdressed in about a year.

**cc:Mail Migration** - This project will include migration of cc:Mail to a Windows NT platform and an upgrade of cc:Mail to the current version.

**Corporate Computing Environment** -This project includes installing the DEC ALPHA processor (Windows NT operating system) to support the Oracle database management system (DBMS) and the Internal Web server and provide a platform for developing Web-based applications.

**UID Assignments** - Provide UIDs to ORO federal staff at site offices to facilitate use of a common network.

**Action Tracking** - There are several tracking systems in use at ORO but no integration between systems. This project would assess the feasibility of having these systems communicate with each other to provide action tracking consistency across ORO.

**Program Management System** - This project would evaluate existing contractor project management systems (like ER's Management and Control Information System (MCIS) or Energy Systems' Task Based Management System (TBMS) to see if any of these systems could be adopted for use at ORO.

**Inventory Management System** - IRMD needs a system to support inventory management, including furniture, ADP equipment, and sensitive capital property. The system would support a central warehouse concept (inventory, automatic reorder). The system would be tied to the personnel locator data.

**Travel Manager Help** - There was a lot of criticism of the DOE/HQ Travel Manager system. A lot of ORO staff have this system on their desktops. Some groups specify one person (like the secretary) to do all the Travel Manager input. This project would provide help files and system specialists who would be available to interface to the system. There is a possibility that a new version of Travel Manager is now available. If so, the project would push for the implementation of the new version at ORO.

**Desktop Support** - Some groups are not pleased when changes are made to their desktop machines (maintenance done at night, Zayineta upgrades) without any advanced notice or documentation of what was done. This project would identify the desktop support contact for each group and develop a process for advanced notice and documentation of changes.

**Resource Sharing** - Resource sharing (laptops, presentation equipment) would identify equipment that is available for sharing across ORO. Other equipment (like video projectors) could be added to the laptop loaner program.

**Electronic Help-Line** - This project would focus on a variety of IM-related activities such as automated self-help, IM-related training, IM-related notifications, and a better Help Desk. For example, a Web-based helper could tell a user how to get and use a PPP/NTOR account and why they might want one. Subject indexes and searches on the

ORO Web servers could provide immediate help instead of an operator taking a call and finding an expert to return the call. IM-related notifications might include:

- using the laptop loaner program,
- using network servers for disk storage and backup, and
- communicating IM-related plans such as terminating support for a software product.

**IM Support Documentation** - Document a clear understanding of what organizations provide IM-related support across all of ORO.

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# Appendix C – SC-Wide Collaborative Projects

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## 1. INFORMATION ARCHITECTURE

**Purpose/Description:** To develop an SC-wide architecture (i.e., blueprint) that will provide direction for HQ, CH, OAK, ORO, and OSTI in the development and implementation of integrated/compatible information systems and technologies. The architecture will be developed using the Steven Spewak Enterprise Architecture Planning (EAP) process. The process requires that the following “pieces” be addressed: (1) Principles; (2) Business Modeling; (3) Current Systems and Technology; (4) Data Architecture; (5) Application Architecture; (6) Technology Architecture; and (7) Implementation/Migration Plan.

**Strategy/Approach:** Discussions (to date) have identified two alternative approaches to developing an SC-wide architecture. The gist of Alternative #1 is to develop individual architectures at each of the 5 SC sites and then to bring them together to be integrated. The thrust of Alternative #2 begins with the concept of one SC-wide business model from which one SC architecture is developed. A 1-1 ½ day meeting is scheduled in September/October for all sites to discuss (with an EAP expert consultant to provide assistance). From an enterprise-wide perspective, this is SC’s highest priority collaborative project.

**Major Objective:** An SC corporate IM strategic plan (based on the SC-wide IA) by September 30, 2000. Interim objectives are: (1) an EAP workshop by December 31, 1999; (2) all EAP “pieces (for all sites) documented by February 29, 2000; and (3) an SC-wide information architecture by June 30, 2000.

**Lead Responsibility:** SC HQ, because of its successful experience in developing an information architecture, will have the lead on this project. A significant commitment of time by the IT staff and business customers at each site is required for success.

**Estimated Cost:** \$1-1 1/2M (in FY2000) plus support from the CIO’s departmental architecture project.

## 2. CORPORATE SYSTEMS

**Purpose/Description:** To establish and maintain a baseline of SC’s current information systems environment from which duplicative, best-in-class, and corporate potential systems can be identified.

**Strategy/Approach:** Each SC site will provide a list of currently supported information systems (to be maintained in one central location). For each system, the following

information will be provided initially: (1) Name; (2) Acronym; (3) Abstract; (4) Language; (5) Operating System. All information will be made available to all SC sites.

**Major Objective(s):** All information systems (at all SC sites) identified (and information provided), centrally assimilated, and made readily available to all sites by December 1, 1999. By February 1, 2000, the material collected has been assessed and supplemented for usefulness, and all IM managers are (collectively and routinely) using the information to make decisions (on the proper use of various systems).

**Lead Responsibility:** CH will take the lead in centrally gathering and assimilating the information on the systems at the 5 SC sites. CH will also oversee the ongoing process on assessing SC's overall information system environment (e.g., elimination of duplicative systems, enhancement of unsatisfactory systems, taking steps to creating SC corporate systems, etc.).

**Estimated Costs:** \$0, other than the staff time of CH IM staff and (to a lesser extent) the IM staff at each of the other SC sites.

### **3. WEB-BASED REFERENCE MANUAL**

**Purpose/Description:** To develop and maintain a centrally-managed tool for the collection, dissemination, and sharing of SC information management (IM) plans, activities, policies, reference materials, etc..

**Strategy/Approach:** One SC site will take the lead in developing and providing ongoing centralized management of a web-based electronic information reference manual for the SC IM community. Centralized management will include (1) the collection and centralized maintenance of information and (2) the development of guidance to all SC sites for maintaining information (at each site) which will have links to the central web site.

**Major Objective:** The establishment of an initial SC-wide IM web site by January 1, 2000. The site includes, at a minimum, the SC-wide inventory of information systems (see SC Collaborative Project #2), identification of all SC IM staff (e.g., names, phone numbers, etc.), all SC collaborative projects, each SC site's IM plan for FY2000, status of IM activities throughout SC, and linkages to each SC site's IM web site.

**Lead Responsibility:** ORO will have lead responsibility for this project. All sites are expected to provide timely information to ORO for the success of the project.

**Estimated Cost:** \$50K plus the time of ORO IM staff and, to a lesser extent, the time of all IM staff at the other SC sites.

#### 4. ETHICS TRAINING

**Purpose/Description:** To leverage the effort of ORO in developing a Web-based Ethics Training Program by having ORO lead/facilitate the implementation of the Program throughout SC. Annual ethics training is required for all DOE offices. Classroom instruction is required at least every two years. Other training methods, including web-based training, may be used on alternate years. The ORO web-based program provides a cost-effective and less demanding (on staff) approach for satisfying the mandatory ethics refresher training.

**Strategy/Approach:** ORO will serve as the project lead in providing IT support to deploy the ORO developed web-based ethics training program to SC HQ, CH, OAK, and OSTI. Specifically, ORO will: (1) prepare a project plan; (2) document requirements for downloading and running the training software; (3) coordinate/facilitate with other SC sites on running and operating the software; (4) modify/maintain software to support deployment needs; (5) maintain and disseminate summary usage statistics; and (6) improve the training software based on input from the other SC sites.

**Major Objective:** All SC sites are able to offer the web-based ethics training program to their entire staff by March 31,2000.

**Lead Responsibility:** ORO, because of its successful experience in developing a web-based ethics training program, will have the lead on this project. Each site, with guidance from ORO, will be responsible for implementing the software (at its site).

**Estimated Cost:** \$10K (in FY2000) assuming minimal enhancements to the software.

#### 5. REMOTE ACCESS

**Purpose/Description:** Leveraging the experience/lessons learned of SC HQ, greatly enhance the remote access capabilities of the staff at all 5 SC sites. The principal goal of this project is to provide a very user-friendly capability that remotely replicates the in-office IT functionality of a user.

**Strategy/Description:** A two-phased approach will be undertaken: (1) a proof of concept/pilot phase and (2) an SC-wide corporate phase. The proof of concept approach will expand the SC HQ remote access test infrastructure (i.e., existing MCI/Terminal Server/Citrix Metaframe infrastructure) to include OAK. The proof of concept phase is expected to provide lessons learned and performance/load data. Once comfortable from the results of the first phase, an SC-wide corporate phase will be initiated which addresses (1) remote access requirements from each site, (2) site-by-site scoping and implementation plans, (3) corporate and site-specific designs, and (4) HW/SW and labor requirement estimates. It is expected that the corporate approach will involve the engineering of a scalable Terminal Server solution (with site-by-site implementation) by leveraging HQ's existing MCI Worldcom contract and infrastructure.

**Major Objective:** Phase 1 completed by March 31, 2000 and a corporate remote access solution implemented at all 5 SC sites by September 30, 2000.

**Lead Responsibility:** SC HQ, because it has implemented a successful remote access capability (along with an infrastructure at HQ), will have lead responsibility for the overall coordination/facilitation of this project. OAK will have a co-lead role during the proof of concept/pilot phase. All sites will be responsible for local acquisitions and implementations.

**Estimated Cost:** \$50K per site (at CH, OAK, ORO and OSTI) and \$25K at SC HQ to coordinate the effort.

## 6. MINIMUM INFRASTRUCTURE (Achieving SC-wide Standards)

**Purpose/Description:** To develop an information technology (IT) infrastructure among SC HQ and the SC field sites that (1) optimizes operating efficiencies, (2) ensures systems interoperability, (3) provides seamless user access (which is reliable and cost effective), and (4) supports security compliance.

**Strategy/Approach:** The first step is to establish a baseline of where each site currently stands. Next, we need to document the “minimum” infrastructure that we are attempting to achieve (at all sites). Input to our “minimum” infrastructure will be (1) current technology upgrade plans that are in place at each site and (2) a comparison of SC HQ’s technology architecture with the baseline and planning information from each site. We will then conduct a gap analysis to assist us in defining the most cost effective “minimum” infrastructure that we shooting for. Once we have agreement, each site will take the steps necessary to implement the prescribed infrastructure.

**Major Objective(s):** The baseline, gap analysis, documented “minimum” infrastructure, and an implementation plan will be completed by January 30, 1999. Significant progress in implementing SC-wide IT infrastructure improvements is expected during the remaining 8 months of FY2000 (February-September 30, 2000).

**Lead Responsibility:** SC HQ will be the lead on this project. The reasons for the SC HQ assignment are (1) because of the likely need for close coordination with the CIO’s office and (2) the expectation that the SC HQ technology architecture will probably be the starting point for defining the SC-wide “minimum” infrastructure. Active participation by the IT staffs of all sites will be required. Question: Would OAK consider being the lead on this project (with assistance from SC HQ)??

**Estimated Cost:** \$50K plus the time of all SC IM staffs will be required to meet the January 30 objective. The cost of implementing the “minimum” architecture over the remaining 8 months of FY2000 cannot be determined until we have the January 30 report; however, for estimating purposes (at this time) we should assume an implementation cost of \$250K (which includes hardware and software acquisitions).

## 7. NATIVE EXCHANGE COMMUNICATIONS

**Purpose/Description:** To enhance e-mail communications among SC-sites by establishing a standard SC-wide directory service. Maximum utilization/leveraging of the CIO's Department-wide directory service effort will be incorporated into this project.

**Strategy/Approach:** Using the CIO's infrastructure and implementation plan as a starting point, a "proof of concept" will be prepared for an SC-wide directory service by January 31, 2000. To develop the "proof of concept", baseline information will be collected from each SC site during the month of November. It will be assumed that the CIO's planned structure for a DOE-wide directory service will be adopted (as much as possible), which will require a determination for the need/value of manually incorporating non-Exchange directory information (e.g., person data which includes more than just e-mail addresses). Following endorsement of the SC-wide "proof of concept", an implementation plan will be prepared for each SC site.

**Major Objective(s):** An SC-wide directory service "proof of concept" by January 31, 2000. An implementation plan for each SC site by February 29, 2000. Implementation of the SC-wide directory service at all SC sites by September 30, 2000.

**Lead Responsibility:** In order to coordinate with the CIO's DOE-wide directory service effort, SC HQ will be the lead on this project. Participation by the IT staffs at all sites will be required.

**Estimated Cost:** \$50K for (1) contractor support in providing overall coordination and facilitation services and (2) supplementing existing contractor teams in implementing the directory service at each site.

## 8. SC-WIDE INFORMATION MANAGEMENT DISASTER RECOVERY PLAN

**Purpose/Description:** In order to potentially realize significant cost savings within SC, investigate the possibility of establishing an SC-wide collaborative approach to meeting the disaster recovery needs of the SC sites. Disaster recovery is intended to ensure adequate protection and recovery of mission-critical functions (at each site) and to address strategic/approach issues such as record retention, data backup, handling of vital versus non-vital records, and cool-site versus hot-site services. It is intended that much of the recent Y2K work performed at each site will be taken advantage of in undertaking this project.

**Strategy/Approach:** First, a baseline of the disaster recovery needs and services of each site will be documented. The baseline should include (for each site): (1) mission/business critical functions; (2) resources available to support critical functions; (3) potential disasters; and (4) current disaster recovery and contingency strategies. The disaster recovery and contingency strategies must address (1) emergency response (i.e., the initial actions to be taken; (2) recovery (i.e., actions needed to continue critical functions); and (3) resumption (i.e., actions needed in order to return to normal

operations). Once a baseline is established, the next step is to develop alternative SC-wide approaches for meeting the IM disaster recovery needs of the SC sites. Included in these alternative approaches will be consideration for the requirements associated with staff (both federal and contractor), processing capabilities, application and data complexities/sizing, computer-based services, physical infrastructure(s), and documents/paper. The bottom line of this "study" is to determine how much (if anything) of the infrastructure elements of an SC disaster recovery capability can be consolidated into one (or more) locations.

**Major Objective(s):** A report documenting SC-wide alternatives for meeting the IM disaster recovery needs of the SC sites by February 29, 2000.

**Lead Responsibility:** OSTI will take the lead in managing this project. Contractor support (with expertise in disaster recovery) will be provided to OSTI to assist them in successfully completing the project. The assistance of the IT staffs from all SC sites will be required.

**Estimated Cost:** \$75K for contractor support. Discussions are needed to address the availability of additional FY2000 funds for "implementing" a disaster recovery solution....if there are no additional funds, should this study be initiated at this time?

## 9. **CORPORATE SUPPORT CENTER**

**Purpose/Description:** To investigate the feasibility of creating an SC Corporate IM Support Center to provide services such as helpdesk, network operations, hardware and software maintenance, and application maintenance. If a consolidated support center proves to be feasible, substantial cost savings and efficiencies are expected.

**Strategy/Approach:** The initial task under this project will be the development of a baseline of the current environment of each SC site's support center services. The baseline (for each site) will include (1) hardware and software supported, (2) current resources (including technical skills), (3) processes, policies, and procedures used in providing support center services, and (4) an assessment of the quality of service provided. Utilizing the baseline information and any information available regarding best practices (in the operation of a corporate support center), an SC Corporate Support Center Concept Report will be prepared. The report will (1) identify potential SC sites as "centers of excellence" (for the different functions of a support center), (2) provide alternatives for corporately managing support center functions, (3) cost and resources required for each alternative, and (4) estimated cost savings/avoidance. Assuming that an acceptable alternative is endorsed, an implementation plan will then be developed.

**Major Objectives:** Baseline report by January 15, 2000, Concept report by March 15, 2000, and the implementation plan by April 30, 2000.

**Lead Responsibility:** Oakland Operations Office will take the lead in managing this project. IT staff at all SC sites are expected to provide assistance.

**Estimated Cost:** \$100K for contractor support (with expertise in operating/analyzing corporate support centers) to assist Oakland in gathering information, recommending solutions, etc.

## 10. TRAINING

**Purpose/Description:** To establish and maintain an IT staff (both federal and contractor) that is highly trained in the IT technologies, concepts, processes, etc. that are required by the SC sites. Through a collaborative training plan/approach, it is expected that significant cost savings can be achieved and beneficial “cross-fertilizing” of ideas, etc. among the staff will be realized.

**Strategy/Approach:** Once SC has a documented information architecture (in draft form), an outside training provider will assess and document the type and level of IT training needed across SC the planned IA. It is expected that the effort will begin by documenting (1) the training/skill set of all staff members (federal and contractor), (2) the technologies/capabilities currently requiring support, and (3) the technologies/capabilities expected to be needed over the next 1-2 years. Then a gap analysis will be conducted to identify training needs, both individually and SC-wide. Once SC’s collective IT training needs are identified, an SC-wide training plan will be prepared where courses/programs can be arranged for folks from all SC sites to participate in.

**Major Objective(s):** An SC IT Training Plan by June 30, 2000, assuming sufficient progress is made on the information architecture project.

**Lead Responsibility:** OAK will take the lead on this project; however, all assistance in collecting baseline information will be required from all sites.

**Estimated Cost:** \$5K (although possibly \$0) for a contractor to assess our training needs and propose an approach. The cost could be higher (e.g., \$50K) if we direct the contractor to collect the baseline data.

## 11. CYBER SECURITY

**Purpose/Description:** To ensure information sharing and collaborative assistance among all SC sites regarding DOE cyber security requirements. Increasing requirements are expected, and collaboration among the sites is expected to bring efficiencies.

**Strategy/Approach:** SC HQ will be the focal point for ensuring that information is shared in a timely manner regarding cyber security. SC HQ will prepare an SC HQ Cyber Security Plan that can be used as a model by all sites. SC HQ will conduct periodic televideo meetings to share information and reduce duplicative efforts.

**Major Objective(s):** Ongoing information sharing and a draft SC HQ Cyber Security Plan (to be used as a model/sample by the SC field sites) by October 1, 1999, and site specific cyber security plans by January 1, 2000.

**Lead Responsibility:** SC HQ has the lead on this effort.

**Estimated Cost:** \$50K for each cyber security plan.

## 12. BMOP AND IT PERFORMANCE MEASURES

**Purpose/Description:** To establish consistent and useful performance measures for the IT activities among the SC sites. In addition, SC HQ will be the keeper of the laboratory measures and will facilitate consistency when feasible.

**Strategy/Approach:** SC HQ will be the liaison between the DOE CIO and the SC sites in establishing consistent and useful IT performance measures. The effort will begin with the FY 2000 measures.

**Major Objective(s)** FY 2000 IT performance measures established for all SC sites by October 1, 1999.

**Lead Responsibility:** SC HQ and CH will partner in managing this project (with SC HQ having lead responsibility).

**Estimated Cost:** \$0, other than the time of IT staffs (at all SC sites).

## 13. CENTRALIZED ACQUISITIONS

**Purpose/Description:** To realize cost efficiencies by acquiring IT hardware, software, and support services via an SC centralized approach (where appropriate).

**Strategy/Approach:** Needs more discussion. Do we want a single site to handle all acquisitions or do we want one of us to be a coordinator who determines the best approach for a particular acquisition (on a case-by-case basis)?

**Major Objective(s):** TBD

**Lead Responsibility:** SC HQ per the results of the Chicago meeting, but any other site could volunteer to take the lead (since SC HQ already has the lead on too many projects).

## 14. IT SUPPORT FOR SC VIRTUAL UNIVERSITY

**Purpose/Description:** To leverage the effort of ORO in developing web-based Training Programs and Technology Supported Learning by having ORO lead/facilitate the IT

implementation of the Program throughout SC. Training developed or in development (in addition to ethics training – Project 5 above) includes: (1) Risk Assessment Information System, (2) Spatial Analysis Decision Support, and (3) Identification and Application of Environmental ARARs (Applicable, Relevant, and Appropriate Requirements). As compared to other training methods, the ORO web-based program provides a cost-effective and less demanding alternative (on trainees and travel funds) for SC federal staff as well as regulators and contractors.

**Strategy/Approach:** ORO will service as the project lead in providing IT support to deploy developed, web-based training programs to SC HQ, CH, OAK, and OSTI. Specifically, ORO will: (1) prepare a project plan; (2) document requirements and options for downloading and running the training software; (3) coordinate/facilitate with other SC sites on running and operating the software; (4) modify/maintain software to support deployment needs; (4) maintain and disseminate summary usage statistics; (6) improve the training software based on input from the other SC sites; (7) participate on committees to ensure SC IT needs are factored into plans for a DOE Virtual University; (8) coordinate with SC Centers of Excellence to stay abreast of IT needs for deploying SC web-based training.

**Major Objectives:** All SC sites are able to offer a suite of web-based training programs to their entire staff by September 1, 2000.

**Lead Responsibility:** ORO, because of its successful experience in developing a web-based training program, will have the lead on the project. Each site, with guidance from ORO, will be responsible for implementing the software (at its site) and providing hotline support to users for hardware/telecommunications/operating environment needs.

**Estimated Cost:** \$10K for participating in coordinating committees and surveying options for most cost-effective deployment, plus \$10K per course (in FY2000) assuming minimal enhancements to software.