SANDIA REPORT

SAND97–3083/1 • UC–700
Unlimited Release
Printed February 1998

A Sandia Nuclear Weapon Knowledge Management Program Plan for FY 1998–2003

Volume I: Synopsis

Military Liaison and Knowledge Management Center

Prepared by
Sandia National Laboratories
Albuquerque, New Mexico 87185 and Livermore, California 94550

Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy under Contract DE-AC04-94AL85000.

Sandia National Laboratories

Issued by Sandia National Laboratories, operated for the United States Department of Energy by Sandia Corporation.

Available to DOE and DOE contractors from
Office of Scientific and Technical Information
P.O. Box 62
Oak Ridge, TN 37831

Prices available from (615) 576-8401, FTS 626-8401

Available to the public from
National Technical Information Service
U.S. Department of Commerce
5285 Port Royal Rd
Springfield, VA 22161

NTIS price codes
Printed copy: A04
Microfiche copy: A01

SAND97-3083/1
Unlimited Release
Printed February 1998

Distribution
Category UC-700

A Sandia Nuclear Weapon Knowledge Management Program Plan For FY 1998–2003

Volume I
Synopsis

Military Liaison and Knowledge Management Center
Sandia National Laboratories
P.O. Box 5800
Albuquerque, NM 87185-0631

Abstract

This volume contains a synopsis and briefing charts for a five-year plan which describes a Knowledge Management Program needed to meet Sandia's responsibility for maintaining safety, security, reliability, and operational effectiveness of the nuclear weapon stockpile. Although the knowledge and expertise required to maintain and upgrade the stockpile continues to be critical to our country's defense, Sandia's historical process for developing and advancing future knowledge and expertise needs to be addressed. This plan recommends implementing an aggressive Knowledge Management Program to assure retention and furtherance of Sandia's expertise, beginning in fiscal year 1998, as an integrated approach to solving the expertise dilemma.

This page intentionally left blank.

Contents

This page intentionally left blank.

A Sandia Nuclear Weapon Knowledge Management Program Plan For FY 1998–2003

Volume I
Synopsis

Introduction

On January 11, 1997, Roger Hagengruber, Sandia vice president for National Security Programs, funded the Knowledge Management Program team to deliver a long-range knowledge management program. The program supports the Sandia corporate objective to ". . . *maintain the vitality of the scientific- and engineering-based capabilities and expertise needed to perform our nuclear weapons mission both now and as the nation demands in the future.*" This report contains a synopsis of the plan and briefing charts, which is fully documented in **SAND97-3083/2**, "***A Sandia Nuclear Weapon Knowledge Management Program Plan for FY 1998-2003, Volume II, Planning Document.***"

Background

Nuclear weapon knowledge is the unique skills and expertise of the people who have supported the nuclear deterrent for nearly 50 years, along with the data, information and Laboratories' capabilities needed to solve the problems of the future. The Knowledge Management Program is the collecting, sharing, application and adaptation of this unique knowledge to support the nuclear deterrent for the foreseeable future.

Although the knowledge and expertise required to maintain and upgrade the safety, security, reliability and operational effectiveness of the nuclear weapon stockpile continues to be critical to our country's defense, Sandia's process for developing and advancing that knowledge and expertise for the future needs to be addressed. This plan recommends that Sandia implement an aggressive Knowledge Management Program to assure retention and furtherance of its expertise, beginning in FY98, as an integrated approach at solving the expertise dilemma.

As we examine Sandia's recent environment and look at projections for the future, we see many factors that impact the traditional approach Sandia has taken to knowledge management. For example, engineers and scientists have always passed along their skills to new people through on-the-job training on multiple weapon development and test projects. However, we have not had a full-scale systems development for 10 years, the

stockpile is much smaller, our budgets have steadily declined, and few new people have joined the weapons program.

Demographic analyses since 1990 show that a generation of the most experienced engineers have left Sandia or are leaving, the current generation has less experience and practice, and the next generation has not been hired. It also shows that fewer recent college graduates are being hired, and our attrition rates have increased from the past. Yet the importance of the nuclear deterrent continues to be affirmed. Our challenge is to maintain the stockpile indefinitely in a safe, secure, reliable, and operationally effective manner without nuclear testing. We must retain the confidence in ourselves and the stockpile for our Department of Defense customers, the Department of Energy, and the public.

Fortunately, we face this great challenge with opportunities. The problem of maintaining nuclear competence is widely recognized in the nuclear community and not unique to Sandia. Therefore, we will be encouraged and supported to achieve well-articulated knowledge management goals. In most cases, people are still available to provide and identify the necessary data and information. We have world-class tools and capabilities. Computing and information technologies provide a basis to support the people who will carry on these responsibilities. We must take advantage of these opportunities while the window remains open. Every engineer and scientist must maintain past knowledge and, more importantly, advance and modernize their knowledge for the future.

Plan Requirements

The goal of the Knowledge Management Program is to support the line with a program that withstands scrutiny for maintaining, advancing, and transferring the required nuclear weapon knowledge to ensure a safe, secure, reliable and operationally effective stockpile.

The requirements for development of the program plan were to:

(1) support the organizational structures that are responsible for the nuclear weapons mission in an affordable and value-added manner commensurate with its costs;
(2) integrate with technical projects, sector roadmaps, Chief Information Officer and Human Resources processes and tools;
(3) ensure that nuclear weapons engineers and managers are demonstrably qualified and/or certified by a process that is able to withstand external scrutiny by stressing competency and performance;
(4) provide opportunities for education for Sandians; and
(5) include people, data and information and capabilities.

The Proposed Knowledge Management Program--Creating the Successors for Sandia's Nuclear Weapons Experts

We conclude that Sandia must take positive action, beginning now, to ensure a sufficient quantity of experienced weaponeers to sustain and advance the stockpile. The plan's vision of the future is that engineers, scientists, and decision makers who maintain the nuclear deterrent demonstrably merit the nation's confidence. The advancement of their nuclear weapon knowledge (through their successors, data and information, capabilities, and projects) earns the continuing confidence of the nation.

We envision the Knowledge Management Program to be completely in place by the year 2003. The people have the knowledge of the past and the skills and tools necessary to make and implement the decisions of the future. Key functional areas, which are critical to the weapons mission, are identified. These areas are continually analyzed by cognizant department and project managers for the expertise, information, and capabilities needed to meet current commitments and sustain the mission. For this vision to succeed, we will need:

- **Challenging work**. Important, challenging, and meaningful job assignments are essential. On-the-job training and mentoring continue to be the most important elements of knowledge transfer and understanding.

- **Management commitment**. The maintenance, advancement, and transfer of knowledge from one engineer to another must be a fundamental daily commitment of every technical manager.

- **Efficient business processes**. Sandia must continue to evaluate and improve its nuclear weapons business processes and procedures.

- **Infrastructure**. Sandia must continue to provide quality modern integrated infrastructure (such as test facilities, laboratory equipment, and high-end computing) to our weapon engineering staff and managers.

For this vision to be effectively implemented, we will need to establish and follow a policy that emphasizes the importance of knowledge management. The program's policy statement follows.

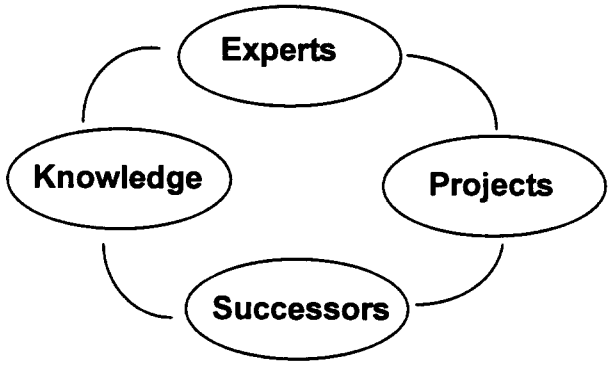
KNOWLEDGE MANAGEMENT PROGRAM
POLICY STATEMENT

Every engineer, scientist, and decision maker must be demonstrably qualified to execute their responsibilities associated with maintaining the nuclear deterrent. They are expected to demonstrate individual initiative and invest in their own learning to continually improve their performance in the dynamic environment of nuclear weapons. It is essential that they maintain and advance the knowledge of the past as they encounter and use it in executing daily activities. They and their managers must further advance the knowledge by developing their successors, by maintaining data and information in a retrievable manner, and by maintaining the capabilities essential to the conduct of their responsibilities.

The weapons program leadership shall provide the opportunity for success through challenging work, adequate resources and tools, and educational alternatives. Skills and demographics will be managed so that backups for critical positions and losses because of transfer, retirement, or resignation do not impact any program. The leadership will make investment and disinvestment decisions based on integrated data on people, information, and capabilities. Success is measured by our individual and collective work results as reflected by the state-of-health of the stockpile and by the confidence our customers and the public express in us, now and in the future.

The Knowledge Management Program - Approach for Creating the Successors

As the figure below indicates, the KMP seeks to establish an integrated approach for capturing and transferring the knowledge possessed by today's experts for tomorrow's experts. To do this, we propose enhancing and developing staffing, career development, and succession planning to hire, retain and develop tomorrow's experts. Several major tools are needed to implement this integrated approach: (1) a knowledge management process, (2) the Nuclear Weapons Institute, and (3) a data and information management process.



The **Knowledge Management Process** is the tool that integrates the Knowledge Management Program. The process provides a structure to plan and implement knowledge management activities. The structure includes the identification of functional areas of technical expertise upon which to base the acquisition of the skills, expertise, data, information, and capabilities required to maintain the stockpile. The tentative functional areas list was derived from the Laboratory Capability Assurance Program and the DOE Report to Congress on the Stockpile Stewardship Recruitment and Training Program efforts, and accounts for nearly 200 departments. The process allows each department to identify and evaluate its specific future-based knowledge management needs and provides tools for implementing them. The logic flow is shown in Figure 1. The needs are aggregated by representatives from the functional area, called a standards board. This provides a consistent set of data that can be evaluated for corporate decisions about recruiting, educating and training people, and about investments in information and capabilities, as shown in Figure 2.

The **Nuclear Weapons Institute** will be the focal point of weapon education at Sandia and will coordinate training for Sandia personnel who maintain the stockpile and work in the defense programs nuclear weapons field. The Nuclear Weapons Institute will integrate existing training being given by various organizations and develop new training based on the results of the knowledge management process. Education and training will provide a full range of basic, intermediate, advanced, and assignment-specific courses to support the career goals and professional development of weapon personnel. The Nuclear Weapons Institute provides an Intern Program to ensure efficient and comprehensive education and training of new engineers about Sandia's mission, culture, business practices, processes, procedures, as well as thorough introduction to nuclear weapons in the stockpile and advanced technologies applicable to the stockpile.

Data and information are the tangible links of the past with the future. The knowledge management process for data and information management is very simple: all Sandia weapons data and information must be easily accessible (with the appropriate need-to-know). The plan calls for an integrated, distributed, multimedia "*Information Management Process*" which provides preservation, storage, and access to nuclear weapons data and information. The process includes format standards for the capture, storage, and exchange of electronic data, requires all existing data and information owners to migrate to them, and implements the Records Retention and Disposition Schedule file structure Lab-wide. We recommend the establishment of a central imaging capability for all defense programs data and information owners. Such a capability would ensure efficient, high quality, state-of-the-art production of electronic data and information. The organization would adhere to all standards, produce the metadata, and convert from image to electronic format if required. We must implement standards-based tools to provide the ability to search, access and use the data and information. We must implement a classified infrastructure. Finally, we must re-impose standards for distribution and storage of data and information created electronically. In addition, documenting lessons learned or best practices so future generations don't repeat past mistakes is critical.

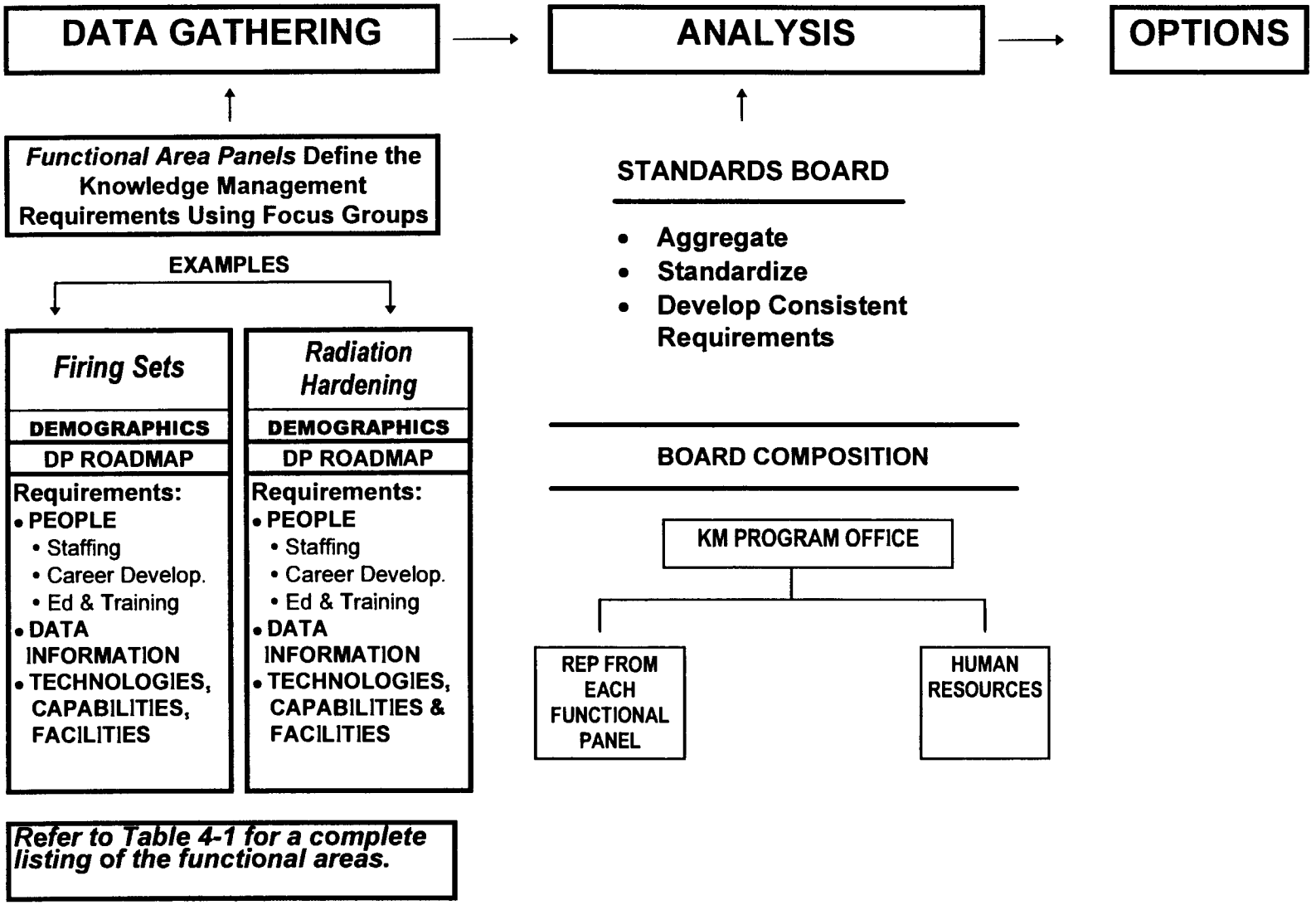


Figure 1. Knowledge Management Program Data Gathering, Analysis, and Options

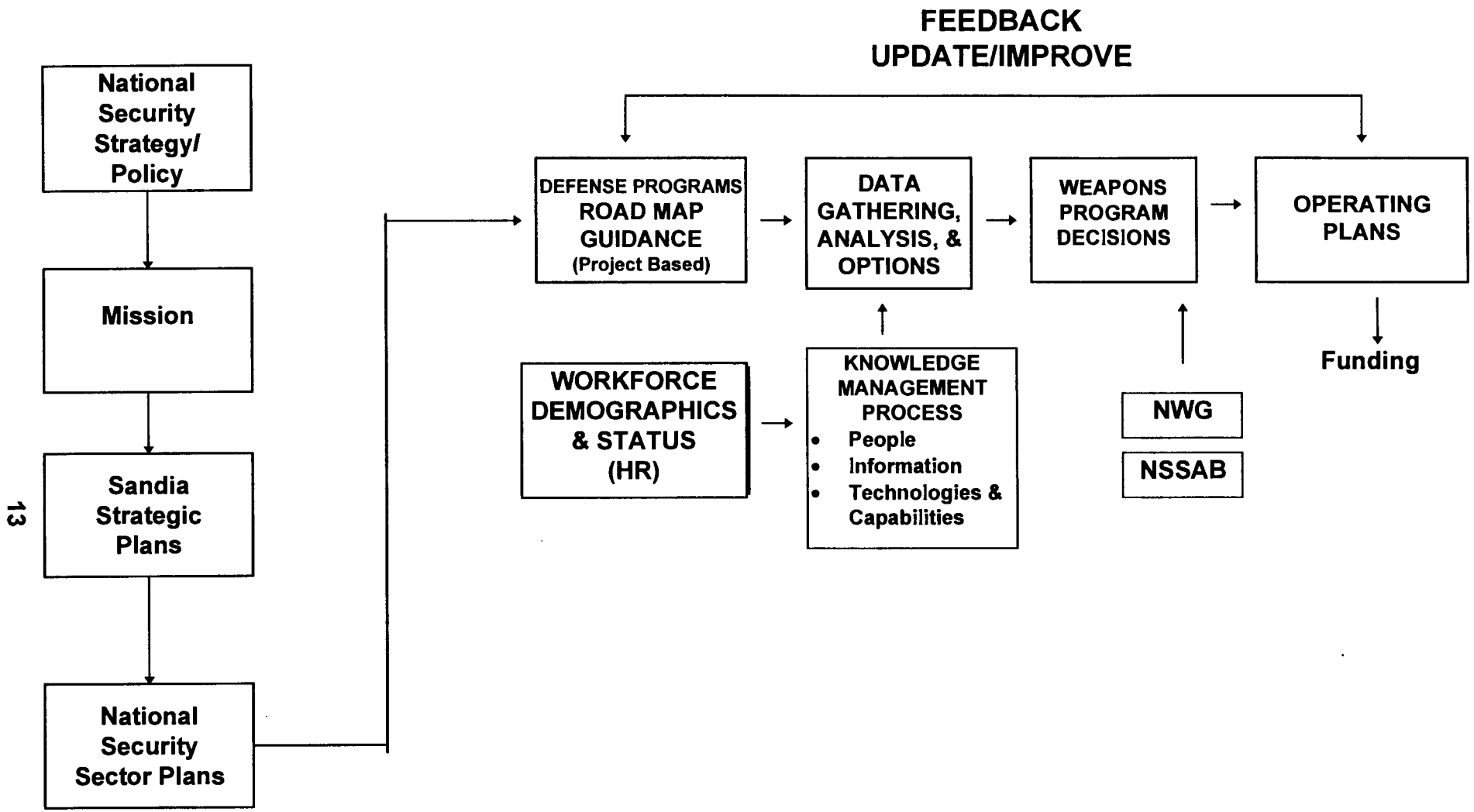


Figure 2. National Security Sector Decision Process Integrated with a Knowledge Management Program

People Development

The most critical part of the plan deals with the development of people. The Knowledge Management Program goal for developing people is to "maintain the necessary scientific and technical skills to sustain and advance the stockpile." Successors must be hired and developed based on the needs of the future. On-roll experts and retirees must support this career development. The plan recommends that career development, succession planning, staffing, and demographics analysis be implemented.

With the aid of their department manager, every person working weapons will complete an individual development plan providing for the orderly acquisition of the knowledge necessary to perform their project assignments. The Knowledge Management Program development plan will ensure that the engineer meets the standards for each of the elements of the career development structure as defined by department-specific criteria. Formal and informal education and training courses will be provided through the Nuclear Weapons Institute. Courses will be designed and taught to meet the needs of as many people as possible. System or component specific courses will be taught by internal experts.

Nothing can substitute for high-quality work assignments and access to the knowledge and understanding of senior experts (mentors). Mentoring can be between individuals or in group situations. Mentors are expected to encourage critical thinking in new engineers. Rotational assignments are intended to broaden an engineer's exposure to advanced and complementary technologies, systems, designs, components, testing, and/or manufacturing issues.

A daring approach for paying qualified and certified engineers is recommended. The MTS who becomes weapon "qualified" becomes an SMTS and receives a five percent base salary increase for as long as the person maintains their qualification and works on weapon products. Weapons engineers who are promoted to PMTS, and whose job requires certification, will receive a 10 percent base increase for the duration of their certification and weapons work.

Capabilities Availability

Sandia's ability to accomplish its future mission depends on the availability of required capabilities to support the scientific and engineering staff. The strength of Sandia's capabilities and facilities lie in the highly trained and knowledgeable people that operate them. Where appropriate, these scientists and engineers will be included in the career development process described above. We will determine specific requirements for capabilities, technologies and facilities in the knowledge management process. We expect to compile this information in the knowledge management data base to support impact analysis and decision making.

Options to Achieve Future State Vision

We considered four options: (1) maintain the *status quo* (do nothing); (2) issue a knowledge management policy and maintain the *status quo*; (3) aggressively develop and implement a formal Knowledge Management Program starting in fiscal year 1998; and (4) delay commitment to an aggressive formal Knowledge Management Program, pilot a few key areas in fiscal year 1998, and further refine the program for a decision in summer of 1998.

We recommend quickly issuing a policy document to establish the essential knowledge management principles and responsibilities and aggressively implementing the Knowledge Management Plan generally described here and detailed in Volume II.

An Implementation Plan

The Knowledge Management Program plan consists of three implementation tasks: (1) communicate the Knowledge Management Program plan and policy, (2) implement the knowledge management tools, and (3) implement people development systems. Figure 3 depicts the major deliverables and time lines of the plan that achieve our vision in 2003. The five-year incremental budget is estimated at $16.5 million in FY 98 funds. Detailed cost estimates are shown in Table 1.

The first step is to establish a knowledge management program office to serve as a central resource for program functions. The duties of the office will be to (1) support knowledge management program process implementation, data and information gathering, database development and implementation, courses development and delivery; (2) support the newly created standards board; (3)produce status reports and recommendations for future activities; and (4) serve as an open line of communication to staff and management so that they will have a good understanding of the program's status, direction and plans.

The Knowledge Management Program will team and partner with existing projects in the National Security Sector office, Human Resources Division, centers reporting to the Chief Information Officer, the Weapon Systems Division, Surety Assessment Center, and Defense Products and Services Division.

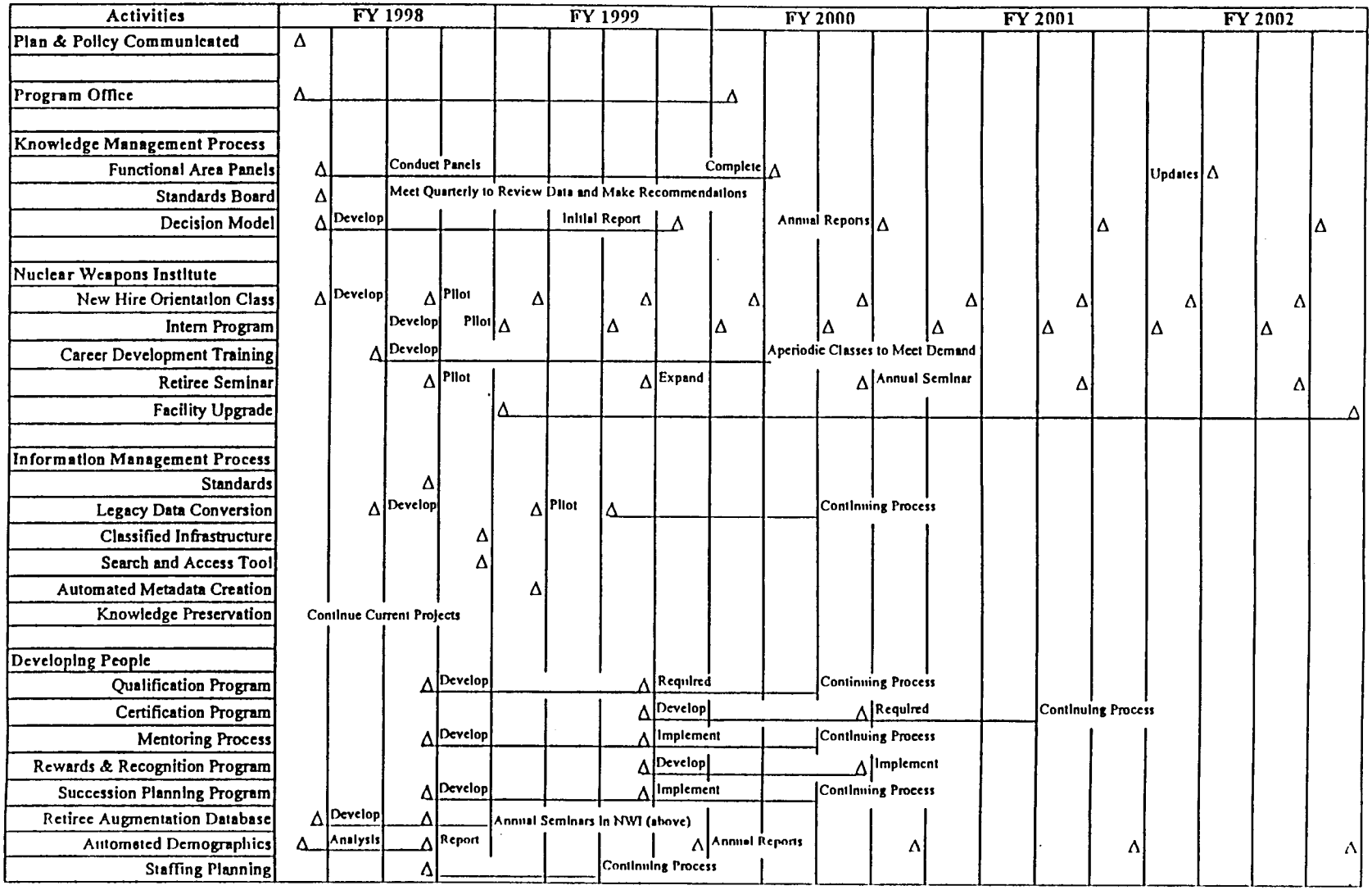


Figure 3. Five-Year, Top-Level Milestones

Table 1. Knowledge Management Program (KMP) Summary Tasks and Budget ($K) In FY98 Dollars

ACTIVITY	FY98	FY99	FY00	FY01	FY02
Plan and Policy Communicated*	25	*	*	*	*
Knowledge Management Process					
Functional Area Panels Facilitation	50	50	25	25	25
Standards Board	50	50	50	50	50
Computerized Decision Model	200	200	50	50	50
Subtotal	**325**	**300**	**125**	**125**	**125**
Nuclear Weapons Institute (NWI)					
KMP Manager	250	250	100	0	0
KMP Administrative Support	100	100	50	0	0
NWI Senior Engineer	300	300	300	300	300
Nuclear Weapons Institute Administration	250	250	250	250	250
New Hire Orientation Class	60	25	25	25	25
Intern Program Curriculum and Class	200	400	300	300	300
Career Development Classes	50	700	600	600	600
Retiree Seminar/Pay Retirees	60	25	25	25	25
Subtotal	**1270**	**2050**	**1650**	**1500**	**1500**
Information Management Process					
Nuclear Weapons Info Group Support	25	25	25	25	25
Knowledge Preservation Project	1200	1200	1200	1200	1200
Library History Project	75	75	75	0	0
Pilot Nonelectronic Data Conversion*	300	200	*	*	*
Classified Infrastructure*	100	*	*	*	*
Subtotal	**1700**	**1500**	**1300**	**1225**	**1225**
Succession Development Process					
Individual Development Plan Template*	100	*	*	*	*
Qualification Standards Definition*	100	*	*	*	*
Certification Standards Definition*	0	150	*	*	*
Automated Demographics*	50	*	*	*	*
Staffing Planning*	25	*	*	*	*
Rewards and Recognition Process*	25	*	*	*	*
Rewards for Qualification/Certification†	†	†	†	†	†
Succession Planning*	25	*	*	*	*
Retiree Augmentation Database*	30	*	*	*	*
Subtotal	**355**	**150**	*	*	*
TOTAL KMP BUDGET	**3650**	**4000**	**3075**	**2850**	**2850**
Related Projects					
Standards*	450	*	*	*	*
Search and Access Tool*	750	500	*	*	*
Automated Data Creation*	500	250	*	*	*
Interns (50 per year at 0.5 FTE)	0	2500	5000	5000	5000
NWI Facility Upgrade‡	250‡	250‡	150‡	2000‡	7500‡
TOTAL RELATED PROJECTS BUDGET	**1950**	**3500**	**5150**	**7000**	**12500**

* One-time start-up costs; maintenance assumed to be cost of doing business.

† Not estimated; reallocation of existing funds.

‡ Preconceptual cost estimate (revitalize Bldg. 892), draft, justification for critical decision 1, NWI, December 1996, page 4d-6. Architectural Research Consultants, Inc. NSS decision forthcoming on either capital or expense-funded project. If capital dollars funded, project start is FY01; project end is FY04; FY03 funding at $13.5M, FY04 funding at $7M. Total estimated cost is $30M. FY98–FY00 budget ($650K) for CDR and validation process.

The budget estimate for the program is not large, because the costs do not include the costs to the line organizations of implementing the program, since it is assumed that the steps are part of the normal way that business is done, and that tradeoffs will be made to put high priority on knowledge management. The costs also do not include the costs for normal HR services and the CIO, because it is assumed they are already funded to meet the primary weapon mission requirements. Corporate development and education costs are especially called out because they are not budgeted for weapons classes at this time. It assumes that the program funds only new tasks, that the line will incorporate it as normal business, and that support organizations will give high priority to knowledge management. The five-year incremental budget in FY98 dollars is estimated at $3.6M in FY98, $4.0M in FY99, and $3.1M in FY00. After that, a steady-state maintenance budget of approximately $2.9M is estimated.

APPENDIX A

Briefing Charts

This page intentionally left blank.

The Sandia Corporate Objective

"..maintain the vitality of the scientific- and engineering-based capabilities and expertise needed to perform our nuclear weapons mission both now and as the nation demands in the future..."

NW-B98.1 Develop and implement a Knowledge Management plan.

Knowledge Management

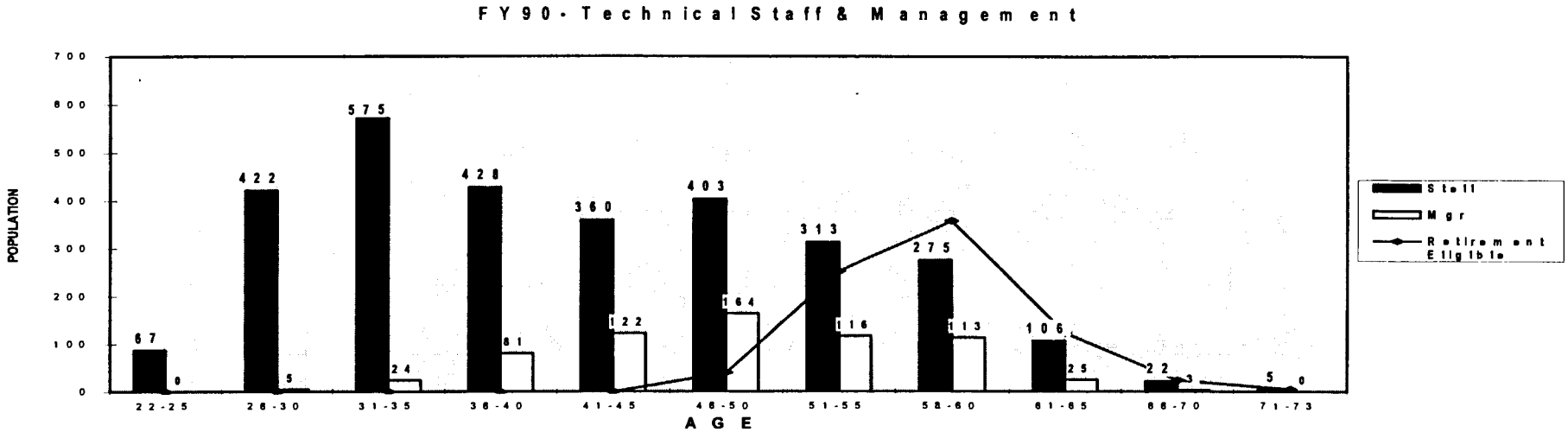
- ***Nuclear Weapon Knowledge*** **is the unique skills and expertise of the people who have supported the nuclear deterrent for nearly 50 years, along with the data and information and laboratories capabilities needed to solve the problems of the future.**
- **The *Knowledge Management Program* is the collecting, sharing, application and adaptation of this unique knowledge to supporting the nuclear deterrent for the foreseeable future.**

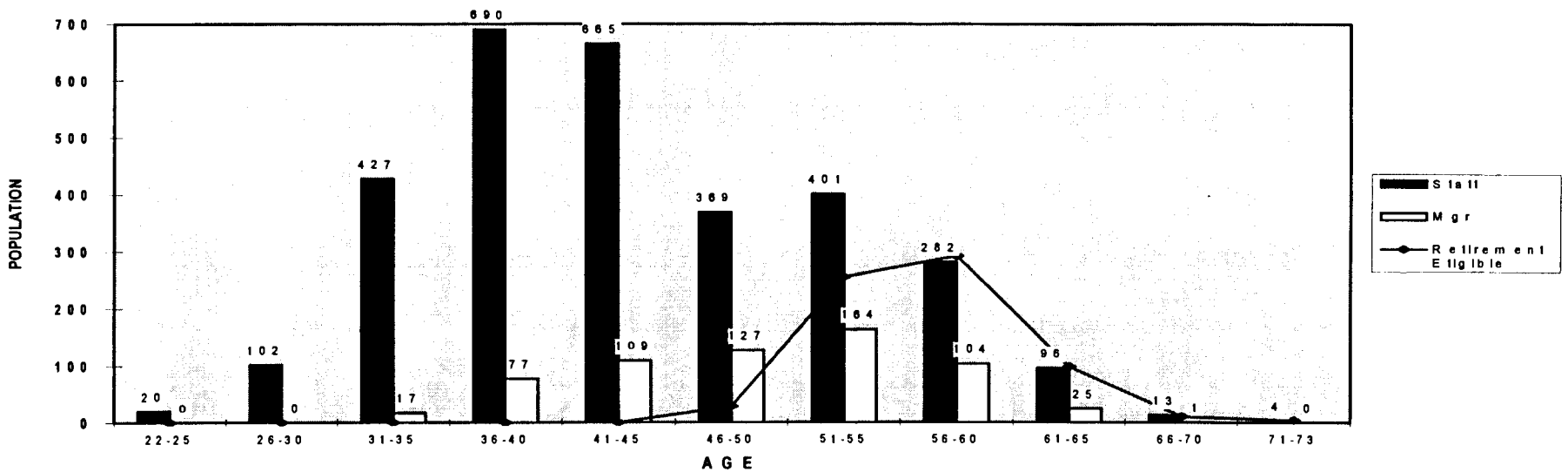
Why a Knowledge Management Program?

- **Our challenge: maintain the nuclear deterrent indefinitely.**
- **The Cold War is over--our emphasis has changed:**
  - The stockpile is smaller with no new systems.
  - Experienced staff is leaving, few new people.
  - Emphasis is on maintenance & life extension of the stockpile.
- **We have a window of opportunity to identify and preserve the data & information & essential capabilities of the past for the people who will make and implement the decisions of the future.**
- **We must retain the confidence of our DoD customers, the DOE and the public in both the stockpile and in ourselves.**

Developing People is Critical

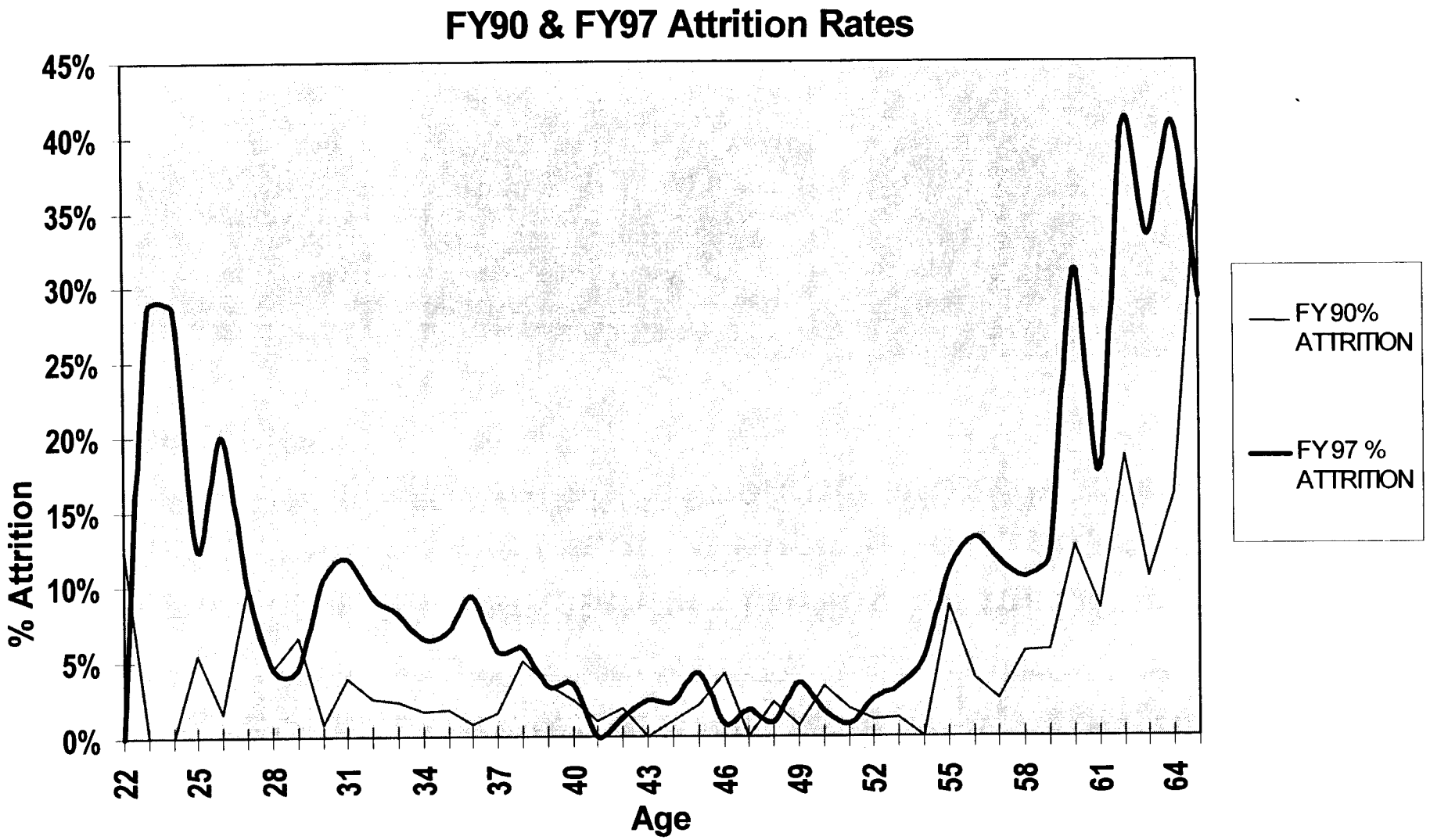
A generation of the most experienced is gone or leaving; the current generation has less experience and practice; the next generation has not been hired.





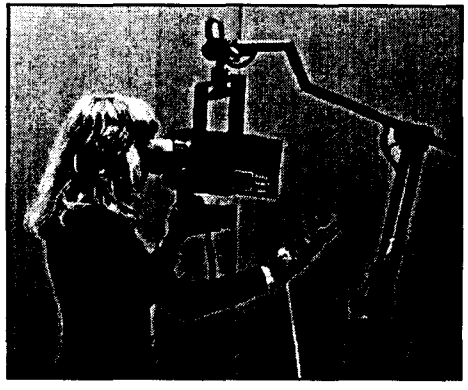
Hiring & Retaining People Needs Attention

Fewer recent college graduates are being hired.
People are leaving Sandia for other work opportunities.



Knowledge Management Program *(KMP)*: People, Information/Data, Capabilities

A program that withstands scrutiny for maintaining and advancing the required nuclear weapons expertise to ensure a safe, reliable, and operationally effective stockpile.



1945 *1997* *Future Weaponeers*

Vision

- Engineers, scientists, and decision makers who maintain the nuclear deterrent demonstrably merit the nation's confidence. The advancement of their knowledge (through their successors, data and information, and capabilities) earns the continuing confidence of the nation.
  - The people have the knowledge of the past and the skills and tools necessary to make and implement the decisions of the future.
  - Key technical areas, which are critical to the weapons mission, are identified.
  - These areas are analyzed by cognizant department and project managers for the expertise, information, and capabilities needed to meet current commitments and support the mission.

For Knowledge Management to be Successful

- We must have challenging, enduring assignments on weapon products.
- The line, CIO & HR must be full partners in the program:
  - The secure network is critical.
  - Corporate Training, Library & Staffing are key players.
  - Line staff and managers' buy-in is critical.
- Four elements are needed:
  - Managers & staff must focus on developing their successors--become a "learning organization."
  - A Knowledge Management Process to discern knowledge needs.
  - A Nuclear Weapons Institute to support learning needs.
  - An Information Management Process for the data & information.

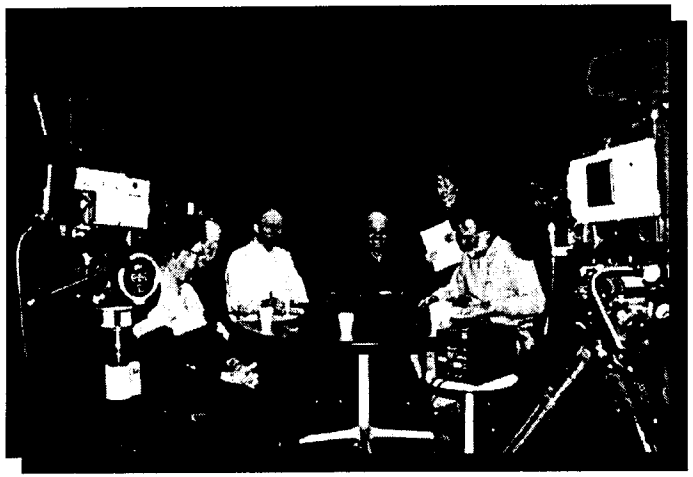
POLICY STATEMENT

Every engineer, scientist, and decision maker must be demonstrably qualified to execute their responsibilities associated with maintaining the nuclear deterrent. They are expected to demonstrate individual initiative and invest in their own learning to continually improve their performance in the dynamic environment of nuclear weapons. It is essential that they maintain and advance the knowledge of the past as they encounter and use it in executing daily activities. They and their managers must further advance the knowledge by developing their successors, by maintaining data and information in a retrievable manner, and by maintaining the capabilities essential to the conduct of their responsibilities.

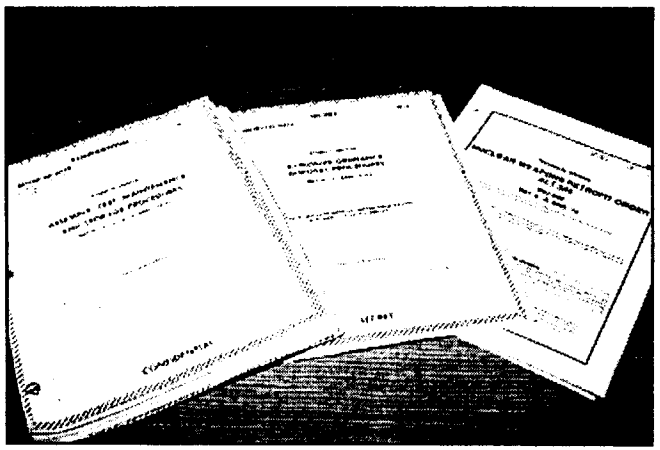
The weapons program leadership shall provide the opportunity for success through challenging work, adequate resources and tools, and educational alternatives. Skills and demographics will be managed so that backups for critical positions and losses because of transfer, retirement, or resignation do not impact any program. The leadership will make investment and disinvestment decisions based on integrated data on people, information, and capabilities. Success is measured by our individual and collective work results as reflected by the state-of-health of the stockpile and by the confidence our customers and the public express in us, now and in the future.

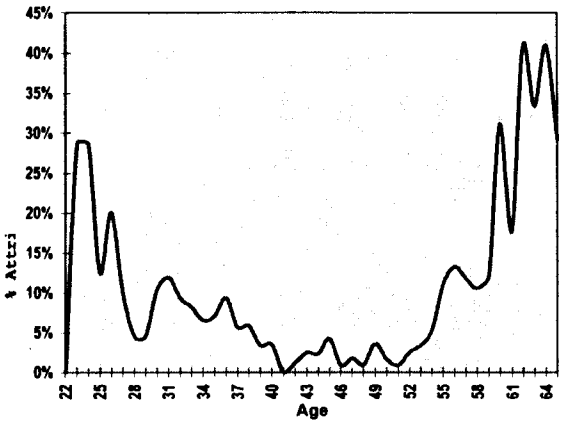
CAY:RLH1013:9/30/97

Knowledge Management: Sustaining Capabilities



EXPERTS

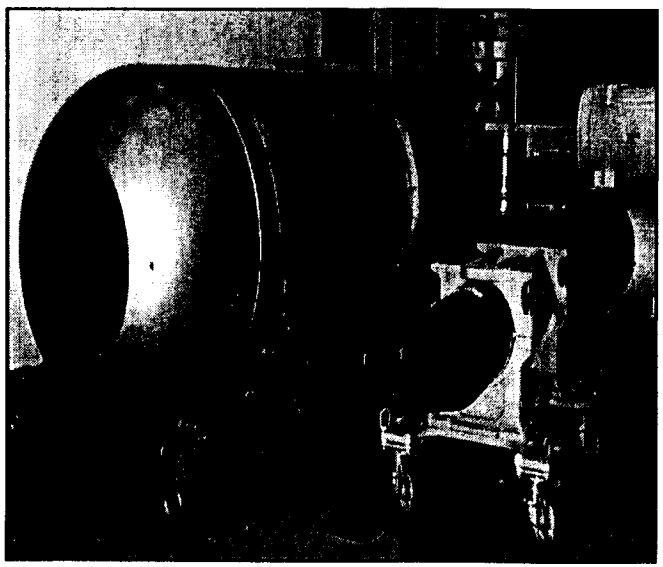




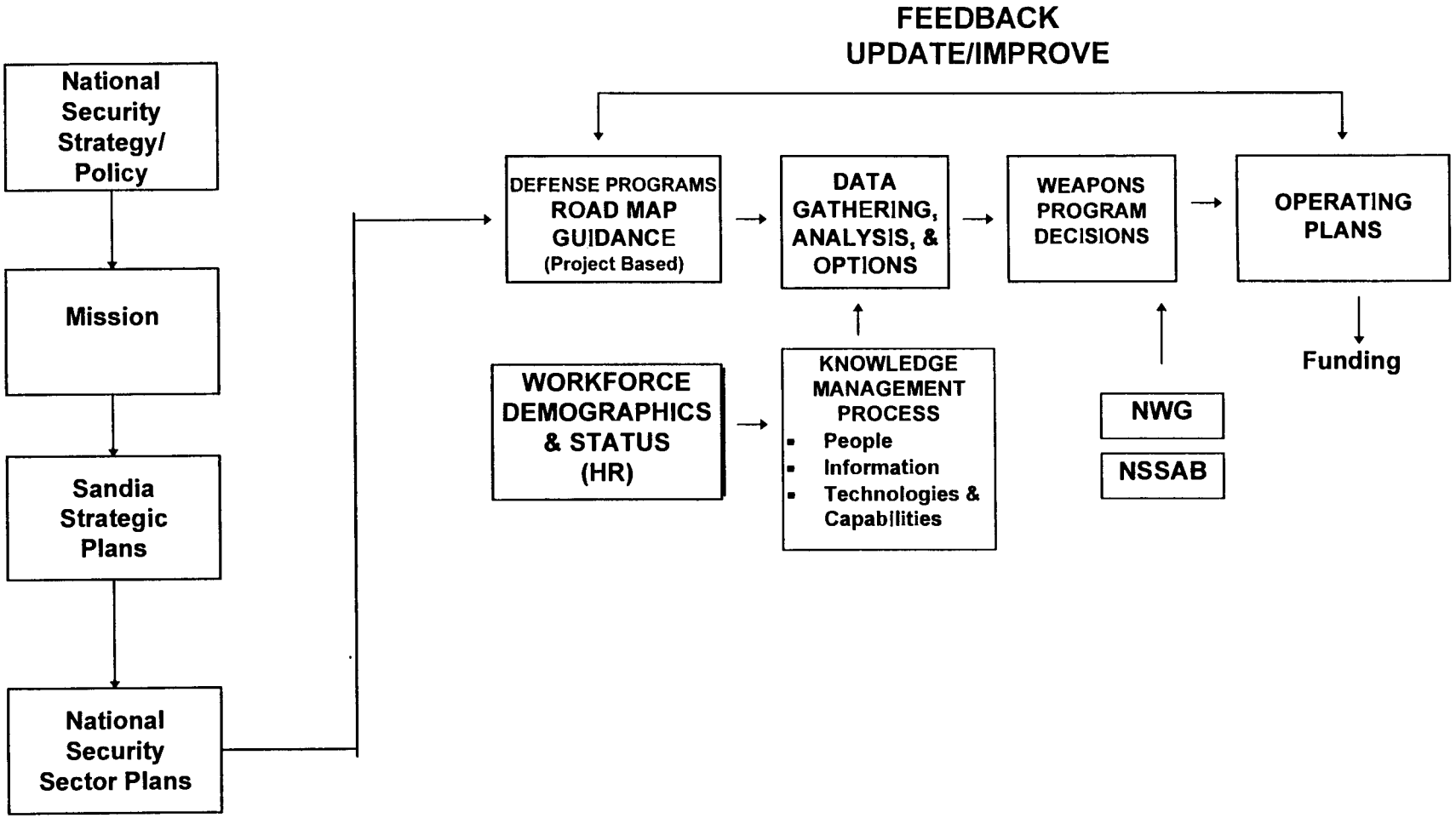
Preserve the Past

Accessible Information

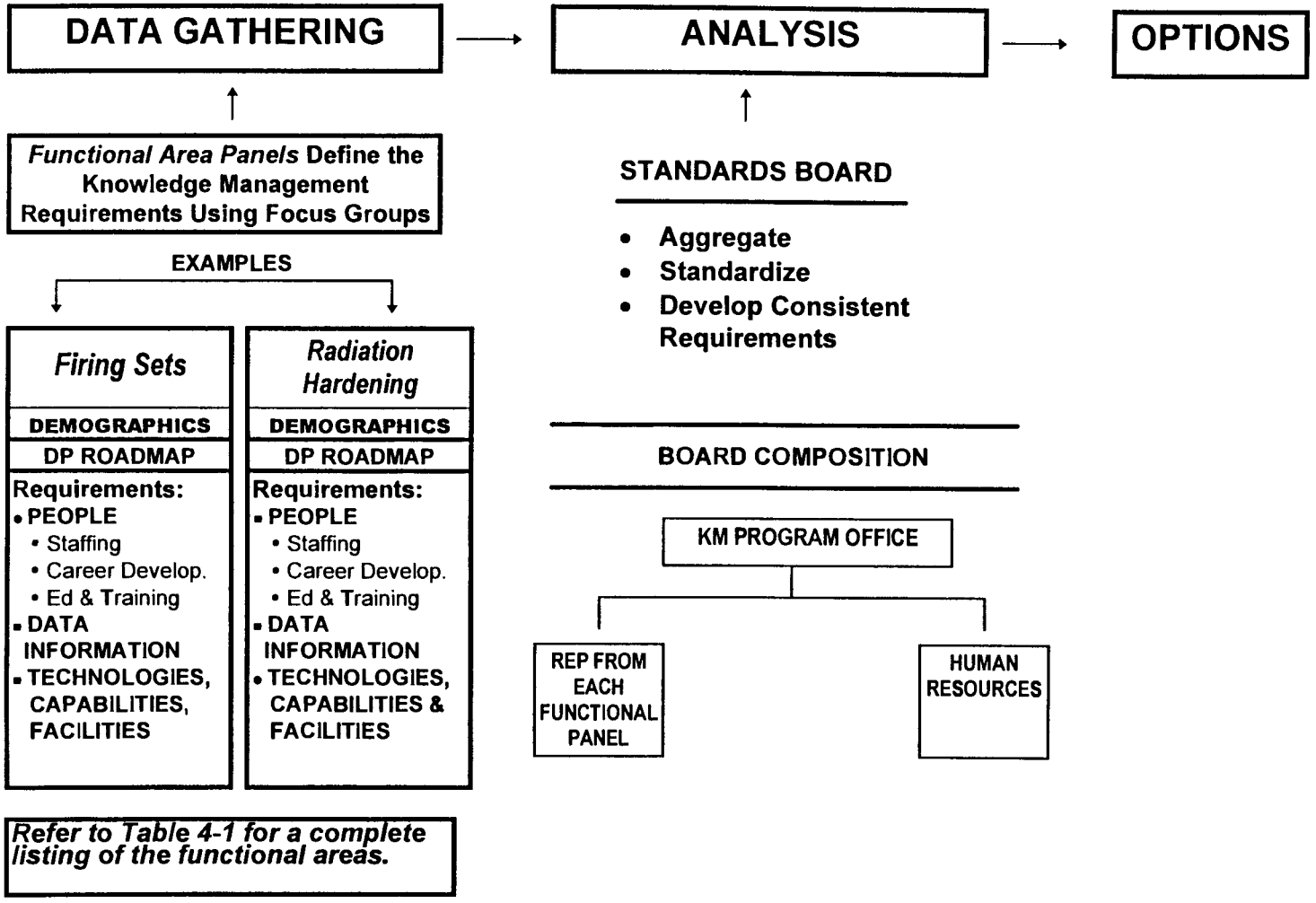
Attrition



SUCCESSORS



National Security Sector Decision Process
Integrated with a Knowledge Management Program



KNOWLEDGE MANAGEMENT PROGRAM DATA GATHERINGS, ANALYSIS, AND OPTIONS

Tools: Nuclear Weapons Institute

- An orientation program provides a common starting point for baseline knowledge for all Sandia new hires.
- A one year (half time education and training) intern program teaches the stockpile to the next generation of weaponeers.
- Career development courses that "teach the stockpile."
  - Heritage
  - Engineering Process
  - General Principles
  - Stockpile Systems & Subsystems
  - Technologies & Components
  - Surety

Tools: Knowledge Management Process

- Identifies major weapon functional areas and collects their knowledge needs.
  - Start October 1997; complete by January 2000
  - Update every two years.
- A Standards Board brings consistency across the functional areas and establishes priorities.
- A decision model aggregates expertise, information, and capabilities needs of each of Sandia's critical functional areas to provide options for critical budget, programmatic, staffing and investment decisions by August 1998.
- *The process merges all the good approaches that Sandia has employed over the years and provides a formal, consistent, and standardized corporate approach.*

KMP: Preserving Knowledge

- Video interviews with weapon experts
  - Who: retired and on-roll engineers and scientists
  - What: focus on weapon systems, technologies, components
  - How many: 90 one-on-one interviews and panel discussions

- Instant access via full-text search on digitized videotapes

Knowledge Management Program

I HEAR
AND I
FORGET

EDUCATION

I SEE
AND I
REMEMBER

RECORDS

I DO
AND I
UNDERSTAND

Confucius

EXPERIENCE

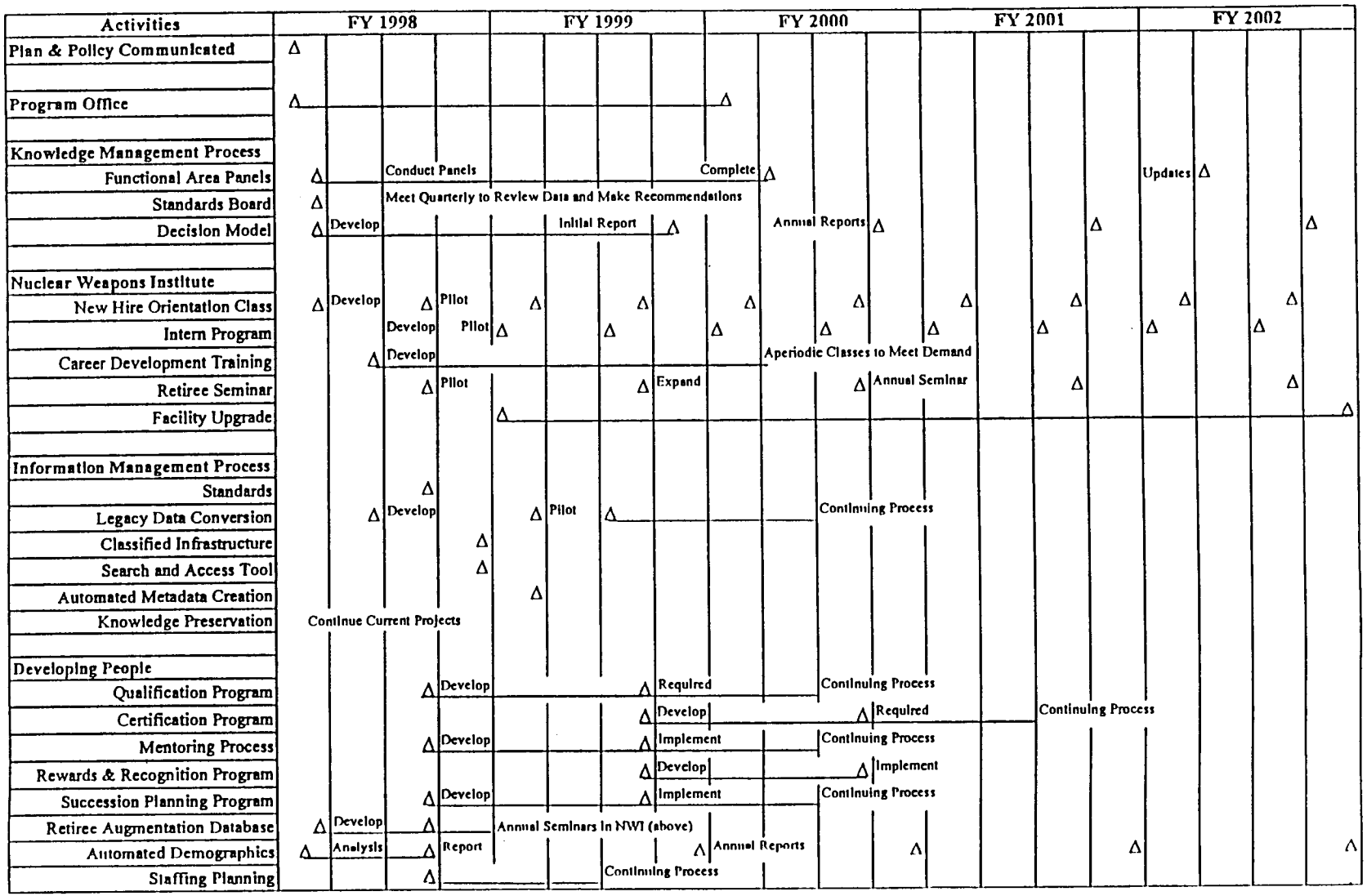

Activities
FY 1998
FY 1999
FY 2000
FY 2001
FY 2002
Plan & Policy Communicated
Program Office
Knowledge Management Process
Functional Area Panels
Conduct Panels
Complete
Updates
Standards Board
Meet Quarterly to Review Data and Make Recommendations
Decision Model
Develop
Initial Report
Annual Reports
Nuclear Weapons Institute
New Hire Orientation Class
Develop
Pilot
Intern Program
Develop
Pilot
Career Development Training
Develop
Aperiodic Classes to Meet Demand
Retiree Seminar
Pilot
Expand
Annual Seminar
Facility Upgrade
Information Management Process
Standards
Legacy Data Conversion
Develop
Pilot
Continuing Process
Classified Infrastructure
Search and Access Tool
Automated Metadata Creation
Knowledge Preservation
Continue Current Projects
Developing People
Qualification Program
Develop
Required
Continuing Process
Certification Program
Develop
Required
Continuing Process
Mentoring Process
Develop
Implement
Continuing Process
Rewards & Recognition Program
Develop
Implement
Succession Planning Program
Develop
Implement
Continuing Process
Retiree Augmentation Database
Develop
Annual Seminars in NWI (above)
Automated Demographics
Analysis
Report
Annual Reports
Staffing Planning
Continuing Process

Table 6-1. Knowledge Management Program (KMP) Summary Tasks and Budget ($K) In FY98 Dollars

ACTIVITY	FY98	FY99	FY00	FY01	FY02
Plan and Policy Communicated*	25	*	*	*	*
Knowledge Management Process					
Functional Area Panels Facilitation	50	50	25	25	25
Standards Board	50	50	50	50	50
Computerized Decision Model	200	200	50	50	50
Subtotal	**325**	**300**	**125**	**125**	**125**
Nuclear Weapons Institute (NWI)					
KMP Manager	250	250	100	0	0
KMP Administrative Support	100	100	50	0	0
NWI Senior Engineer	300	300	300	300	300
Nuclear Weapons Institute Administration	250	250	250	250	250
New Hire Orientation Class	60	25	25	25	25
Intern Program Curriculum and Class	200	400	300	300	300
Career Development Classes	50	700	600	600	600
Retiree Seminar/Pay Retirees	60	25	25	25	25
Subtotal	**1270**	**2050**	**1650**	**1500**	**1500**
Information Management Process					
Nuclear Weapons Info Group Support	25	25	25	25	25
Knowledge Preservation Project	1200	1200	1200	1200	1200
Library History Project	75	75	75	0	0
Pilot Nonelectronic Data Conversion*	300	200	*	*	*
Classified Infrastructure*	100	*	*	*	*
Subtotal	**1700**	**1500**	**1300**	**1225**	**1225**
Succession Development Process					
Individual Development Plan Template*	100	*	*	*	*
Qualification Standards Definition*	100	*	*	*	*
Certification Standards Definition*	0	150	*	*	*
Automated Demographics*	50	*	*	*	*
Staffing Planning*	25	*	*	*	*
Rewards and Recognition Process*	25	*	*	*	*
Rewards for Qualification/Certification†	†	†	†	†	†
Succession Planning*	25	*	*	*	*
Retiree Augmentation Database*	30	*	*	*	*
Subtotal	**355**	**150**	*	*	*
TOTAL KMP BUDGET	**3650**	**4000**	**3075**	**2850**	**2850**
Related Projects					
Standards*	450	*	*	*	*
Search and Access Tool*	750	500	*	*	*
Automated Data Creation*	500	250	*	*	*
Interns (50 per year at 0.5 FTE)	0	2500	5000	5000	5000
NWI Facility Upgrade‡	250‡	250‡	150‡	2000‡	7500‡
TOTAL RELATED PROJECTS BUDGET	**1950**	**3500**	**5150**	**7000**	**12500**

* One-time start-up costs; maintenance assumed to be cost of doing business.

† Not estimated; reallocation of existing funds.

‡ Preconceptual cost estimate (revitalize Bldg. 892), draft, justification for critical decision 1, NWI, December 1996, page 4d-6. Architectural Research Consultants, Inc. NSS decision forthcoming on either capital or expense-funded project. If capital dollars funded, project start is FY01; project end is FY04; FY03 funding at $13.5M, FY04 funding at $7M. Total estimated cost is $30M. FY98–FY00 budget ($650K) for CDR and validation process.

DISTRIBUTION

Unclassified *Unlimited Release* Distribution:

1	MS 0101	C. Paul Robinson, 0001	
1	0102	John C. Crawford, 0002	
1	0513	Robert J. Eagan, 1000	
1	1427	S. Thomas Picraux, 1100	
1	0511	Raymond E. Bair, 1200	
1	1079	Al D. Romig, Jr., 1300	
1	0960	Jim Q. Searcy, 1400	
1	0953	William E. Alzheimer, 1500	
1	0521	Richard Damerow, 1567	
1	1435	Dan E. Arvizu, 1800	
1	0457	Heinz Schmitt, 2000	
1	0470	Gary M. Ferguson, 2002	
1	0470	Sharon Trauth, 2002	
1	0429	Ron D. Andreas, 2100	
1	0435	Frank F. Dean, 2102	
1	0435	Frank Vigil, 2102	
1	0427	Ray Reynolds, 2103	
1	0453	Donald L. McCoy, 2104	
1	0475	Ronald C. Hartwig, 2105	
1	0447	James O. Harrison, 2111	
1	0486	Mark J. Retter, 2123	
1	0479	Patrick A. Sena, 2151	
1	9005	Jim B. Wright, 2200	
1	9006	Donald J. Bohrer, 2203	
1	9034	Dennis J. Beyer, 2263	
1	9013	Russell G. Miller, 2266	
1	0509	W. David Williams, 2300	
1	0301	Don J. Rigali, 2400	
1	0315	Roger M. Zimmerman, 2411	
1	0313	Keith Miller, 2418	
1	0842	Carolyne M. Hart, 2500	
1	0507	John H. Stichman, 2600	
1	0328	James A. Wilder, 2674	
1	0328	William C. Curtis, III, 2674	
1	0186	Charlie Emery, 3000	
1	0470	Julian Sanchez, 3000	
1	1029	Donald H. Blanton, 3500	
1	0653	Michelle Fromm-Lewis, 3524	
1	1301	Soila Brewer, 3526	
1	1023	Karen G. Gillings, 3535	
1	1023	Joseph P. Reilly, 3535	
1	0630	Michael J. Eaton, 4010	
1	0801	Melissa J. Murphy, 4400	
1	0160	Virgil L. Dugan, 4500	
1	0622	John F. Jones, Jr., 4600	
1	0629	Paul D. Merillat, 4800	
1	0803	L. Herbert Pitts, 4900	
1	1231	Roger L. Hagengruber, 5000	
1	MS 1231	Bill Knauf, 5001	
1	1221	Irene Dubicka, 5001	
1	1231	John R. Bode, 5009	
1	1233	Jim Ney, 5100	
1	1233	Gary Sanders, 5100	
1	1393	Carolyn Pura, 5100	
1	1393	George Novotny, 5100	
1	1233	James B. Woodard, 5131	
1	1223	Michael Callahan, 5133	
1	1237	John Meinhardt, 5134	
1	1237	Kathleen Hays, 5136	
1	1237	Henry M. Witek, 5137	
1	1211	Tom A. Sellers, 5300	
1	1203	John M. Taylor, 5335	
1	1221	J. Stephen Rottler, 5400	
1	0421	Curtis W. Hines, 5401	
1	0421	Tommy Woodall, 5402	
1	9006	Dave Havlik, 5403	
1	1221	Ronald Bentley, 5404	
1	0415	Charles B. Richardson, 5411	
1	0419	Thomas M. Bomber, 5412	
1	0423	Garry Brown, 5417	
1	0423	Allen D. Strouphauer, 5417	
50	0631	Carol A. Yarnall, 5500	
1	0631	Susan L. Harris, 5500	
1	1361	John Ledwith, 5500	
1	0643	J. Keith Johnstone, 5502	
1	0643	L. Paul Page, 5502	
1	0643	Carmen L. Ward, 5502	
1	0632	James R. Caruthers, 5504	
1	0632	John C. Hogan, 5507	
1	0644	Chris L. Christensen, 5512	
3	0644	Carol B. Michaels, 5512	
1	0645	Mark D. Dickinson, 5513	
1	0645	James R. Finch, 5513	
1	0970	James R. Kelsey, 5700	
1	0769	Dennis Miyoshi, 5800	
1	0768	John W. Kane, 5806	
1	0762	Mary Lynn Garcia, 5861	
1	0570	K. David Nokes, 5900	
1	0451	Laura R. Gilliom, 6232	
1	0766	Dori Ellis, 6300	
1	9001	Tom Hunter, 8000	
1	9004	Miriam E. John, 8100	
1	9420	Al West, 8200	
1	9007	Richard C. Wayne, 8400	
1	9002	Patricia N. Smith, 8500	
1	9405	T. Michal Dyer, 8700	

DISTRIBUTION (continued)

Unclassified *Unlimited Release* Distribution:

1	MS	9141	Len Hiles, 8800
1		9003	Dona L. Crawford, 8900
1		0151	Gerry Yonas, 9000
1		0151	Russell D. Skocypec, 9002
1		0841	Paul J. Hommert, 9100
1		0321	William J. Camp, 9200
1		0316	Patrick F. Chavez, 9204
1		1165	Joe Polito, 9300
1		1155	Wendland Beezhold, 9303
1		1190	Donald L. Cook, 9500
1		1002	Patrick J. Eicker, 9600
1		0469	Kathleen McCaughey, 9700
1		1135	John R. Garcia, 9761
1		0112	Francisco A. Figueroa, 10000
1		0117	Dick Shepardson, 10500
1		0103	Ron Detry, 12100
1		0428	Bill Nickell, 12300
1		0491	Stanley D. Spray, 12300
1		0434	Charles A. Trauth, 12304
1		0490	Perry E. D'Antonio, 12324
1		0867	Gary N. Beeler, 14000
1		0872	O. Lew Butler, 14300
1		0872	Victor J. Johnson, 14311
1		0869	Lenny Martinez, 14400
1		0182	Paul M. Stanford, 15000
1		0175	J. Morreale, 7447
1		9018	Central Technical Files, 8940-2
5		0899	Technical Library, 4916
1		0619	Review & Approval Desk, 12690 For DOE/OSTI