NUREG-1100
Volume 12

BUDGET ESTIMATES FISCAL YEAR 1997

March 1996

U.S. Nuclear Regulatory Commission

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SUMMARY OF CONTENTS

DETAILED TABLE OF CONTENTS

SUMMARY

1

INTRODUCTION

The U.S. Congress has determined that the safe use of nuclear materials for peaceful purposes is a legitimate and important national goal. It has entrusted the Nuclear Regulatory Commission (NRC) with the primary Federal responsibility for achieving that goal. The NRC's mission, therefore, is to ensure adequate protection for the public health and safety, the common defense and security, and the environment in the use of nuclear materials in the United States.

The NRC's scope of responsibility includes regulation of commercial nuclear power plants; research, test, and training reactors; fuel cycle facilities; medical, academic, and industrial uses of nuclear materials; and the transport, storage, and disposal of nuclear materials and wastes. The NRC carries out its mission by setting standards and requirements that licensees must meet to design, construct, and operate safe facilities, in the form of rules, license conditions, and regulatory guidance; inspecting facilities and taking enforcement action, as necessary, to ensure that such standards are followed; and conducting research to support, confirm, or refine judgments used in regulatory decisions. The technologies involved in the use of nuclear energy are relatively new and complex. Regulatory decisions must often be conservative to account for technical uncertainty. These conservative decisions should be modified appropriately as increased understanding of physical phenomena and interactions is achieved. Further, essential functions must be maintained through appropriate combinations of high component and system reliability, redundancy, and diversity to provide multiple barriers to the release of radiation (defense-in-depth).

ALL DOLLAR AMOUNTS IN THIS DOCUMENT REPRESENT BUDGET AUTHORITY ENACTED FOR FY 1995, ESTIMATED FOR FY 1996 AND REQUESTED FOR FY 1997.

BUDGET SUMMARY

(Dollar amounts in tables represent thousands of dollars ($K). In text, whole dollar amounts are used. Staff numbers represent full-time equivalents (FTEs).)

FUNDS: The Nuclear Regulatory Commission's (NRC's) Fiscal Year (FY) 1997 budget request is $480,300,000. This is an increase of $7,000,000 above FY 1996.

FTE: The NRC's FY 1997 budget request is 3,120 FTEs. This is a decrease of 40 FTEs below the FY 1996 level.

TOTAL NRC BUDGET AUTHORITY BY APPROPRIATIONS

	FY 1995 Enacted[1]	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
NRC Salaries and Expenses (S&E) Appropriations ($K)				
Salaries and Expenses	518,791	468,300	475,300	7,000
Offsetting Fees Receipts	496,791	457,300	457,800	500
Net Appropriated - S&E	22,000[2]	11,000[2]	17,500[3]	6,500
NRC Office of Inspector General (IG) Appropriations ($K)				
Inspector General	5,080	5,000	5,000	0
Offsetting Fees Receipts	5,080	5,000	5,000	0
Net Appropriated - IG	0	0	0	0
Total Net Appropriated - NRC	22,000	11,000	17,500	6,500

[1]FY 1995 Salaries and Expenses appropriations account: $1.71 million rescinded pursuant to P.L. 104-19, Emergency Supplemental, Disaster Assistance, and Rescissions Act, 1995.

[2]Appropriated from the Nuclear Waste Fund.

[3]$14 million appropriated from the Nuclear Waste Fund and $3.5 million appropriated from general funds.

APPROPRIATIONS AND FINANCIAL SUMMARY

The NRC's FY 1997 budget requests new budget authority of $480,300,000 to be funded by two appropriations -- one is NRC's Salaries and Expenses appropriation for $475,300,000, and the other is NRC's Office of Inspector General appropriation for $5,000,000. Of the funds appropriated to the NRC's Salaries and Expenses, $14,000,000, shall be derived from the Nuclear Waste Fund and $3,500,000 shall be derived from general funds. Proposed appropriation language on the use of funds derived from the Nuclear Waste Fund and from the general funds are discussed on page 8, item 10, and page 11, item 14, respectively. The proposed FY 1997 appropriation legislation would also exempt the $3,500,000 for the Department of Energy work related to commercial vitrification of high-level waste from the requirement that NRC collect 100 percent of its budget from fees. The sums appropriated to the NRC's Salaries and Expenses and NRC's Office of Inspector General shall be reduced by the amount of revenues received during FY 1997 from licensing fees, inspection services, and other services and collections, so as to result in a final FY 1997 appropriations for the NRC at an estimated $17,500,000 -- the amount appropriated from the Nuclear Waste Fund and from general funds. Revenues derived from enforcement actions will be deposited to miscellaneous receipts of the Treasury.

The NRC's FY 1997 appropriations legislation and its accompanying analysis are provided on pages 4 through 14 of this section. This section also provides summaries for budget authority by function and by program, a summary of staffing by program, changes in budget authority by program, and an explanation of resource changes by program. The detailed justifications for direct program activities are presented on pages 22 through 142. It should be noted that the funds related to the reimbursable program are not financed by NRC's appropriated funds, but solely through reimbursable agreements with other Federal agencies and non-Federal entities.

PROPOSED FY 1997 APPROPRIATIONS LEGISLATION

The proposed appropriations legislation is as follows:

Salaries and Expenses

For necessary expenses of the Commission in carrying out the purposes of the Energy Reorganization Act of 1974, as amended, and the Atomic Energy Act of 1954, as amended, including the employment of aliens; services authorized by 5 U.S.C. 3109; publication and dissemination of atomic information; purchase, repair, and cleaning of uniforms; official representation expenses (not to exceed $20,000); reimbursements to the General Services Administration for security guard services; hire of passenger motor vehicles and aircraft; $475,300,000 to remain available until expended, of which $14,000,000 shall be derived from the Nuclear Waste Fund: Provided, That from this appropriation, transfers of sums may be made to other agencies of the Government for the performance of the work for which this appropriation is made, and in such cases the sums so transferred may be merged with the appropriation to which transferred: Provided further, That moneys received by the Commission for the cooperative nuclear safety research program, services rendered to foreign governments and international organizations, and the material and information access authorization programs, including criminal history checks under section 149 of the Atomic Energy Act of 1954, as amended, may be retained and used for salaries and expenses associated with those activities, notwithstanding 31 U.S.C. 3302, and shall remain available until expended: Provided further, That revenues from licensing fees, inspection services, and other services and collections estimated at $457,800,000 in fiscal year 1997 shall be retained and used for necessary salaries and expenses in this account, notwithstanding 31 U.S.C. 3302, and shall remain available until expended: Provided further that the funds herein appropriated for regulatory reviews and other activities pertaining to waste stored at the Hanford site shall be excluded from license fee revenues, notwithstanding 42 U.S.C. 2214: Provided further, That the sum herein appropriated shall be reduced by the amount of revenues received during fiscal year 1997 from licensing fees, inspection services, and other services and collections, excluding those moneys received for the cooperative nuclear safety research program, services rendered to foreign governments and international organizations, and the material and information access authorization programs, so as to result in a final fiscal year 1997 appropriation estimated at not more than $17,500,000.

Office of Inspector General

For necessary expenses of the Office of Inspector General in carrying out the provisions of the Inspector General Act of 1978, as amended, including services authorized by 5 U.S.C. 3109, $5,000,000, to remain available until expended; and in addition, an amount not to exceed 5 percent of this sum may be transferred from Salaries and Expenses, Nuclear Regulatory Commission: Provided, That notice of such transfers shall be given to the Committees on Appropriations of the House and Senate: Provided further, That from this appropriation, transfers of sums may be made to other agencies of the Government for the performance of the work for which this appropriation is made, and in such cases the sums so transferred may be merged with the appropriation to which transferred: Provided further, That revenues from licensing fees, inspection services, and other services and collections shall be retained and used for necessary salaries and expenses in this account, notwithstanding 31 U.S.C. 3302, and shall remain available until expended: Provided further, That the sum herein appropriated shall be reduced by the amount of revenues received during fiscal year 1997 from licensing fees, inspection services, and other services and collections, so as to result in a final fiscal year 1997 appropriation estimated at not more than $0.

ANALYSIS OF PROPOSED FY 1997 APPROPRIATIONS LEGISLATION

The analysis of the proposed appropriations legislation is as follows:

Salaries and Expenses

1. FOR NECESSARY EXPENSES OF THE COMMISSION IN CARRYING OUT THE PURPOSES OF THE ENERGY REORGANIZATION ACT OF 1974, AS AMENDED, AND THE ATOMIC ENERGY ACT OF 1954, AS AMENDED:

   42 U.S.C. 5841 et seq.

   The Nuclear Regulatory Commission (NRC) was established by the Energy Reorganization Act of 1974, as amended, (42 U.S.C. 5801 et seq.). This Act abolished the Atomic Energy Commission and by section 201 (42 U.S.C. 5841), transferred to the NRC all the licensing and related regulatory functions of the Atomic Energy Commission. These functions included those of the Atomic Safety and Licensing Board Panel; the Advisory Committee on Reactor Safeguards; responsibilities for licensing and regulating nuclear facilities and materials; and conducting research for the purpose of confirmatory assessment related to licensing and other regulation, and other activities, including research related to nuclear material safety and regulation under the provisions of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.).

2. EMPLOYMENT OF ALIENS:

   42 U.S.C. 2201(d)

   42 U.S.C. 2201(d) of the Atomic Energy Act of 1954, as amended, authorizes the Commission to employ persons and fix their compensation without regard to civil service laws.

3. SERVICES AUTHORIZED BY 5 U.S.C. 3109:

   5 U.S.C. 3109 provides in part that the head of an agency may procure by contract the temporary or intermittent services of experts or consultants when authorized by an appropriation.

4. PUBLICATION AND DISSEMINATION OF ATOMIC INFORMATION:

42 U.S.C. 2161(b)

42 U.S.C. 2161(b) directs that the Commission shall be guided by the principle that the dissemination of scientific and technical information related to atomic energy should be permitted and encouraged so as to provide that interchange of ideas and criticism which is essential to scientific and industrial progress and public understanding and to enlarge the fund of technical information.

5. PURCHASE, REPAIR, AND CLEANING OF UNIFORMS:

5 U.S.C. 5901

5 U.S.C. 5901 authorizes the annual appropriation of funds to each agency of the Government as a uniform allowance.

6. OFFICIAL REPRESENTATION EXPENSES:

47 Comp. Gen. 657

43 Comp. Gen. 305

This language is required because of the established rule restricting an agency from charging appropriations with the cost of official representation unless the appropriations involved are specifically available therefor. Congress has appropriated funds for official representation expenses to the NRC and NRC's predecessor, the Atomic Energy Commission, each year since FY 1950.

7. REIMBURSEMENTS TO THE GENERAL SERVICES ADMINISTRATION FOR SECURITY GUARD SERVICES:

34 Comp. Gen. 42

This language is required because, under the provisions of the Federal Property and Administrative Services Act of 1949, specific appropriation is made to the General Services Administration for carrying out the function of protecting public buildings and property and, therefore, NRC appropriations not specifically made available therefor may not be used to reimburse the General Services Administration for security guard services.

8. HIRE OF PASSENGER MOTOR VEHICLES AND AIRCRAFT:

31 U.S.C. 1343

31 U.S.C. 1343 provides in effect that unless specifically authorized by the appropriation concerned or other law, no appropriation shall be expended to purchase or hire passenger motor vehicles for any branch of the Government.

9. TO REMAIN AVAILABLE UNTIL EXPENDED:

31 U.S.C. 1301

31 U.S.C. 1301 provides that no regular, annual appropriation shall be construed to be permanent or available continuously unless the appropriation expressly provides that it is available after the fiscal year covered by the law in which it appears.

10. SHALL BE DERIVED FROM THE NUCLEAR WASTE FUND:

41 U.S.C. 10131(b)(4)

42 U.S.C. 10222(a)(4)

41 U.S.C. 10131(b)(4) provides for the establishment of a Nuclear Waste Fund to ensure that the costs of carrying out activities relating to the disposal of high-level radioactive waste and spent nuclear fuel will be borne by the persons responsible for generating such waste and spent fuel.

42 U.S.C. 10222(a)(4) provides that the amounts paid by generators and owners of these materials into the fund is reviewed annually to determine if any fee adjustment is needed to insure full cost recovery.

42 U.S.C. 10134

42 U.S.C. 10133

42 U.S.C. 10134 specifically requires the NRC to license a repository for the disposal of high-level radioactive waste and spent nuclear fuel and sets forth certain licensing procedures. 42 U.S.C. 10133 also assigns review responsibilities to the NRC in the steps leading to submission of the license application. Thus, the Nuclear Waste Policy Act of 1982, as amended, establishes NRC's responsibility throughout the repository siting process,

culminating in the requirement for NRC licensing as a prerequisite to construction and operation of the repository.

42 U.S.C. 10222(d)

42 U.S.C. 10222(d) specifies that expenditures from the Nuclear Waste Fund can be used for purposes of radioactive waste disposal activities, including identification, development, licensing, construction, operation, decommissioning, and post-decommissioning maintenance and monitoring of any repository constructed under the Nuclear Waste Policy Act of 1982, and administrative cost of the radioactive waste disposal program.

11. FROM THIS APPROPRIATION, TRANSFERS OF SUMS MAY BE MADE TO OTHER AGENCIES OF THE GOVERNMENT FOR THE PERFORMANCE OF THE WORK FOR WHICH THIS APPROPRIATION IS MADE, AND IN SUCH CASES THE SUMS SO TRANSFERRED MAY BE MERGED WITH THE APPROPRIATION TO WHICH TRANSFERRED:

31 U.S.C. 1532

31 U.S.C. 1532 permits the transfer of appropriated funds from one account to another or to a working fund only when authorized by law.

12. MONEYS RECEIVED BY THE COMMISSION FOR THE COOPERATIVE NUCLEAR SAFETY RESEARCH PROGRAM, SERVICES RENDERED TO FOREIGN GOVERNMENTS AND INTERNATIONAL ORGANIZATIONS, AND THE MATERIAL AND INFORMATION ACCESS AUTHORIZATION PROGRAMS, INCLUDING CRIMINAL HISTORY CHECKS UNDER SECTION 149 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED, MAY BE RETAINED AND USED FOR SALARIES AND EXPENSES ASSOCIATED WITH THOSE ACTIVITIES, NOTWITHSTANDING 31 U.S.C. 3302, AND SHALL REMAIN AVAILABLE UNTIL EXPENDED:

31 U.S.C. 3302

The NRC is required to deposit all revenues collected to miscellaneous receipts of the Treasury unless specifically authorized by an appropriation to retain and use such revenue.

2 Comp. Gen. 775

Appropriated funds may not be augmented with funds from other sources unless specifically authorized by law. Under the cooperative nuclear safety research program, funds are received

from domestic entities, foreign governments, and international organizations for their participation in NRC's reactor safety research experiments. The NRC would be authorized to receive directly, compensation from foreign governments and international organizations for providing safety assistance and other services related to promoting the public health and safety. Funds are also received in the form of fees from licensees for the cost of security investigations and related processing associated with access to formula quantities of special nuclear material. These funds will be used to pay the related NRC processing costs and the agency performing the security investigations. Pursuant to P.L. 99-399, section 606, funds will be received in the form of fees from licensees for the cost of fingerprint examinations and criminal history checks of each individual granted access to safeguards information or unescorted access to a nuclear power plant. These funds will be used to pay for processing and performing the fingerprint examinations and criminal history checks. NRC will also use the money currently collected under 10 CFR Part 25 to pay the NRC processing costs and the Office of Personnel Management for conducting background investigations used as a basis for NRC security clearances for designated licensee representatives and other personnel requiring access to classified information.

13. REVENUES FROM LICENSING FEES, INSPECTION SERVICES, AND OTHER SERVICES AND COLLECTIONS SHALL BE RETAINED AND USED FOR NECESSARY SALARIES AND EXPENSES IN THIS ACCOUNT, NOTWITHSTANDING 31 U.S.C. 3302, AND SHALL REMAIN AVAILABLE UNTIL EXPENDED:

31 U.S.C. 9701

The NRC is authorized under Title V of the Independent Offices Appropriation Act of 1952 to collect license fees. Pursuant to 31 U.S.C. 9701, any person who receives a service or thing of value from the Commission shall pay fees to cover the NRC's cost in providing such service or thing of value.

42 U.S.C. 2213

42 U.S.C. 2214

Pursuant to 42 U.S.C. 2213, the NRC shall assess and collect annual charges from persons licensed by the Commission. 42 U.S.C. 2214 (P.L. 101-508, Title VI, Subtitle B, of the Omnibus Budget Reconciliation Act of 1990; and P.L. 102-486, Title XXIX, section 2903 of the Energy Policy Act of 1992) requires, except for the holder of any license for a federally-owned research reactor used primarily for educational training and academic research purposes, the Commission to assess and collect annual charges from persons licensed

by the Commission that approximate 100 percent of the Commission's budget authority, less any amount appropriated to the Commission from the Nuclear Waste Fund and the amount of fees collected under the Independent Offices Appropriation Act of 1952 (31 U.S.C. 9701), for each year of FY 1991-1998.

31 U.S.C. 3302

The NRC is required to deposit all revenues collected to miscellaneous receipts of the Treasury unless specifically authorized by an appropriation to retain and use such revenue.

14. THAT THE FUNDS HEREIN APPROPRIATED FOR REGULATORY REVIEWS AND OTHER ACTIVITIES PERTAINING TO WASTE STORED AT THE HANFORD SITE SHALL BE EXCLUDED FROM LICENSE FEE REVENUES, NOTWITHSTANDING 42 U.S.C. 2214.

The Department of Energy (DOE) is considering a two-phased program of remediation for high-level waste currently contained in tanks located on the Hanford Reservation in Richland, Washington. Phase 1 would involve a pilot-scale feasibility demonstration by private contractors under the regulatory control of DOE; Phase 2 would involve full-scale operation by private contractors, possibly licensed by the NRC. DOE has requested that the NRC undertake consultation and safety review activities for DOE during Phase 1. Under the Independent Offices Appropriation Act of 1952, 31 U.S.C. 9701, the NRC is not authorized to charge fees to DOE for these activities. Rather than have the NRC recover these costs under its 100 percent cost recovery requirement by assessing fees to its licensees, the costs of these consultation and review activities would be derived from appropriated funds.

15. THE SUM HEREIN APPROPRIATED SHALL BE REDUCED BY THE AMOUNT OF REVENUES RECEIVED FROM LICENSING FEES, INSPECTION SERVICES, AND OTHER SERVICES AND COLLECTIONS, EXCLUDING THOSE MONEYS RECEIVED FOR THE COOPERATIVE NUCLEAR SAFETY RESEARCH PROGRAM, SERVICES RENDERED TO FOREIGN GOVERNMENTS AND INTERNATIONAL ORGANIZATIONS, AND THE MATERIAL AND INFORMATION ACCESS AUTHORIZATION PROGRAMS:

42 U.S.C. 2214

The total fees to be collected in FY 1997 are to approximate 100 percent of the Commission's budget authority. Pursuant to 42 U.S.C 2214 (P.L. 101-508, Title VI, Subtitle B, section 6101 (a)(2)(3) and (c)(2)), the aggregate amount of the annual charge collected from all licensees shall equal an amount that approximates 100 percent of the budget authority of

the Commission in the fiscal year in which such charge is collected, less any amount appropriated to the Commission from the Nuclear Waste Fund and the amount of fees collected under the Independent Offices Appropriation Act of 1952 (31 U.S.C. 9701), for each year of FY 1991-1998.

Office of Inspector General

16. FOR NECESSARY EXPENSES OF THE OFFICE OF INSPECTOR GENERAL IN CARRYING OUT THE PROVISIONS OF THE INSPECTOR GENERAL ACT OF 1978, AS AMENDED:

P.L. 95-452

P.L. 100-504

P.L. 100-504 amended P.L. 95-452 to establish the Office of Inspector General within the NRC effective April 17, 1989, and to require the establishment of a separate appropriation account to fund the Office of Inspector General.

17. SERVICES AUTHORIZED BY 5 U.S.C. 3109:

5 U.S.C. 3109 provides in part that the head of an agency may procure by contract the temporary or intermittent services of experts or consultants when authorized by an appropriation.

18. TO REMAIN AVAILABLE UNTIL EXPENDED:

31 U.S.C. 1301

31 U.S.C. 1301 provides that no regular, annual appropriation shall be construed to be permanent or available continuously unless the appropriation expressly provides that it is available after the fiscal year covered by the law in which it appears.

19. AN AMOUNT NOT TO EXCEED 5 PERCENT OF THIS SUM MAY BE TRANSFERRED FROM SALARIES AND EXPENSES, NUCLEAR REGULATORY COMMISSION: PROVIDED, THAT NOTICE OF SUCH TRANSFERS SHALL BE GIVEN TO THE COMMITTEES ON APPROPRIATIONS OF THE HOUSE AND SENATE:

31 U.S.C. 1301

31 U.S.C. 1301 prohibits the transfer of funds between appropriations without specific statutory authority. This language provides for limited transfer authority from NRC's Salaries and Expenses appropriation to its Office of Inspector General appropriation. This will permit the NRC to augment the Office of Inspector General appropriation on a limited basis, if it becomes necessary, without seeking additional appropriations for that fiscal year.

20. FROM THIS APPROPRIATION, TRANSFERS OF SUMS MAY BE MADE TO OTHER AGENCIES OF THE GOVERNMENT FOR THE PERFORMANCE OF THE WORK FOR WHICH THIS APPROPRIATION IS MADE, AND IN SUCH CASES THE SUMS SO TRANSFERRED MAY BE MERGED WITH THE APPROPRIATION TO WHICH TRANSFERRED:

31 U.S.C. 1532

31 U.S.C. 1532 permits the transfer of appropriated funds from one account to another or to a working fund only when authorized by law.

21. REVENUES FROM LICENSING FEES, INSPECTION SERVICES, AND OTHER SERVICES AND COLLECTIONS SHALL BE RETAINED AND USED FOR NECESSARY SALARIES AND EXPENSES IN THIS ACCOUNT, NOTWITHSTANDING 31 U.S.C. 3302, AND SHALL REMAIN AVAILABLE UNTIL EXPENDED:

31 U.S.C. 9701

The NRC is authorized under Title V of the Independent Offices Appropriation Act of 1952 to collect license fees. Pursuant to 31 U.S.C. 9701, any person who receives a service or thing of value from the Commission shall pay fees to cover the NRC's cost in providing such service or thing of value.

42 U.S.C. 2213

42 U.S.C. 2214

Pursuant to 42 U.S.C. 2213, the NRC shall assess and collect annual charges from persons licensed by the Commission. 42 U.S.C. 2214 (P.L. 101-508, Title VI, Subtitle B, of the Omnibus Budget Reconciliation Act of 1990; and P.L. 102-486, Title XXIX, section 2903 of the Energy Policy Act of 1992) requires, except for the holder of any license for a federally-owned research reactor used primarily for educational training and academic research purposes, the Commission to assess and collect annual charges from persons licensed by the Commission that approximate 100 percent of the Commission's budget authority, less any amount appropriated to the Commission from the Nuclear Waste Fund and the amount of fees collected under the Independent Offices Appropriation Act of 1952 (31 U.S.C. 9701), for each year of FY 1991-1998.

31 U.S.C. 3302

The NRC is required to deposit all revenues collected to miscellaneous receipts of the Treasury unless specifically authorized by an appropriation to retain and use such revenue.

22. THE SUM HEREIN APPROPRIATED SHALL BE REDUCED BY THE AMOUNT OF REVENUES RECEIVED FROM LICENSING FEES, INSPECTION SERVICES, AND OTHER SERVICES AND COLLECTIONS:

42 U.S.C. 2214

The total fees to be collected in FY 1997 are to approximate 100 percent of the Commission's budget authority. Pursuant to 42 U.S.C. 2214 (P.L. 101-508, Title VI, Subtitle B, section 6101 (a)(2)(3) and (c)(2)), the aggregate amount of the annual charge collected from all licensees shall equal an amount that approximates 100 percent of the budget authority of the Commission in the fiscal year in which such charge is collected, less any amount appropriated to the Commission from the Nuclear Waste Fund and the amount of fees collected under the Independent Offices Appropriation Act of 1952 (31 U.S.C. 9701), for each year of FY 1991-1998.

SUMMARY OF BUDGET AUTHORITY BY FUNCTION

	FY 1995 Enacted[1]	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
NRC Appropriation: Salaries and Expenses (S&E) ($K)				
Salaries and Benefits	252,635	258,939	267,097	8,158
Contract Support	250,367	194,932	194,256	-676
Travel	15,789	14,429	13,947	-482
Total (S&E)	518,791	468,300	475,300	7,000
NRC Appropriation: Office of Inspector General (IG) ($K)				
Salaries and Benefits	4,192	4,400	4,400	0
Contract Support	653	360	360	0
Travel	235	240	240	0
Total (IG)	5,080	5,000	5,000	0
Total NRC Budget Authority by Function ($K)				
Salaries and Benefits	256,827	263,339	271,497	8,158
Contract Support	251,020	195,292	194,616	-676
Travel	16,024	14,669	14,187	-482
Total NRC	523,871	473,300	480,300	7,000

[1]FY 1995 Salaries and Expenses appropriations account: $1.71 million rescinded pursuant to P. L. 104-19, Emergency Supplemental, Disaster Assistance, and Rescissions Act, 1995.

SUMMARY OF BUDGET AUTHORITY BY PROGRAM AND BY COST CENTER

	FY 1995 Enacted[1]	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Reactor Program by Cost Center ($K)				
Reactor Regulation	231,480	213,302	220,458	7,156
Standard Reactor Designs	37,092	19,926	14,422	-5,504
Test and Research Reactors	1,670	2,149	2,190	41
Subtotal	270,242	235,377	237,070	1,693
Nuclear Materials and Nuclear Waste Program by Cost Center ($K)				
Fuel Facilities	11,094	11,137	15,045	3,908
Materials Users	27,480	29,330	30,565	1,235
Low-Level Waste and Decommissioning	19,832	16,770	16,425	-345
Other Nuclear Materials and Waste Activities	7,366	6,967	7,275	308
High-Level Waste	22,000	11,000	14,000	3,000
Subtotal	87,772	75,204	83,310	8,106
Management and Support Program by Cost Center ($K)				
Policy and Direction	17,048	17,239	17,855	616
Resource and Administration	130,915	128,291	125,949	-2,342
Special Technical Programs	12,814	12,189	11,116	-1,073
Subtotal	160,777	157,719	154,920	-2,799
Inspector General Program ($K)	5,080	5,000	5,000	0
Total NRC	523,871	473,300	480,300	7,000

[1]FY 1995 Salaries and Expenses appropriations account: $1.71 million rescinded pursuant to P.L. 104-19, Emergency Supplemental, Disaster Assistance, and Rescissions Act, 1995.

SUMMARY OF STAFFING BY PROGRAM AND BY COST CENTER

	FY 1995 FTE	FY 1996 FTE	FY 1997 Estimate	
			FTE Request	Change from FY 1996
Reactor Program by Cost Center				
Reactor Regulation	1,610	1,603	1,608	5
Standard Reactor Designs	169	121	86	-35
Test and Research Reactors	15	20	20	0
Subtotal	1,794	1,744	1,714	-30
Nuclear Materials and Nuclear Waste Program by Cost Center				
Fuel Facilities	107	108	121	13
Materials Users	237	258	249	-9
Low-Level Waste and Decommissioning	121	115	116	1
Other Nuclear Materials and Waste Activities	69	67	68	1
High-Level Waste	59	43	43	0
Subtotal	593	591	597	6
Management and Support Program by Cost Center				
Policy and Direction	179	177	177	0
Resource and Administration	513	512	503	-9
Special Technical Programs	95	92	86	-6
Subtotal	787	781	766	-15
Inspector General Program	44	44	43	-1
Total NRC	3,218	3,160	3,120	-40

EXPLANATION OF RESOURCE CHANGES

REACTOR PROGRAM

FY 1997 Change From FY 1996 ..... $1,693,000

The resource increase is due primarily to increased costs for salaries and benefits. Additionally, FY 1997 resources increase as work efforts begin to consolidate thermal hydraulic analysis codes; to characterize the performance of high burnup fuels; to develop regulations governing the use of digital reactor control systems and for verifying and validating control system software being proposed for use; and to accelerate the implementation of a risk-informed regulatory decision-making and rulemaking process. These increases are partially offset by decreases that reflect completion of standard reactor design reviews.

NUCLEAR MATERIALS AND NUCLEAR WASTE PROGRAM

FY 1997 Change From FY 1996 ..... $8,106,000

The resource increase in FY 1997 reflects primarily (1) NRC's interaction with the Department of Energy (DOE) on their proposed High-Level Radioactive Waste Solidification System at Hanford, Washington; (2) preparation for the review of an application for a privately-owned independent spent fuel installation, and an expected increase in the number of industry applications for dual purpose (transportation and interim storage) spent fuel casks; and (3) NRC's efforts in the area of high-level waste to keep pace with the revised DOE program, address key technical issues, and maintain the Center for Nuclear Regulatory Analysis.

MANAGEMENT AND SUPPORT PROGRAM

FY 1997 Change From FY 1996 ..... -$2,799,000

The resource decreases in FY 1997 result from delaying information technology purchases, changing our obligation process for employee moves, and decreasing administrative support and travel consistent with overall agency downsizing. Resources also decrease due to the discontinuation of support for Agreement States travel in conjunction with NRC training courses and reviews of requested DOD/DOE reactor projects and facilities. These decreases are partially offset by increased costs to implement Department of Justice recommendations for improving Federal building security and for salaries and benefits.

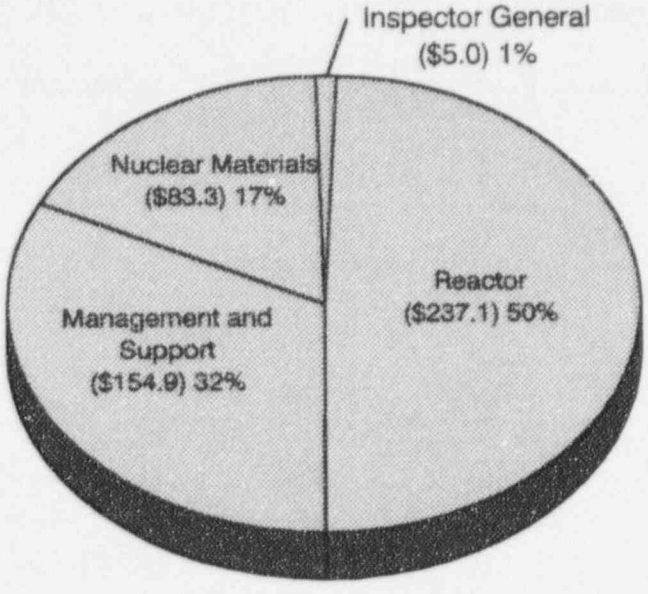
SUMMARY

INSPECTOR GENERAL PROGRAM

FY 1997 Change From FY 1996 ..... $0

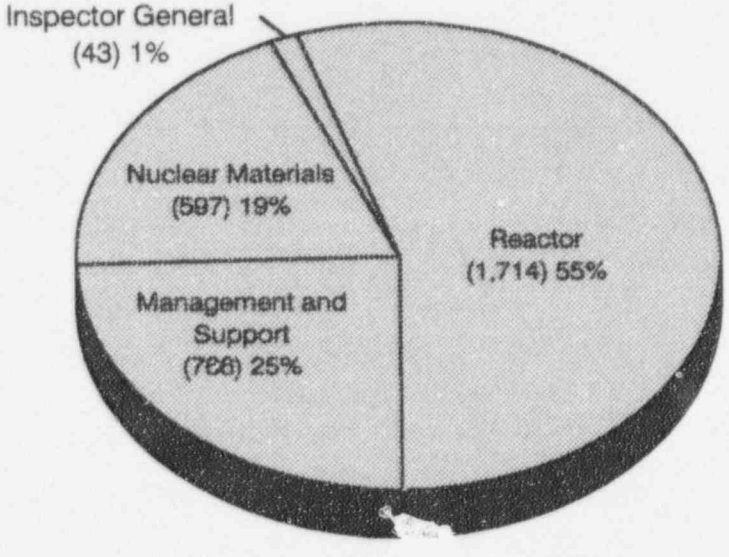
Resources for this program remain essentially level. There are no significant program changes.

DISTRIBUTION OF NRC BUDGET AUTHORITY BY PROGRAM



FY 1997 ($480.3 MILLION)

DISTRIBUTION OF NRC STAFF BY PROGRAM



FY 1997 (TOTAL STAFF 3,120 FTE)

Note: Percentages are rounded to the nearest whole number

REACTOR PROGRAM

REACTOR PROGRAM

(Dollar amounts in tables represent thousands of dollars ($K). In text, whole dollar amounts are used. Staff numbers represent full-time equivalents (FTEs).)

Total FY 1997 Estimate $237,070,000

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	147,140	149,900	153,678	3,778
Contract Support	112,328	75,376	73,402	-1,974
Travel	10,774	10,101	9,990	-111
Total	270,242	235,377	237,070	1,693
Budget Authority by Cost Center ($K)				
Reactor Regulation	231,480	213,302	220,458	7,156
Standard Reactor Designs	37,092	19,926	14,422	-5,504
Test and Research Reactors	1,670	2,149	2,190	41
Total	270,242	235,377	237,070	1,693
Full-Time Equivalent Employment (FTE) by Cost Center				
Reactor Regulation	1,610	1,603	1,608	5
Standard Reactor Designs	169	121	86	-35
Test and Research Reactors	15	20	20	0
Total	1,794	1,744	1,714	-30

EXPLANATION OF RESOURCE CHANGES

Reactor Regulation

The resource increase in FY 1997 is due primarily to increased costs for salaries and benefits. Additionally, FY 1997 resources increase as work efforts begin to consolidate thermal hydraulic analysis codes to simplify their use and to reduce the long-term costs of code maintenance; to characterize the performance of high burnup fuels during severe transients and accidents to revise

related codes used by NRC and industry; to develop regulations governing the use of digital reactor control systems and for verifying and validating control system software being proposed for use; and to accelerate the implementation of a risk-informed regulatory decision-making and rulemaking process.

Standard Reactor Designs

The resource decrease in FY 1997 reflects completion of work related to standard reactor design reviews, completion of updates to the standard review plan, and supporting research related to the passive designs.

Test and Research Reactors

There are no significant resource or program changes.

DESCRIPTION OF PROGRAM

The Reactor Program encompasses all NRC inspection, oversight, and licensing of reactor facilities, as required by the Atomic Energy Act of 1954, as amended; all reactor regulatory research as required by the Energy Reorganization Act of 1974 (Section 205 of Public Law 95-209); and all other functions associated with reactors including evaluations of safety concerns, assessment of operational events and experience, technical training for NRC staff, independent reviews and legal advice to the Commission on safety issues, adjudicatory reviews, investigations of wrongdoing by reactor licensees, and reactor enforcement policies and actions to protect the public health and safety. This program also provides assistance to the Department of Energy in assessing and resolving technical and licensing issues to support potential tritium production in commercial light water reactors.

The Reactor Program is conducted by several NRC organizations, encompassing efforts at headquarters and in the regions. The NRC's Office of Nuclear Reactor Regulation (NRR) is responsible for evaluating the public health, safety, environmental, safeguards, and antitrust aspects of reactor facilities, and ensuring that civilian reactor facilities are designed, constructed, and operated safely and are in compliance with agency regulations. Through these efforts, the NRC ensures that nuclear reactors are designed and constructed properly and are ready for safe operation; that licensees operate nuclear plants safely and are adequately prepared to respond in the event of an accident; and that licensees possess the capability to protect against sabotage and theft of nuclear materials at reactors. NRR, in coordination with the Office of Nuclear Regulatory Research (RES), ensures that the NRC is prepared for the future licensing of reactors by reviewing applications for standard reactor design certification and reactor license renewal.

REACTOR PROGRAM

The Office of Nuclear Regulatory Research is responsible for developing recommendations for research and engaging in or contracting for research deemed necessary by the Commission in performing reactor licensing and related regulatory functions. RES provides independent expertise and information for making timely regulatory judgments, anticipates problems of potential safety significance for which new or expanded knowledge can assist the NRC in pursuing its mission, and develops regulations and regulatory guidance necessary to implement Commission policy or technical requirements. In conducting the agency's reactor safety research program, RES uses relatively new and highly complex technologies to make regulatory judgments on matters related to safety that are well beyond normal experience-based engineering practice. The NRC finds it essential to develop a body of knowledge that gives confidence in judgments to avoid undue risk to the health and safety of the public, especially when these matters involve high-consequence accidents. The NRC uses this body of knowledge in establishing the technical bases for issuing timely safety regulations and completing licensing and inspection activities based on the NRC's longstanding philosophy of defense in depth.

In an effort to make use of all available sources of safety research information, the NRC is engaged in broad cooperative international safety research programs to exchange nuclear safety-related information and to conduct joint research projects of mutual interest. The NRC's policy of cooperating with foreign groups is designed to (1) obtain foreign experimental and analytical research results to expand NRC's technical base, (2) encourage foreign safety research programs to make the optimum use of NRC resources and enhance our research capabilities, and (3) interact with foreign nuclear safety organizations to obtain expert review of our research results. In addition, cooperative research between the NRC and industry is pursued in areas where conflict of interest issues are not involved.

Other NRC organizations also support the Reactor Program. The Office for Analysis and Evaluation of Operational Data (AEOD) provides the NRC with an independent capability to analyze operational data and coordinates the development and implementation of the NRC staff technical qualification program. The Office of Investigations (OI) investigates alleged wrongdoing by licensees, applicants, contractors, or vendors. The Office of Enforcement (OE) takes appropriate enforcement action against licensees for violations of NRC regulations. The Office of Nuclear Material Safety and Safeguards (NMSS) evaluates the threat environment at domestic reactors. The Office of the General Counsel (OGC) provides legal advice on all matters pertaining to reactors. The Advisory Committee on Reactor Safeguards (ACRS) provides independent advice to the Commission on safety aspects of proposed and existing nuclear plants. The Atomic Safety and Licensing Board Panel (ASLBP) conducts hearings and makes decisions in proceedings to grant, amend, suspend, or revoke NRC licenses.

The Reactor Program comprises the following three cost centers: Reactor Regulation; Standard Reactor Designs; and Test and Research Reactors.

The funds and staffing for each of the cost centers are discussed on pages 26 through 77. The contract support funds are allocated for work done by Department of Energy (DOE) contractors, commercial contractors, small business entities, nonprofit organizations (e.g., universities and foundations), and grantees. The narrative that follows describes these cost centers and addresses the reasons why the resources are needed.

Reactor Regulation Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	131,483	137,377	143,903	6,526
Contract Support	89,743	66,273	67,049	776
Travel	10,254	9,652	9,506	-146
Total	231,480	213,302	220,458	7,156
Budget Authority by Activity ($K)				
Reactor Inspection	51,334	52,105	53,883	1,778
Reactor Oversight	56,515	55,885	57,725	1,840
Reactor and Site Licensing	4,641	1,238	770	-468
Reactor Aging and Renewal	26,618	22,084	22,455	371
Reactor Safety Assessment and Regulation Development	44,727	37,176	39,662	2,486
Independent Analysis of Operational Experience	14,829	12,243	12,256	13
Technical Training and Qualification	6,881	6,163	6,368	205
Investigations, Enforcement, and Legal Advice	5,555	5,816	5,975	159
Independent Review	4,543	4,551	4,656	105
General Support	15,837	16,041	16,708	667
Total	231,480	213,302	220,458	7,156

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Full-Time Equivalent Employment (FTE) by Activity				
Reactor Inspection	562	570	560	-10
Reactor Oversight	495	521	530	9
Reactor and Site Licensing	31	7	4	-3
Reactor Aging and Renewal	74	69	72	3
Reactor Safety Assessment and Regulation Development	87	92	100	8
Independent Analysis of Operational Experience	68	65	65	0
Technical Training and Qualification	25	26	27	1
Investigations, Enforcement, and Legal Advice	58	58	58	0
Independent Review	42	41	41	0
General Support	168	154	151	-3
Total	1,610	1,603	1,608	5

This cost center comprises work to ensure that nuclear power plants are designed, constructed, and operated safely; prepare for future licensing activities to renew existing reactor licenses and reactivate existing reactors that have been deferred; establish a sound technical basis and regulatory framework for reactor licensing activities; ensure that the safety-related reactor plant systems and components perform their required function and maintain their integrity and operability over the life of the plant; provide technical requirements and the regulatory framework for renewal of nuclear power plant operating licenses upon expiration of their 40-year license term; evaluate safety concerns involving reactor facilities; assess reactor operational events and experience; conduct reactor technical training for NRC staff; provide technical advice to the Commission on reactor safety issues; conduct reactor adjudicatory reviews; investigate alleged wrongdoing by NRC reactor licensees; and pursue reactor enforcement policy and actions to protect the public health and safety.

This cost center comprises ten major activities: reactor inspection; reactor oversight; reactor and site licensing; reactor aging and renewal; reactor safety assessment and regulation development; independent analysis of operational experience; technical training and qualification; investigations, enforcement, and legal advice; independent review; and general support.

Reactor Inspection

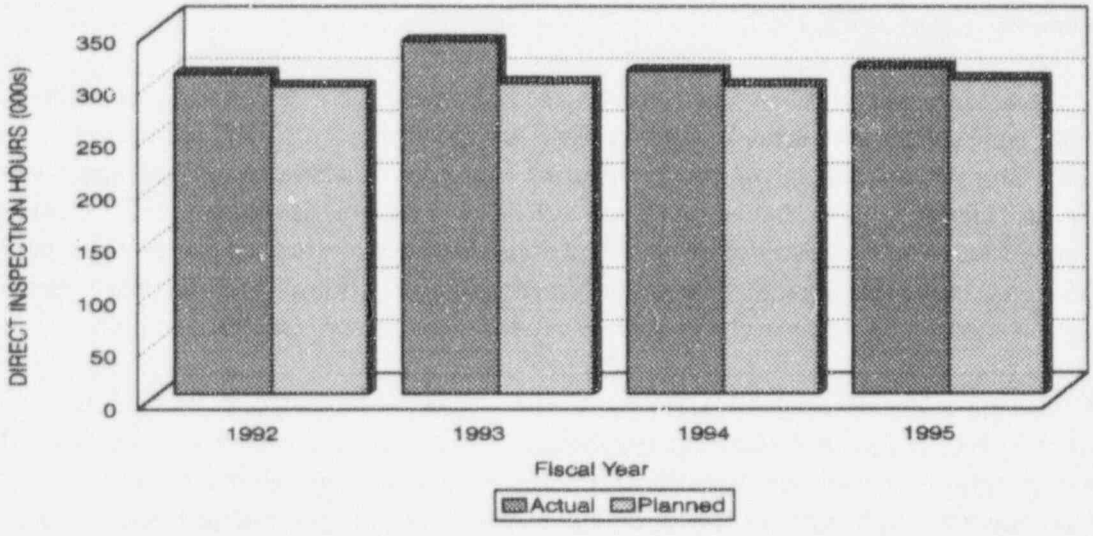
Three essential components of NRC's reactor inspection program are to determine the state of reactor safety, to confirm that operations are in compliance with the provisions of the license, and to ascertain whether other conditions exist with safety implications serious enough to warrant corrective action. The primary focus is on plant operations, maintenance, engineering, plant support, and licensee control systems; and includes efforts by NRC resident, region-based, and headquarters inspectors.

The NRC's inspection program consists of three basic types of inspections (1) the core inspection program, (2) plant-specific regional initiative inspections, and (3) generic safety issue inspections. In FY 1997, the NRC will continue to work toward refining probabilistic risk assessment (PRA) methods and information and incorporating them into inspection planning and assessment of potential safety issues. This effort is part of the agency-wide PRA implementation plan for strengthening and increasing the use of PRA technology in agency regulatory activities. For those plants that have demonstrated superior performance in specific areas of the NRC's systematic assessment of licensee performance (SALP) program, the goal is that they receive only the core inspection program and generic safety issue inspections. Regional administrators have significant flexibility to direct additional inspections on safety problems and on plants that require special attention rather than on completing a more rigidly defined inspection program for each site. This flexibility helps to ensure that resources are allocated effectively to enhance reactor safety.

The NRC conducts inspections at all operating reactors each year. Historically, NRC resident and region-based staff have spent a yearly average of approximately 2,800 hours in direct onsite inspection activities at each reactor. This overall average is expected to continue in FY 1997; however, efforts are being made to better allocate resources based on licensee performance.

The following chart compares the actual and planned direct inspection effort. Direct inspection effort in FY 1995 was approximately 312,000 hours for all plants, which is approximately five percent more than the hours planned. This equates to an average of approximately 2,835 hours in direct onsite inspection per reactor.

Figure 1
DIRECT INSPECTION ACTIVITY
Actual vs. Planned



The NRC assigns at least two resident inspectors to each operating reactor site. Their primary job is to observe, evaluate, and report on the adequacy of licensee nuclear safety activities concentrating on day-to-day licensee operations, event follow-up activities, and licensee activities and processes important to safety and reliability. In addition, they coordinate onsite activities of the various agency offices and participate in emergency exercises. Resident inspectors carry out the major part of the core inspection program and participate in regional initiative and generic safety issue inspections.

Region-based and headquarters inspectors supplement the activities carried out by resident inspectors through a variety of program and technical inspections that afford an indepth look at licensee operations. Indepth, specialized technical inspections are carried out by inspectors in the broad areas of plant operations, maintenance, engineering, plant support (security, radiation safety, emergency preparedness), and licensee control systems (systems established by the licensee to identify, resolve, and prevent problems that would degrade plant safety). In addition, region-based inspectors and headquarters staff respond to allegations of safety and safeguards violations at nuclear facilities and provide technical support to investigative personnel.

The NRC also conducts operationally-determined inspections, which are comprehensive examinations that evaluate the performance of plant systems under specific circumstances. Such inspections include, but are not limited to, service water system operational performance inspections, operational readiness assessment team inspections, safety system functional inspections, safety systems outage modification inspections, operational safety team inspections, and safety issue inspections. These inspections are conducted by teams of specialists that include operations-, design-, and installation-oriented personnel, and provide senior NRC management with integrated perspectives on plant performance in specific areas of operational safety where regional inspections indicate the need for more comprehensive inspection. The NRC plans to conduct approximately 6 operationally-determined inspections in FY 1997.

Vendor/contractor inspections are reactive in nature and determine whether suppliers of materials, components, and services used in nuclear power plants are complying with NRC requirements. These inspections improve reactor safety by (1) ensuring that root causes of reported vendor-related problems are identified and that suitable corrective actions are developed and implemented, (2) informing the nuclear industry of substandard, suspected counterfeit, or fraudulently marketed vendor products, and (3) ensuring that fraudulently marketed products are traced to their source. The NRC plans to conduct approximately 35 reactor vendor/contractor inspections in FY 1997.

Reactor operator licensing requalification inspections were implemented as part of the FY 1994 amendment to NRC's operator licensing regulations. The NRC will use this performance-based inspection program to evaluate licensee examination and training programs and to improve operational safety through early identification and correction of programmatic weaknesses.

The NRC is implementing an Integrated Performance Assessment Process (IPAP) to improve the periodic, long-term integration of licensee performance information to arrive at conclusions regarding licensee performance and provide site-specific recommendations for future inspections. IPAP supplements existing processes that provide ongoing integration as well as direct feedback on the effectiveness of the inspection program. In the review phase, the staff will integrate performance information from inspection reports, enforcement actions, systematic assessment of licensee performance (SALP), senior management meetings, plant performance reviews, licensee event reports, and individual plant evaluations to arrive at an independent view of a plant's strengths and weaknesses. In the site inspection phase, the staff validates the results of the review. In the final phase, members of the review team develop a final licensee evaluation and make recommendations for changes to priorities and emphases in the inspection program. The NRC plans to conduct IPAP assessments at approximately 18 operating reactor sites in FY 1997.

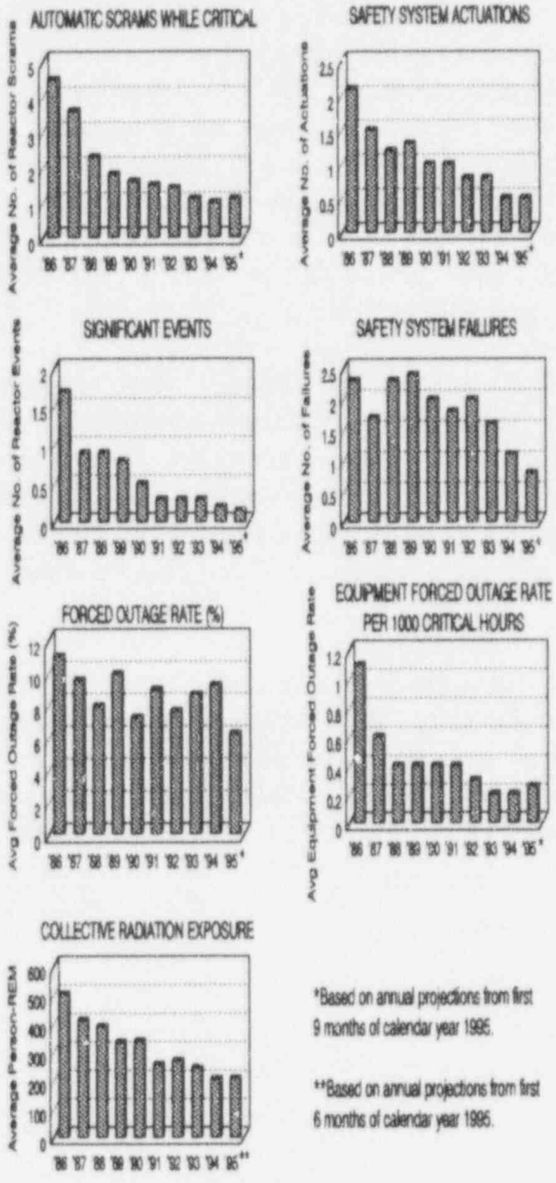
Reactor Oversight

The NRC ensures that operating facilities maintain adequate levels of protection of public health and safety in their daily operation and throughout the life cycle of the plant. The NRC oversees safety in all operating conditions, in the event of a radiological emergency or theft of nuclear materials or sabotage. This safety oversight includes assurances that facilities are adequately designed and maintained, and that trained and qualified operating and technical support personnel can prevent or cope with accidents and other threats to public health and safety. The NRC fulfills its oversight role by performing probabilistic risk assessments to identify inadequacies in plant design and operation; evaluating operating experience and unanticipated events; resolving safety issues, inspection findings, and licensee proposals; and sponsoring safety research. These efforts enable the NRC to evaluate both plant and human performance, including accident management capability, and to focus on operational safety. Senior agency managers have the discretion to apply additional attention to plants for which systematic assessment of licensee performance (SALP) scores, significant events, or inspection findings indicate deficiencies.

Safety of operations is the responsibility of NRC licensees. Regulatory oversight of licensee safety is the responsibility of NRC. The safety performance of licensees is partially a reflection of the NRC's performance; however, it is not possible to isolate the causal relationship or a specific set of factors that directly link the NRC's performance to licensee performance. Safety performance indicators reflect the collective results of the efforts of the NRC and the nuclear industry. Certain trends in industry performance indicate that the NRC is succeeding in its mission of protecting the public health and safety.

There are seven NRC-approved indicators of industry safety performance as depicted in the following charts, Licensee Performance Indicators for Operating Nuclear Power Plants; Annual Industry Averages for 1986-1995. Over the past ten years, the general trend of the set of industry safety performance indicators has shown improved performance. The overall trend appears to have leveled off in recent years even though several of the indicators continue to show improvement.

Figure 2
LICENSEE PERFORMANCE INDICATORS
FOR OPERATING NUCLEAR POWER PLANTS
Annual Industry Averages, CY1986-1995



*Based on annual projections from first 9 months of calendar year 1995.

**Based on annual projections from first 6 months of calendar year 1995.

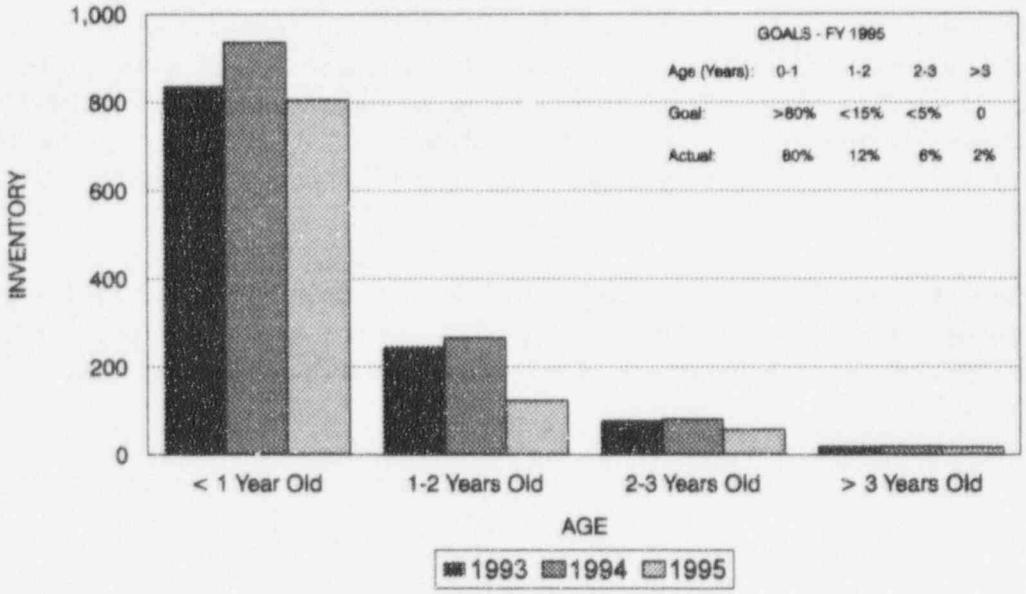
Project managers perform the overall management activities pertaining to the regulation of nuclear power plants and serve as the headquarters point of contact with licensees, other NRC staff, and the public on safety matters concerning specific plants. They assign priorities to safety issues and manage the review and issuance of license amendments. In addition to reviewing plant modification activities that are initiated by licensees, project managers also review safety and environmental modifications to operating plants that are directed by the NRC as a result of safety, environmental, and safeguards assessments. Through the review of these modifications, the NRC ensures that operating facilities achieve and maintain adequate protection of the public health and safety. Project managers also consult with State and local officials and reply to public and congressional inquiries. In addition, they conduct selected technical reviews, coordinate complex technical reviews, evaluate overall licensee performance, and assist the regions in developing inspection plans. The NRC will continue to conduct project management activities for all operating reactors in FY 1997.

After an operating license is issued, the requirements of the license may need to be changed as a result of routine activities, technical advances, or unexpected events at power plants. Detailed technical review of these licensing actions is necessary to ensure that the operational safety of the plant is not compromised. Routine post-licensing activities affecting reactor operations include requests for license amendments, requests for exemption from regulations, new regulations requiring backfit modifications to operating reactors, and orders for modifications of a license. Licensing actions can affect more than one plant.

To manage these changes effectively, the NRC has made a distinction between items that require review and approval by the NRC before they are implemented by the licensee (licensing actions) and items that either require licensee certification or do not require prior NRC review and approval (other licensing tasks).

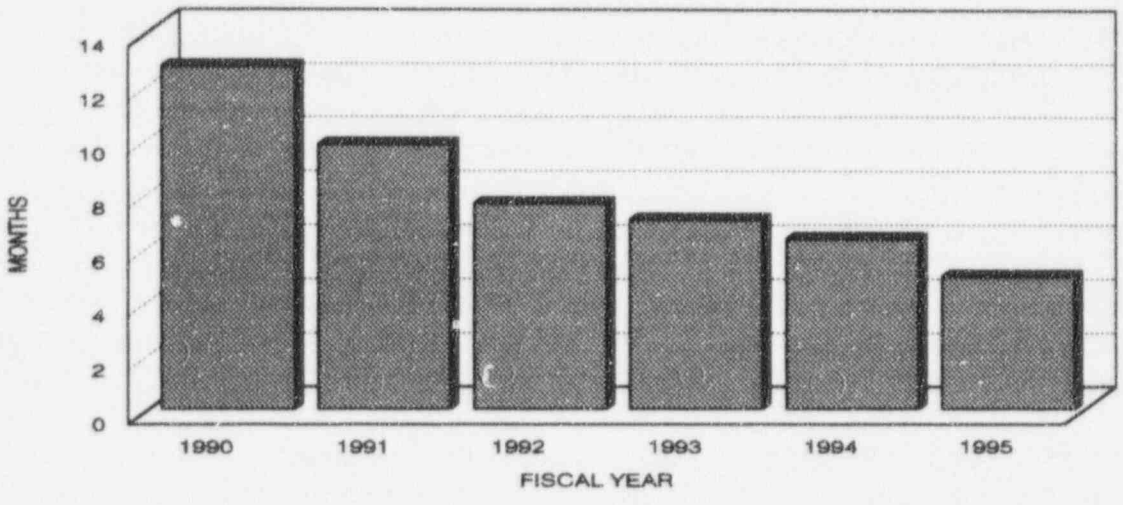
In FY 1995, the NRC completed approximately 2,061 licensing actions for operating power reactors. Over 99 percent of the actions in inventory are plant-specific actions requested by licensees and the rest are the result of NRC-imposed requirements. The total licensing action inventory has decreased from 1,293 licensing actions at the end of FY 1994 to 1,000 under review at the end of FY 1995. The NRC has established goals to control the size and age of the licensing action inventory. These goals call for 80 percent of these actions to be 1 year old or less, 95 percent to be 2 years old or less, and all actions to be no more than 3 years old. The following chart shows the age of licensing actions in the inventory at the end of FY 1995.

Figure 3
AGE OF LICENSING ACTIONS



Steady progress has been realized in reducing the number of older actions in the licensing action inventory. From FY 1989 through FY 1995, the percentage of licensing actions more than 3 years old dropped from 23 percent to 2 percent. Improvement has been made in the other categories as well. As the following chart shows, the median age of the licensing action inventory has also decreased over time.

Figure 4
LICENSING ACTIONS
Median Age of Inventory



The NRC expects to complete approximately 1,500 operating reactor licensing actions in FY 1997. These actions include conversions of plant-specific technical specifications to the improved standard technical specifications. As technical specifications (that are part of the operating license) increased in size over the years, some of the requirements became less safety-significant than others. Therefore, the NRC has worked with industry to improve technical specifications to make them more operator oriented and to focus on the more safety-significant requirements. Through FY 1997, the NRC will continue efforts to convert existing technical specifications for 56 units to the improved standard technical specifications. By the end of FY 1995, a total of 11 units were converted . In FY 1996, 11 additional units will be converted and 34 more units will be converted in FY 1997. Confirmation that the conversions were performed correctly will be completed in FY 1998.

Another major licensing action effort will result from applications from licensees to increase their power ratings by a small percentage (5 percent). Licensees of approximately 10 boiling water reactor (BWR) units have expressed interest in the BWR power uprate program; power uprates could increase the available electrical generating capacity in the United States by 1,000 megawatts with

minimal plant modification and minimal impact on plant safety margins. The NRC expects to process four to six power uprate applications in FY 1997.

The NRC will also continue to review licensing actions that have no adverse effect on safety but that would provide economic relief to licensees. These cost-beneficial licensing actions (CBLAs) can reduce the burden on licensees without adversely affecting safety at currently operating plants. To be responsive to requests for CBLAs, the NRC will assign a higher review priority to requests of relatively low safety significance when such changes result in a high economic benefit to licensees. Safety significant issues will continue to receive high priority.

In FY 1997, the NRC will begin assisting the Department of Energy (DOE) in its selection of the primary and backup approach to tritium production. One designated alternative is to produce tritium in commercial light-water reactors. The NRC will assist DOE in assessing and resolving technical and licensing issues (including physical security, security clearance, and environmental issues) to support a DOE Secretarial decision on the primary and backup tritium production approach. The production of tritium under an existing commercial license will require DOE and NRC to develop mechanisms to assure that national defense production requirements will not affect regulation, including plant shutdown for safety reasons, of the facilities. This would likely involve the use of multiple reactors for tritium production. The NRC will evaluate the necessary licensing requests to implement DOE's option of producing tritium in commercial reactors.

Issues that do not require NRC review and approval before they are implemented by the licensee are considered "other licensing tasks." These tasks may result in a safety evaluation, a letter to the licensee, or NRC internal documentation concerning technical or administrative issues for a particular plant. The NRC expects to complete approximately 750 "other licensing tasks" in FY 1997.

The NRC can streamline the licensing action process by reviewing and approving topical reports submitted by licensees, vendor/owner groups, and other parties. Topical reports deal with safety issues and cost beneficial changes common to a set of plants. The NRC will review the 15 to 25 most safety-significant and cost-beneficial topical reports in FY 1997.

Each year the Reactor Engineer Intern Program graduates a group of qualified, broadly trained technical and engineering personnel to assume professional positions in the NRC. Through a series of rotational and technical training assignments, the interns are given broad exposure to the work performed by the NRC. After successfully completing the 2-year program, interns are assigned permanently to technical professional positions. Through FY 1997, the program will continue to support both the headquarters and the regional missions of the Reactor Regulation Cost Center.

Experience has shown that safety issues will continue to arise as a result of events at operating reactors. In response to these events, the NRC analyzes various aspects of reactor performance to

identify actions that would help to prevent significant events, and disseminates the findings to licensees via generic communication. This work supports NRC's accident prevention goals of having an effective regulatory program that reduces the potential for safety-system challenges, and that ensures high availability of equipment, effective operating personnel, and timely sharing of operating experience.

The NRC conducts prompt technical screening and assessments of approximately 1,500 to 2,000 nuclear reactor event reports and other incoming data from sources such as daily plant status reports, international events information, and DOE reports each year to determine the immediate safety implications for a facility, the applicability to other operating nuclear reactors, and the regulatory actions that must be taken. Event reports include telephone notifications of significant events at licensed nuclear reactor facilities, as well as additional written event and follow-up reports. In addition to the normal follow-up activities provided by the resident inspectors and regional inspection staff to ensure that affected facilities take appropriate corrective action, some events are designated further followup evaluation.

Each year, the screening and assessment of incoming reactor events and other source data results in approximately 400 items that require follow-up effort by the NRC. This is in addition to other items requiring follow-up such as the approximately 50 potential generic safety questions and associated reports to the NRC headquarters staff for technical assessment, and the several hundred reports of defects and/or noncompliance (10 CFR Part 21, "Reporting of Defects and Noncompliance") submitted annually by licensees and permit holders. The purpose of this follow-up review is to establish the safety significance of the item, its applicability to other operating nuclear reactors, and the regulatory actions that must be taken.

On the basis of NRC's follow-up activities, the agency may determine that a potential safety concern exists, and recommend or require that corrective action be taken. In some cases, this may result in changes to the Commission's regulations. In other cases that warrant prompt operating experience feedback to licensees or vendors of the existence of a potential generic safety-related problem, the NRC will issue a generic communication (i.e., a generic letter, information notice, or bulletin) to inform recipients of the safety issue and may recommend corrective action. The NRC expects to prepare and issue approximately 100 generic communications related to operating nuclear power reactors each year. To assist the staff in analyzing data and making decisions on issues affecting safety, the NRC created an in-house organization to develop and apply advanced computer codes used to analyze plant data for operating nuclear reactor performance, safety analysis of new reactor designs, and other special studies. Through FY 1997, the NRC will maintain the analytical capability to support technical reviews.

The NRC will also continue to support the incident investigation program by providing resources to augment inspection teams and incident investigation teams in FY 1997 in response to significant operating events. This function is discussed further in Independent Analysis of Operating Experience.

The systematic assessment of licensee performance (SALP) program involves collecting and assessing inspection data on each site. The purposes of the SALP review process are (1) to conduct an integrated assessment of performance for safe plant operation, (2) to provide a means for useful dialogue with the licensee, (3) to assist NRC management in allocating resources used to inspect and assess licensee performance, and (4) to inform the public of NRC's assessment of licensee performance. NRC's SALP methodology assesses licensee performance in the areas of operations, maintenance, engineering and plant support. Through FY 1997, the NRC will continue to conduct SALP reviews for each reactor site on about an 18-month schedule, depending on licensee performance. In FY 1997, the NRC will issue approximately 45 SALP reports covering approximately 70 operating units each year.

The NRC evaluates the performance of nuclear power plant licensees through various coordinated processes. Performance evaluation involves the integration of information from a variety of sources and continuing NRC activities, such as inspections, enforcement actions, tracking performance indicators, analyzing trends, evaluating events, and examining licensed operators. Short-term assessments of performance are made at least twice each year through the plant performance review process. Senior NRC regional managers assess licensees' long-term performance through the SALP process. Senior management meetings overlay these processes and give agency senior managers an opportunity to review observations and findings, and plan a coordinated course of action for those plants whose performance gives the NRC the greatest concern.

The plant performance review (PPR) process is a semi-annual review conducted by the regional offices, with headquarters staff input, to provide a short-term evaluation of objective information and insights, to arrive at a current summary of overall plant performance. The PPRs are used to adjust the region's inspection plan (increasing or decreasing the number and scope of inspections) for plants and to distribute inspection resources among the plants over the upcoming 6 months. NRC staff integrates and assesses objective information for each power reactor licensee in the areas of plant operations, maintenance, engineering, and plant support, including insights regarding the licensees ability to identify, resolve, and prevent issues that degrade the quality of plant safety. Following each PPR, the staff issues to the licensee the revised inspection plan for the plant.

The senior management meeting (SMM) process is a semi-annual review and integration of the agency's observations and findings regarding nuclear reactors that culminates in a meeting of senior NRC managers, during which operating nuclear power plant safety performance is reviewed. The preparations for the SMM occur over the several months leading up to the meeting, during which NRC regional and Headquarters staff integrate licensing, inspection, and operating experience to

evaluate the safety performance of operating facilities, and to determine whether the licensees are finding and effectively correcting problems or if they are experiencing adverse performance trends. The review emphasizes the effectiveness of licensee self-assessment and corrective actions. The plants that are of most concern are slated for discussion at the SMM. The SMM process gives senior agency managers an opportunity to review the agency's observations and findings on operating nuclear reactors, and to plan a coordinated course of action for those plants whose performance is of most concern to the NRC.

The NRC's oversight of industry quality assurance programs provides another vehicle to ensure acceptable operational safety at nuclear power plants by determining the underlying causes of major operations-related problems and ensuring their timely detection and correction. The NRC will continue to develop and implement methodology, procedures, guidance, and training for NRC inspectors and technical staff. In addition, it will continue to support industry initiatives to perform critical self-assessments, that are designed to heighten licensee awareness and to enhance licensee ability to predict plant performance trends and resolve associated problems as early as possible. The NRC will conduct approximately 35 technical reviews of new and revised licensee quality assurance programs in FY 1997.

In addition to reviewing reactor performance at plants that have been operational for longer periods, the NRC must evaluate licensee performance and review licensee test programs for initial plant startup and for restart of plants that have been shut down.

The NRC's new performance-based maintenance rule will become effective on July 10, 1996. The Commission believes that safety can be enhanced by improving nuclear power plant maintenance across the industry and that effective maintenance must be sustained over the life of each facility. Through FY 1997, the NRC will continue to conduct inspections at selected licensee facilities to evaluate licensee implementation of the maintenance rule.

The NRC must license all personnel authorized to operate reactors. To fulfill this responsibility, the NRC currently administers initial and requalification examination programs, under which approximately 5,000 licensed power reactor operators are tested to evaluate their understanding of the facility design and their familiarity with the controls and operating procedures. These examinations consist of both written examinations and hands-on operating tests under simulated operating conditions.

Initial examinations are given to new operators at existing power reactor facilities to ensure that operating plants are staffed by qualified operators. The NRC plans to conduct approximately 550 initial examinations for power reactor operators in FY 1997. As part of the initial examination process, the agency will also conduct approximately 450 generic fundamentals examinations annually to measure the candidate's knowledge of reactor theory, plant components, and thermodynamics. In

April 1995, the Commission approved the staff's proposal to revise the initial examination process to require the licensees to prepare examination material for NRC review and approval. Presently, examinations are fully written by NRC staff and contractors. Pilot examinations and workshops with the industry are planned for FY 1996. The Commission will review the results obtained from the pilot examinations and workshops before making its decision on whether to revise the initial examination process.

In FY 1994, the Commission approved a change to the operator licensing rule that has enabled the NRC to more efficiently utilize its resources by inspecting licensees' requalification programs to verify continued operator proficiency rather than conducting individual requalification examinations. The NRC will continue to conduct requalification examinations at selected facilities "for cause" only — because of inspection results or licensee performance problems. In FY 1997, the NRC plans to inspect approximately 40 requalification programs.

Also included within the scope of operator licensing activities are efforts to resolve generic problems associated with operator licensing, to maintain an examination question bank, to review appeals pertaining to license denials, and to improve the proficiency of examiners/inspectors. Through FY 1997, various aspects of examination program implementation (including the newly developed examiner training syllabus, upgraded refresher training for examiners, and improved guidance for preparing and conducting examinations) will be evaluated.

The plant personnel training and human-systems interaction efforts included in this activity evaluate the ability of nonlicensed nuclear power plant personnel to meet job performance requirements; ensure that an effective mechanism exists to assess and improve, where necessary, the quality and effectiveness of licensee training programs (not including the licensed operator training program discussed above); and ensure that nuclear power plant operational events involving human performance receive a detailed analysis that will enable the root causes to be determined and corrections to be made.

The NRC continues to endorse the Training Accreditation Program managed by the Institute of Nuclear Power Operations (INPO). The staff will continue to participate in INPO's accreditation team visits and to observe the discussions of the INPO team representatives and the utilities before the National Nuclear Accrediting Board. The NRC will observe INPO training accreditation team visits at two sites in FY 1997. The NRC also plans to conduct approximately four training program inspections for cause to ensure program effectiveness.

The NRC will continue to provide project management oversight of all reactors in the decommissioning process, including reviews of all proposed license amendments, exemption requests, and decommissioning plans. Based upon recent experience with prematurely shutdown plants, the NRC has reviewed its regulatory process for decommissioning. The staff has clarified the

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applicability of existing regulations to plants in the decommissioning process and expects to issue the final rule in FY 1996, reducing the need for licensees to submit exemption requests.

As part of its mission to ensure the public health and safety, the NRC must maintain the ability to ensure nuclear power facilities are properly protected against radiological sabotage and theft of nuclear materials. In its continuing effort to evaluate the threat environment, the NRC assesses all reported information on potential or actual threats worldwide; adversary characteristics, intentions, and capabilities of terrorist group activities; and any relevant domestic or foreign events of a nuclear or nonnuclear nature. A team of specialists is available to work with other Federal agencies to assess reported threats and to work with NRC licensees to respond promptly. Through FY 1997, the NRC will continue its trends analysis efforts and its program to review and evaluate threat information. The NRC will also publish annual revisions to the "Safeguards Summary Events List" (NUREG-0525).

Reactor and Site Licensing

The NRC ensures that nuclear power plants are designed and constructed properly and are ready for safe operation, and prepares for future licensing activities associated with new reactor designs and the reactivation of deferred reactors or potential new applications.

The NRC is responsible for reviewing applications for reactor construction permits and reactor operating licenses to evaluate their safety, environmental, and safeguards aspects, as well as their antitrust implications. In FY 1996, the NRC issued an operating license to Watts Bar Unit 1. At present, there are no construction permit or early site permit applications pending NRC review.

Through FY 1997, the NRC will focus on tasks in several siting and environmental areas including (1) revision to parts of the environmental standard review plan to reflect requirements in NRC regulations, regulatory guides, and technical specifications, and to update site suitability issues in areas such as the geosciences in which significant changes in technology and assessment methods warrant inclusion in the review guidance to the staff, (2) enhancement of geographical information and expert systems capabilities for site characterizations and license reviews, (3) development of regulatory guidance to implement (a) the revised reactor site criteria in 10 CFR Part 100 (scheduled for completion in FY 1996), and (b) the new source term insights for design basis dose calculations for new reactor designs and for operating nuclear power reactors, and (4) development of the framework for the alternative site review rule.

Reactor Aging and Renewal

As reactors age and approach the expiration of their operating licenses, the NRC must (1) be prepared to evaluate applications to renew current reactor operating licenses beyond their expiration dates, (2) understand the effects of aging on materials and systems, structures, and components, (3) ensure that required plant systems, structures, and components perform their intended functions and maintain their integrity and operability over the life of the plant, including a renewal term and (4) establish the technical requirements and regulatory framework for renewal of nuclear power plant operating licenses upon expiration of their current 40-year license term.

The NRC must be prepared to evaluate licensee applications to renew current reactor operating licenses beyond their expiration dates. This preparation involves determining technical and policy issues, resolving licensing issues, and defining the criteria and process to review such renewal applications. The NRC issued an amendment to 10 CFR Part 54, Requirements For Renewal of Operating Licenses For Nuclear Power Plants, that became effective on June 7, 1995. The amendment to the rule is expected to provide a more stable and predictable regulatory process for license renewal. Preparation of a regulatory guide has begun. Preparation of a standard review plan has also begun but will be finalized after the staff has gained implementation experience with the final rule based on the review of a few licensee renewal applications.

In a separate rulemaking, the NRC is revising 10 CFR Part 51, Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions, to enhance the agency's environmental review process for reactor license renewal. The final, revised rule is scheduled for publication in FY 1996. It is anticipated that a number of environmental issues previously identified for generic consideration in the proposed rule will be reclassified to require plant-specific analyses. The need for plant-specific analyses will increase the effort required to complete environmental reviews associated with license renewal applications. Upon completion of this rulemaking, the NRC will modify the environmental review regulatory guidance and standard review plan.

The NRC and the industry have concluded that a generic approach is needed to work through the license renewal process for the first time. The Babcock & Wilcox (B&W) Owners Group has submitted two of their planned generic reports and started discussions with the NRC on a license renewal program for B&W-designed facilities. Submittal of a license renewal application from a B&W member plant in FY 1997 is one of the objectives of this program. The Westinghouse and Boiling Water Reactor (BWR) Owners Groups are pursuing a similar approach. Each owners group has submitted the first of their generic reports; however, schedules are still being established for additional submittals from these owners groups. The Baltimore Gas & Electric Company (Calvert Cliff Units 1 and 2) has also asked the NRC to review its proposed program to implement the license renewal rule. The industry's generic programs will identify systems, structures, and components that

need to be reviewed and will determine if the effects of age-related degradation are being managed by existing programs or if additional analyses or actions are necessary.

Aging affects all reactor systems, structures, and components in varying degrees and has the potential to increase risk to the public health and safety if its effects are not managed. To ensure continuous safe operation of currently licensed reactors, the NRC will characterize aging effects, evaluate methods to detect age-related degradation, and evaluate the effectiveness of maintenance and repair practices to mitigate the effects and diminish the rate of degradation caused by aging. The NRC will accomplish this by reviewing design-related information and operating experience and by conducting experiments, as appropriate, on a wide variety of materials under a wide range of expected environmental conditions. The assessment of the safety implications of aging will be used as the basis for assuring continued safe operation and making decisions on extending reactor operation beyond the original license period of 40 years.

The NRC will continue to evaluate the analysis methods and data bases used in assuring the safety of the reactor pressure vessel. Fracture of the reactor pressure vessel which would result in a core-melt accident must be prevented by ensuring that NRC regulations provide adequate safety margins. The current safety margins are intended to cover uncertainties in analysis methods and material characteristics used in evaluating reactor pressure vessel safety. To ensure that a reactor can continue to operate safely during the 40-year license term and during an additional 20-year license renewal period, the actual behavior of pressure vessel materials exposed to typical operating conditions must be reflected in the licensees' safety analyses. In addition, the analytical methods and material data bases must be validated to ensure that appropriate margins of safety exist. Experimental and analytical research on the effects of the operating environment -- neutron irradiation, high temperatures, and exposure to the water coolant, operating stress, and the potential presence of flaws in the materials -- on the pressure vessel material will continue. This work is complemented by analytical research, coupled with experimental validation, to provide 'best-estimate' analytical tools for predicting more realistic safety margins for the reactor pressure vessel. The results of these research efforts will be used to provide assurance that reactor pressure vessels will not fail by fracture during service or in the event of an accident.

One of the more serious challenges to pressure vessel safety is the "pressurized thermal shock" (PTS) accident wherein a pressure vessel is subjected to a rapid cooldown coupled with relatively high pressures. The challenge is most serious for pressure vessels that have been significantly embrittled by neutron irradiation. This type of challenge has occurred in the past and the NRC promulgated a regulation (10 CFR 50.61 "Fracture Toughness Requirements for Protection Against Pressurized Thermal Shock Events") to limit the level of embrittlement unless analyses are performed to justify continued operation. The NRC has also issued regulatory guidance addressing the analyses to be used in evaluating the safety of continued operation beyond the PTS screening criteria. However, advances in the basic analysis methods, and difficulties in applying the existing regulatory guidance,

have resulted in a broad-based review of the guidance, including probabilistic risk assessment and thermal hydraulic systems issues. The NRC will continue the technical review of the PTS analysis methods, leading to publication of a draft revision to regulatory guidance in FY 1997. In support of the overall assessment of pressure vessel safety analysis methods, the NRC is conducting tests on a variety of unique specimens to evaluate the effects of potential accident and normal operational loadings on flaw sizes that could realistically exist in pressure vessels. In FY 1997, the NRC will develop, validate and evaluate computational models to predict effects of stainless steel cladding on potential fracture initiation and fracture-mode conversion from ductile to brittle on material fracture toughness of the pressure vessel beltline region. These tests will be completed in FY 1997, and the results will be combined with results from related work on analytical models validation to realistically describe fracture processes to provide comprehensive analysis tools for assessing pressure vessel safety.

Irradiation of the pressure vessel materials adjacent to the reactor core (the beltline materials), by neutrons escaping from the reactor core leads to embrittlement of those materials. This makes the pressure vessel more susceptible to fracture when subjected to operational or accident loading. The NRC's pressure vessel safety research program is addressing embrittlement on a broad basis. The research includes statistical analysis of the results from operating reactor material surveillance programs, carefully controlled test reactor irradiations to identify the key variables and material characteristics, highly sophisticated material evaluations to determine the microscopic mechanisms that control embrittlement, and validation of the embrittlement models and predictive equations through evaluation of materials removed from permanently shutdown reactors. In FY 1997, studies will be completed on the effects of irradiation on a commercial weld to evaluate the effects of typical variability in chemical composition and material properties on the predicted embrittlement. In FY 1997, the NRC will also complete mechanism studies and will develop and verify physical models for radiation hardening and embrittlement, and for correlations needed to update the calculation procedures for predicting changes in toughness of irradiated pressure vessels. This work is integrated with the International Group on Radiation Damage Mechanisms, which effectively leverages research in this area by taking advantage of the work performed in other countries. Additionally in FY 1997, the NRC will continue the work to evaluate the fracture toughness of pressure vessel materials, such as welds with a higher copper content, and will evaluate new, smaller test specimens for measuring fracture toughness directly from the material surveillance specimens. Also during FY 1997, the NRC will continue to maintain and update the data base of material surveillance test results which is used in evaluating the embrittlement prediction models incorporated into the regulatory process.

The NRC's research program has evaluated not only the causes of embrittlement but potential methods for mitigating its deleterious effects. Thermal annealing of the pressure vessel, where the temperature of the embrittled materials is increased above the normal operating temperatures and held for several days, has been shown to be an effective technique for reducing the effects of neutron irradiation. The NRC's research program is now validating models for predicting the reembrittlement

trends for pressure vessel materials that have been thermally annealed. The NRC's embrittlement validation research will lead to the testing of thermally annealed specimens in FY 1996 and the initiation of reirradiation of these materials. The reirradiation phase will be completed in FY 1997. Also, the NRC is participating with the Department of Energy (DOE), in the DOE Annealing Demonstration Projects (ADP) to investigate engineering feasibility of thermal annealing at two unirradiated sites with distinctly different reactor systems and annealing processes. The NRC's participation in the ADP during FY 1996 and early FY 1997 includes independent reviews, instrumentation installation, and analyses to confirm the work performed by the DOE contractors. It is anticipated that the results of the ADP will be used by a commercial power plant licensee in planning and justifying their annealing program.

The aging research program addresses not only the safety of the reactor pressure vessel, but includes evaluations of the causes and effects of age-related degradation of many reactor systems, components, and materials. Research is underway to evaluate the effects of the water coolant on the potential for cracking of key piping and other components that make up the reactor pressure boundary and other components important to the safe operation of the reactor. In FY 1997, the NRC will reissue NUREG/CR-5999, "Interim Fatigue Design Curves for Carbon, Low-Alloy, and Austenitic Stainless Steels in LWR Environments," to update the fatigue-life curves used in designing pressure boundary components. The revised report will provide curves that reflect the latest research results on the effects of operating temperature, loading history, and light-water reactor environments, and will provide guidance on the application of these curves to realistic plant situations.

In FY 1997, the NRC will identify the elements and processes which lead to irradiation-assisted stress corrosion cracking (IASCC) in stainless steels and related alloys; initiate testing on core-shroud samples; and identify the role of radiation-induced segregation and IASCC in core-shroud cracking. The NRC will also issue an analysis of the problems in aging nickel reactor components which have been welded and heat treated. During FY 1996-1997, the NRC will obtain access to a state-of-the-art industry crack-growth code, benchmark it by exercising it on available data for reactor internals, and use it to help assess licensee submittals on crack growth.

Steam generator tubes comprise more than fifty percent of the primary pressure boundary surface. Various forms of tube degradation have occurred since the inception of commercial operation of pressurized-water reactors. In recent years, various forms of environmentally-induced cracking have been most prominent. The NRC will conduct research to quantify the parameters responsible for this cracking, and on methodologies for inspecting and evaluating the continued integrity of degraded tubes. In FY 1996, advanced signal analysis methods for evaluation of degraded steam generator tubes will be validated and recommended for incorporation in the ASME Code Section V. In FY 1997, initial models will be developed for predicting leak rate and burst pressure as a function of operating conditions.

The NRC's regulations require periodic inservice inspection of important components, such as the primary piping and the pressure vessel. The research program includes efforts to evaluate inspection procedures and the overall inspection programs as they are implemented by the ASME Code. In FY 1996, the NRC will recommend upgrading ASME Code and regulatory positions to reflect the results of the International Program for the Inspection of Steel Components (PISC III). Code adoption will be pursued in FY 1997. In FY 1997, the NRC will complete round-robin inservice inspection studies of the reactor pressure-vessel core shroud which will provide probability of detection and sizing accuracy data for inspections conducted with commercial teams and methods.

In FY 1996, NRC findings of a comprehensive review of published documents related to the environmental qualification (EQ) of safety-related electric cables used in commercial nuclear power plants will be published. This review and analysis was necessary to assess the work completed by various institutions and organizations both domestic and foreign, learn from past experience, avoid duplication, and maximize available resources. In FY 1997, the results from the literature review and analysis will be utilized for determining which EQ-related technical issues can be resolved with existing information and which will require further research. The results will have a direct bearing in formulating experiments and test plans and programs for the evaluation of cable condition monitoring methods and determining the survivability of naturally-aged cables under Loss-of-Coolant-Accident (LOCA).

In FY 1997, the NRC will continue to test artificially-aged and naturally-aged cables to (1) assess the validity of current qualification methods, (2) evaluate the adequacy of accelerated aging techniques, and (3) evaluate methods for in situ cable inspection and condition monitoring. The test results will provide the technical basis and support to the NRC's regulatory staff on matters related to the EQ of electric cables for the current license term and for license renewal considerations.

In FY 1997, technical bases will be developed and provided to the NRC's regulatory staff for understanding valve and motor-operator behavior under pressure locking and thermal binding conditions. The results will support NRC regulatory needs for evaluating licensees' responses to Generic Letter 95-07, "Pressure Locking and Thermal Binding of Safety-Related Power-Operated Gate Valves," and prioritizing and extending test and inspection intervals of motor-operated valves (MOVs) and check valves based on risk. Development of a technical basis for determining motor-operator margins required to counter the detrimental effects of valve and motor-operator aging degradation will be completed in FY 1997.

In FY 1997, most licensees will complete their programs to verify the design-basis capability of MOVs in response to GL 89-10, "Safety-Related Motor-Operated Valve Testing and Surveillance." The NRC will be conducting inspections and reviewing licensee submittals to close the NRC review of GL 89-10 programs at individual facilities. In FY 1996, the NRC will issue safety evaluations on topical reports describing the EPRI MOV Performance Prediction Methodology and the BWR

Owners' Group methodology for using probabilistic risk assessments to rank MOVs for testing purposes. Also in FY 1996, the NRC will propose issuance of a new generic letter on periodic verification of the design-basis capability of safety-related MOVs. Review of licensee responses to this generic letter will be conducted in FY 1997. In FY 1996, the NRC will review licensee responses to GL 95-07, which requests licensees to ensure that safety-related power-operated gate valves that are susceptible to pressure locking or thermal binding are capable of performing their safety functions. In FY 1997, the NRC will issue an inspection module for inspecting MOV programs over the long-term and provide appropriate training for inspectors.

In FY 1997, the NRC will propose amendments to 10 CFR 50.55a, "Conditions of Construction Permits, Codes and Standards," to: (1) update the reference to the 1995 Edition of the ASME Boiler and Pressure Vessel Code as the latest edition incorporated into the regulations; (2) incorporate by reference into the NRC regulations the ASME Code for Operation and Maintenance of Nuclear Power Plants, 1995 Edition, which provides rules for inservice testing of pumps and valves, (3) establish rules and regulatory guides to allow for voluntary use of NRC-approved alternatives; (4) expedite implementation of the rules for performance demonstration of ultrasonic examination systems that are contained in Appendix VIII, Section XI, of the ASME BPV Code, to require more effective ultrasonic examinations, and (5) based upon new industry input, remove the modification in 10 CFR 50.55a that applies to ASME rules for inservice testing of containment isolation valves.

Reactor Safety Assessment and Regulation Development

This activity is conducted to (1) provide an indepth examination and understanding of abnormal operating events and plant transients experienced by the nuclear industry including evaluations of overall plant risk; (2) understand and provide a technical basis for acceptance of operator/control-system designs considering effects on human and total systems performance; (3) understand ways to prevent and mitigate the consequences of severe core damage or core-melt accidents; (4) improve the NRC's ability to evaluate the potential effects of earthquakes on reactor operations; (5) assess the adequacy of safety margins in the current analysis methods used to ensure reactors can continue to operate safely; and (6) manage the development of revised reactor-related regulations, policy statements, and regulatory guides that incorporate research results and lessons learned from operating experience.

Understanding safety-significant abnormal operations and plant transients experienced by the nuclear industry is an important element in the Commission's continuing efforts to maintain an adequate margin of safety as operating plants continue to age. Analysis of these operating events requires information on the processes of heat transfer and fluid flow (the thermal-hydraulic response) of the reactor coolant system over the range of plant transients and accidents that could potentially occur. These events include design-basis accidents (required to be analyzed in license applications),

non-design-basis events such as multiple-system or component failures, common mode failures, and operator errors that have been revealed through probabilistic risk assessments and operating experience.

Plant performance research is being conducted by the NRC to provide validated methods by which the staff can evaluate design-basis accidents, the safety implications of actual operating events and hypothetical transient scenarios determined to be major contributors to risk as shown by probabilistic risk assessment studies and past operating events. This work is focused on integrating experimental data and associated calculations into a firm technical basis to support regulatory actions such as modifications to plant technical specifications, reviews of accident management plans, or remedial actions responding to operating events. The principal products of this research are analytical tools (computer codes) used to understand and predict the plant response to deviations from normal operating conditions. The capability of the computer codes to predict plant response with an acceptable uncertainty is augmented by validating the codes using (1) basic experiments to derive empirical formulas for determining coolant system behavior under postulated transients, (2) separate-effect experiments to evaluate the code predictions for a single, complex component, and (3) integral system experiments to evaluate the code predictions for a complete reactor system.

In FY 1997, the NRC will continue archiving and retrieving experimental thermal-hydraulic data from the established experimental data bank. The data bank contains test data from domestic and foreign thermal-hydraulic related experiments and plant startup and operational transient data. The data bank is a central repository of qualified results in a standard format and includes over 800 digital magnetic tapes that can be readily accessed by the staff to support specific licensing actions.

In FY 1997, the NRC will continue to maintain and improve the TRAC-PWR and RELAP5 computer codes. RELAP5 is a light-water reactor transient analysis code used to support rulemaking and to evaluate generic safety issues, audit license submittals, and analyze unresolved safety issues. RELAP5 is also a basic component of the Nuclear Plant Analyzer (NPA). The NPA is operational at NRC Headquarters to provide an in-house analysis capability to evaluate accident management strategies, advanced reactor design capabilities, and significant abnormal events in operating reactors. The NRC will continue to develop and maintain a representative set of plant input decks to support the use of the NPA. Other thermal-hydraulic codes (TRAC-BWR, RAMONA-3B) will also be maintained to ensure these codes reflect the latest results of foreign and domestic safety experiments and recent operating events. The TRAC-PWR code is for PWR non-small-break loss-of-coolant accidents (LOCA) analyses, whereas TRAC-BWR and RAMONA-3B codes are for BWR analyses. RELAP5 can analyze PWR or BWR plant small-break LOCAs under a variety of accident or transient conditions. The TRAC, RELAP5, and RAMONA-3B codes will also be used to analyze new reactors of advanced design. That effort is discussed in the Standard Reactor Designs Cost Center.

The NRC will continue to contribute to the Code Applications and Maintenance Program, an international program among members of the international nuclear safety community who use and support this code maintenance and updating activity. In FY 1997, the NRC will perform analyses or experimental assessments to determine the scope and magnitude of potential safety issues that could arise as a result of operating events, staff reviews, or ACRS reviews. Recent examples of work in this area include studies of pressurized thermal shock, BWR stability under anticipated-transient-without-scram conditions, long-term cooling after a loss-of-coolant accident, and shutdown cooling after the loss of the residual heat-removal system.

In FY 1997, the NRC will continue to support thermal-hydraulic test loops at Purdue University, the University of Maryland at College Park, and Oregon State University.

Experiments will continue to be performed during FY 1997 to better characterize the behavior of fuels irradiated to the higher burnup levels being proposed by the industry. This work, which includes cooperative programs at the Halden Reactor project, will provide the basis for revising fuel behavior codes used by NRC and the industry.

Experience has shown that most safety-related events reported at nuclear facilities involve human performance. To reduce human errors, and thereby reduce the risk to the public from the accidental release of radioactive material, the NRC needs to (1) understand the root causes of human error during reactor operations and maintenance, (2) develop methods to assess the effects of the design and qualification of instrumentation and control system displays on human performance, and (3) analyze the effectiveness of the interface between the nuclear power plant system and the human user in improving operator performance. Research results will be used to identify, systematically prioritize, and suggest solutions to human performance issues in the maintenance and operation of nuclear facilities during normal, abnormal, and emergency situations.

The NRC will continue research to address the safety issues associated with the nuclear power industry's current and planned use of artificial intelligence and computers in reactor and safety system operation and control and, in FY 1997, will develop the technical bases for adopting appropriate licensing criteria for application of these new technologies. In FY 1997, the NRC will complete an update to Standard Review Plan, Chapter 7, which incorporates new criteria and guidelines for review and acceptance of computer-based instrumentation and control systems in nuclear power plants.

Also in FY 1997, the NRC will continue participating in the Organization for Economic Cooperation and Development (OECD) Halden Reactor Project. The valuable technical information gained from this 15-year project will help establish guidelines and criteria for reviewing advanced human-control system interfaces, computer-based operator support systems, integrated surveillance and control rooms, and the verification and validation of computer software. In FY 1997, work will continue on developing human factors review guidelines for system modifications that involve mixing digital and

conventional displays and controls. Also, the effects of secondary workload on operator performance from the need to navigate through CRT (cathode-ray tube) displays will be assessed and review guidelines will be developed. Root cause investigation techniques associated with human error will be enhanced based on experience from use of the human performance investigation process (HPIP) and the results of other research efforts. Because the availability to collect large amounts of human behavior data at nuclear power plants is limited, the use of computerized modeling/simulation of human behavioral processes will continue to be explored.

In addition to routine operations, the NRC is also concerned about severe reactor accidents. Severe accidents have the potential to adversely affect the public health and safety by accidentally releasing radioactive fission products to the environment. NRC efforts are directed toward reducing the risk of nuclear power plant accidents by requiring design and operating strategies to prevent or ameliorate their consequences. The NRC accomplishes this by (1) improving our understanding of severe-accident phenomena; (2) identifying and evaluating methods to prevent and/or mitigate the consequences of severe accidents; (3) developing methods and tools to analyze the frequencies, consequences, and risks associated with severe accidents; (4) ensuring the adequacy of safety margins in the current methods of evaluating containment integrity under severe-accident conditions; and (5) determining whether severe-accident research results warrant revisions to NRC regulations or policies. Results of these efforts will be applied in staff reevaluations of siting and emergency planning requirements and implementation of the individual elements of the Commission's severe-accident, safety goals, and backfit policies.

To improve our understanding of severe-accident phenomena, the NRC has completed direct containment heating (DCH) experiments on the simulated Zion- and Surry-type reactor configurations. The NRC will perform additional experimental work for Combustion Engineering-type plants through FY 1996 to confirm the physical processes which comprise the DCH phenomenon and other severe-accident phenomena affecting the loss of containment capabilities during severe accidents. During FY 1997, the NRC will continue to apply the severe-accident scaling methodology (SASM) to any experimental or analytical program designed to assess DCH and, when practical, will apply SASM to other NRC-sponsored experiments. This work will ensure that the results of experiments can be confidently extrapolated to full-scale reactor conditions.

During FY 1997, the NRC will continue research to address the conditions under which hydrogen-air-steam mixtures at high temperatures, produced during severe accidents, could sustain low-speed combustion. This research will address the applicability of existing models for hydrogen combustion during certain severe accidents. In FY 1997, the NRC will continue to support large-scale hydrogen combustion experiments at the Russian Research Center to provide insights on the placement of hydrogen igniters inside the containment.

In FY 1997, the NRC will continue to participate in the RASPLAV international safety research project under the auspices of OECD. The RASPLAV program consists of both experimental and analytical investigations of melt and reactor pressure vessel (RPV) lower-head interactions. The experimental program includes experiments utilizing up to 200 Kg of UO_2 ceramic melt in a geometry representing the lower head of the RPV. In addition to these experiments, a number of important separate effect experiments will be conducted as part of this program. These experiments include measurement of thermo-physical properties of different ceramic melt compositions. In a closely related project, the NRC will continue research in FY 1997 to investigate heat transfer mechanisms between water and debris in the lower head that could provide cooling of the RPV lower head during a severe accident. Such cooling mechanisms were postulated to have resulted in enhanced cooling of the lower head during the TMI-2 accident, thereby preventing the RPV from failing via creep rupture.

During FY 1997, the NRC will continue to participate in the FARO experimental program carried out in the FARO/KROTOS facilities at the Joint Research Center in Ispra, Italy. The FARO facility is being used to perform large-scale tests to address the residual issues related to fuel-coolant interactions, particularly ex-vessel fuel-coolant interaction. In the FARO facility, prototypic material (corium, the term used for a molten mass of fuel from the core) is brought into contact with water in a vessel of representative size and strength. The NRC will obtain data on the rate of heat removal from the corium melt, the effectiveness of various quench mechanisms, melt spreading, the hydrogen generation rate, and the heat loading and temperatures of a simulated reactor pressure vessel. Smaller scale tests in the KROTOS facility provide detailed data on the conditions leading to and propagation of steam explosions which may be used to validate mechanistic models.

During FY 1997, the NRC will continue to use the VICTORIA fission product release and transport code and the MELCOR code to perform pre- and post-test analyses of the PHEBUS tests being carried out by the French Commissariat à l'Énergie Atomique (CEA). The analyses will be part of the NRC in-kind assistance and services to PHEBUS under the international cooperative agreement between the NRC and the CEA. The NRC will continue to provide technical assistance and cooperation with the Commission at the European Communities fission product behavior program in the French PHEBUS test reactor. Such technical assistance includes providing an online fission product measurement system, reviewing test plans and testing, and other assistance, as needed.

In addition to experimental work, the NRC is developing analytical codes capable of modeling the severe accident phenomena. In FY 1997, the NRC will continue to maintain and make modeling improvements, as necessary, to the following severe-accident codes: MELCOR, SCDAP/RELAP5, CONTAIN, and VICTORIA. The NRC will continue to compare codes with the existing database and assess progress in reducing uncertainties in our understanding of severe-accident phenomena. In FY 1997, the NRC will continue to contribute to the internationally supported MELCOR Cooperative Assessment Program that supports MELCOR code validation and maintenance.

In FY 1996, the NRC will assimilate results and insights from all the available major experimental programs (ACRR, TMI, LOFT, PBF, NRU, CORA, PHEBUS) to identify the need for additional experimental testing during FY 1997 in the severe fuel-damage assessment program.

During FY 1996-1997, the NRC will continue assessing the data obtained from the CABRI (France), IGR (Russia), and NSSR (Japan) test facilities on high burnup fuel. In FY 1997, the NRC will assimilate results and identify the need for changes to current regulations.

The NRC continues to undertake a number of activities intended to increase the consideration of risk significance in its decision processes through the effective use of risk-informed, performance-based technologies such as probabilistic risk assessment (PRA). On August 19, 1994, the NRC staff issued a "Proposed Agency-Wide Implementation Plan for PRA." The staff updated this agency plan on March 30, 1995, to reflect lessons learned during the initial implementation activities. The plan will be updated on a regular basis and at least annually. The NRC also issued a final policy statement, "Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities" (60 FR 42622) on August 16, 1995.

The NRC is currently engaged in pilot projects with several utilities aimed at developing methodologies for ranking the relative risk importance of structures, systems, and components (SSCs) in a plant. Risk ranking is a central issue for many risk-informed, performance-based regulatory initiatives such as graded quality assurance (QA), inservice inspection (ISI) and inservice testing (IST)). As experience is gained through these pilot activities, the NRC will document the lessons learned and draft regulatory guidance. While some of these pilot programs will be completed in FY 1996, others will not be completed until the end of FY 1997 and early FY 1998.

The NRC staff is currently working with the Combustion Engineering Owners Group and Northeast utilities on a pilot program to extend allowed outage times (AOTs) for a selected set of systems on the basis of a combination of PRA and deterministic based considerations. While this particular pilot program is expected to be completed at the end of FY 1996, the NRC expects to continue to review industry submittals pertaining to risk-informed technical specification improvements in FY 1997. The NRC expects to continue to work with owners groups and individual licensees to implement pilot programs for risk-informed technical specification improvements. Acceptability of the improvements will be documented in safety evaluations. The results of pilot programs will be used to develop generic guidance for the development and implementation of risk-informed technical specifications.

In FY 1996-1997, the NRC will be developing guidance, standards, and decision criteria for applications of risk-informed, performance-based analysis techniques in regulatory decisions. These regulatory guidance documents will include new or updated chapters to the Standard Review Plan (SRP), regulatory guides and inspection procedures. The SRP and regulatory guides applicable to

PRAs will improve the quality and acceptability of standards to ensure a consistent and appropriate application of such methods to allow for more risk-informed decision-making.

In FY 1997, in support of increased agency use of risk analysis in regulatory decisions, the NRC will continue developing methods for applying advanced human reliability, organizational performance, and aging models, and operational data in probabilistic risk assessments (PRA). Risk-informed, performance-based models will continue to be developed and applied to support agency analysis of operational events, using the SAPHIRE code. Also in FY 1997, the NRC will continue to maintain, support, and upgrade (as necessary) the severe-accident risk analysis computer models, such as MACCS and SAPHIRE. Risk analyses performed by staff and contractors in support of the assessment of safety issues will be reviewed. The NRC will continue to support the development of staff expertise in the application of PRA.

In order to develop more reliable estimates of containment capacity to assess the potential consequences of severe reactor accidents, model tests will be conducted. Research performed previously provided bases for estimating the likely failure modes of steel and reinforced concrete containments used for PWR plants. Current research involves a cooperative effort with the Ministry of International Trade and Industry (MITI) of Japan to develop bases for estimating capacities for other containment designs. Two areas of cooperative research are being pursued--one including steel containments used in both the United States and Japan for BWR designs, the other relating to pre-stressed concrete containments. The current generation of Japanese PWR containments are of a pre-stressed concrete design. In the United States, there are 41 pre-stressed containments compared to 20 reinforced concrete containments.

The steel containment vessel test specimen is a scale model representing some features of an improved BWR Mark II containment vessel in Japan. The model was fabricated at the Hitachi Works in Japan and has been installed in the United States in the protective structure within which the test will take place and instrumentation of the model is in process. The test to failure is scheduled for fall 1996.

The pre-stressed concrete containment vessel (PCCV) model will be a scaled representation of an actual PCCV in Japan, which was designed in accordance with the Japanese Concrete Containment Vessel Design Code. The basic design of the PCCV model was completed in December 1994. Fabrication of the liner by Mitsubishi Heavy Industries in Kobe, Japan began in April 1995 and will be completed in 1996. The liner segments will be shipped to the United States and construction of the model will take place during 1996-1998. Instrumentation of the model will be conducted in 1998-1999, partly in parallel with the on-site model construction. Testing of the PCCV model will then take place late in 1999.

Recent experience and research results suggest that corrosion effects may significantly degrade the margin that containments have to accommodate design basis accidents and beyond. Evidence of corrosion has been found in Mark I BWR containments, ice condenser PWR containments, and the liners of concrete containments. The robustness of undergraded (un-aged) containments is a major consideration in the Commission's Severe Accident Policy. However, we need to understand the significant factors relating to occurrence of corrosion, efficacy of inspection, and potential capacity reduction to be able to formulate regulatory requirements that will assure the continued availability of sufficient containment capacity as plants continue to age. Comparison of remaining thickness against minimum ASME Boiler and Pressure Vessel Code requirements will be assessed. If the remaining thickness exceeds the limit, adequate margin exists. Methods, utilizing the results of research on actual failure modes of containments, are being examined to relate containment capacity to amount and location of degradation. The objective of this effort is to provide a basis for judging the seriousness of degradation at a particular location.

In a continuing program, the NRC is assessing state-of-the-art, nondestructive testing techniques for examining steel containments and the liners of concrete containments. As part of this program, statistically-based sampling plans will be developed to provide confidence limits on detection of corrosion occurrence. One subtask scheduled to be completed in the third quarter of FY 1996 is a program assessing nondestructive examination techniques that can be used to determine if degradation has occurred in inaccessible areas of the containment wall. The need for further assessment of nondestructive examination techniques in FY 1997 will be determined after evaluating the recommendations contained in the final report. In a parallel effort, the NRC is investigating the capability of analytical methods to account for the effects of corrosion on the capacity of steel containments to withstand static internal overpressurization loads.

The Commission's Severe Accident Policy calls for the examination of individual plant susceptibilities to severe accidents and the identification and evaluation of potential improvements. This program is called the Individual Plant Examination (IPE) program. In FY 1996, the NRC will continue the joint RES and contractor team reviews of the remaining internal event IPE submittals covering all units. By the end of FY 1996, all or most of the internal event IPE reviews will be completed. During FY 1996-1997, the NRC will continue to analyze the information from the review of the IPE submittals, categorize insights, and provide the results in a concise report. The results of that review will also be used to review existing regulations and ensure that they are adequate to protect the public health and safety. In FY 1997, the NRC will continue reviewing licensee external event evaluation (IPEEE) reports and collecting and interpreting the supporting data for more general perspectives and use in the agency's risk-informed, performance-based regulation activities.

A limited number of efforts to improve the NRC's ability to evaluate the effects of potential earthquakes on nuclear power plant operations are being supported. The results of this program are integrated into efforts to develop a unified seismic hazard assessment method. In FY 1997, the NRC

will determine magnitude, scaling, and distance attenuation relationships using regression analyses and ground motion data sets from Eastern and Western U.S. earthquakes. These analyses will yield more physically based estimates of site effects than previous studies and will reduce uncertainties in the seismic hazard and ground motion estimates. This, and information from earth sciences research, will keep the staff informed of advanced knowledge and new field observations. As a result of the limited available recorded data in the U.S., each earthquake provides new insights and new potentially significant information. Such information may prompt NRC to reevaluate earlier licensing decisions or confirm assumptions made in earlier decisions.

In FY 1997, the NRC will continue to support research activities of the U.S. Geological Survey (USGS) that address geological and seismological issues of regulatory significance, such as strong ground motion studies, fault segmentation studies and faulting, and paleoseismic studies in the New Madrid seismic zone. The NRC will support the USGS efforts to develop a correlation between the seismic characteristics of near-field geologic materials and the observed response, in order to investigate the influence of near-surface geology on seismic site response. Results of this program will lead to an improved modeling of the wave scattering and propagation effects in the near surface material and will reduce uncertainties in the ground motion estimates at the site. These results will also be used in the unified seismic hazard assessment program, as applicable.

The NRC will also continue to evaluate and analyze the data collected from the National Seismographic Network, a long-term project to continuously improve the understanding of physical processes associated with the seismic activities, transmission of seismic energy, and site responses. The new data will enable the staff to develop and validate more accurate models to predict the transmission of seismic energy. The new models will reduce the uncertainty of current ground motion modeling and also improve upon the NRC's implementation of site licensing criteria and evaluation of seismic issues bearing on plant design.

In FY 1997, the NRC will continue to determine attenuation characteristics of ground motion through shallow soils over bedrock. The data from small-to-moderate earthquakes will be obtained from seismographs installed at various levels in boreholes at Anza, California. The better modeling of the local site amplification phenomenon will reduce major uncertainty in the soil structure interaction analysis currently carried out to estimate the structural and component responses.

In FY 1996, the NRC completed a cooperative effort with DOE, who has an agreement with Electric Power Research Institute (EPRI) to develop guidelines for a unified seismic hazard assessment method to characterize seismic hazard east of the Rocky Mountains based on seismic hazard studies from EPRI and Lawrence Livermore National Laboratory (LLNL). The results of this cooperative effort will be used to assess the seismic hazard of future nuclear power plant sites and to recalculate the probabilistic seismic hazard of all operating Eastern U.S. nuclear power plant sites as bases for probabilistic siting criteria for future nuclear power plants. The National Academy of Sciences will

also complete a review of the unified hazard assessment methodology. A final report incorporating all comments will be completed in FY 1996. During FY 1996-1997, the NRC will recalculate the probabilistic seismic hazard at several Eastern U.S. nuclear power plant sites as a trial implementation of the guidelines.

In FY 1997, the NRC will continue to obtain data to evaluate the performance of structures, systems, and components when subjected to natural hazards such as earthquakes, high winds, and floods. In the 1970's and before, the NRC interest in nuclear power plant seismic design was focused on the response at design level loadings that was primarily based on analytical techniques (not experiments) and assumptions. Since the 1980's as new seismological information and research results became available, the seismic design bases of operating plants has been questioned. A considerable effort was made to improve predicted response of nuclear power plants to earthquakes greater than those considered in design; at issue is whether potential changes to the design bases can be accommodated within the inherent capacity of the original design or whether plant modifications are necessary. The data from this research will be utilized to help assure the safety of nuclear power plants by enabling the NRC to (1) evaluate calculational methods used in the analysis, (2) assess actual performance of structures, systems, and components in past earthquakes, and (3) validate design codes and probabilistic risk assessment (severe accident) techniques. These data have enabled the NRC to implement the resolution of generic issues such as USI A-46, "Seismic Qualification of Equipment in Operating Plants," and develop positions and guidance for external event evaluations at operating nuclear power plants to identify severe accident vulnerabilities.

In FY 1997, the NRC will use data from NRC- and industry-sponsored tests on structures, piping systems, and components, and data obtained from actual earthquakes to revise NRC's damping recommendations. Specifically, the NRC has participated in activities of the American Society of Mechanical Engineers (ASME) to revise the pipe damping criteria in Appendix N of Section III of the Boiler and Pressure Vessel Code. The NRC is also reassessing the values of damping for major plant structures. Changes to some values appear to be appropriate.

In a joint venture with EPRI and the Taiwan Power Company, a cylindrical concrete model structure was built in a seismically active area near Hualien, Taiwan. The model and surrounding soil will be instrumented and data recording and analysis will be conducted during FY 1996-1997.

During FY 1996-1997, the University of Texas at Austin will continue to perform tests to determine the behavior and strength of anchor bolts used in concrete for earthquake type loads. This work supports the implementation of NRC seismic program USI A-46. In FY 1997, the NRC will consult with national standards committees for any necessary revisions.

In cooperation with MITI of Japan, the NRC will participate in a seismic test of a large-scale model of a main steam and feedwater system to check calculational methods and validate seismic failure

mode assumptions. The test will be performed at Tadotsu Engineering Laboratory, the largest seismic shaking table facility in the world. In FY 1995, the fabrication of the large-scale model was completed and the test was conducted. In FY 1996-1997, the resultant test data will be evaluated and post-test analyses will be performed to verify and calibrate analytical techniques used for design and margin evaluations.

During FY 1997, the NRC will continue to participate in an OECD program on International Standard Problem (ISP) on shear walls. In this program, results of two large-scale shear walls tests conducted in Japan will be used to verify analyses and modeling techniques used by participants. Beginning in FY 1996, this program will also be extended to include ISP on the soil-structure interaction (SSI) analyses. In FY 1997, calculations will be performed for the SSI ISP and discussed in a workshop.

During FY 1997, in a collaborative arrangement with MITI and the Nuclear Power Engineering Corporation (NUPEC), the NRC will participate in seismic tests of large-scale concrete and prestressed concrete containment structures to check calculational methods and performance of the containment and liner during shaking. The design, fabrication, and construction will be completed in FY 1996 with tests conducted during FY 1996 and FY 1997. In FY 1997, NRC will perform pre- and post-test analyses while NUPEC will conduct tests at Tadotsu Engineering Laboratory in Japan.

Once research projects are completed, the results are incorporated into the regulatory process as expeditiously as practicable. This involves (1) resolving generic safety issues related to reactor and plant system design and plant operations; (2) developing regulations, policy statements, and regulatory guides for nuclear power plant regulation; and (3) developing the technical basis for radiation protection standards to minimize the adverse consequences of exposure to ionizing radiation from licensed reactor activities. Changes to regulatory requirements, policy statements, and guidance for reactor facilities are closely coordinated with other NRC offices, the nuclear industry, and the public.

Generic safety issues (GSIs) involve safety concerns that may affect the design, construction, or operation of all, several, or a class of reactors or facilities and may have potential for safety improvements and issuance of new or revised requirements or guidance. Resolutions of GSIs are transmitted to the industry through issuance of generic letters, information notices, or rule changes. Implementation procedures for resolving GSIs are occasionally developed in conjunction with organizations such as the Nuclear Energy Institute and nuclear plant owners groups.

The staff will report to the Commission annually on the resolution of GSIs. Each year all remaining GSIs will be reviewed for appropriateness of previous prioritization and newly identified issues will be prioritized. In FY 1997, one generic safety issue is scheduled to be resolved.

Generic Safety Issues Scheduled for Resolution by Fiscal Year

Issue Priority	Fiscal Year 1997	Fiscal Year TBD*	Cumulative Total
High	0	2	2
Medium	1	0	1
Nearly Resolved	0	3	3
Total	1	5	6

* To be determined

Semiannually, the NRC will perform an integrated review of the priorities and schedules for all rulemaking activities to ensure that the highest priority efforts are conducted. The majority of rulemaking efforts are oriented toward regulatory reform, regulatory burden reduction, or codifying those alternatives yielding greater flexibility to the regulated entities. Some of the rulemaking activity involves safety enhancement. For each rule, a regulatory analysis will be performed to assure that the rulemaking is cost beneficial.

During FY 1996-1997, the NRC will conduct reactor-related rulemakings and issue proposed or final rules and the associated regulatory guides, where applicable, for the following rulemakings which either reduce regulatory burden or provide licensees greater flexibility in meeting safety requirements: (1) Scope of Environmental Effects for License Renewal, 10 CFR Part 51; (2) Revise Physical Protection Requirements for Nuclear Power Plants, 10 CFR Part 73.55; (3) Design Certification for Advanced Boiling Water Reactor and System 80+, 10 CFR Part 52; (4) Emergency Planning and Preparedness Exercise Requirements, 10 CFR Part 50; (5) Minor Amendments to 10 CFR Parts 2 and 51; (6) General Revisions to the Fitness-For-Duty Rule, 10 CFR Part 26; (7) Employee Allegation Protection, 10 CFR Part 19; (8) Performance-Oriented Requirements for Fire Protection of Nuclear Power Facilities, 10 CFR Part 50; (9) Deliberate Misconduct Rule, 10 CFR Parts 30, 40, 50, 60, 61, 70, 72, 120; (10) Antitrust Review of License Applications, Part 50 Appendix L; (11) Eliminate Obsolete Requirements, 10 CFR Part 53; (12) Audit Frequency for Emergency Planning and Security, 10 CFR Part 50; (13) Revision of Table S-3 and Table S-4 in 10 CFR Part 51, Addition of Radon-222 and Technetium-99 Values; and (14) Shutdown and Low-Power Operations, 10 CFR Part 50. In addition, RES will conduct a safety enhancement rulemaking on ASME Codes and Standards for Nuclear Power Plants, 10 CFR Part 50.

During this time the NRC will also commence work to prioritize and evaluate approximately 90 rules identified as candidates for revision or elimination through the agency's participation in the National Performance Review. The NRC will continue to implement changes in these and other existing reactor regulations and regulatory requirements that have a large economic impact but that can be eliminated or modified without significantly reducing safety. These changes will allow licensees to redirect resources to more important safety issues. Specific rulemaking activity that will be conducted include (1) Change to Insurance Requirements for a Possession Only License, 10 CFR Parts 50 and 140, (2) Requirements for Decommissioning Cost Updates, 10 CFR Part 50.75, and (3) Steam Generator Tube Integrity, 10 CFR Part 50.

In FY 1997, the NRC will develop a proposed rulemaking that will establish performance criteria to control "hot particles" contamination of the skin. The NRC previously exercised enforcement discretion and provided flexibility through guidance in the application of dose limits to hot particles. The NRC will use its contractor's findings and evaluate reports on this subject by the National Council on Radiation Protection and Measurements (NCRP) and the International Council on Radiological Protection (ICRP) to initiate appropriate rule changes to codify the burden relief now given through enforcement discretion. The NRC will also develop performance criteria, and testing and accreditation criteria for extremity dosimetry.

In FY 1997, the NRC will continue to support the review and analysis of health effects information and provide research and operational support funds for the working groups of the ICRP, the NCRP, and the National Academy of Sciences. These organizations are developing and coordinating recommendations on a wide variety of subjects in radiation protection, including hot particles, potential exposure situations, and dose-risk relationships, all of which are used by the NRC in assuring continued safety of workers and the public.

In FY 1997, the NRC will continue to provide annual statistical summaries of worker radiation exposure data as part of the Radiation Exposure Information Reporting Systems, and will continue to process termination reports and implement the new 10 CFR Part 20 reporting requirements. The NRC will work with the National Cancer Institute and other organizations to develop and implement a national worker exposure database to support health effects studies. The NRC will continue to monitor health effects research and operating experience.

In FY 1997, the NRC will monitor and document cost data needed to issue addenda to NUREG-1307, "Nuclear Power Reactor Decommissioning Costs." These addenda will ensure licensees have the latest waste burial costs that are corrected for inflation. These reports will provide the basis for reactor licensees to commit sufficient, but not excessive, funds for safe decommissioning.

Independent Analysis of Operational Experience

The Office for Analysis and Evaluation of Operational Data (AEOD) identifies, evaluates, and responds to potentially significant events and safety concerns involving U.S. commercial nuclear power reactors, based on events reported to the NRC by its licensees. It also supports the agency's Committee to Review Generic Requirements (CRGR), whose efforts include review of generic reactor requirements and backfit considerations.

AEOD oversees the agency's incident and accident investigation programs to ensure that significant and extraordinary safety-significant operational events involving nuclear power reactors licensed by the NRC are investigated in a systematic and technically sound manner and that information is obtained on the causes of the events, including those involving NRC activities, so that the NRC can take corrective actions that are timely and effective. For events that could be of major significance, an Accident Review Group or Incident Investigation Team is established that is independent of the region and the program office. For investigating less significant operational events, an Augmented Inspection Team is established under regional direction and complemented by headquarters personnel, as necessary. During FY 1997, the NRC will support Incident Investigation Teams (IITs) as required; maintain the Incident Investigation Program Management Directives, associated manuals, and IIT rosters, and incorporate the lessons learned from completed IITs; and periodically train IIT roster members and leaders. The NRC will continue to independently review the adequacy of the resolution of staff actions assigned by the EDO for IITs and document the status of IIT-initiated staff actions until they are closed. The NRC will also implement and maintain the programmatic actions needed to activate and support an Accident Review Group reporting to the Commission to respond to an event of extraordinary safety significance at a licensed reactor facility.

In FY 1997, the NRC Diagnostic Evaluation Program (DEP), will be terminated. Diagnostic evaluations and special evaluations will be supplanted by the conduct of Integrated Performance Assessment Program (IPAP) inspections discussed in the Reactor Inspection activity.

The NRC conducts incident response activities to ensure that it is prepared to carry out its role in a radiological emergency at NRC-licensed nuclear reactors, that licensee responses are consistent with their responsibilities, and that NRC responses are coordinated with other Federal response activities and State and local government activities. During FY 1997, the NRC will (1) maintain and implement the NRC incident program in response to actual operational events within the industry; (2) operate the NRC Operations Center 24 hours a day with reactor systems engineers capable of receiving event reports and recognizing and communicating problems and emergencies to management; (3) coordinate efforts to improve the functionality of the Federal Radiological Emergency Response Plan, the Federal Response Plan, and agreements between the NRC and other State, Federal, and international organizations and countries on responses to nuclear events; (4) conduct a State Outreach Program to improve the States' understanding of how the NRC, as the Lead Federal Agency

(LFA), will manage the Federal response to a severe accident at a nuclear facility; (5) maintain the NRC Operations Center and regional functional procedures, response tools, and training; (6) evaluate and assess headquarters and regional incident response programs; (7) participate in the Continuity of Government Program; (8) participate in full-scale licensee and State emergency preparedness exercises with each region; and (9) provide the operational support and contract management necessary for agency response activities.

A standardized training program on the technical and organizational aspects of emergency response has been developed and continues to evolve. During FY 1997, the NRC will continue to maintain and improve standard procedures and technical tools and train NRC staff at headquarters and in the regions and staff from other Federal agencies that support the NRC during response activities. The NRC will also continue to maintain the facilities, resources, and communications equipment necessary to support the NRC's response needs; participate in full-scale licensee and State emergency preparedness exercises with each region; and coordinate the preparation and distribution of "International Nuclear Event Scale" reports. In addition, the NRC will exercise the primary responsibility for changes, interpretations, and development of immediate notification requirements.

During FY 1997, the NRC will continue to oversee power reactor operational experience. The NRC will review nuclear power reactor licensee event reports (LERs), NRC inspection reports, and U.S. industry reports. The NRC will also screen foreign reactor reports for applicability to the U.S. nuclear program. On the basis of this comprehensive and systematic review of both U.S. and foreign event data sources, significant operating events having either plant-specific or generic safety issues are identified and selected for further indepth evaluation. The evaluation assesses the root causes of the identified deficiency, the safety significance and generic implications of the deficiency, and the adequacy of corrective actions implemented and/or planned. Indepth technical evaluations of selected components, systems, system interactions, and human performance will be performed and the NRC will continue to issue case studies, trends and patterns reports, engineering evaluations, and technical reviews. Results, findings, and recommendations to prevent recurrence will be widely disseminated to the staff, the nuclear industry, and the public in a timely manner. The recommendations from these studies are formally tracked, and their status is periodically reported to the Commission. In addition, reactor events that are considered to be significant from the standpoint of public health and safety will be reported to the Commission with recommendations that they be considered as "abnormal occurrences." On an annual basis, abnormal occurrences will be reported to the Congress and the public.

The NRC will continue to emphasize investigating root causes, the contribution of human factors, and the determination of the risk significance of operational events. By emphasizing the underlying causes of significant operating events and the practices that can limit their likelihood, the lessons of experience can be more effectively communicated to the nuclear power plant industry to improve plant safety. Quantification of the risk significance of events during power operation and reactor

shutdown will be enhanced by the implementation of methods developed by the Office of Nuclear Regulatory Research. The effectiveness of NRC and industry actions to resolve safety concerns will be examined through the evaluation and trending of operational experience data. This will also help ensure that lessons learned from operating experience are not lost. Accident sequence precursor analyses will be used to evaluate potentially risk-significant events when practicable. As appropriate actions will be initiated to resolve pertinent safety issues.

During FY 1997, the NRC will continue collecting, screening, and coding approximately 1500 commercial power reactor LERs each year into databases for agency access. The NRC will maintain its operational and reliability data storage and retrieval systems in a cost effective manner. Information from LERs, which are required by NRC regulation (10 CFR 50.73, "Licensee Event Report System"), will continue to be used for the analysis of safety significant trends. The data from LERs are coded and entered into data bases to capture the sequence of events, the failures that occurred, the causes of the events, and corrective actions to avoid similar events in the future. The NRC will maintain and streamline, where practical, the current system for processing LER data. The NRC will also streamline, where practical, its capability to code and retrieve human-performance, common-cause, and precursor data. The staff will implement the rule to obtain safety system availability and reliability data to support risk-informed, performance-based regulatory applications and to enhance maintenance rule implementation. The staff will initiate rulemaking to improve reporting of human performance, common-cause failure, and precursor data. While information about important events will continue to be required to be reported, changes to reporting requirements are intended to eliminate events of little safety significance.

The NRC will continue to coordinate safety analysis activities with other organizations, such as EPRI, INPO, and owners groups, and to provide results to those organizations as appropriate. Component failure data from the Nuclear Plant Reliability Data System (NPRDS), a database voluntarily supported by the U.S. nuclear power industry and maintained by INPO, will continue to be used to support analyses of component and system failures to determine their risk significance. The NPRDS provides component failure data that is complementary to LER data. However, it has limitations in its capability to support reliability and probabilistic safety analysis types of activities.

During the past several years, the NRC has been developing a reliability- and risk-informed approach to analyzing LER and NPRDS data. Insights from probabilistic risk assessments are used to identify components, systems, accident initiators, and safety issues which can be analyzed to assess reliability risk trends. Where available, actual operating experience is used to assess equipment performance. The NRC is planning to combine the results of this activity with the Accident Sequence Precursor program to better identify risk-significant trends in the U.S. nuclear industry.

The NRC will continue to analyze and evaluate component and system reliability. Also during this period, the staff will begin to provide risk and reliability analyses of plant performance utilizing agency and industry databases.

The NRC will also prepare trend information on component and system performance, initiating event frequencies, and human performance to monitor risk implications of changes in industry performance. This includes assessing the most risk-significant precursors to severe accident sequences. Periodically, the NRC will provide trend data associated with selected safety issues to identify changing safety trends and the effectiveness of regulatory initiatives.

The NRC conducts activities to identify, as early as practicable, individual nuclear power plants, or groups of plants, whose performance may warrant special (either increased or decreased) regulatory attention. Performance indicators are intended to provide information concerning trends in nuclear power plant performance and to assist NRC management in identifying plants for more detailed review. In FY 1997, the NRC's performance indicators will be simplified as they undergo conversion to more risk-informed indicators. System reliability analysis results, common cause failure data, and initiating events will be used to supplement the indicators. Reports showing trends in performance and comparisons with appropriate industry averages for each licensed nuclear power plant and each individual indicator will be provided to NRC senior management to support senior management meetings. Annual reports are disseminated to NRC management, the Commission, and licensees, and are available to the public. The NRC will continue to pursue performance indicator improvements for timely assessment of safety performance.

The NRC will also continue to provide information about foreign events to U.S. organizations and to report U.S. experience to foreign organizations through the Nuclear Energy Agency and the International Atomic Energy Agency's incident reporting system and through bilateral agreements. Attention will continue to be focused on the feedback of operating experience so that the lessons of experience can be used to prevent serious nuclear incidents in the future. Additionally, nuclear power plant events classified at the alert level or higher will be reported via the International Nuclear Event Scale (INES). The limited U.S. participation in this information sharing system is anticipated to continue during FY 1997.

The Committee to Review Generic Requirements reviews generic requirements for power reactors and considers the feasibility of backfitting new requirements, as applicable. During FY 1997, this committee will continue to provide agency-wide review and recommendations to the Executive Director for Operations regarding approval or disapproval of proposed changes to generic requirements and staff positions applicable to power reactors with the objectives of reducing or eliminating any unnecessary burdens placed on licensees, reducing the exposure of workers to radiation in implementing some requirements, and conserving NRC resources while ensuring adequate

protection for public health and safety and furthering the review of new, cost-effective requirements and positions.

Technical Training and Qualification

This activity provides technical training for formal NRC staff qualification in support of the reactor program. The NRC will continue to maintain the Technical Training Center (TTC) facility and manage the technical training program for NRC staff. Curriculum areas in support of the reactor program will be maintained in reactor technology, probabilistic risk assessment, engineering support, radiation protection, security and safeguards, and regulatory skills. New courses will be developed and existing courses will be modified to meet new or changing needs. Training will also be provided to other Federal, State, and foreign regulatory counterpart employees on a space-available basis.

A spectrum of reactor technology training will be provided for the General Electric, Westinghouse, Combustion Engineering, and Babcock and Wilcox reactor designs to meet the highest priority agency needs, including an integrated series of classroom and simulator courses for NRC staff. Specialized technical training will be provided to meet continuing and reactive training needs.

The reactor technology training curriculum will continue to include approximately 45 courses ranging in duration from 4 days to 3 weeks. Initial reactor technology training and refresher training will be provided each year to NRC inspectors, reactor operator license examiners, and other staff in formal qualification programs. In addition, technical training will be provided to NRC technical managers. Training of headquarters and regional reactor inspectors, operator license examiners, and response staff on vendor-specific emergency operating procedures will continue during FY 1997. Major curriculum adjustments to best satisfy the highest priority regional and program office training needs will continue during FY 1997.

The Technical Training Center (TTC) will continue to respond to reactive training needs in reactor technology as identified by agency management through forums such as the training focus groups, division director counterpart meetings, and senior management meetings. During FY 1997, the NRC will provide technical training to support special staff development programs. During this period, necessary technical training will be provided in specialized areas to supplement the initial training provided to inspectors of a particular category. This training provides selected inspectors with specific expertise in areas for which all inspectors do not require the expertise.

The NRC will develop and implement new and expanded technical training in areas identified by program offices and regions. This includes new training courses to support the agency-wide Probabilistic Risk Assessment (PRA) implementation plan and new training determined to be

necessary by technical training needs surveys. In addition, reactor concepts training will be provided for employee orientation.

During FY 1997, training materials for courses in reactor technology will be maintained and improved and course examination question banks and new course modules will be developed to support operational feedback on the agency's current technical issues. The NRC will continue to maintain full-scope training simulators at the TTC to support NRC initial qualification and refresher programs. This includes maintaining the operability, reliability, and performance of the simulator hardware and software and maintaining and updating the infrastructure for simulation equipment. Performance of NRC full-scope simulators, particularly in the thermal hydraulic, reactor core, and containment response areas, will continue to be updated to the extent practical to meet NRC reactor technology training needs. This will include replacing older simulation models to improve performance and make the models transportable to other simulation platforms.

The NRC will continue development of workstation-based simulation to show parameters, system responses, and scenarios in a classroom setting. This effort, which enhances NRC understanding of complex events, involves the use of advanced simulation codes and establishment of a simulation platform capable of providing high-fidelity simulation of multiple light-water reactor designs to meet NRC reactor technology training needs. During FY 1997, the NRC will continue to develop TTC reactor technology instructors through completion and maintenance of formal qualification status in two reactor technology areas. This includes completion of initial qualification and maintenance of qualification through formal classroom training and current knowledge of events, technical issues, and operational feedback.

Investigations, Enforcement, and Legal Advice

The NRC Office of Investigations investigates allegations of wrongdoing by NRC reactor licensees; the NRC Office of Enforcement manages the agency's enforcement program, using enforcement actions as a deterrent to emphasize the importance of compliance with requirements and to encourage prompt identification and prompt, comprehensive correction of violations; and the NRC Office of the General Counsel provides legal assistance (including representation in all associated administrative and judicial proceedings and rulemaking activities) on all matters affecting NRC reactor licensees.

All findings and conclusions that result from investigations are sent to the appropriate program office and the Office of Enforcement for review of the issues involved and a determination as to whether enforcement action is warranted. The Director, Office of Investigations, refers suspected or alleged criminal violations concerning NRC licensees and others within the NRC's regulatory jurisdiction to the U.S. Department of Justice.

The NRC will continue to investigate allegations of wrongdoing by NRC reactor licensees and others within its regulatory jurisdiction. The current workload consists of approximately 110 active reactor cases. Approximately 150-170 reactor cases are expected to be opened during FY 1997. The NRC will continue to refine, administer, and maintain quality control standards for investigations. During FY 1997, the staff will continue to apprise the Commission and appropriate agency offices of matters under investigation that may affect the public health and safety or other aspects of the agency's mission. The staff will maintain liaison with other agencies and organizations to ensure the timely exchange of information of mutual interest and refer matters judged to be criminal to the U.S. Department of Justice.

The NRC will continue to implement an enforcement program with support from the regional offices. Activities include overseeing and evaluating regional enforcement efforts; coordinating and developing regional enforcement actions and recommendations; evaluating potential enforcement cases; reviewing inspection and investigation reports and confirmatory action letters; initiating and processing notices of violations, civil monetary penalties, and various enforcement orders; reviewing draft regulations, inspection guidance, and other initiatives for their effect on the enforcement process and providing advice and guidance on related enforcement issues; providing assistance to the Office of Nuclear Reactor Regulation on orders modifying licenses; and assisting the Office of the General Counsel in the administrative hearing process, including presenting testimony.

The NRC expects to consider between 120 and 150 reactor enforcement actions during FY 1997. As the number and types of enforcement actions taken in any period of time are a function of the number of licensees and the licensees' performance, it is difficult to predict future activity levels. However, previous enforcement activity has been as follows:

Reactor Enforcement

Fiscal Year	Actions Considered	Resulting Civil Penalties	Orders Issued
1993	111	45	0
1994	129	42	6
1995	158	22	6

The Office of Enforcement will continue to develop and promulgate enforcement policy, including the maintenance of an enforcement manual. The enforcement manual was last revised in November 1995, as a result of changes to the enforcement program approved by the Commission in June 1995. Additional sections and refinements based on experience will be promulgated in

subsequent years. The staff will continue to review Commission directives for impact on the enforcement policy or program and make changes as necessary. Through FY 1997, the NRC will continue to monitor actions filed with the U.S. Department of Labor (DOL) under Section 211 of the Energy Reorganization Act, coordinate with DOL, and develop enforcement actions where there are properly supported findings of discrimination. Also during this period, the staff will maintain data generated in the enforcement process to monitor the enforcement program and to evaluate reactor licensees to identify weak performers who require greater NRC oversight.

The Office of the General Counsel (OGC) will continue to provide legal assistance to the NRC staff with respect to the staff review related to licensing, construction, operation, enforcement and decommissioning of nuclear facilities, as well as the conduct of investigations, promulgation and amendment of NRC regulations and guides pertinent to the aforementioned matters. The OGC will represent the NRC staff in adjudications arising from proposed licensing and enforcement actions; represent the Commission in lawsuits arising from adjudicatory and rulemaking decisions relating to reactors; and provide legal analyses of regulations, statutes, and cases relevant to NRC activities.

Independent Review

The Atomic Safety and Licensing Board Panel is a statutory office of the NRC and is comprised of administrative judges who, sitting alone and in three-member boards, conduct adjudicatory hearings pursuant to a number of statutes including the Administrative Procedure Act; the Atomic Energy Act of 1954, as amended; the National Environmental Policy Act of 1969, as amended; and the Program Fraud Civil Remedies Act.

The Licensing Panel's boards and judges hear and decide requests to grant, suspend, revoke, or amend licenses to construct and operate nuclear power plants and preside over rulemaking hearings. Hearings address issues involving health, safety, the environment, enforcement, civil penalties, anti-trust, and emergency planning.

During FY 1997, Licensing Panel judges and boards will conduct adjudicatory hearings, usually at or near the site where the dispute arose. Issues to be addressed will include whether to grant, suspend, revoke, or amend licenses to operate nuclear power plants, the decommissioning of nuclear power plants, and the conduct of other licensed activities. The Licensing Panel will maintain and train a legal and technical staff adequate to ensure the continuing availability of due process in its cases. The Licensing Panel will provide advice on adjudicatory matters, other proceedings, and on other regulatory and administrative matters as requested; and will review and make suggestions for amending regulations to expedite the hearing process and make it more understandable and easier to use, consistent with the recommendations of the Administrative Conference of the United States.

The Advisory Committee on Reactor Safeguards (ACRS) has statutory responsibilities as described in the Atomic Energy Act of 1954, as amended. The ACRS performs independent reviews of and provides advice to the Commission on the licensing and operation of production and utilization facilities and related safety issues. The ACRS relies on highly qualified Members, specialized consultants, and a cadre of technical and administrative support personnel.

During FY 1997, the ACRS will review NRC regulatory activities associated with operating nuclear power plants and standard plant designs as well as the adequacy of the standard plant designs to ensure that the public health and safety are protected. The ACRS will review specific regulatory issues referred to it by the Commission. In addition, the ACRS on its own initiative will review generic matters and nuclear safety-related items.

The ACRS will continue to review selected reports of augmented inspection teams, incident investigation teams, and special inspection teams related to significant operating events as well as lessons learned from the investigation of such events. As appropriate, the ACRS will review the resolution of issues that lead to extended plant shutdowns and the basis for the NRC plant restart authorizations. The ACRS will also review domestic and foreign operating experience to ensure that the NRC is adequately addressing related safety issues.

The ACRS will review the identification, prioritization, and resolution of generic safety issues. The ACRS will also review NRC action plans for the resolution of significant safety issues (e.g., thermo-lag fire barrier issues), proposed rulemaking, and generic communication and compliance activities. The ACRS will review new safety-related regulations, policy matters, and regulatory guidance; as well as revisions to existing regulations and regulatory guidance, licensee amendment requests for power upgrades at boiling water reactors, selected NRC staff evaluation of generic topical reports, graded quality assurance programs, and the implementation of the maintenance rule. The ACRS will review proposed program changes in the administration of operator licensing examinations.

The ACRS will review implementation of the Commission's Safety Goal Policy and matters related to the use of probabilistic risk assessment (PRA) in the regulatory decision-making process. The ACRS will review risk-informed, performance-based regulations, Standard Review Plan revisions, and PRA engineering models, and the implementation of risk-informed technical specifications. The ACRS will review the extent to which the results of Individual Plant Examinations (IPEs) and Individual Plant Examinations of External Events (IPEEEs) can be used in the regulatory process. The ACRS will review the adequacy of the resolution of any generic safety issues identified in the IPE and IPEEE Programs including the associated insight reports. The ACRS will review the Performance Indicators and Accident Sequence Precursor Programs and the staff's assessment of the results of these programs. The ACRS will also review the development of proposed performance-based rules for fire protection and for steam generator tube maintenance and surveillance.

The ACRS will review issues related to license renewal including rulemaking, regulatory guides, Standard Review Plan revisions, and staff evaluations of licensee and owners' group generic programs. In addition, the ACRS will review issues associated with predicting, detecting, and evaluating age-related degradation of plant systems, structures, and components; embrittlement and annealing of reactor pressure vessels; and determining the reliability of systems, components, and human-machine interfaces.

The ACRS will review the materials and metallurgical issues related to crack formation in reactor vessel heads, steam generator tubes, reactor vessel internals, and primary coolant pressure boundary components. The ACRS will review the NRC regulatory position on fatigue design of metal components for license renewal and on the staff evaluation of the 1994 American Society of Mechanical Engineers Code Addenda on piping design. The ACRS will also review any revised reactor pressure vessel integrity requirements resulting from the updated materials database.

The ACRS will review safety and reliability issues associated with the use of computers and digital instrumentation and control (I&C) technology in nuclear power plant safety systems. The ACRS will review the Phase 2 report by the National Academy of Sciences/National Research Council (NAS/NRC), which includes the evaluation of hardware, software, and human-machine interfaces. The ACRS will also review regulatory guidance related to the use of digital I&C for current and future plants.

The ACRS will review programs and regulatory guidance associated with the implementation of the Commission's Severe Accident Policy. The ACRS will review the use of severe accident computer codes, proposed accident management strategies, and the use of the revised source term for operating and future plants.

The ACRS will continue to review the NRC programs associated with thermal hydraulic codes. The ACRS will review issues related to the behavior of high-burnup fuel under accident conditions in current and future plants.

The ACRS will review selected elements of the NRC research programs, including those in the areas of severe accidents, thermal hydraulic modeling, fire modeling, human and organizational factors, crack initiation and growth, age-related degradation, nondestructive examination techniques, environmental stressors (digital I&C), and PRA methodology. The review will include comparison of the NRC programs to foreign and domestic research programs.

The ACRS will review decommissioning issues, as needed, and onsite dry cask storage at production and utilization facilities. The ACRS will review the ongoing and planned NRC and industry activities associated with motor-operated valve (MOV) reliability; resolution of the issues associated with thermo-lag fire barrier qualification; and amendments to security regulations associated with insider

threat, fitness-for-duty, and on-site storage of spent fuel. The ACRS will review selected issues from the Human Performance Program Plan and regulatory issues related to organizational and human factors. The ACRS will continue to review selected NRC Technical Training Center training programs to address emerging curriculum needs such as digital I&C and PRA. The ACRS will review the regulatory reform initiatives and the activities being performed as part of the National Performance Review Phase II.

General Support

This activity encompasses efforts to supervise and coordinate the policy development and operational activities of the Reactor Regulation Cost Center. It also includes all information technology-related efforts for the Offices of Nuclear Reactor Regulation and Nuclear Regulatory Research in support of power reactor regulation.

Standard Reactor Designs Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	14,438	10,793	7,969	-2,824
Contract Support	22,240	8,808	6,073	-2,735
Travel	414	325	380	55
Total	37,092	19,926	14,422	-5,504
Budget Authority by Activity ($K)				
Standard Reactor Design Certification	19,616	10,292	7,416	-2,876
Standard Reactor Safety Assessment	14,677	7,247	5,127	-2,120
Legal Advice	84	88	92	4
Independent Review	1,069	1,111	1,118	7
General Support	1,646	1,188	669	-519
Total	37,092	19,926	14,422	-5,504
Full-Time Equivalent Employment by Activity				
Standard Reactor Design Certification	126	83	61	-22
Standard Reactor Safety Assessment	19	14	7	-7
Legal Advice	1	1	1	0
Independent Review	10	10	10	0
General Support	13	13	7	-6
Total	169	121	86	-35

This cost center supports licensing activities associated with standard reactor designs; ensures that certified standard reactor designs, when properly sited and constructed, will adequately protect the public health and safety and the environment; and ensures that the combination of industry and NRC research provides the technical bases for timely and sound rulemaking and regulatory decisions to support NRC design certification activities. NRC's standard reactor design efforts include technical

reviews and independent experiments on safety system performance conducted as part of the programmatic activities of the offices of Nuclear Reactor Regulation and Nuclear Regulatory Research, independent reviews by the Advisory Committee on Reactor Safeguards, and legal advice and adjudicatory activities by the Office of the General Counsel and the Atomic Safety and Licensing Board Panel, respectively.

This cost center includes five major activities: standard reactor design certification; standard reactor safety assessment; legal advice; independent review; and general support.

Standard Reactor Design Certification

The standardization of nuclear power plant designs can increase the safety, reliability, and availability of nuclear power plants. Standardization will allow for a more thorough understanding of the designs by the NRC and a more efficient review process. Therefore, the Commission has strongly endorsed regulatory actions that will encourage industry to pursue standardization. The NRC will continue to review the passive reactor designs, to resolve safety issues (including generic safety issues identified on currently operating reactors), and to develop and implement applicable rules, policies and guidance for the certification of standard designs.

The NRC completed its technical reviews for two evolutionary light-water reactor designs (the General Electric (GE) Advanced Boiling-Water Reactor (ABWR) and the ASEA Brown Boveri/Combustion Engineering (ABB/CE) System 80+) and issued final design approvals for these two designs in July 1994. The NRC began the rulemaking process required for design certification and expects to certify both evolutionary designs in FY 1996.

Through FY 1997, the NRC expects to continue its detailed technical review of the Westinghouse advanced passive pressurized water reactor design (AP600). The staff's review efforts will emphasize resolving concerns on testing and codes. The NRC will continue its collaboration with the Italian Regulatory Agency, ANPA, whereby ANPA will assist NRC in the review of specific areas regarding the AP600: the observation and analysis of thermal-hydraulic experiments run by WEC in Italy, severe accident analysis, PRA success paths and independent PRA analyses, the effect of thermal-hydraulic unreliability on PRA analysis, and review of the protection and safety monitoring system. The NRC expects to issue a supplement to the Draft Safety Evaluation Report on testing and codes in FY 1996. Review effort associated with the remainder of the items associated with the Final Design Approval is expected to be completed in FY 1997.

Through FY 1997, the NRC will continue to develop policy and guidance for reliability assurance programs for next-generation reactors. The policy will consider reliability goals for systems and equipment, including passive components, design measures, and testing and monitoring requirements.

In addition, the NRC will work with the industry to develop and publish guidance for vendors and utilities.

Standard Reactor Safety Assessment

This activity includes (1) research to develop independent assessment methods, analytical models, and verified data needed to support design certification safety reviews and related rulemakings for advanced reactors, and (2) efforts to establish regulations and regulatory guidance for the combined license process described in 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants."

The NRC will identify concerns of potential safety significance for selected safety systems, review the applicant's experimental and analytical programs, and develop independent information for making timely regulatory judgments. Working closely with the applicant, the NRC will provide feedback regarding the development and execution of the applicant's programs and will avoid unwarranted duplication of safety research efforts. At the same time, the vendor-generated analytical and experimental information will be independently verified as necessary, especially in areas in which the applicant would be the sole source of information.

Through FY 1997, RES will continue to assist NRR in the review of the AP600 reactor design to identify and resolve key safety issues. The results of research in the standard reactor safety assessment activity will be used to assess the adequacy of new advanced reactor design concepts and investigate the margins of safety in structural, electrical, and mechanical components which are needed to support design certification and licensing decisions. Analyses and experiments will be performed to characterize safety system response to transients and postulated accidents. Results from vendors' test programs for the AP600 will be reviewed to determine whether identified safety concerns have been satisfactorily resolved through these programs and to assess the RELAP5 Code. These efforts will be completed in time to support design certification under 10 CFR Part 52. Confirmatory work in this area will continue in FY 1997 to complete validation of the analytical tools used in the certification review.

During FY 1996, results obtained from experiments at the ROSA-V and Oregon State University (AP-600) test facilities, as well as those experiments performed by the industry will identify any additional confirmatory testing needed to be performed in FY 1997.

In the area of severe accident analysis, the NRC will assimilate results and insights from LWR severe accident research to assess the behavior of the AP600 plant under accident conditions. In particular, the NRC will assess the applicability of the accident phenomena modeled in existing severe accident codes to these new designs (viz., passive, gravity-driven safety systems). Research information

needed to support design certification, in accordance with established schedules, will be provided. Limited confirmatory research will continue in this area in FY 1997, if required.

In FY 1997, the NRC will update siting and source term and regulatory guides to reflect the results of new LWR source-term research, as necessary.

During FY 1997, the NRC will continue to work with national standards-setting organizations to ensure that the existing engineering and material standards are applicable for the advanced reactor designs. New standards will be developed if needed.

Legal Advice

The Office of the General Counsel (OGC) will address legal questions related to design certification and will represent the staff in any related administrative proceedings or judicial challenges.

Independent Review

During FY 1997, the Atomic Safety and Licensing Board Panel (ASLBP) will continue to provide advice on adjudicatory and dispute resolution matters related to new standard reactor designs and will preside over standard reactor design hearings.

The Advisory Committee on Reactor Safeguards (ACRS) will review technical and policy issues related to the licensing of evolutionary and passive plant designs. This activity includes issues identified by the NRC staff as well as those identified independently by the ACRS. The ACRS will review the design certification rulemaking for the ABWR and System 80+ designs, the design certification of the AP600, and test and analysis programs being conducted by Westinghouse as well as the confirmatory test program being conducted by the NRC, to support certification of the AP600 designs. The ACRS will also review policy and implementation issues associated with the use of design acceptance criteria; inspections, tests, analyses, and acceptance criteria for new standard plant designs; regulatory guides needed to implement the 10 CFR Part 52 regulation; severe accident rulemaking for standard plant designs; analyses and methodology used to support licensing positions for standard plant design applications (e.g., thermal-hydraulic code analyses); proposed resolution of safety-related issues for passive plant designs; and security and protection requirements against sabotage for future plant designs.

General Support

This activity encompasses efforts to supervise and coordinate the policy development and operational activities of the Standard Reactor Designs Cost Center. It also includes information technology efforts of NRR to maintain the Construction Inspection Program database management system that will enable the NRC to ensure adequate coverage of construction activities for reactor designs.

Test and Research Reactors Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	1,219	1,730	1,806	76
Contract Support	345	295	280	-15
Travel	106	124	104	-20
Total	1,670	2,149	2,190	41
Full-Time Equivalent Employment (FTE)	15	20	20	0

The Test and Research Reactors Cost Center is conducted to ensure the safe operation of test and research reactors not used to generate power on a commercial basis and referred to as nonpower reactors. These smaller reactors are designed and used for research and testing in areas such as physics, chemistry, biology, medicine, and materials sciences; and for training of individuals for nuclear-related careers in the power industry, national defense, research, and education. NRC's Office of Nuclear Reactor Regulation conducts all agency activities associated with the licensing, inspection, oversight, and decommissioning of these reactors, and with the examination and requalification of nonpower reactor operators.

The NRC reviews new and renewal license applications and license amendments for nonpower reactors to evaluate the safety, environmental, and safeguards aspects of their operation. From past experience, the NRC expects to receive as many as 2 applications for license renewal and approximately 30 other license amendments each year. The NRC also conducts inspections at approximately 40 nonpower reactors each year to ensure their safe operation.

In addition to licensing and inspecting the nonpower facilities, the NRC must also license all personnel authorized to operate the nonpower reactors. The NRC administers initial examinations for new reactor operators and either inspects licensee requalification programs or conducts individual requalification examinations "for cause" to ensure that the approximately 300 nonpower reactor operators are qualified to perform their duties.

Through FY 1997, the NRC will continue to implement its regulation (10 CFR 50.64, "Limitations on the Use of Highly Enriched Uranium (HEO) in Domestic Non-Power Reactors") requiring

domestic nonpower reactors to convert from highly enriched uranium to low-enriched uranium. Of the remaining 12 reactors affected, it is expected that approximately 8 will convert over the next 10 years.

NUCLEAR MATERIALS AND NUCLEAR WASTE PROGRAM

NUCLEAR MATERIALS AND NUCLEAR WASTE PROGRAM

(Dollar amounts in tables represent thousands of dollars ($K). In text, whole dollar amounts are used. Staff numbers represent full-time equivalents (FTEs).)

Total FY 1997 Estimate $83,310,000

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	48,394	49,860	52,834	2,974
Contract Support	36,053	22,665	27,853	5,188
Travel	3,325	2,679	2,623	-56
Total	87,772	75,204	83,310	8,106
Budget Authority by Cost Center ($K)				
Fuel Facilities	11,094	11,137	15,045	3,908
Materials Users	27,480	29,330	30,565	1,235
Low-Level Waste and Decommissioning	19,832	16,770	16,425	-345
Other Nuclear Materials and Waste Activities	7,366	6,967	7,275	308
High-Level Waste	22,000	11,000	14,000	3,000
Total	87,772	75,204	83,310	8,106
Full-Time Equivalent Employment by Cost Center				
Fuel Facilities	107	108	121	13
Materials Users	237	258	249	-9
Low-Level Waste and Decommissioning	121	115	116	1
Other Nuclear Materials and Waste Activities	69	67	68	1
High-Level Waste	59	43	43	0
Total	593	591	597	6

EXPLANATION OF RESOURCE CHANGES

Fuel Facilities

The resource increase in FY 1997 is due primarily to NRC's interaction with the Department of Energy on their proposed high-level radioactive waste solidification system at Hanford, Washington. Resources also increase for efforts associated with the preparation and review of a license application for the design, construction, and operation of an Atomic Vapor Laser Isotope Separation (AVLIS) module at a uranium enrichment facility.

Materials Users

The resource increase in FY 1997 is to begin preparation of an environmental impact statement and safety analysis report for an application submitted for a privately-owned independent spent fuel storage installation. Resources also increase due to an increase in dual purpose (transportation and interim storage) spent fuel cask applications from industry since DOE does not anticipate proceeding with the multi-purpose canister beyond the design phase. This increase is partially offset by a decrease which reflects the completion of the prototype detailed design of the new redesigned materials licensing process and implementation of initial portions of this process.

Low-Level Waste and Decommissioning

The resource decrease in FY 1997 reflects completion of the reviews of terminated license files and completion of guidance on low-level waste (LLW) performance assessment.

Other Nuclear Materials and Waste Activities

The resource increase in FY 1997 is due primarily to increased costs for salaries and benefits.

High-Level Waste

The resource increase in FY 1997 will allow NRC to keep pace with the DOE program, address key technical issues, and maintain the Center for Nuclear Waste Regulatory Analyses (CNWRA). NRC will provide feedback to DOE on resolving the key technical issues that are most important for DOE to consider in developing its viability assessment. The CNWRA will continue to provide independent technical expertise that is essential to the high-level waste management program.

NUCLEAR MATERIALS AND NUCLEAR WASTE PROGRAM

DESCRIPTION OF PROGRAM

The Nuclear Materials and Nuclear Waste Program encompasses all NRC public health and safety, safeguards, research activities, operational data analysis, technical training, adjudicatory reviews, investigations, enforcement, and independent safety and legal advice related to the licensing, inspection, and environmental reviews for fuel cycle facilities; the transportation of nuclear materials; the safe interim storage of spent fuel; nuclear materials users; the safe management and disposal of low-level and high-level radioactive wastes; and uranium recovery and related remedial actions. This program also includes interaction with the Department of Energy on their proposed high-level radioactive waste solidification system at Hanford, Washington, safeguards reviews for all licensing activities involving the export of special nuclear material, and the integrated agency effort to oversee decontamination and decommissioning of facilities and sites associated with NRC-licensed activities.

This program comprises five cost centers: Fuel Facilities; Materials Users; Low-Level Waste and Decommissioning; Other Nuclear Materials and Waste Activities; and High-Level Waste.

The funds and staff for each of the five cost centers are described on pages 83 through 114. The contract support funds are allocated for work done by DOE contractors and commercial contractors for the NRC. The material that follows describes these cost centers and addresses the reasons why the resources are needed.

Fuel Facilities Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	8,562	9,058	10,620	1,562
Contract Support	1,998	1,598	4,015	2,417
Travel	534	481	410	-71
Total	11,094	11,137	15,045	3,908
Budget Authority by Activity ($K)				
Fuel Fabricators Oversight and Inspections	7,214	7,563	10,979	3,416
Uranium Enrichment Oversight and Inspections	2,323	2,016	2,559	543
General Support	1,557	1,558	1,507	-51
Total	11,094	11,137	15,045	3,908
Full-Time Equivalent Employment by Activity				
Fuel Fabricators Oversight and Inspections	68	72	85	13
Uranium Enrichment Oversight and Inspections	22	18	19	1
General Support	17	18	17	-1
Total	107	108	121	13

This cost center ensures that licensees adequately protect the public health and safety, common defense and security, worker safety, and the environment when radioactive material is handled and used for the nuclear fuel cycle after milling. Efforts in this cost center comprise NRC licensing, inspection, and regulatory oversight and development for the conversion of uranium ore concentrates (yellowcake) into uranium hexafluoride before enrichment, enrichment, the development and fabrication of reactor fuel, and the safe storage of fresh reactor fuel at reactor sites until the reactor core is initially loaded with fuel. Within the framework of this cost center, the NRC staff performs regulatory oversight of the United States Enrichment Corporation's (USEC's) operation of the two gaseous diffusion enrichment plants (Paducah and Portsmouth), and USEC's security program to protect classified matter at these plants. This cost center also includes NRC's interaction with the

Department of Energy on their proposed high-level radioactive waste solidification system at Hanford, Washington.

This cost center comprises three major activities: fuel fabricators oversight and inspections; uranium enrichment oversight and inspections; and general support.

Fuel Fabricators Oversight and Inspections

This activity comprises NRC licensing, inspection, and regulatory oversight of the fuel cycle after milling; it requires detailed health, safety, safeguards, and environmental reviews and inspections of licensee procedures and facilities to ensure safe operations.

The NRC will complete the review and evaluation of approximately 80 license applications (new, amendment, and renewal) for nuclear fuel cycle facilities in FY 1997. The NRC will also complete approximately 35 evaluations of new and amended safeguards plans for these facilities. Routinely scheduled health, safety, and safeguards inspections of approximately 25 fuel cycle facilities or sites will be conducted in FY 1997 to provide reasonable assurance that unsafe conditions, involving unnecessary and harmful radiation exposure to employees or the public, do not develop and that radioactive materials are properly controlled to prevent a nuclear criticality accident. This activity also includes reviews for waste processing at DOE sites. The NRC directs its safeguards inspections by ensuring that licensees comply with NRC requirements pertaining to, for example, protected area access control; detection, annunciation, and communications systems; barriers; material control and accounting systems; process monitoring systems; contingency plans for responding to threatening situations; and trained armed response personnel.

In FY 1997, the NRC will continue to upgrade the fuel cycle facility program by evaluating changes to the regulatory base for 10 CFR Part 70 in order to continue to increase the confidence in safety at these facilities. It will also refine the inspection procedures for evaluating nuclear criticality and chemical safety and continue a training program for staff and licensees to strengthen the program.

In FY 1997, the NRC will interact with the Department of Energy on their proposed High-Level Radioactive Waste Solidification System at Hanford, Washington. During FY 1996, DOE initiated efforts for design of a pilot-scale facility to demonstrate technologies for immobilizing highly radioactive tank waste from the Hanford site. NRC's interaction is necessary to allow NRC to prepare for the eventual licensing of DOE contractors' facilities which is expected in the early 2000's. During FY 1997, NRC will begin development of an overall review strategy which will be available as guidance for DOE's contractors.

Uranium Enrichment Oversight and Inspections

This activity comprises the certification and regulatory oversight of the two USEC facilities, and the licensing activities for the Louisiana Energy Services (LES) centrifuge uranium enrichment facility, including maintenance of the LES license in anticipation of a decision by LES to initiate construction of the facility. This activity also includes the oversight activities associated with the licensing of an AVLIS module at a uranium enrichment facility and includes the administration of a classified enrichment technology security program to provide guidance on and ensure proper protection of classified material.

In FY 1996, USEC submitted the initial application for a certificate of compliance with the new NRC standards that were promulgated in September 1994. In FY 1996, the NRC will complete the first certification review for the plants and will issue the first annual report to Congress on whether these plants are operating in compliance with NRC's standards. During FY 1996-1997, the NRC will ensure that USEC operation of the gaseous diffusion enrichment plants provides adequate protection of the public health and safety and the common defense and security. NRC resident inspectors will continually inspect these two plants and will focus on operational safety, followup of events, quality management and staff performance.

Also during FY 1996-1997, the NRC will prepare for and review a license application for the design, construction and operation of an AVLIS module at a uranium enrichment facility. USEC expects to submit an application for AVLIS in December 1996.

In FY 1997, the NRC will also provide security policy and classification guidance support for the protection of national security information and restricted data for licensing, certifying, or regulating uranium enrichment facilities such as LES and USEC.

General Support

This activity comprises NRC supervision and coordination of policy direction efforts and operational activities of the Fuel Facilities Cost Center.

Materials Users Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	18,764	21,492	21,679	187
Contract Support	7,233	6,674	7,592	918
Travel	1,483	1,164	1,294	130
Total	27,480	29,330	30,565	1,235
Budget Authority by Activity ($K)				
Transportation and Spent Fuel Storage Licensing and Inspection	4,109	6,370	8,117	1,747
Licensing and Inspecting Nuclear Materials Users	14,331	14,874	14,296	-578
Nuclear Materials Research and Regulation Development	4,769	4,200	4,405	205
General Support	4,271	3,886	3,747	-139
Total	27,480	29,330	30,565	1,235
Full-Time Equivalent Employment by Activity				
Transportation and Spent Fuel Storage Licensing and Inspection	31	53	53	0
Licensing and Inspecting Nuclear Materials Users	142	141	137	-4
Nuclear Materials Research and Regulation Development	21	20	20	0
General Support	43	44	39	-5
Total	237	258	249	-9

This cost center ensures that licensees adequately protect the public health and safety, worker safety, and the environment when radioactive material is transported and used in various situations under normal operations and abnormal events. Efforts in this cost center comprise NRC licensing,

inspection, and regulatory oversight and development for the transportation of radioactive materials in packages that produce a high degree of safety and for the safe use of radioactive material.

This cost center comprises four major activities: transportation and spent fuel storage licensing and inspection; licensing and inspecting nuclear materials users; nuclear materials research and regulation development; and general support.

Transportation and Spent Fuel Storage Licensing and Inspection

This activity comprises NRC certification of transport container package designs; licensing, inspection, and regulatory oversight of the interim storage of spent fuel outside reactor sites; and the safe interim storage of spent fuel. This activity ensures that licensees transport nuclear materials in packages that will provide a high degree of safety, and that licensees provide safe interim storage of spent reactor fuel. The NRC transportation activities are closely coordinated with those of the Department of Transportation and, as appropriate, with DOE and the Federal Emergency Management Agency (FEMA). The spent fuel storage activities require detailed health, safety, and environmental reviews and inspections of licensee procedures and facilities to ensure safe operations.

The NRC will complete the review of approximately 80 container design applications (new, amendment, and renewal) in FY 1997. These applications are submitted by commercial vendors for transport of large quantities of radioactive material. Of these 80 applications, approximately 5 to 10 applications are expected for major spent fuel casks, most of which will be dual purpose (transportation and interim storage) casks. In addition, in FY 1997, the NRC will inspect approximately 10 implementations of quality assurance programs by users, suppliers, and fabricators of NRC-certified transport packages and will inspect some dry storage and materials vendors.

The NRC will complete the review of approximately 15 transport safeguards plans for shipments of special nuclear material in FY 1997. The NRC will also survey routes proposed for shipments of nuclear material and relay to the Department of Transportation notifications received from licensees and carriers of planned import, export, or domestic shipments of nuclear material.

The DOE system for inventory and forecast of spent fuel and high-level radioactive waste generation will be monitored closely to enable timely and adequate waste management and early warning of capacity problems. The NRC will continue to maintain awareness of any potential delays in the DOE waste disposal program. In FY 1997, the NRC will inspect spent-fuel storage facilities and perform onsite inspections of concrete vaults and casks at reactors. The NRC will also review 10 applications for new licenses, topical reports, and license amendments for site-specific interim storage of spent fuel at reactors.

In FY 1996, the NRC will conduct prelicensing activities with industry in preparation for receipt of an application for a privately-owned independent spent-fuel storage installation. The NRC will initiate review of the application in FY 1997.

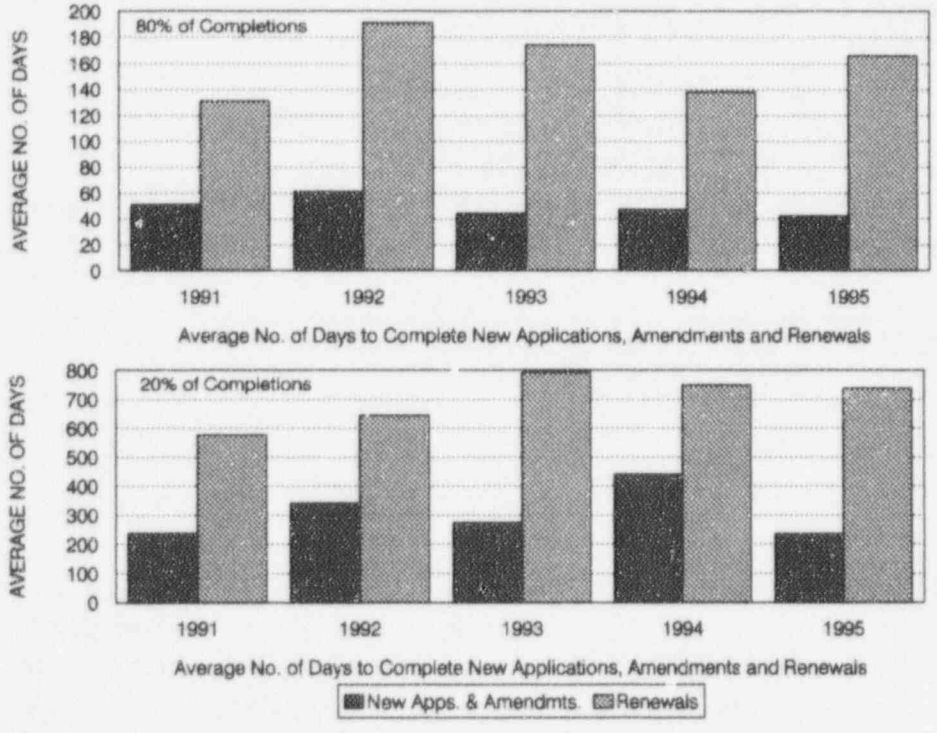
Licensing and Inspecting Nuclear Materials Users

This activity comprises NRC licensing and inspection of approximately 6,600 medical, academic, industrial, and commercial users of nuclear and other radioactive material. These uses include medical diagnosis and therapy, medical and biological research, academic training and research, industrial gauging and nondestructive testing, production of radiopharmaceuticals, and fabrication of such commercial products as smoke detectors and other sealed sources and devices. Detailed health and safety reviews and inspections of licensee procedures and facilities provide reasonable assurance of safe operations and the development of safe products.

During FY 1995, the NRC completed approximately 4,200 licensing actions for materials users which comprised about 290 new licenses, 2,880 amendments to licenses, and 1,050 license renewals. In FY 1997, the NRC will complete the review of approximately 3,800 applications for new licenses, license amendments, license renewals, and sealed source and device designs for the use of radioactive material. The NRC will also conduct preapproval tests of new sealed sources and devices and technologies and test any products in which generic problems may occur. In FY 1997, the NRC will evaluate current regulations concerning generally and specifically licensed devices.

NRC's timeliness goal is to complete 80 percent of new applications and license amendments for byproduct materials licenses within 90 calendar days of their receipt, and the remainder within 180 calendar days. The goal for renewal applications is to complete 80 percent within 180 calendar days and the remainder within 1 year. Backlogged reviews are those reviews that exceed the timeliness goal. For reviews completed during each of the last 5 years, the following chart shows the average time required to complete new, amendment, and renewal licenses for byproduct materials.

Figure 5
MATERIALS LICENSING REVIEWS
Timeliness of Reviews Completed Each Fiscal Year

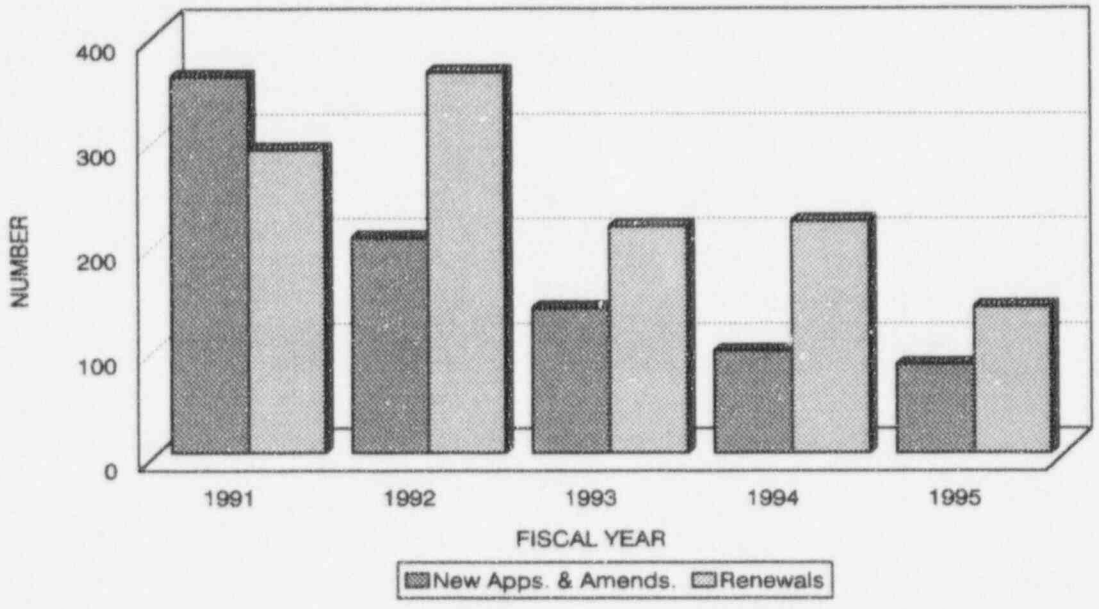


Also during FY 1995, the number of pending licensing actions was reduced from 1,560 to 1,445. Of these licensing actions, 223 were backlogged at the end of FY 1995. This reflects about a 30 percent decrease in backlogged actions.

The materials licensing reviews backlog chart shown below presents a different perspective on NRC's timeliness in processing licensing actions. It measures the number of actions to be completed at the end of each fiscal year that exceed the timeliness goals. This chart shows that significant reductions have been made in the number of backlogged reviews, particularly license renewals, in the past 3 years. This is consistent with the increases shown in the materials licensing reviews timeliness chart,

with each reflecting the completion of many previously backlogged old reviews. (As the old inventory is cleared out, the backlog drops, but the average time to complete reviews rises.)

Figure 6
MATERIALS LICENSING REVIEWS
Backlog

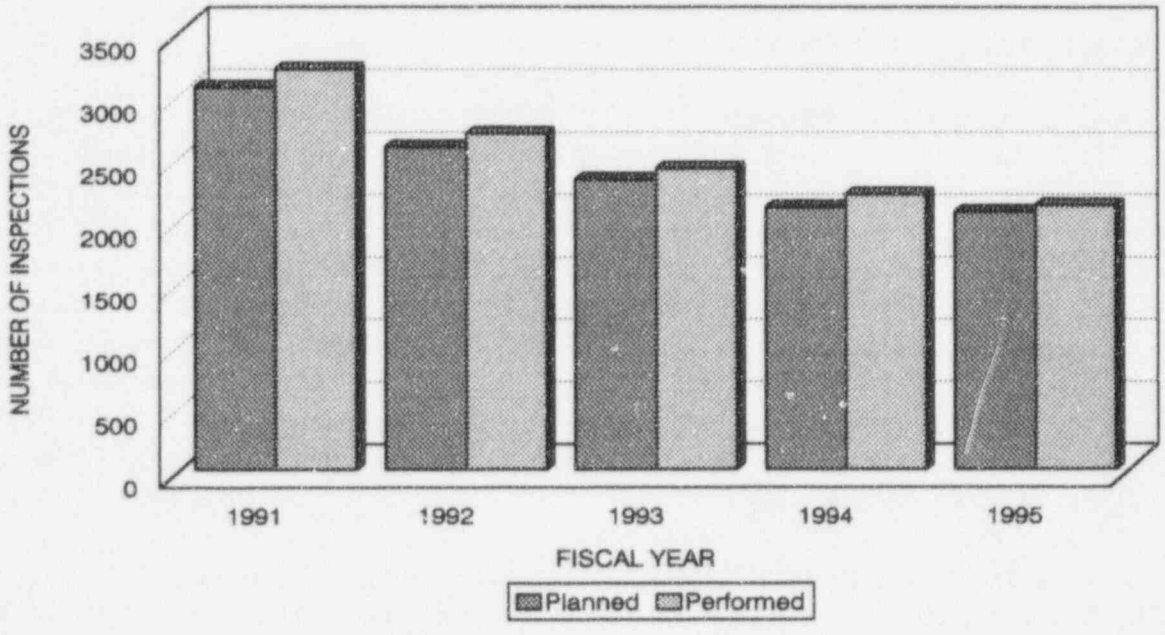


The 1991 100-percent fee recovery rule took place in the 5-year period and had significant impact on the average number of days to complete reviews. This rule brought about an unexpectedly high number of requests from licenses to terminate licenses and to combine licenses in order to reduce their fees. These license amendment requests were far more than originally forecast. This resulted in an increase in the average number of days to complete reviews in FY 1991-1995 and an accumulation of backlogged licensing work (see materials licensing reviews backlog chart), particularly in FY 1991 and FY 1992.

In FY 1997, the NRC will continue to update and implement the medical management plan to provide programmatic improvements in the medical area for licensing, inspection guidance, and rulemaking, and conduct other analyses and evaluations as needed. The National Academy of Sciences (NAS) recently completed its independent indepth review of regulatory rules, policies, practices, and procedures to assess whether NRC's current framework for medical use of byproduct material is appropriate to fulfill statutory responsibilities to protect the public health and safety. During FY 1996-1997, the NRC will review NAS recommendations and take appropriate action.

As shown in the following chart, the NRC completed about 2,100 inspections of materials facilities in FY 1995. Over the last 5 years, there has been a decline in the number of materials licensees; therefore, fewer materials inspections are planned and performed.

Figure 7
MATERIALS INSPECTIONS



The NRC will conduct approximately 1,900 routine health and safety inspections and closeout inspections of materials licensees in FY 1997. These inspections are designed to ensure that licensees are conducting operations in a safe manner and in accordance with procedures and regulations. If conditions are noted that could cause unnecessary exposures or releases, prompt and appropriate enforcement actions are taken.

In FY 1997, the NRC will implement the Integrated Materials Performance Evaluation Program to assess the performance of NRC's regional materials program and that of the Agreement States.

In FY 1996, the NRC will continue its analysis for streamlining the materials licensing and inspection work process. The objective of this analysis is to use work process engineering to establish more efficient and potentially automated processing of material license and amendment requests and use similar methods to improve on the materials inspection process. In FY 1997, the NRC will initiate implementation of the results of the streamlining analysis and modify, as needed, the new licensing

process so as to assess potential effects on Agreement States and to anticipate and mitigate any potential effect on public health and safety.

In FY 1997, the NRC will complete the review and evaluation of international safeguards and physical security aspects of approximately 110 license applications for the export of nuclear material from the United States and 30 Executive Branch consultation cases.

Nuclear Materials Research and Regulation Development

This activity comprises NRC efforts associated with developing regulations, policy statements, and regulatory guides needed for the safeguarding of facilities and special nuclear materials, for the transportation of radioactive materials, and for the safe medical, academic, and industrial use of radioactive materials; and developing the technical basis for radiation protection standards for ensuring that exposure of workers and the public to ionizing radiation from licensed nuclear materials activities is kept as low as is reasonably achievable. Safeguards regulatory products ensure the physical security and accountability of strategic special nuclear material and the physical protection of licensed facilities. Medical, academic, and industrial regulatory products help to ensure the public safety in the use of radioisotopes in medical diagnosis and the therapy, medical and biological research, academic training and research, industrial gauging and nondestructive testing, radiopharmaceutical production, and fabrication of such consumer products as smoke detectors.

The development of materials rules and regulatory guidance is managed centrally in the Office of Nuclear Regulatory Research to ensure that: (1) needed rules are developed in a timely manner, (2) regulatory impact analyses are performed to assure that only materials-related rulemaking that are cost beneficial go forward, and (3) the results of NRC and other research are incorporated in materials regulations, policy statements, and guides for use in the licensing process. Semiannually, the NRC performs an integrated review of the priorities and schedules for all rulemaking actions to ensure that the highest priority rulemaking efforts are conducted and that rulemaking actions having the highest priority are initiated, beginning with a cost-benefit assessment, as final rules are completed. In addition, the NRC will continue to seek ways of providing earlier and more substantial involvement of Agreement States in the development of rulemakings and other regulatory efforts that affect those activities that are licensed by NRC in non-Agreement States and by the State authorities in Agreement States, e.g., activities licensed under 10 CFR Parts 30, 40, 61, and 70.

During FY 1996-1997, the NRC will conduct ten rulemaking actions applicable to materials licensees and issue proposed or final rules, perform the associated regulatory impact analyses (RIAs), and develop the associated regulatory guides where applicable for the following: (1) safeguards for spent nuclear fuel or high-level waste, 10 CFR Parts 60, 72, 73, 75; (2) list of approved spent fuel storage casks: revision of VSC-24 storage cask, 10 CFR Part 72; (3) revision of reciprocity provisions for

Agreement State licensees in areas of exclusive Federal jurisdiction, 10 CFR Part 150; (4) provision to establish the pregnancy/breast-feeding status of patients prior to administration of radioactive materials or radiation, 10 CFR Part 35; (5) provide general license to permit any physician to administer exempt quantities of radioactive material as part of medical diagnosis, 10 CFR Part 35; (6) material control and accounting, Parts 70, 74; (7) alternative criteria for non-profit entities and alternative criteria for non-bond issuing licensees, Parts 30, 40, 50, 70, 72; (8) resolution of dual regulations of airborne emissions, 10 CFR Part 20; (9) clarification of criteria for uranium mills and tailings, 10 CFR Part 40; and (10) provide flexibility for the form of tritium light sources which may be used in timepieces exempt from licensing, 10 CFR Part 32.

During FY 1996-1997, the NRC will continue to work on rules identified by the National Performance Review as candidates for revision or elimination. The NRC will continue to implement changes in these and other existing materials regulations and regulatory requirements that have a large economic impact but that can be eliminated or modified without significantly reducing safety. The NRC will evaluate the recommendations by the National Academy of Sciences for modification of NRC regulatory framework for radiation medicine. Regulation changes will be needed to implement fully revisions to streamline and simplify the materials license application process.

This activity also includes research on materials radiation protection and health effects that is being conducted to ensure that workers and the general public are adequately protected from the adverse consequences of exposure to ionizing radiation from licensed materials activities. Efforts include developing nuclear materials radiation protection standards and guidelines for implementing the standards in the licensing process.

In FY 1997, the NRC will develop performance criteria to implement testing and accreditation criteria for extremity dosimetry. The NRC will also monitor ongoing health effects research and operating experience and develop appropriate materials-related regulations or regulatory guidance to address needs identified on the basis of this information.

General Support

This activity comprises NRC supervision and coordination of policy direction efforts, and operational activities of the Materials Users Cost Center.

Low-Level Waste and Decommissioning Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	9,856	9,796	10,312	516
Contract Support	9,372	6,505	5,685	-820
Travel	604	469	428	-41
Total	19,832	16,770	16,425	-345
Budget Authority by Activity ($K)				
Low-Level Waste Oversight and Inspections	4,588	1,407	976	-431
Decommissioning	11,094	10,954	10,991	37
Uranium Recovery	1,963	1,763	1,639	-124
General Support	2,187	2,646	2,819	173
Total	19,832	16,770	16,425	-345
Full-Time Equivalent Employment by Activity				
Low-Level Waste Oversight and Inspections	17	9	8	-1
Decommissioning	58	65	68	3
Uranium Recovery	21	17	15	-2
General Support	25	24	25	1
Total	121	115	116	1

This cost center ensures the effective and efficient discharge of NRC responsibilities to regulate low-level waste (LLW) in order to adequately protect the public health and safety and ensures an integrated agency program to oversee decontamination and decommissioning of facilities and sites associated with NRC licensed activities. Functions in this cost center are mandated by the Low-Level Radioactive Waste Policy Act (LLRWPA) of 1980, the Low-Level Radioactive Waste Policy Amendments Act (LLRWPAA) of 1985, the Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978, and portions of the West Valley Demonstration Project Act of 1980.

The LLRWPA makes each State responsible for providing for the disposal of LLW generated within its borders. This may result in up to 12 new LLW disposal facilities as States develop facilities and form compacts to dispose of waste. The LLRWPAA gives the NRC responsibility for defining LLW, licensing the Federal disposal of commercial LLW that is greater than Class C (Class C waste is defined in 10 CFR Part 61), granting individual generators of waste emergency access to non-Federal disposal facilities, providing regulatory guidance on alternatives to conventional shallow land burial, and ensuring that its reviews of LLW disposal facility applications are completed to the extent practicable within 15 months after formal receipt, excluding the hearing process.

The UMTRCA directs the NRC to develop regulations and to license the disposal of mill tailings from licensed uranium mills. Congress also directed the NRC to amend its regulations to conform to the Environmental Protection Agency (EPA) standards for these wastes. The UMTRCA directs the NRC to approve licensee plans for disposing of mill tailings, to review and concur in the site-by-site implementation of the Department of Energy (DOE) program for remedial actions concerning mill tailings, and to license DOE possession and long-term care of these sites.

This cost center includes NRC's regulatory program for the decommissioning of materials sites, including NRC activities for the timely decommissioning of contaminated sites listed in the Site Decommissioning Management Plan (SDMP) and for the resolution of technical and policy issues to facilitate timely decommissioning of sites. Research to address issues concerning radionuclide transport and behavior in the environment is also included in this cost center to provide generic support for licensing actions, especially decontamination, where the movement of radioactive contaminants through the near surface environment is a concern. NRC activities to interact with the Environmental Protection Agency (EPA) to resolve issues of mutual concern related to the regulation of radionuclides in the environment to avoid unnecessary duplication of regulatory requirements are also included in this cost center.

This cost center comprises four major activities: low-level waste oversight and inspections; decommissioning; uranium recovery; and general support.

Low-Level Waste Oversight and Inspections

This activity comprises NRC licensing, inspection, and regulatory development efforts for those facilities under its jurisdiction that are engaged in near-surface land disposal. Regulatory responsibilities are implemented through detailed health, safety, and environmental reviews and inspections of licensee procedures and facilities to ensure safe operations. Resolution of low-level waste (LLW) disposal issues on waste form stability, waste package integrity, radionuclide transport through the disposal facility environment, and long-term doses resulting from radionuclide releases

beyond the disposal facility environment is needed to ensure the long-term protection of the public health and safety and the environment.

In FY 1997, the NRC will complete guidance on conducting LLW site performance assessments, and guidance that provides safe alternatives for disposal of contaminated emission control dust.

In FY 1997, the NRC will complete the review and evaluation of the Special Nuclear Material (SNM) license renewal application for the Hanford LLW disposal facility, conduct inspections of the SNM licenses at Hanford and Barnwell, and evaluate licensee effectiveness in processing, packaging and shipping LLW at nuclear power reactors.

In FY 1997, the NRC will maintain the existing LLW performance assessment modeling capability for timely completion of reviews as mandated by the LLRWPAA by developing, conducting, and evaluating performance assessments in order to prepare to respond to the submittal of a LLW facility application from a non-Agreement State.

In FY 1997, the NRC will conduct the inspection program at waste generator facilities and at operating and developing LLW disposal facilities. This program will address construction and operation of disposal facilities and radiation protection and environmental surveillance.

The Advisory Committee on Nuclear Waste (ACNW) provides the Commission with independent technical review of and advice on the disposal of low-level nuclear waste and related matters. To perform objective reviews and provide advice, the ACNW relies on highly qualified members and specialized consultants, as well as highly qualified technical support staff. The ACNW also reviews and provides advice on nuclear waste disposal facilities within the purview of NRC responsibilities, as directed by the Commission.

The ACNW activities in the area of low-level nuclear waste primarily focus on disposal facility issues associated with the Nuclear Waste Policy Act, the Low-Level Radioactive Waste Policy Act, and the Uranium Mill Tailings Radiation Control Act. During FY 1997, the ACNW will: review the Office of Nuclear Regulatory Research programs supporting the Office of Nuclear Material Safety and Safeguards Waste Management Division, technical issues associated with the environmental transport of radioactive materials; the environmental monitoring of low-level radioactive waste disposal facilities; international programs; and strategies for lessons applicable to domestic LLW disposal. The ACNW will also review: progress in the development of NRC's LLW performance assessment capabilities and attendant guidance to assist licensees and Agreement States; progress underway at site decommissioning management plan sites; and developing radiological criterion for decommissioning. When requested by the Commission, the ACNW will review reactor

decommissioning projects; staff activities associated with the adequacy and compatibility of Agreement States programs; and other studies and activities as directed by the Commission.

Decommissioning

This activity comprises NRC's integrated requirements for the decontamination and decommissioning of facilities and sites associated with NRC-licensed activities. Decommissioning involves safely removing a facility from service and reducing residual radioactivity to a level that permits the property to be released for unrestricted use. This action is to be taken by a licensee before termination of the license. In some cases, non-licensed facilities may also be required to reduce or stabilize contamination prior to release of sites. This activity also includes decommissioning and environmental protection research being conducted to develop and coordinate radiation protection standards and guidelines for the decommissioning of facilities and sites associated with NRC-licensed activities and radionuclide transport and behavior research being conducted to provide a technical basis for evaluating radionuclide movement from contaminated sites to the environment. The research findings will be used to establish criteria for releasing areas containing radioactive material and to evaluate potential pathways and doses and risks from public exposure to radioactive material.

In FY 1997, the NRC will continue to manage a program for materials facility decommissioning to review submittals resulting from the Decommissioning Rule. It will also review approximately 50 financial assurance certifications and funding plans each year as a part of new, amendment, and renewal license requests.

In FY 1997, the NRC will review a license termination plan and prepare the safety evaluation report, the environmental assessment, and the license termination order for a shutdown, defueled nuclear power reactor.

During FY 1996-1997, the NRC will conduct licensing reviews, including emergency preparedness and radiation protection inspections, at five power reactors in a safe storage condition that do not have spent fuel on-site.

During FY 1996-1997, the NRC will conduct actions necessary to encourage timely cleanup of approximately 50 known materials and fuel facility sites listed in the site decommissioning management program (SDMP). This program includes: (1) review and approval of the decontamination and decommissioning plans; (2) review of the licensees' performance of decommissioning activities; (3) conduct of confirmatory surveys and termination of licenses; (4) review of earlier burials of radioactive material under 10 CFR 20.302 and 20.304; (5) development of policy and regulations to ensure efficient and consistent licensing actions to

minimize future contaminated sites problems; and (6) implementation of an action plan to encourage and enforce timely cleanup of sites listed in the SDMP.

During FY 1996-1997, the NRC will adopt a graded approach for conducting confirmatory surveys at licensed materials facilities in support of decommissioning. In conjunction with this revised approach, NRC will develop protocols for decommissioning which will include the graded approach for conducting confirmatory surveys.

In FY 1997, NRC will develop and maintain an inspection program and inspection procedures for decommissioning of SDMP sites, and routine and non-routine materials facilities.

In FY 1997, the NRC will continue to interact with the Environmental Protection Agency (EPA) to resolve issues of mutual concern that relate to the regulation of radionuclides in the environment to avoid unnecessary duplication of regulatory requirements. These issues include harmonization of risk goals and assessment methods, decommissioning criteria, effluent limits, waste management activities, standards for disposal of LLW, and standards for recycling.

In FY 1997, the NRC will complete a mechanistic assessment of soil geochemistry in controlling radionuclide transport. Particular attention will be given to surface effects on silicate minerals.

In FY 1997, the NRC will conduct large-scale field experiments to assess flow and transport in heterogeneous media. This builds on earlier work at Las Cruces, New Mexico, to assess the present capability of modeling groundwater flow and radionuclide transport in the unsaturated zone. This work will be used to evaluate monitoring strategies, methods, and instrumentation.

In FY 1997, the NRC will complete the adaptation of the LLW Performance Assessment Methodology for use in site decommissioning. Also in FY 1997, a test of the methodology will be completed using a site from the Site Decommissioning Management Plant (SDMP).

Beginning in FY 1997, a field study will be conducted to assess alternative techniques for monitoring moisture movement and contaminant transport in the unsaturated zone. Field data will be collected over a range of field scales to develop technical bases for reviewing monitoring programs associated with decommissioning activities.

In FY 1997, the NRC will adapt the infiltration and transport analysis methods developed for LLW (NUREG/CR-6346) to SDMP reviews.

In FY 1997, the NRC will continue work on radionuclide solubilities which are important to determining movement of radionuclides in the environment.

During FY 1996-1997, the NRC is planning to conduct six rulemaking actions applicable to decommissioning and environmental protection, and issue proposed and/or final rules and the associated regulatory guides where applicable for the following: (1) sewer disposal, 10 CFR Part 20; (2) nuclear power reactor decommissioning cost requirements, 10 CFR Part 50; (3) clarification of decommissioning funding certification requirements, 10 CFR Parts 30, 40, 50, 70, 72; (4) enhanced participatory rulemaking (EPR) on criteria for reuse-recycle, 10 CFR Part 20 (after completion of present rulemaking "Radiological Criteria for Decommissioning of Nuclear Facilities"); (5) nuclear power reactor decommissioning financial assurance implementation requirements, 10 CFR Part 50; and (6)revised insurance and emergency preparedness requirements for permanently shutdown power reactors, 10 CFR Parts 50 and 140.

Semiannually, the NRC performs an integrated review of the priorities and schedules for all rulemaking actions to ensure that the highest priority rulemaking efforts are conducted and that rulemaking actions having the highest priority are initiated as final rules are completed.

In FY 1997, the NRC will conduct: (1) a systematic assessment of the existing exemptions allowing release of radioactive material from regulatory control, (2) research on potential doses from the recycling or reuse of contaminated materials and equipment, and (3) investigations on the appropriateness of criteria for releasing areas containing buried radioactive materials (regulatory guidance will be developed as necessary). Among the regulatory guides the NRC will publish are: (1) Post Shutdown Decommissioning Activities Report, (2) Reactor Decommissioning Process, and (3) Standard Format and Content for Licensee Termination Plans.

In FY 1997, the NRC will continue implementation efforts directed at decommissioning activities. The NRC will issue guidance that will define the doses that would result from surface and volumetric levels of radioactive contamination should facilities and lands be released for unrestricted public use. Calculational models to be incorporated into the dose modeling strategy will encompass a range of site and source inventory complexities for groundwater flow and transport, and air deposition and resuspension processes (including coupling and appropriate calculational codes for dose assessment). The NRC will enhance and test the calculational models against specific site conditions and residual contamination inventories on a variety of site and inventory data sets through the facility scale, and assess associated uncertainties. In FY 1997, the NRC will reexamine the validity of the criteria and certification amounts based on actual decommissioning costs for nonpower reactor facilities.

In FY 1997, the NRC will closely coordinate regulatory research with other Federal organizations. For example, the NRC will participate in EPA's interagency task group to prepare Federal guidance on exposure of the public to radiation. One action assigned to this task group is the development of Federal guidance on radiological criteria for decommissioning.

Uranium Recovery

This activity comprises NRC licensing and inspection of uranium mills, heap-leaching facilities, ore-buying stations, commercial solution mining, uranium extraction research and development projects, and commercial disposal of radioactive tailings or waste as defined in Section 11e (2) of the Atomic Energy Act of 1954, as amended. This activity requires detailed health, safety, and environmental reviews and inspections of licensee procedures and facilities to provide reasonable assurance of safe operations; the development of NRC regulatory guidance to implement the EPA standards for regulating mill tailings; and the site-by-site approval of licensee plans for disposing of mill tailings and other radioactive material.

The NRC will complete the review of two licensee reclamation plans in FY 1997, including preparation of environmental impact statements for selected uranium recovery sites.

The NRC will complete the review of approximately 40 new, amendment, and renewal license applications for uranium recovery facilities in FY 1997 and begin the review of one construction completion report and one long-term surveillance plan, both of which must be approved prior to termination of a site-specific license. The NRC will also conduct approximately 35 radiological safety inspections and inspections of uranium reclamation activities in FY 1997. During these inspections, the NRC will thoroughly review each licensee's program and implementation of licensee conditions to protect the public health and safety and the environment.

This activity also includes NRC's efforts related to the evaluation of the remedial actions to be taken by DOE at 24 mill tailings piles at 22 sites, as well as at several thousand contaminated properties located near the sites. The NRC reviews and concurs in remedial action plans and proposed designs for the site and properties in the vicinity of the site and concurs in DOE's plans for long-term control of radiation or radioactive and nonradioactive releases from the site and for the protection and cleanup of groundwater. Once the remedial action has been completed, the NRC is responsible for licensing DOE for long-term care and site maintenance.

The NRC has already concurred in remedial action plans for 15 of the 22 sites. The DOE Uranium Mill Tailings Remedial Action Project is currently scheduled to terminate by the end of FY 1996. DOE has requested an extension from Congress to 1998 to complete remedial actions at the remaining sites. NRC has assumed the project will be extended. Therefore, in FY 1997, the NRC will continue to review and concur in DOE's proposed remedial action plans and related documents. The NRC will also continue to concur in completed remedial actions and long-term surveillance plans for all the sites.

General Support

This activity comprises NRC supervision and coordination of policy direction efforts, and operational activities of the Low-Level Waste and Decommissioning Cost Center.

In FY 1997, the NRC will operate and enhance the Advanced Computer System (ACS). The ACS is a computer network consisting of approximately five client/servers, 20 Unix workstations, 30 personal computers, and associated peripheral equipment. This system will assist the NRC staff in the review of applicant site characterization activities and engineered facilities, and performance assessments for licensing decisions. The NRC will continue to procure and install proprietary software for the ACS, such as advanced scientific visualization software, complex natural system modeling programs, and sophisticated engineering design calculations.

Other Nuclear Materials and Waste Activities Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	5,838	5,934	6,278	344
Contract Support	1,212	724	724	0
Travel	316	309	273	-36
Total	7,366	6,967	7,275	308
Budget Authority by Activity ($K)				
Independent Analysis of Operational Experience	1,076	1,129	1,165	36
Technical Training and Qualification	1,054	617	625	8
Adjudicatory Reviews	150	104	108	4
Investigations, Enforcement, and Legal Advice	3,654	3,672	3,773	101
Event Evaluation	1,432	1,445	1,604	159
Total	7,366	6,967	7,275	308
Full-Time Equivalent Employment by Activity				
Independent Analysis of Operational Experience	9	9	9	0
Technical Training and Qualifications	2	2	2	0
Adjudicatory Reviews	1	1	1	0
Investigations, Enforcement and Legal Advice	39	38	38	0
Event Evaluation	18	17	18	1
Total	69	67	68	1

This cost center ensures identification, evaluation and response to potentially significant events and safety concerns, technical training, independent adjudicatory reviews, investigations of wrongdoing

by licensees, enforcement policy, and resolution of legal issues associated with nuclear materials licensees.

This cost center comprises five major activities: independent analysis of operational experience; technical training and qualification; adjudicatory reviews; investigations, enforcement, and legal advice; and event evaluation.

Independent Analysis of Operational Experience

This activity is conducted by the Office for Analysis and Evaluation of Operational Data (AEOD) to identify, evaluate, and respond to potentially significant events and safety concerns involving nonreactor facilities, based on events reported to the NRC by its licensees and the Agreement States.

AEOD oversees the agency's incident and accident investigation programs to ensure that significant and extraordinary safety-significant operational events involving nuclear materials and fuel facilities licensed by the NRC are investigated in a systematic and technically sound manner and that information is obtained on the causes of the events, including those involving NRC activities, so that the NRC can take corrective actions that are timely and effective. For events that could be of major significance, an accident review group (ARG) or incident investigation team (IIT) is established that is independent of the region and the program office. For investigating less significant operational events, an Augmented Inspection Team is established, under regional direction complemented by headquarters personnel, as necessary. In FY 1997, the NRC will support IITs as required; maintain the Incident Investigation Program Management Directive, associated manual, and IIT rosters, and incorporate the lessons learned from completed IITs; and conduct periodic training of IIT roster members and leaders. The NRC will also independently review the adequacy of the resolution of staff actions assigned by the Executive Director for Operations (EDO) for IITs and document the status until closeout of IIT-initiated staff actions. In FY 1997, the NRC will implement and maintain the programmatic actions needed to ensure the capability to activate and support an ARG reporting to the Commission in response to an event of extraordinary safety significance at a licensed nuclear materials facility.

The NRC conducts incident response activities to ensure that it is prepared to carry out its role in a radiological emergency at NRC-licensed nonreactor facilities, that licensee responses are consistent with their responsibilities, and that NRC responses are coordinated with other Federal response activities and State and local government activities.

In FY 1997, the NRC will (1) maintain and implement the NRC incident response program in response to actual operational events within the industry especially as they relate to gaseous diffusion

plants; (2) operate the NRC Operations Center 24 hours a day with nuclear engineers capable of receiving event reports and recognizing and communicating problems and emergencies to management; (3) coordinate State and Federal response efforts to develop and improve the Federal Radiological Emergency Response Plan and the Federal Response Plan; and (4) maintain the NRC Operations Center and regional functional procedures, response tools, and training. In FY 1997, the NRC will assess regional incident response programs and emergency preparedness exercises with each region.

A standardized training program on the technical and organizational aspects of emergency response has been developed and continues to evolve. In FY 1997, this training will continue to be conducted for headquarters and regional response personnel. Training will also be offered periodically to Federal agencies that support the NRC, as well as State agencies that the NRC supports during an accident. At least one exercise will be conducted annually to confirm and maintain the capabilities of NRC response personnel to meet the unique needs associated with materials licensees and fuel cycle facilities. More efficient notification and information exchange methods will continue to be developed among the Federal response agencies involved in this area.

This activity also includes the review and evaluation of operational experience from NRC licensees and Agreement States to identify generic issues resulting from significant events or situations that warrant detailed evaluation. These issues are further analyzed to assess the root causes of the identified deficiency and the adequacy of corrective actions implemented and planned, and to identify those safety concerns that may warrant regulatory attention. Operational events, such as overexposure to radioactive materials and medical misadministrations of nuclear material, are included in this review.

In FY 1997, the NRC will continue to issue studies, trends and patterns reports, engineering evaluations, and nuclear materials technical reviews. Results, findings, and recommendations for actions based on these studies will be widely disseminated to the appropriate entities and the public in a timely manner. The NRC will continue the collection, technical screening, and coding of nuclear materials events into the Nuclear Materials Events database for both agency and Agreement State access. The NRC will maintain a client/server application to provide the capability for the database to be accessed throughout the NRC.

Technical Training and Qualification

This activity provides technical training for NRC staff in support of the nuclear materials and nuclear waste program. Curriculum areas in support of the nuclear materials and nuclear waste program will be maintained in probabilistic risk assessment, radiation protection, fuel cycle technology, security

and safeguards, and regulatory skills. New courses will be developed and existing courses will be modified to meet new or changing needs. Training is made available to Agreement State inspectors. Training is also provided to other Federal, State, and foreign regulatory counterpart employees on a space-available basis.

The technical training curriculum will continue to be provided to ensure appropriate coverage in specialized areas. In FY 1997, the technical training curriculum supporting the nuclear materials and nuclear waste program will continue to include approximately 60 courses ranging in duration from 1 day to 5 weeks. Emphasis will continue to be placed on nuclear materials safety and fuel cycle program development and training.

Adjudicatory Reviews

The Atomic Safety and Licensing Board Panel is a statutory office of the NRC comprised of administrative judges who, sitting alone and in three-member boards, conduct adjudicatory hearings pursuant to a number of statutes including: the Administrative Procedure Act; the Atomic Energy Act of 1954, as amended; the National Environmental Policy Act of 1969, as amended; the Nuclear Waste Policy Act of 1982, as amended; and the Program Fraud Civil Remedies Act. In FY 1997, the Atomic Safety and Licensing Board Panel will conduct adjudicatory hearings, usually at or near the site where the dispute arose, pursuant to those acts.

The Licensing Panel's boards and judges hear and decide requests to grant, suspend, revoke, or amend licenses and preside over rulemaking hearings. Hearings address issues involving health, safety, and the environment, as well as enforcement matters, antitrust, and emergency planning. Individual administrative judges and administrative law judges are authorized to decide cases involving the licensing of nuclear materials and other cases, as directed by the Commission. The Panel also will maintain and train a legal and technical staff adequate to ensure the appropriate conduct of its cases. The Panel will provide advice on adjudicatory matters, other proceedings, and regulatory and administrative matters pertaining to the adjudicatory process.

Investigations, Enforcement, and Legal Advice

The NRC Office of Investigations (OI) investigates allegations of wrongdoing by NRC materials licensees; the NRC Office of Enforcement (OE) manages the agency's enforcement program, using enforcement actions as a deterrent to emphasize the importance of compliance with requirements and to encourage prompt identification and prompt, comprehensive correction of violations; and the NRC Office of General Counsel (OGC) addresses legal questions associated with the licensing and

regulation of all material licensees, spent-fuel storage, low-level waste management, transportation of nuclear materials, and certification of the United States Enrichment Corporation's (USEC) gaseous diffusion enrichment facilities.

All findings and conclusions that result from investigations are sent to the appropriate program office and to OE for review of the issues involved and a determination as to whether enforcement action is warranted. The Director, OI, refers suspected or alleged criminal violations concerning NRC licensees and others within the NRC's regulatory jurisdiction to the U. S. Department of Justice (DOJ). The NRC will continue to investigate allegations of wrongdoing by NRC materials licensees and others within its regulatory jurisdiction. The current workload consists of approximately 30 active materials cases. Approximately 50-70 materials cases are expected to be opened during FY 1997. The NRC will continue to refine, administer, and maintain quality control standards for investigations. In FY 1997, the staff will continue to apprise the Commission and appropriate agency offices of matters under investigation that may affect the public health and safety or other aspects of the agency's mission. The staff will maintain liaison with other agencies and organizations to ensure the timely exchange of information of mutual interest and refer matters judged to be criminal to DOJ.

The NRC will continue to implement an enforcement program with support from the regional offices. Activities include overseeing and evaluating regional enforcement efforts; coordinating and developing regional enforcement actions and recommendations; evaluating potential enforcement cases; reviewing inspection and investigation reports and confirmatory action letters; initiating and processing notices of violations, civil monetary penalties, and various enforcement orders; reviewing draft regulations, inspection guidance, and other initiatives for their effect on the enforcement process and providing advice and guidance on related enforcement issues; assisting the Office of Nuclear Material Safety and Safeguards on orders modifying licenses, including cleanup orders; and assisting OGC in the administrative hearing process, including presenting testimony.

The NRC expects to consider between 120 and 150 materials enforcement actions in FY 1997. As the number and types of enforcement actions taken in any period are a function of the number of licensees and the licensees' performance, it is difficult to predict future activity levels; however, previous enforcement activity has been as follows:

Materials Enforcement

Fiscal Year	Actions Considered	Resulting Civil Penalties	Orders Issued
1993	205	74	10
1994	151	51	30
1995	124	34	21

The OE will continue to develop and promulgate enforcement policy, including the maintenance of an enforcement manual. The Enforcement Manual was last revised in November 1995, as a result of changes to the enforcement program approved by the Commission in June 1995. Additional sections and refinements based on experience will be issued in subsequent years. The staff will continue to review Commission directives for impact on the enforcement policy or program and make changes as necessary. In FY 1997, the NRC will continue to monitor actions filed with the Department of Labor (DOL) under Section 211 of the Energy Reorganization Act, coordinate with DOL, and develop enforcement actions where there are properly supported findings of discrimination. Also during this period, the staff will maintain data generated in the enforcement process to monitor the enforcement program and to evaluate materials licensees to identify weak performers who require greater NRC oversight.

The Office of the General Counsel will address legal questions related to the regulation of spent-fuel storage, low-level waste management, transportation of nuclear materials, and will provide legal assistance to the staff as the staff issues procedures and implements a regulatory framework governing NRC regulation and certification of the United States Enrichment Corporation gaseous diffusion enrichment facilities.

The OGC will provide legal assistance to the NRC staff with respect to the licensing, operation, enforcement, decommissioning, and the conduct of investigation of materials licensees and facilities, including the certification of the United States Enrichment Corporation gaseous diffusion enrichment facilities; the promulgation and amendment of NRC regulations and guides pertinent to the aforementioned matters; representing the NRC staff in adjudications arising from proposed licensing

and enforcement actions; representing the Commission in lawsuits arising from adjudicatory and rulemaking decisions related to materials licensees; and providing legal analyses of regulations, statutes, and cases relevant to NRC activities.

Event Evaluation

The Office of Nuclear Material Safety and Safeguards (NMSS) responds to incidents and events in the materials and transportation programs. In FY 1997, NMSS will maintain the capability for incident response and safety-based reactive inspections pertaining to materials and transportation. NMSS will also provide the capability for allegations, investigations, enforcement actions, and operational data analysis.

High-Level Waste Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	5,374	3,580	3,945	365
Contract Support	16,238	7,164	9,837	2,673
Travel	388	256	218	-38
Total	22,000	11,000	14,000	3,000
Budget Authority by Activity ($K)				
High-Level Waste Licensing	21,376	10,692	13,680	2,988
Other High-Level Waste Activities	624	308	320	12
Total	22,000	11,000	14,000	3,000
Full-Time Equivalent Employment by Activity				
High-Level Waste Licensing	54	40	40	0
Other High-Level Waste Activities	5	3	3	0
Total	59	43	43	0

The regulatory activities in this cost center are mandated by the Nuclear Waste Policy Act (NWPA) of 1982, the Nuclear Waste Policy Amendments Act (NWPAA) of 1987, and the National Energy Policy Act of 1992. The NWPA specifies a detailed approach for the long-range undertaking of high-level waste (HLW) disposal, with DOE having operational responsibility and the NRC having regulatory responsibility. This undertaking involves a complex, integrated system of waste handling, transportation, interim and retrievable storage, and ultimate deep geologic disposal of HLW, requiring the protection of the public health and safety and the environment over thousands of years. The NWPAA directs DOE to characterize only one candidate site, the Yucca Mountain site in the State of Nevada, and to terminate site-specific activities at all other candidate sites. The National Energy Policy Act directs the NRC to revise its regulations (10 CFR Part 60) within one year after the Environmental Protection Agency (EPA) issues new standards.

NRC's HLW repository program is proceeding according to the process established by the NWPA, as amended, and supports the current DOE schedule. NRC staff is reviewing DOE's activities as it implements its reduced program which focuses on synthesizing available site data while making major reductions in collecting new data. The goal of DOE's reduced program is a viability assessment of Yucca Mountain in 1999. The NRC is developing review procedures and acceptance criteria to review DOE's viability assessment from a regulatory perspective and eventually a license application. NRC also will provide feedback to DOE on resolving key technical issues most important to repository performance and licensing.

The Center for Nuclear Waste Regulatory Analyses (CNWRA), a federally funded research and development center (FFRDC) under contract to the NRC, has been established to provide technical assistance and conduct research for NRC's HLW program. The CNWRA provides support, under NRC direction, for NRC activities related to the geologic repository under the NWPA and NWPAA. The NRC will continue to sponsor the CNWRA during the planning period. This sponsorship will include providing for the administrative, management, and quality assurance procedures and practices necessary to operate the CNWRA.

The contract support funds are allocated for work done for the NRC by the CNWRA and some commercial contractors and universities.

This cost center comprises two major activities: high-level waste licensing and other high-level waste activities. Together, these activities are designed to ensure that high-level nuclear waste is managed and disposed of safely.

High-Level Waste Licensing

This activity is conducted to ensure the effective, efficient, and timely discharge of NRC's licensing responsibilities under the NWPA and NWPAA.

The high-level waste (HLW) licensing activity consists of work required to implement NRC's responsibility to license and inspect the national HLW repository. To fulfill this responsibility without causing undue delay or unnecessary rework in DOE's reduced program, the NRC and DOE will continue to interact and conduct prelicensing consultation. In the near-term, these consultations are for the purpose of resolving key technical issues that are important for DOE to consider in developing its viability assessment. Near-term consultations also will provide the basis for an effective and efficient licensing process by providing guidance to help ensure that the DOE program develops essential and acceptable data, providing onsite overview of DOE activities, and reviewing and evaluating DOE submittals. NRC prelicensing consultations, reviews and development of review procedures will be focused on resolving, at the staff level, those key technical issues most important

to repository performance and eventual licensing. This approach coordinates all NRC activities related to each key issue and focuses on evaluating a "vertical slice" of DOE activities for resolving the key issues.

In FY 1997, the NRC will continue to work cooperatively with EPA as EPA revises its HLW standards. After EPA issues a revised standard, the NRC will reinitiate and issue a proposed and final rulemaking on elimination of inconsistencies between NRC regulations (10 CFR Part 60) and EPA HLW standards. During this period, the NRC will continue to review and comment on DOE program planning documentation to help ensure that NWPA and NWPAA statutory actions are completed and the schedules are met. In addition, as required under the NWPAA, the NRC will provide limited support to the Nuclear Waste Technical Review Board.

In FY 1997, with support from the CNWRA, the staff will continue to develop the review procedures and acceptance criteria that are related to key technical issues and associated "vertical slice" reviews.

In FY 1997, for key technical issues the NRC will continue to develop and revise repository subsystem models such as: (1) models for thermohydraulics, radiolysis, and galvanic corrosion within the engineered barrier system; (2) modeling of fault displacement, volcanism, and seismic hazards; (3) thermal/thermal-mechanical modeling; and (4) modeling of other topics as needed for assessing key technical issues. The staff will use these models and codes for key technical issues to evaluate DOE's site information, to develop the review procedures and acceptance criteria to support the EPA conforming rulemaking, to provide for assumptions made in the development and application of the repository total system model, and provide information for design reviews. These models also will be used to conduct sensitivity analyses to help focus on the most important parameters or processes within an issue.

In FY 1997, the staff will continue to conduct performance assessments of the repository system on an iterative basis, incorporating improved mechanistic models and system code methodology, as appropriate for key technical issues. The process uses predictive models and codes to obtain quantitative estimates of performance based on emerging data and increased understanding of the phenomena on which the models are based. This process will continue until DOE submits a license application containing an assessment of repository system performance. These performance assessments also either confirm the significance of key technical issues or identify new issues based on overall system evaluation.

In FY 1997, the NRC will conduct a limited number of independent technical investigations to support: (1) developing the licensing tools and technical bases for the acceptance criteria and review procedures necessary to judge the adequacy of DOE's license application, and (2) ensuring sufficient independent understanding of the most significant physical processes taking place at the geologic repository. These investigations will combine theoretical study with a limited number of laboratory

and field experiments and will focus only on those key technical issues that have the greatest uncertainty and importance to repository performance. The technical issues of concern include the interaction of the waste form and container with the environment at the disposal site, the effects of geologic processes on long-term performance of the repository, the movement of radioactive material from the disposal facility to the accessible environment, and the long-term geologic stability of the Yucca Mountain site.

During FY 1997, the investigation of engineered systems will respond to technical issues in the areas of controlled release; waste package; and repository design, construction, and operation. The NRC investigations will provide the support needed to address key technical issues and will provide information to models and codes used for assessing the performance of the engineered barrier system. The investigations will also address whether the short-term, small-scale tests and experiments on waste packages and other engineered components of the repository system that are performed by DOE in support of its license application are appropriate and sufficient to assess performance of engineered barrier systems within acceptable limits. They also will address the effects of the coupled interactions between the repository system components (including the host rock and groundwater) in the zone affected by waste heat, and the effects on the long-term stability of the engineered facility.

Investigations in the earth science area will address topics such as volcanism, tectonics and seismology, hydrogeochemistry, groundwater flow and transport, radionuclide sorption and transport, and microbiological action on tuff.

In FY 1997, with CNWRA support, the staff will review DOE's site synthesis reports, process models, outlines, total system performance assessments, and a limited number of design and topical reports. These reviews will be limited to reports or sections of reports related to the key technical issues most important to licensing. In FY 1997, the NRC will continue onsite liaison at Yucca Mountain to facilitate direct exchange of repository-related information with DOE and the State of Nevada, and to provide quality assurance and technical oversight of data, documents, and site characterization activities related to the key technical issues.

In FY 1997, the staff will continue to sponsor and oversee the management of the CNWRA, including management support and planning, expertise development and maintenance, and internal quality assurance. Also in FY 1997, the staff and the CNWRA will continue to operate, and maintain the Repository Program Database (RPD), and the staff will provide data entry services for the Technical Reference Document Database System at the CNWRA.

The NRC will continue to keep pace with DOE's generic work on central interim storage during FY 1996-1997. During FY 1996-1997, NRC will review a DOE topical safety analysis report on a dry transfer system. During FY 1997, NRC expects to review an amended DOE topical report that contains enhanced techniques for calculating burnup credit.

Other High-Level Waste Activities

This activity provides the Commission with independent technical review of and advice on the management and disposal of HLW, and legal advice and assistance on high-level waste management issues.

The Advisory Committee on Nuclear Waste (ACNW) acts as a focused center of expertise for independent technical review of and advice on HLW regulatory activities. To perform objective reviews and provide advice on the issues, the ACNW relies on highly qualified members and consulting specialists. The ACNW is responsible for reviewing and providing advice on all aspects of nuclear waste disposal facilities within the purview of NRC responsibilities, as directed by the Commission. The ACNW high-level nuclear waste efforts are focused primarily on the proposed geologic repository and spent fuel storage.

In FY 1997, the ACNW expects to focus on a changing HLW regulatory framework. As a result of the recently published report by the National Research Council, "Technical Bases for Yucca Mountain Standards," the EPA will issue new high-level waste disposal standards in 40 CFR Part 197. The NRC will be required to modify or propose alternatives to the current 10 CFR Part 60, "Disposal of High-Level Radioactive Wastes in Geologic Repositories," to conform with new EPA HLW standards. ACNW intends to provide advice to the Commission to ensure a workable regulatory framework for high-level waste disposal that will provide adequate assurance of protecting public health and safety.

DOE has changed its focus from a site suitability decision and license application submittal to a viability assessment. The ACNW will (1) evaluate DOE's revised approach and NRC's revised program and procedures, (2) provide advice to the Commission on DOE's effort to reach a viability assessment determination for the Yucca Mountain project and its waste isolation strategy, (3) provide advice to the Commissioners and guidance to the staff on site characterization and analysis activities, and (4) review the repository design including thermal loading. Questions to be addressed include the effects of coupled processes (thermal-hydrologic-mechanical-chemical).

The ACNW will continue its review of NRC staff activities associated with the iterative performance assessment program for the proposed HLW repository, including issues associated with validation of predictive models of component behavior, development of associated guidance, the use of expert elicitation, and the usefulness of a simplified performance assessment model. The ACNW will also review the development, testing and performance predictions of the waste package and engineered barrier systems; and international programs and strategies for lessons applicable to domestic HLW disposal. As requested by the Commission, the ACNW will review plans for an interim and retrievable spent fuel storage facility. The ACNW will continue its oversight reviews of development and implementation of technical assistance support at the CNWRA and will visit the CNWRA.

The ACNW will review NRC and DOE activities associated with the evaluation of the HLW management and disposal program from an overall systems perspective. During the planning period, the ACNW will visit the proposed Yucca Mountain HLW repository site in Nevada during development of the Exploratory Studies Facility to observe excavation procedures being used and the site characterization studies that are in progress.

The Office of the General Counsel provides legal advice and assistance relating to storage, transportation, and disposal of HLW. This includes providing legal advice and assistance relating to the development and review of NRC regulations and guides pertinent to licensing a HLW geological repository, and interim and retrievable storage facilities. It also includes representing the NRC in all evidentiary hearings on the HLW repository license application, including the review of material generated by the NRC and by contacts with persons and entities outside the NRC.

During FY 1996-1997, the Office of the General Counsel will (1) provide legal support for the development and review of NRC regulations and guides pertinent to licensing and construction of the HLW repository or any other interim storage facility and represent the NRC staff in public rulemaking activities; analyze and interpret regulations, statues, and cases relevant to NRC activities; and provide legal advice and assistance to the Commission and staff; (2) provide legal services to assist in the development of policy in conjunction with the licensing of the HLW repository or any interim Federal storage facility and provide advice and consultation to the Commission and staff on legal and policy aspects of health, safety, environmental, and safeguards issues arising from the licensing process; and (3) provide legal services to the Licensing Support System (LSS) Administrator.

The Licensing Support System Administrator will maintain a flexible posture pending congressional actions which may redirect the High Level Waste Repository program at the Department of Energy. The LSS Administration will: (1) participate in evaluating DOE's response to congressional redirection, (2) have involvement in the development of recommendations for a Commission strategy, and (3) prepare a programmatic approach for the automation of licensing activities in support of that position.

MANAGEMENT AND SUPPORT PROGRAM

MANAGEMENT AND SUPPORT PROGRAM

(Dollar amounts in tables represent thousands of dollars ($K). In text, whole dollar amounts are used. Staff numbers represent full-time equivalents (FTEs).)

Total FY 1997 Estimate $154,920,000

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	57,101	59,179	60,585	1,406
Contract Support	101,986	96,891	93,001	-3,890
Travel	1,690	1,649	1,334	-315
Total	160,777	157,719	154,920	-2,799
Budget Authority by Cost Center ($K)				
Policy and Direction	17,048	17,239	17,855	616
Resource and Administration	130,915	128,291	125,949	-2,342
Special Technical Programs	12,814	12,189	11,116	-1,073
Total	160,777	157,719	154,920	-2,799
Full-Time Equivalent Employment by Cost Center				
Policy and Direction	179	177	177	0
Resource and Administration	513	512	503	-9
Special Technical Programs	95	92	86	-6
Total	787	781	766	-15

4

EXPLANATION OF RESOURCE CHANGES

Policy and Direction

Resource increases in FY 1997 are due to increased costs for salaries and benefits, slightly offset by decreases in travel consistent with overall agency downsizing.

MANAGEMENT AND SUPPORT PROGRAM

Resource and Administration

Resource decreases in FY 1997 primarily result from delaying information technology purchases, changing our obligation process for employee moves, and decreasing administrative and personnel support, and travel consistent with overall agency downsizing. These decreases are offset by increased costs to implement Department of Justice recomendations for improving Federal building security, relocation of Region II offices to the new Federal building, and for salaries and benefits.

Special Technical Programs

Resource decreases in FY 1997 are primarily the result of discontinuing support for Agreement States travel in conjunction with NRC training courses, and reviews of requested Department of Defense/Department of Energy (DOD/DOE) reactor projects and facilities.

DESCRIPTION OF PROGRAM

The Management and Support Program encompasses NRC central policy direction, legal advice for the Commission, analysis of long-term policy issues, administrative proceeding review and advice, liaison with outside constituents and other government agencies, financial management, all administrative and logistical support, information resources management, executive management services for the Commission, personnel and training, and matters involving small and disadvantaged businesses and civil rights. This program also includes international programs and support for Agreement States. This program comprises the following three cost centers: Policy and Direction, Resource and Administration, and Special Technical Programs.

The funds and staff for each of the three cost centers are discussed on pages 118 through 138. The contract support funds are allocated for services and products obtained from commercial contractors and other Federal agencies such as the General Services Administration and the Office of Personnel Management. The narrative that follows describes these cost centers and addresses the reasons why the resources are needed.

Policy and Direction Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	15,403	15,911	16,598	687
Contract Support	1,103	771	771	0
Travel	542	557	486	-71
Total	17,048	17,239	17,855	616
Budget Authority by Activity ($K)				
Commission	3,558	3,741	3,857	116
Commission Appellate Adjudication	545	568	579	11
Congressional Affairs	814	849	880	31
General Counsel	5,581	5,676	5,902	226
Public Affairs	1,454	1,342	1,397	55
Secretariat	2,595	2,849	2,945	96
Executive Director for Operations	2,301	2,214	2,295	81
Total	17,048	17,239	17,855	616
Full-Time Equivalent Employment by Activity				
Commission	37	37	37	0
Commission Appellate Adjudication	6	6	6	0
Congressional Affairs	9	9	9	0
General Counsel	61	60	60	0
Public Affairs	15	14	14	0
Secretariat	27	28	28	0
Executive Director for Operations	24	23	23	0
Total	179	177	177	0

MANAGEMENT AND SUPPORT PROGRAM: Policy and Direction

This cost center covers NRC central policy direction, legal advice for the Commission, analysis of long-term policy issues, administrative proceeding review and advice, liaison with outside constituents and other government agencies, and executive management services for the Commission.

This cost center comprises the following seven activities: Commission, Commission Appellate Adjudication, Congressional Affairs, General Counsel, Public Affairs, Secretariat, and Executive Director for Operations.

Commission

The Commission is the governing body of the Nuclear Regulatory Commission. It is responsible for determining the fundamental policy and for guiding staff offices to ensure that the civilian use of nuclear energy is regulated in a manner consistent with the public health and safety, environmental quality, national security, and antitrust laws.

Commission Appellate Adjudication

The Office of Commission Appellate Adjudication assists the Commission in its disposition of appeals of licensing board decisions and other adjudicatory matters coming before the Commission. The office reviews administrative proceedings and keeps the Commission advised of decisions that must be made. It consults directly with the Commission, advising it in formulating opinions and on the discretionary exercise of its supervisory authority over agency adjudication. The office monitors cases pending before licensing boards and associated matters, provides analyses and options to the Commission, and drafts adjudicatory decisions and orders, as necessary.

Congressional Affairs

The Office of Congressional Affairs assists the Chairman, the Commissioners, and senior NRC staff with congressional matters; coordinates relations between the agency and Congress; and serves as liaison between the Commission and congressional committees, congressional subcommittees, and individual members of Congress.

The primary objective of this activity is to ensure that Congress is kept fully and currently informed about agency activities and that congressional requests and inquiries are responded to in a timely manner. The Office of Congressional Affairs provides the Chairman, the Commissioners, and senior NRC staff with relevant and current information pertaining to major legislative activities likely to affect the agency. Additionally, the Office seeks to ensure that individual members of Congress are

kept currently informed about significant NRC activities that might affect their respective States and districts.

General Counsel

The General Counsel is the Commission's chief legal advisor. The Office of the General Counsel (OGC) advises the Commission and the Office of Commission Appellate Adjudication on adjudicatory matters requiring the Commission's decision; represents the Commission in Federal court of appeal proceedings to review Commission orders and rules; and, in cooperation with the Department of Justice, represents the Commission in court proceedings affecting NRC's programs in the Federal district courts and the Supreme Court.

The OGC provides legal advice to the Commission on the implementation of employee conduct regulations, external investigations and internal audits, and on the application of Federal openness laws to Commission functions and on rulemaking activities; drafts proposed legislation for Commission consideration and advises the Commission on the legal and policy implications of recently enacted legislation as well as proposed legislation, that is referred to the Commission for comment by OMB or Congress and it's committees; provides legal services to NRC offices to assist them in accomplishing their mission; and represents the NRC staff in public rulemaking hearings.

The Special Counsel for Public Liaison provides assistance to the staff on the design and implementation of participatory and consensus-building processes for involving the public in NRC regulatory activities.

The OGC also provides advice and assistance to the Commission and NRC offices on matters involving interagency and international agreements, procurement, intellectual property, budget, security, and administrative functions, and represents the NRC in administrative hearings involving procurement, personnel, personnel security, labor relations, and equal employment opportunity matters.

Public Affairs

The Office of Public Affairs assists the Chairman, the Commissioners, and senior NRC staff by managing and directing the NRC's public affairs program. This includes developing and administering agency policies and procedures for informing the public and the news media of NRC policies, programs, and activities; informing NRC management of media coverage of activities of interest to the agency; working with civic groups and administering a small cooperative program with public

schools; advising management on conducting public meetings; and providing information on NRC activities to the news media and general public.

Secretariat

The Office of the Secretary of the Commission provides executive management services to support the Commission and to implement Commission decisions including the planning, and scheduling of Commission business, and preparing the Commission's meeting agenda.; manages the Commission's decisionmaking process, codifying Commission decisions in memoranda directing staff action, monitoring staff compliance of pending actions and commitments through the Commission Tracking System, and maintaining the Commission's official records, adjudicatory dockets, and rulemaking dockets; processes and controls Commission correspondence; issues and serves adjudicatory decisions and orders on behalf of the Commission and individual licensing boards; receives and distributes comments from the public in rulemaking proceedings; operates and manages the NRC Public Document Room and it's electronic systems for providing access to NRC's publicly available documents; directs and administers the NRC Historical program, serving as Systems Manager for the Commission's historical database of policy decisions; and functions as the NRC Federal Advisory Committee Management Officer. The Office of the Secretary will also continue to expand and integrate office automation initiatives into the Commission's administrative systems by introducing improved processes for handling electronically the Commission's hearing and rulemaking dockets, voting, correspondence, and tracking activities.

Executive Director for Operations

The Office of the Executive Director for Operations (EDO) manages the agency's strategic planning process, examines policy issues, supervises and coordinates operational activities of program and EDO staff offices, and implements the Commission's policy directives pertaining to these offices. The EDO is the Chief Financial Officer of the Commission and the chief operations and administrative officer. The EDO is authorized and directed to discharge such licensing, regulatory, and administrative functions of the NRC and to take actions that are necessary for day-to-day operation of the agency.

Resource and Administration Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	33,923	35,442	36,387	945
Contract Support	96,619	92,466	89,289	-3,177
Travel	373	383	273	-110
Total	130,915	128,291	125,949	-2,342
Budget Authority by Activity ($K)				
Controller	11,373	13,058	12,832	-226
Administration	51,633	50,339	51,125	786
Information Resources Management	49,647	45,908	44,596	-1,312
Personnel	6,145	6,715	6,503	-212
Training	5,087	4,235	4,032	-203
Small Business and Civil Rights	990	1,027	1,052	25
Permanent Change of Station	6,040	7,009	5,809	-1,200
Total	130,915	128,291	125,949	-2,342
Full-Time Equivalent Employment by Activity				
Controller	107	107	104	-3
Administration	188	186	182	-4
Information Resources Management	138	139	138	-1
Personnel	64	64	63	-1
Training	9	9	9	0
Small Business and Civil Rights	7	7	7	0
Total	513	512	503	-9

This cost center covers financial management, administrative and logistical support, information resources management, personnel, and training.

This cost center comprises the following seven activities: Controller, Administration, Information Resources Management, Personnel, Training, Small Business and Civil Rights, and Permanent Change of Station.

Controller

The Office of the Controller provides the overall financial management of the agency. This activity includes exercising budget and accounting responsibilities, providing agency senior management with analyses of policy, program, and resource issues; and ensuring adherence to applicable legislation, Office of Management and Budget (OMB) circulars and bulletins, and other Governmentwide financial management directives, including the Chief Financial Officers (CFOs) Act of 1990, the Omnibus Budget Reconciliation Act of 1990, the Federal Employees Pay Comparability Act of 1990, the Federal Managers' Financial Integrity Act of 1982, the Prompt Payment Act and amendments, and OMB Circulars A-123, "Internal Control Systems," A-127, "Financial Management Systems," and A-134, "Financial Accounting Principles and Standards."

Compliance with the CFOs Act includes developing procedures and activities in concert with the Inspector General to produce a financial statement that is consistent with OMB Circular A-134 and an audit report; assisting offices as required in reviewing and revising NRC management directives and procedures for conformance to OMB circulars and with the requirements of the Act; developing and using performance measures to assess program and financial performance; preparing periodic reports and analyses on financial management, including an annual audited financial statement to the Chairman and the Director of OMB and periodic reports to the Commission on budget execution; and conducting periodic reviews of agency financial management activities and providing training to allowance financial managers in all aspects of compliance with the CFOs Act.

The second legislative requirement, the Omnibus Budget Reconciliation Act of 1990, requires the NRC to recover 100 percent of the agency's budget authority through license and annual fees. Activities to meet this requirement include developing and issuing rules that reflect recovery of 100 percent of the budget authority each year; providing policy, processing applications, and analyzing fee-related data for approximately 3,000 reactor and fuel cycle license amendments and issuing the resultant 1,300 bills; analyzing data and processing approximately 2,000 bills for reactor and fuel cycle inspections; processing more than 5,000 incoming applications subject to flat fees; issuing approximately 8,000 annual fee bills per year; and responding to Congressional constituent and licensee correspondence regarding fee billings.

To fully comply with the requirements of the Federal Employees Pay Comparability Act of 1990, the NRC is changing to a new payroll/personnel system, which will be fully implemented in FY 1998. The current payroll system will be unable to meet future operational requirements.

Implementation of the requirements of the Federal Managers' Financial Integrity Act of 1982 and OMB Circulars A-123 and A-127, includes enhancing the NRC management control program, improving financial systems, providing training, and preparing reports to the President and Congress.

Compliance with the Prompt Payment Act includes processing more than 40,000 commercial vouchers for payment in a timely manner and accounting for and reconciling these payments.

Financial planning, a key part of this activity, includes coordinating the NRC strategic planning process, including developing instructions and procedures and modifying goals and objectives; providing guidance and resolving Commission questions; modifying guidance to implement Commission decisions; developing and issuing the agency's Five-Year Plan, which supports the agency's budget request to OMB and to Congress.

The Controller also manages the NRC internal budget development process by preparing guidance and instructions, reviewing and modifying budget structure, performing analyses for the CFO's use in decisionmaking, and maintaining detailed records and analyses to support the budget. Interaction with the Commission to resolve questions and implement Commission decisions is required. The Controller also develops the NRC budget request to OMB and to Congress and manages the overall budget justification process.

The Office of the Controller oversees agency budget execution by preparing quarterly base tables for Congress; developing monthly performance reports on budget execution for the Executive Director for Operations (EDO) and quarterly reports for the Commission; performing midyear reviews and other periodic budget execution reviews; managing the allotment and financial plan for Commission and EDO offices, including certification of the availability of funds; managing the agency's salaries and benefits allocation and estimating the agency's salaries and benefits requirements; ensuring administrative control of funds by maintaining expertise and interpreting appropriation law and policies; obtaining apportionments and reapportionments from OMB; managing the NRC allotment and financial plan process; and maintaining agency policy standards and procedures applicable to the administrative control of funds.

Other financial management functions and responsibilities in this cost center include performing required debt-collection activity; maintaining travel services while processing over 20,000 travel authorizations and travel vouchers per year; managing the agency's relocation services program; managing the NRC imprest fund; maintaining accounting policies; providing accounting training; developing and maintaining financial systems; providing financial and accounting data and reports to

agency management and other Federal agencies; maintaining appropriate master records for financial management; maintaining the NRC general ledger, including reconciling billings, collections, travel, and NRC accounts with Department of Treasury accounts; and developing and issuing the agency's Information Digest.

Administration

This activity provides for centralized administrative and logistical support services for the agency, specifically in the areas of procurement, duplicating, facilities and property management, transportation, security, printing, publications services, graphics, mail and distribution services, Freedom of Information Act requests, privacy protection, rulemaking support, local public document rooms (LPDRs), and public access to NRC electronic information as well as certain support services for the regional offices.

This activity includes contract support funds for rent payments to the General Services Administration (GSA) and real property operations costs totaling $24.6 million in FY 1997. These mandatory payments represent more than 64 percent of the total contract support costs for this activity.

Other requirements for contract support funds include transportation of persons and things including the rental or lease of motor vehicles from commercial vendors and government motor pools; funding for subsidies for public transit and for freight and express services; printing and reproduction including duplicating, contract printing, and photography services; security services to protect NRC personnel, property, and information including costs for guard services, personnel security investigations, and the NRC drug testing program; supplies, materials, postage, and equipment which include consumable supplies and office furniture, filing equipment, office machines, general equipment, draperies, and carpeting; and other operational costs which cover alterations and supplementary air conditioning, parking, automotive maintenance, fuel and tires, maintenance of office machines and security, duplicating, electronic composition and publication, and photography equipment, audiovisual and graphic services, assistance to LPDRs, translations, contract typing, mail and messenger services, and document distribution services.

Facilities and Property management activities include establishing policies, standards and procedures for NRC-wide space and building acquisition and utilization; providing support services for NRC headquarters space, buildings and facilities, including operation of the Administrative Service Center at the White Flint complex; administering the terms of the GSA delegation program applicable to all NRC headquarters buildings; maintaining liaison with GSA and other Federal agencies concerning space, buildings and facilities; providing direct support to headquarters and regional offices for interior space planning and layout services; and managing the day-to-day building and grounds maintenance activities at the White Flint complex. The property management activity controls and

accounts for over 30,000 items. This is accomplished by developing policies, procedures and guidelines implementing the Federal Property Management Regulations; administering the agency's automated official system of records for property assets; providing direction to the agency's cadre of property custodians; planning, conducting and reconciling annual physical inventories of the NRC's controlled property; disposing of property excess to the agency's needs through various methods including transfers to GSA, or other Federal agencies, abandonment or destruction; administering the NRC program for donation of excess computers to elementary and secondary schools; and providing monitoring of the regional property management programs. This activity also includes the receipt, control and distribution of all supplies and furniture necessary to meet the needs of NRC employees and a variety of warehouse services including support for all office moves.

This activity is conducted to develop and implement agencywide contracting policies and procedures; direct and coordinate contracting activities; negotiate, award, administer, and close out contracts, task orders, purchase orders, grants, cooperative agreements, and interagency agreements; provide advice and assistance to offices on procurement regulations and requirements and methods of meeting program objectives consistent with such requirements; settle claims and terminations; perform other normal duties of a contracting office as specified in the Federal Acquisition Regulation and the Federal Information Resources Management Regulation; provide oversight for regional procurement activities to ensure small purchase actions are awarded in accordance with procurement regulations and agency policy; provide oversight of office placement and monitoring of NRC/DOE work orders to ensure that sound contracting principles are applied to DOE laboratory agreements; assist program offices in cost negotiation and administration of laboratory agreements; develop agency policy for placement and monitoring of DOE laboratory agreements; conduct training for agency staff in contract management; and develop and implement screening criteria to determine if an organizational conflict of interest exists in placing work with DOE; implement the Procurement Reinvention Laboratory to substantially reduce the lead time and staff resources necessary to conduct NRC procurements, ensure both technical and cost competition, and the award of contracts to small businesses; and issue requests for quotations, review vendor price proposals, and award small purchase actions using electronic commerce technology.

This activity is also conducted to develop policies, procedures, and rules for implementing the Freedom of Information Act, Privacy Act, Federal Register Act, and Regulatory Flexibility Act; develop and review amendments to agency regulations and petitions for rulemaking; provide advice and assistance to offices and the public on filing petitions for rulemaking; administer the agency's management directives system; provide a centralized system for announcing public meetings of the staff and public access to NRC electronic information; and direct and coordinate local public document room activities near all reactor sites and near certain other fuel cycle and waste sites throughout the United States. This activity also provides centralized agencywide publication control and processing, word processing and scanning services, technical writing and editing services, mail and distribution services, and translation services; publishes regulatory and technical reports; provides

direction and coordination of agencywide document composition, duplicating, and contract printing through Government Printing Office contractors; copy management, photography, and audiovisual and related services; and automated reports processing and proofreading services agencywide, including electronic communication with the regional offices and contractors.

This activity administers the agency's overall security program to protect NRC personnel, property, and information. This includes the safeguarding of restricted data and national security information documents or material at all NRC offices and at contractor, licensee, certificate holder, and other facilities containing such documents or material; the safeguarding of sensitive intelligence information and providing intelligence support services to the Commission and senior management; the operation of NRC secure communications systems; the NRC drug testing program, which requires over 900 random drug tests annually of employees and applicants; the physical protection of personnel and property at headquarters and other agency locations; the NRC criminal history check program, under which approximately 50,000 fingerprint cards are processed each year; implementing the National Industrial Security Program and new national security-related Executive Orders' requirements; and the yearly processing and maintenance of security clearances and/or special nuclear material access authorizations for agency employees, consultants, contractors, licensees, and others, as well as security approval for access to Unclassified Safeguards Information, unescorted access to NRC facilities and to nuclear power plants, and access to NRC sensitive automated information systems and data by NRC contractors.

Under the facilities security program, security personnel conduct facility/organization security surveys of headquarters, regional office, licensee, certificate holder, and contractor interests to ensure protection of classified information and sensitive, unclassified information and NRC personnel and property; provide security support to the Commission, Atomic Safety and Licensing Board Panel, Advisory Committee on Reactor Safeguards, and other NRC offices during public meetings nationwide; assist regional office staff, as requested, with the installation of security systems, such as key card reader access control systems compatible with the system used at headquarters; manage and administer contract security force activities for contract compliance and cost efficiencies; manage and administer the physical security program for all headquarters buildings, including visitor control (50,000 visitors annually), the operation of a comprehensive access control and alarm system, the issuance of NRC photo identification badges, and the deployment of protective personnel. Security personnel, in response to the Department of Justice's "Vulnerability Assessment of Federal Facilities," plan, initiate and administer the acquisition and operation of facilities security upgrades to NRC occupied facilities which include package screening equipment, improved exterior lighting, additional perimeter barriers and various facility security systems. Security personnel also manage a security awareness program to ensure employees are aware of their responsibilities with respect to the protection of NRC assets, including classified and sensitive unclassified information.

Information Resources Management

This activity provides for guidance, oversight, and coordination of all policy, planning, and execution of information resource management functions, and manages program activities related to the agency's acquisition, management, and use of Federal Information Processing (FIP) resources. Major responsibilities include strategic planning and acquisition support, advanced technology support, end-user support services, technology infrastructure support, telecommunications support, automated systems development and integration, and information and records management. It provides for the essential services and technical means used by the agency staff to receive, store, retrieve, manipulate, process, and transmit information in support of the agency's health and safety mission. The activity is managed by the Office of Information Resources Management (IRM) and in the regions as appropriate.

IRM leads an information technology (IT) planning and budgeting process that supports the NRC mission, focuses on IT throughout the agency, enhances the ability of senior executives to make IT decisions, and is integrated with the agency's five-year planning process. IRM develops and maintains clear policies and standards to support NRC's IT strategy and comply with Federal IRM regulations and standards. IRM ensures that FIP resource acquisitions provide quality products and services in a timely manner to meet customer needs and accommodate rapid changes in technology.

IRM ensures compliance with applicable government computer security laws and regulations, including the Computer Security Act of 1987 (Public Law 100-235). As part of the NRC's IRM Review Program, coordinated by the agency's Designated Senior Official (DSO), IRM conducts periodic reviews of its activities to assess compliance with the Paperwork Reduction Act of 1980 and the Federal Information Resources Management Regulation, Subparts 201-221.

IRM provides direction and coordination for the assessment of advanced and emerging information technologies and the transfer of appropriate technologies to the NRC environment, with a special focus on high performance computing. This is accomplished by monitoring the development of international and national computer and telecommunications initiatives such as those resulting from National Performance Review recommendations and the National Education and Research Network (established by the High Performance Computing Act of 1991); identifying, evaluating, and selectively demonstrating where the application of new information technology, tools, and techniques can improve productivity and the accomplishment of agency objectives, both for technical and administrative applications; and participating in and promoting greater collaboration with other government agencies, Federal laboratories, academia, industry, international organizations, and internal organizations, particularly in the area of high performance computing.

IRM provides for the timely and effective acquisition, installation, and maintenance of workstation hardware and software by implementing a workstation upgrade strategy that ensures adequate

performance, reliability and functionality to support the agency's LAN-based applications and by implementing an off-the-shelf software upgrade strategy to ensure agencywide compatibility for key applications and maintain a common-user interface agencywide.

IRM provides comprehensive, integrated radio, voice and data communications, networking, and connectivity services for the NRC by providing local and long distance voice and data services through the use of systems such as the governmentwide Federal Telecommunications System (FTS 2000) and the local Washington Interagency Telecommunications System (WITS).

IRM also maintains a single multi-function local and wide area network using an open systems architecture to provide connectivity and high-speed information transfers among workstations, NRC-owned minicomputers, and outside locations such as Southwest Research Institute, the DOE laboratories, timesharing facilities, licensees, and Federal and State agencies, and will upgrade network infrastructure functionality to expand support for new technologies and to integrate new agencywide office automation functions.

IRM manages and supports NRC multi-user computer facilities and their associated operating systems software to provide reliable and capable platforms for developing and operating NRC multi-user applications. IRM is also continuing to implement and maintain test and operational environments required by new distributed multi-user computing, such as client-server.

IRM provides quality customer support including workstation hardware and software support, by providing technical assistance for agency office automation workstations and software (such as word processing, electronic mail, spreadsheet, communications, and graphics) that are part of the agency infrastructure, and assisting customers with establishing access and communicating with timesharing facilities and other outside locations. Additionally, IRM provides essential library services, including reference information; online literature searches; acquisition, processing, and circulation of technical books, periodicals, reports, industry codes and standards; and access to offsite commercial information services.

IRM develops, acquires, and maintains information systems for agencywide office automation functions using the most effective technologies. Toward this end, IRM is aggressively adopting new distributed computing technologies, such as client-server; using commercial off-the-shelf software, software developed by other agencies, and cross-servicing in preference to customized development when appropriate and cost effective; adopting a standard life-cycle management approach for major systems covering project initiation, design, development, testing, operation, training, and retirement; and assessing systems development methodologies and procedures to ensure that the public's access to NRC information is considered, with the goal that new systems and modifications to systems either preserve or improve the public's access to NRC information.

IRM is also applying technology to reduce paperwork and improve NRC's ability to communicate and access information both internally and externally through the use of information technology, such as electronic forms and Electronic Information Exchange (EIE), including Electronic Data Interchange (EDI); and selectively applying work process redesign to agencywide systems to examine and streamline work processes before automation technology is applied.

IRM manages shared data and documents as agency resources to ensure that they are accessible, secure, and reliable. IRM plans to improve data quality and increase capability to access and share data across all agency information systems, with a focus on key business areas, through the use of information engineering, standards, and data administration. Additionally, IRM will update the agency's document management capabilities to improve the integrity and accessibility of the agency's document collection in support of current and anticipated needs, by replacing the current Nuclear Documents System (NUDOCS) to improve internal and public access to documents and provide an agency repository for electronic records . IRM is reviewing the current inventory of applications seeking opportunities to make additional public information electronically accessible; and evaluating opportunities to make information beyond documents, e.g., information in databases, application systems, and other formats, available to the public.

IRM ensures that information collections imposed on the public and licensees are supported by specific agency needs and have practical utility and that the collection methodology is effective without imposing an undue burden. To do this, IRM continues to manage and improve information-collection activities as required by the Paperwork Reduction Act, supplemental statutory requirements, and OMB implementing guidance; and to automate standardized forms to promote the electronic exchange of information between NRC and its licensees.

IRM manages NRC records and other documents as agency resources to ensure that they are complete and accurate, accessible, and are retained in accordance with government regulations. This is accomplished by: assisting in identifying NRC-specific records and determining disposition schedules; maintaining a Central File Facility, streamlining and further automating agency record/document management processes, reducing reliance on paper, reducing or destroying duplicate records, and increasing the use of electronic record keeping systems and media; processing documents for storage in NUDOCS; ensuring NRC vital records are maintained at the Federal Emergency Management Agency's relocation site in a format that facilitates their retrieval; providing archival storage and retrieval of agency documents consistent with the Federal Records Act and the Federal Information Resources Management Regulation; and supporting the management of records associated with the licensing process to ensure they are complete, accurate, and accessible.

Personnel

The Office of Personnel (OP) provides effective recruitment, organization, utilization, and development of the agency's human resources through an integrated career management system; plans and implements NRC personnel policies, programs, and services; administers agencywide recruitment, staffing, compensation, and position management; provides for training, awards and benefits administration, employee health and fitness assistance, and counseling services; provides labor relations policy guidance and negotiates the collective bargaining agreement; collects, analyzes, and provides data on NRC's work force and supports agencywide equal employment opportunity and affirmative action programs and activities; and provides administration and guidance for the human resources strategic planning effort.

Personnel management and organizational activities include recruitment, staffing, and placement; compensation; position management; administration of employee and executive awards; personnel policy and program development; performance management; Federal labor relations and employee relations services; organization and management analyses; support to the Executive Resources Board and its subgroups, including the Performance Review Board and Recertification Performance Review Board; the occupational health and safety program; the wellness/fitness program; and the child development center. Personnel management activities also include equal employment opportunity programs, which encompass minority career development; handicapped employee and upward mobility programs; and special recruitment and other specialized activities, such as the differing professional opinion process.

OP also provides secretarial and clerical support to meet the short-term needs of headquarters offices through the assignment of Central Support Unit staff or acquisition of temporary services from the private sector. OP manages this function in response to agency requirements.

Training

Training and development activities by the Office of Personnel (OP) provide all education and training (other than reactor technology and associated technical training under the purview of the Technical Training Center) for agency headquarters and regional staff. This includes graduate fellowships; scholastic support of cooperative education program students; retraining of NRC employees; support for the Technical Training Center qualifications training; individual employee, supervisory, management, and executive development training; equal employment opportunity and affirmative action; career development counseling; regulatory process; and other internal and external training and development activities to improve employee performance. OP also provides for organizational development, including management succession activities, team building, and rotational assignments, and agencywide support for improving training delivery through the development and application of

improved or alternative methods and increased employee training opportunities utilizing the Professional Development Center.

Small Business and Civil Rights

The Office of Small Business and Civil Rights (SBCR) identifies small and minority businesses and those run by persons that are capable of meeting NRC contractual requirements and provides assistance to them on how to do business with the agency. The activity also includes the functions and duties related to equal employment opportunity and civil rights matters within the NRC to increase the employment of minorities and women in the agency and ensure a climate for improved employee morale by promoting and maintaining counseling activities and supporting advisory committees made up of special emphasis groups. The activity comprises three major programs: (1) the Small and Disadvantaged Business Utilization Program, (2) the Civil Rights Program, and (3) the Federal Women's Program.

Activities under the Small and Disadvantaged Business Utilization Program are authorized by Sections 8 and 15 of the Small Business Investment Act of 1958, as amended. Responsibilities include locating and referring small and disadvantaged businesses for procurement awards, negotiating a monetary goals program with the Small Business Administration for awarding NRC contracts to small and disadvantaged businesses and monitoring the results on a quarterly basis, monitoring NRC's procurement list to ensure equitable participation of small and disadvantaged businesses, offering advice and consultation to NRC offices on capabilities of small and disadvantaged business firms, disseminating information to such firms interested in NRC contracting procedures, and assisting historically black colleges and universities to secure grants and contracts from the NRC.

The civil rights activities are responsive to the Civil Rights Act of 1964, as amended, and are implemented by 29 CFR Part 1614 of the Equal Employment Opportunity (EEO) Commission regulations. The activities include developing, monitoring, and evaluating NRC's Affirmative Action Program; advising and assisting the Office of Personnel on the recruitment of minorities and women and EEO training for managers and employees; providing advice to senior management on civil rights and EEO matters; and developing and administering EEO counseling activities and the EEO complaints process. Activities also include supporting special emphasis and employee advisory groups; annually setting goals for the hiring and advancement of minorities and women; tracking agency performance on all affirmative action and EEO matters; and addressing any EEO issues resulting from financial assistance provided under Section 274 of the Atomic Energy Act of 1954, as amended, and the agency program for providing grants to colleges and universities.

The Federal Women's Program (FWP) was established in October 1967 as a result of Executive Order 11375, which added gender to other prohibited forms of discrimination in the Federal

Government. In August 1969, Executive Order 11478 integrated the FWP into the overall Equal Employment Opportunity Program, placing it under the stewardship of agency directors of equal employment opportunity. The purpose of the FWP is to expand and enhance opportunities for NRC women employees. This includes advising management and EEO officials of any policies and practices that are, or appear to be, sex discrimination or that serve as barriers in the workplace; staying in touch with the NRC work force to identify any problem areas; assisting the Office of Personnel in recruitment actions directed toward women; participating in developing the agency affirmative action plan; maintaining communication with women's organizations and participating in meetings, conferences, and seminars within and outside the agency on issues relating to the FWP; and coordinating and supporting the Federal Women's Program Advisory Committee.

Permanent Change of Station

This activity is carried out to ensure that NRC personnel who are required to change duty stations are afforded the required relocation services and other expenses related to permanent change of station (PCS) services and PCS moves, such as expenses incurred in connection with the sale of a residence, relocation of household goods, subsistence while occupying temporary quarters, and other miscellaneous moving expenses.

Special Technical Programs Cost Center

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	7,775	7,826	7,600	-226
Contract Support	4,264	3,654	2,941	-713
Travel	775	709	575	-134
Total	12,814	12,189	11,116	-1,073
Budget Authority by Activity ($K)				
International Programs	6,055	5,532	5,405	-127
State Programs	2,822	4,556	4,022	-534
DOE/DOD Projects	363	382	0	-382
Educational Grants	1,090	757	750	-7
Small Business Innovation Research (SBIR)	1,842	55	0	-55
Nuclear Materials Management and Safeguards System (NMMSS)	642	907	939	32
Total	12,814	12,189	11,116	-1,073
Full-Time Equivalent Employment by Activity				
International Programs	60	54	52	-2
State Programs	30	33	33	0
DOE/DOD Projects	4	4	0	-4
Nuclear Materials Management and Safeguards System (NMMSS)	1	1	1	0
Total	95	92	86	-6

International Programs

This activity includes developing and implementing policies and programs on international issues; administering the Commission's responsibilities in international areas comprising nuclear nonproliferation, reactor safety and regulatory development, radiation protection, materials safety, international safeguards and waste management; facilitating NRC access to foreign nuclear health and safety-related information and NRC technical cooperation with foreign countries and international organizations; and maintaining liaison with the Executive Branch, particularly the National Security Council, Arms Control and Disarmament Agency, Office of the Vice President, Departments of Defense, State, Energy, and Agency for International Development on international matters. This activity ensures that NRC has effective relationships with international organizations and foreign governments. The establishment and maintenance of such relationships contribute to the assurance of U.S. nuclear safety and help support U.S. national security and other U.S. foreign policy objectives.

U.S. initiatives at Presidential Summits, and at the Gore-Chernomyrdin Commission, may require NRC participation and could result in additional requests for safety assistance to the New Independent States (NIS) of the former Soviet Union and Central and Eastern Europe (CEE). The NRC provides assistance in the areas of strengthening independent regulatory organizations in these countries through training and technology transfer. International nuclear safety assistance and cooperation is expected to expand in the Pacific Rim countries with rapid growth in their economies and electric energy sectors. These activities will require a continued and focused commitment of staff resources.

On September 20, 1994, the United States signed the international Convention on Nuclear Safety, which will impose responsibilities on the NRC when it enters into force which is expected to occur in 1996. At that time, the Commission will be required to implement several of its major elements, including preparation of a national report and participation in review meetings--all of which will require sustained commitment of staff resources.

The agency will also continue its active cooperation in nuclear safety and safeguards during FY 1997 with about 32 countries, and with Taiwan, the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (NEA). Special attention will be paid to ensuring that the IAEA and NEA programs are coordinated. NRC assistance to Russia, Ukraine, Armenia and Kazakstan of the NIS and to CEE will also continue but at possibly lower levels depending on available funding for foreign assistance. The NRC may also initiate nuclear safety cooperation agreements with several countries in the early stages of establishing a nuclear power program that might use U.S. nuclear technology to assure that it is being employed in a safe manner.

The Nuclear Safety Attache at the U.S. Mission to UN Systems Organization in Vienna, a position provided by the NRC, represents U.S. Government views on nuclear safety and radiation protection issues at the IAEA and with other diplomatic missions in Vienna and helps provide both programmatic and policy oversight of IAEA's nuclear safety program.

The NRC will also continue to participate as a member of interagency U.S. Physical Protection Review Teams to exchange technical information with representatives of foreign governments on physical protection procedures and practices and to host reciprocal visits to the United States. The NRC will continue to support IAEA-sponsored international safeguards activities deterring nuclear proliferation. The NRC will assist the IAEA in inspection activities at selected U.S. nuclear facilities, as required. The NRC will continue to participate in the management and direction of interagency groups supporting the strengthening and implementation of IAEA safeguards. During FY 1997, the NRC will also continue to assist the regulators in Russia, Ukraine, and Kazakstan, in developing and implementing national systems for accounting and control of nuclear material and physical protection. The objective of this program is to develop systems of material control and accounting and physical protection that will include a body of regulations, guides, technical review criteria, implementation standards and procedures, and an inspection program.

State Programs

This activity provides for cooperation, oversight, technical assistance, and liaison with States, local governments, Indian tribes, interstate organizations, and other Federal agencies. This ensures adequate protection of public health and safety from the hazards associated with the use of radioactive materials in Agreement States and ensures nuclear safety policy and program information are shared among governmental organizations.

These activities include implementation of the revised Agreement State program, including final procedure development. The Agreement State Program includes additional training courses and workshops to provide Agreement State personnel with information on implementing several new initiatives and to obtain substantive input from the Agreement States on the implementation of these initiatives. These initiatives include implementation of: 1) a policy statement, which draws a clear distinction between what is required for both the adequacy and compatibility of an Agreement State Program; and 2) an Integrated Materials Performance Evaluation Program, which guides a common process to assess the performance of Agreement States and NRC's regional materials programs. As a part of these responsibilities, the NRC administers agreements with the 29 Agreement States that exercise jurisdiction over the use of radioactive materials; provides assistance to other States seeking Agreement State status; conducts major training courses, special topic workshops, and technical meetings for Agreement State staff; conducts periodic reviews of Agreement State programs for adequacy and compatibility with NRC programs; provides early and substantive involvement of the

States in NRC rulemaking and other regulatory efforts; provides assistance to State and local governments in radiation control; and conducts an all-Agreement States annual meeting. The administration and oversight of the Agreement State program ensures there is a coherent, consistent, national program for the regulation of Atomic Energy Act materials that provides adequate levels of safety among all Agreement State and NRC programs.

The agency also coordinates activities of interest to State, local, and Indian tribal governments with other NRC offices; and participates in activities conducted by the Conference of Radiation Control Program Directors, Inc. In addition, the agency negotiates memoranda of understanding with States on various NRC and State activities involving mutual cooperation, monitors State legislation, and informs the Commission and staff of significant State actions concerning nuclear issues. It also regularly consults and conducts meetings with Governor-appointed State liaison officers and maintains contact with national organizations, such as the National Governors' Association, National Association of Regulatory Utility Commissioners, National Congress of American Indians, and National Conference of State Legislatures, to identify NRC regulatory initiatives affecting States and to keep NRC apprised of those organizational activities that could affect the agency.

The NRC will also provide limited technical assistance to the Low-Level Waste (LLW) compacts; State regulatory bodies; and the States of South Carolina and Washington, where the existing LLW disposal sites are located. On request, the NRC will provide technical assistance to Agreement States that are in various stages of developing and implementing plans to regulate new LLW disposal facilities and on matters pertaining to storage.

This activity also provides for Federal liaison support to increase cooperation and communication between the NRC and other Federal agencies on policy matters. The Federal liaison program manager conveys the Commission's viewpoints and policies to Federal agencies and notifies NRC senior management about significant actions by other Federal agencies that may affect NRC actions, plans, and policies.

Department of Energy\Department of Defense (DOE\DOD) Projects

In FY 1996, the NRC will review and comment on proposed DOD and DOE reactor projects and facilities, as requested. In FY 1997, this work will be done on a reimbursable basis.

Educational Grants

In FY 1997, the NRC will continue to support research educational grants. Pursuant to sections 31(a) and 141(b) of the Atomic Energy Act of 1954, as amended, the NRC is authorized to award

grants and cooperative agreements to educational institutions, nonprofit institutions, State and local governments, and professional societies. The NRC grant program is administered in accordance with the Federal Grant and Cooperative Agreement Act of 1982, OMB guidance, and NRC policies and procedures. This program fosters public understanding of nuclear safety, enlarges the body of knowledge and technical information, and enhances the protection of public health and safety. Such support to educational institutions is limited to no more than one percent of the total annual budget for the Office of Nuclear Regulatory Research. At present, NRC grants support a variety of professional meetings and university-based research projects.

Small Business Innovation Research (SBIR)

Public Law 97-219 requires Federal agencies with extramural research budgets in excess of $100 million to establish SBIR programs to stimulate technological innovation by small businesses. The NRC has participated in this program since it was established in FY 1982, and historically has reviewed about 110 to 130 SBIR proposals each year and has awarded about 10 to 12 contracts. In recent years, the NRC extramural research budget has been below the $100 million threshold for participation. In light of current budget reductions, which have reduced the NRC's research program well below the SBIR participation threshold, the NRC will not participate in the SBIR program in FY 1997.

Nuclear Materials Management and Safeguards System (NMMSS)

In FY 1997, the NRC, in conjunction with DOE, will continue to operate and maintain the Nuclear Materials Management and Safeguards System to track the movement of domestic and foreign nuclear materials.

INSPECTOR GENERAL PROGRAM

INSPECTOR GENERAL PROGRAM

(Dollar amounts in tables represent thousands of dollars ($K). In text, whole dollar amounts are used. Staff numbers represent full-time equivalents (FTEs).)

Total FY 1997 Estimate $5,000,000

	FY 1995 Enacted	FY 1996 Estimate	FY 1997 Estimate	
			Request	Change from FY 1996
Budget Authority by Function ($K)				
Salaries and Benefits	4,192	4,400	4,400	0
Contract Support	653	360	360	0
Travel	235	240	240	0
Total	5,080	5,000	5,000	0
Full-Time Equivalent Employment				
Audits	19	19	19	0
Investigations	19	19	18	-1
Inspector General and Resource Management and Operational Support	6	6	6	0
Total	44	44	43	-1

EXPLANATION OF RESOURCE CHANGES

There are no significant resource or program changes in FY 1997.

DESCRIPTION OF PROGRAM

5

The NRC's Office of Inspector General (OIG) was established in April 1989 to provide the Commission and the Congress with an independent review and appraisal of the NRC's programs and operations to ensure their effectiveness and efficiency and to prevent and detect fraud, waste, and abuse. The OIG accomplishes its mission by performing audits, and investigations, and by reviewing existing and proposed legislative and regulatory initiatives.

The NRC and the OIG each have some unique responsibilities in support of the agency's mission. The NRC's primary mission is to provide adequate assurance that public health and safety is protected in the commercial use of nuclear materials and in the operation of nuclear facilities. The OIG, therefore, plays a critical role by assessing and reporting on NRC's efforts to ensure that its safety-related programs are operating effectively.

Similarly, the NRC is responsible for ensuring that individuals who identify nuclear safety concerns regarding the use of nuclear materials do not suffer adverse job actions resulting from such activities. The OIG continually assesses the NRC's efforts to combat this type of unlawful discrimination.

The major OIG activities are described in more detail below.

Audits

The audit program is designed to provide assurance to the Commission and to Congress that NRC programs and operations are working efficiently and effectively. To do this, the OIG audit staff conducts performance and financial audits. Performance audits focus on the NRC's administrative and program operations. The OIG's financial audits review the NRC's internal control systems, transaction processing, and financial systems.

In FY 1997, the OIG will perform 12 to 15 audits. The audits planned for this period are based on a comprehensive annual audit plan that includes input from the NRC Commission, Congress, the General Accounting Office (GAO), the Office of Management and Budget (OMB), the Department of Energy (DOE), and the nuclear industry, as well as from the OIG staff. The plan identifies key, high-risk, high-cost programs for audit, including the NRC's inspection, research, waste management, and information resources management programs. Audit surveys of these areas identify issues that require further examination.

In the financial management area, the audit plan includes several audits needed to meet legislative and OMB requirements. These audits will address various financial management issues, including the annual audit of the NRC's Financial Statement that is mandated by the Chief Financial Officers Act. Furthermore, the NRC is required by the Omnibus Budget Reconciliation Act of 1990 to recover approximately 100 percent of its budget authority. In FY 1997, the NRC will collect approximately $462.8 million in fees from the industries that it regulates. Therefore, the agency must employ sound financial practices to comply fully with its legislative mandates. The OIG assists the agency in meeting these objectives by conducting financial audits.

Additionally, in FY 1997, the OIG will assess and report on the NRC's response to recommendations made by the OIG and other audit entities, such as the GAO, concerning NRC programs.

Investigations

The Inspector General Act of 1978 requires the OIG to receive and investigate allegations concerning violations of Federal laws and regulations, as well as allegations of mismanagement, waste, and danger to public health and safety. The mission of the investigative program is to perform investigative activities related to the integrity of the NRC's programs and operations.

By nature, investigations are primarily reactive. However, the OIG periodically performs root cause analyses and conducts other preventive initiatives such as integrity awareness training. The investigative caseload is primarily determined by the number of allegations received and the complexity of the issues raised. On the basis of historical trends, the investigative workload has continually increased in complexity since the inception of the OIG in April 1989. The IG received 434 allegations in FY 1995; 89 investigations and event inquiries were opened and 110 were closed. The OIG expects that a similar number of cases will be opened and closed during this planning period. In addition, investigators may also participate, on occasion, as observers in agency task forces that examine ways to strengthen agency operations.

Inspector General and Resource Management and Operational Support

The Inspector General's staff consists of secretarial support and legal counsel. The OIG Counsel provides independent advice on issues concerning criminal law, criminal procedure, evidence, and constitutional law as these relate to the OIG's investigative program. Among the other legal responsibilities are appropriations law, financial management statutes and regulations, and procurement and funding rules in support of the OIG's auditing program. The OIG Counsel furnishes litigation support to the Department of Justice and others as necessary, and advises in matters concerning personnel, labor law, and Privacy Act and Freedom of Information Act issues. The OIG Counsel also provides detailed review and comment for existing and proposed legislation, regulations, directives, and policy issues that affect agency programs and operations.

The Resource Management and Operational Support staff provides operational support to the OIG. It formulates and executes the OIG budget, prepares the OIG's semiannual report to Congress, operates an independent personnel program, and serves as the liaison and point of contact for activities of the President's Council for Integrity and Efficiency. This staff also provides automated data processing support, security management, space planning, and procurement support to the OIG.

SPECIAL SUPPORTING TABLES

SPECIAL SUPPORTING TABLES

This section contains the following:

Legislative Program Projections which provides a summary of the NRC's budget authority and outlays by appropriation for FY 1995-2002.

A report on drug testing, required by 31 U.S.C. 1105(a), which describes the NRC's drug testing activities conducted in accordance with Executive Order 12564.

A summary of the NRC's reimbursable work agreements including the source and amount of funding, a project description, a description of the billing procedures and the extent of full-cost recovery, and a justification for the NRC's involvement in each project.

U. S. NUCLEAR REGULATORY COMMISSION
LEGISLATIVE PROGRAM PROJECTIONS
(Dollars are in Millions)

	SALARIES AND EXPENSES APPROPRIATION		INSPECTOR GENERAL APPROPRIATION	
	Budget Authority	Budget Outlays	Budget Authority	Budget Outlays
FY 1995 Enacted	518.8	524.7	5.1	5.3
FY 1996 Estimate	468.3	480.9	5.0	5.0
FY 1997 Estimate	475.3	473.6	5.0	5.0
FY 1998-2002[1]				

[1] FY 1998-2002 budget authority and budget outlays will be determined by the Office of Management and Budget (Budget Procedures Memorandum No. 814, Supplement No. 2, February 11, 1996, "Outyear Estimates for FY 1997 Budget").

U.S. NUCLEAR REGULATORY COMMISSION
REPORT TO CONGRESS ON DRUG TESTING

The Nuclear Regulatory Commission's (NRC's) Drug Testing Plan was approved in August 1988, and all components of the NRC's drug testing program for employees and applicants remain in place. Drug testing requirements imposed by the NRC upon the nuclear industry through regulations are separate from this program and are not covered by this report. The NRC's Drug Testing Program under Executive Order (E.O.) 12564 includes random, applicant, voluntary, follow-up, reasonable suspicion and accident-related drug testing. Testing was initiated for non-bargaining unit employees in November 1988 and for bargaining unit employees in December 1990 after an agreement was negotiated with the National Treasury Employees Union.

The NRC positions which meet the following criteria are considered testing designated positions and the employees are subject to random testing:

(1) Regional and Headquarters employees who have unescorted access to vital areas of nuclear plants and Category I fuel facilities;

(2) Employees who have assigned responsibilities or are on call for Regional or Headquarters incident response centers;

(3) Employees who require access to Sensitive Compartmented Information, Foreign Intelligence Information, or who require access to other classified information (e.g., National Security Information or Restricted Data); and

(4) Employees who are motor vehicle operators carrying passengers.

Approximately 1,720 NRC employees occupy testing designated positions and are subject to random testing. Potential selectees interviewed for positions in these categories are subject to applicant testing.

Approximately 950 tests of all types were conducted between October 1, 1994 and September 30, 1995. Since each employee subject to random testing has an equal chance of being selected each time, some NRC employees were randomly tested more than once. All testing results have been negative except for two employees who tested positive. One employee completed a treatment program and follow-up testing and continues to be subject to random testing. A second employee received a fifteen day suspension without pay and is subject to follow-up testing for a period of two years.

Internal quality control reviews were completed during the past year to ensure NRC's program continues to be administered in a fair, confidential and effective manner.

The NRC's Drug Testing Program remains firmly based upon the principles and guidance provided through E.O. 12564, Public Law 100-71, Department of Health and Human Services guidelines and Commission decisions.

U. S. NUCLEAR REGULATORY COMMISSION SUMMARY OF REIMBURSABLE WORK AGREEMENTS (New Budget Authority)		
	FY 1995	**FY 1996** (Estimate)
INTERNATIONAL AGREEMENTS		
Cooperative Threat Reduction	$1,924,520	$0
Foreign Cooperative Research Agreements	$2,989,910	$3,500,000
Nuclear Safety Initiatives for the New Independent States	$8,900,000	$0
Regional Energy Efficiency Project	$1,000,000	$1,500,000
ADMINISTRATIVE AGREEMENTS		
Consumer Product Safety Commission	$4,000	$13,000
Criminal History Program	$870,690	$1,195,000
Criminal Investigator Academy	$24,000	$30,000
Department of Justice	$15,000	$0
Information Access Authorization Program	$3,651	$5,000
Library of Congress	$0	$43,750
Material Access Authorization Program	$0	$50,000
OTHER AGREEMENTS		
Licensing and Regulatory Compliance/Fissile Materials	$150,000	$300,000
Radiation Exposure Monitoring System	$400,000	$0
Cassini and Mars Pathfinder Missions	$400,000	$0
TOTAL	$16,681,771	$6,641,750

SUMMARY OF REIMBURSABLE WORK AGREEMENTS

1. Cooperative Threat Reduction.

Source: Defense Nuclear Agency (DNA)

Description of Work: The NRC will assist Russia, Ukraine, and Kazakstan in the development and implementation of nuclear safeguards capability as part of the U.S. Cooperative Threat Reduction (CTR) Program. The NRC will evaluate these countries' Material Control and Accounting (MC&A) and Physical Protection (P/P) programs and assess needs for assistance in systems development, design, installation, implementation and follow-on user training.

Justification for NRC Involvement: Under the auspices of the CTR Program for former Soviet nuclear weapons and materials, the NRC and the Department of Energy have established bilateral technical assistance programs with these countries in the areas of MC&A and P/P. The objective of the U.S. assistance is to help these countries improve their capabilities to effectively safeguard nuclear facilities and materials. This project is being conducted with funds authorized by Congress in the Soviet Nuclear Threat Reduction Act of 1991 (Nunn-Lugar) and successor legislation such as the Freedom Support Act of 1992.

Reimbursement Procedures: The DNA issues an Interagency Cost Reimbursable Order (IACRO). The IACRO funds the NRC to perform efforts agreed to by the Interagency Coordinating Group. The IACRO is entered into pursuant to the authority of the Economy Act of 1932, as amended (31 U.S.C. 1535) and adheres to Federal Acquisition Regulation (FAR) 6.002 and other applicable Federal Laws and Regulations. Reimbursement Vouchers (SF 1080) are submitted to DNA.

2. Foreign Cooperative Research Agreements (FCRA).

Source: Various foreign entities

Description of Work: The NRC enters into nuclear safety cooperative research agreements with foreign entities under the NRC's Foreign Cooperative Nuclear Safety Research Program for the purpose of exchanging nuclear safety-related information, conducting joint projects of mutual interest, and interacting with other organizations concerned with nuclear safety. The research programs subject to these cooperative research agreements are carried out as a part of the agency's nuclear regulatory responsibilities. The foreign entities participating in the Cooperative Nuclear Safety Research Program enter into cooperative research agreements that provide in-kind technical or financial contributions to the NRC.

Justification for NRC Involvement: These foreign contributions are provided to the NRC in return for access to information which has been developed and continues to arise from the NRC research programs before final publication and release to the public domain. These contributions support broad safety research programs and also allow the foreign entity direct participation in the execution of the research program. Both parties benefit from the cooperative efforts. The NRC is

authorized by its annual appropriation legislation to receive, retain, and use funds under the Cooperative Nuclear Safety Research Program for those activities associated with the program.

Reimbursement Procedures: The foreign entity provides an advance of funds to the NRC using the Fedwire Deposit System (i.e., electronic funds transfer) or by check/money order.

3. Nuclear Safety Initiatives for the New Independent States (NIS): Energy Efficiency and Market Reform Project.

Source: U.S. Agency for International Development (AID)

Description of Work: The purpose of this AID initiative is to continue to implement nuclear safety initiatives in Russia, Ukraine, Armenia, and Kazakstan. Activities under this agreement include: (1) analytical support activities; (2) development of a training center for regulatory personnel; (3) creation of an incident response center; (4) work in the technical area of probabilistic risk assessment; and (5) assistance in legal enforcement and development of draft regulatory legislation.

Justification for NRC Involvement: The NRC is assisting AID in providing support to the NIS in the area of nuclear safety due to the NRC's specialized expertise in the regulation of civilian uses of nuclear energy and materials.

Reimbursement Procedures: The AID provides budget authority in advance to the NRC for expenses for travel, contractor support, and administrative expenses (e.g., interpreters). Salary costs for NRC employees working under this agreement are not reimbursed by AID.

4. Regional Energy Efficiency Project.

Source: U.S. Agency for International Development (AID)

Description of Work: The purpose of this AID initiative is to promote the efficient and environmentally sound use of energy in the countries of Eastern and Central Europe. Technical (nuclear safety) subject areas include: Temelin review; international code assessment, severe accident and risk and accident management; nuclear safety orientation and training which includes conducting legal, regulatory, and inspector training, conducting Probabilistic Risk Assessment Basics Course, Root Cause Incident Investigation Course, hosting nuclear specialists, training at the NRC's Technical Training Center in Chattanooga, Tennessee; and as supporting membership in the International Piping Integrity Research Group. Efforts in Lithuania will include assisting in preparing and updating Lithuanian norms and standards, preparing Ignalina specific inspection guidance, and developing an Ignalina Systematic Evaluation program.

Justification for NRC Involvement: The NRC is assisting AID in providing support to the countries of Eastern and Central Europe in the area of nuclear safety due to the NRC's specialized expertise in the regulation of civilian uses of nuclear energy and materials.

Reimbursement Procedures: The AID provides budget authority in advance to the NRC for expenses for travel, contractor support, and administrative expenses (e.g., interpreters). Salary costs for NRC employees working under this agreement are not reimbursed by AID.

As costs are incurred by the NRC, a receivable is created in the NRC accounting system and bills are issued to AID in accordance with the terms of the agreement. Upon collection of all costs

incurred under the agreement and the deobligation of any uncosted obligations, any remaining unobligated allotment balance will be withdrawn by the NRC.

5. Consumer Product Safety Commission.

Source: Consumer Product Safety Commission (CPSC)

Description of Work: Provide one employee for Personnel Assistant support for the Office of Human Resources Management at the CPSC.

Justification for NRC Involvement: Agreement entered under the authority of Section 601 of the Economy Act, as amended 31 U.S.C. 1535 and 1536.

Reimbursement Procedures: Payments are made via the Department of Treasury's On-Line Payment and Collection (OPAC) system.

6. Criminal History Program (CHP).

Source: NRC licensees

Description of Work: The NRC has entered into a written agreement with the FBI's Identification/Information Management Division to conduct user fee non-criminal justice fingerprint card checks for which the FBI provides criminal history records for applicants if such exist in FBI files and/or data bases.

Justification for NRC Involvement: The Atomic Energy Act (AEA) of 1954, as amended, provides NRC the authority to require each licensee or applicant for a license to operate utilization facilities to fingerprint each individual who is granted unescorted access to nuclear power facilities (NRC licensees) or access to safeguards information to undergo an FBI criminal history fingerprint check.

Reimbursement Procedures: Funds are received from the licensees for fingerprint checks. Payments are made to the FBI via the Department of Treasury's On-Line Payment and Collection (OPAC) system. Salary costs for NRC employee administering this program are not reimbursed by the licensees.

7. Criminal Investigator Academy.

Source: Department of State, Department of Housing and Urban Development

Description of Work: Provide one clerical employee in support of the training objectives of the Inspector General Criminal Investigator Academy, Federal Law Enforcement Training Center.

Justification for NRC Involvement: Section 601 of the Economy Act of June 30, 1992, as amended 31 U.S.C. 1535 and 1536. Government Employees Training Act [5 U.S.C., Sec. 4103(a)].

Reimbursement Procedures: Payments are made via the Department of Treasury's On-Line Payment and Collection (OPAC) system.

8. Department of Justice.

Source: Office of Small and Disadvantaged Business Utilization, Department of Justice (DOJ).

Description of Work: Provide program development assistance in the Office of Small and Disadvantaged Business Utilization, DOJ.

Justification for NRC Involvement: Section 601 of the Economy Act, as amended 31 U.S.C. 1535 and 1536.

Reimbursement Procedures: Payments are made via the Department of Treasury's On-Line Payment and Collection (OPAC) system.

9. Information Access Authorization Program (IAAP).

Source: NRC licensees

Description of Work: Licensee personnel with access to classified national security information and restricted data are subject to personnel security background investigations conducted by the Office of Personnel Management (OPM) at the NRC's request to ensure their eligibility for such access. This background investigation is necessary under the Atomic Energy Act (AEA) and Executive Order 12968 to determine their eligibility for access to classified information.

Justification for NRC Involvement: Title 10 of the Code of Federal Regulations, Part 25, issued under the authority of the AEA to protect the public health and safety and provide for common defense and security.

Reimbursement Procedures: Funds are received from the licensees for background investigations. Payments are made to OPM via the Department of Treasury's On-Line Payment and Collection (OPAC) system. Salary costs for NRC employees administering this program are not reimbursed by the licensees.

10. Material Access Authorization Program (MAAP).

Source: NRC Licensees

Description of Work: Licensee personnel with access to, or control of, any special nuclear material are subject to personnel security background investigations conducted by the Office of Personnel Management (OPM) at the NRC's request to ensure their eligibility for such access. Such screening is necessary to protect against the theft or diversion of special nuclear material or acts of sabotage.

Justification for NRC Involvement: Title 10, Code of Federal Regulations, Part 11, issued under the authority of the Atomic Energy Act to protect the public health and safety and the common defense and security.

Reimbursement Procedures: Funds are received from the licensees for background investigations. Payments are made to OPM via the Department of Treasury's On-Line Payment and Collection (OPAC) system. Salary costs for NRC employees administering this program are not reimbursed by the licensees.

11. Library of Congress.

Source: Library of Congress.

Description of Work: Provide one senior investigative employee in support of a high-level, sensitive investigation.

Justification for NRC Involvement: Agreement entered under the authority of Section 601 of the Economy Act of June 30, 1992, as amended 31 U.S.C. 1535 and 1536.

Reimbursement Procedures: Partial reimbursement of employee's salary and benefits are made via the Department of Treasury's Online Payment and Collection System (OPAC).

12. Licensing and Regulatory Compliance/Fissile Material.

Source: Department of Energy (DOE)

Description of Work: The NRC will provide review and advice regarding regulatory plans being developed by DOE which address alternatives being considered for disposition of surplus fissile materials. The NRC will assist in assuring that the information being developed to support DOE's selection of a disposition alternative(s) is correct, and that the strategies developed by DOE for licensing are effective and can be implemented in a timely manner so as to meet mission objectives.

Justification for NRC Involvement: Following President Clinton's September 1993 nonproliferation policy statement, an Interagency Working Group was established to review alternatives for disposition of surplus plutonium from nuclear weapons activities of the U.S. and the former Soviet Union. The DOE has the lead role in evaluating technical options and developing analyses. As part of its analysis, the DOE is developing regulatory plans that assess the technical viability and potential impediments, and estimate the schedule and cost, associated with licensing the facilities for each alternative. To support this effort, the DOE has requested that the NRC provide review and advice regarding these regulatory plans.

Reimbursement Procedures: The DOE is billing quarterly for all direct staff hours expended for work specified in the Statement of Work requirements included in Interagency Agreement DE-AI01-95MD10203. The hourly rate which is charged to DOE for NRC direct staff time is established in 10 CFR Part 170. This agreement is entered into pursuant to the authority of the Economy Act of 1932, as amended 31 U.S.C. 1535 and adheres to Federal Acquisition Regulation (FAR) 6.002 and other applicable Federal Laws and Regulations.

13. Radiation Exposure Monitoring System.

Source: Department of Energy

Description of Work: The purpose of this effort is to assist the DOE Office of Health Physics and Industrial Hygiene in (1) the development and implementation of health surveillance support systems that will collect, maintain, and report radiation exposures; (2) the innovative application of lessons learned from related experiences; and (3) the sharing and transfer of technology currently used by the NRC to support DOE's program.

Justification for NRC Involvement: The DOE has initiated work to enhance the support systems for health surveillance of DOE employees, DOE contractors, and visitors to DOE facilities.

The first step in this effort was to evaluate their Radiation Exposure Monitoring System (REMS) that is used to collect, maintain, and report personnel radiation exposures. A contractor was selected to conduct this evaluation to take advantage of their research and lessons learned while developing, operating, and maintaining the NRC Radiation Exposure Information System, which has a similar function.

Reimbursement Procedures: As costs are incurred by the NRC, a receivable is created in the NRC accounting system and bills are issued to the ordering agency in accordance with the terms of the agreement. Upon collection of all costs incurred under the agreement and the deobligation of any uncosted obligations, any remaining unobligated allotment balance will be withdrawn by the NRC.

14. Cassini and Mars Pathfinder Missions.

Source: National Aeronautics and Space Administration (NASA).

Description of Work: The Interagency Nuclear Safety Review Panel (INSRP) was formed by a Presidential Security Directive. The purpose of the panel is to perform an independent review of the safety of launches of space vehicles carrying nuclear material (small quantities are exempt). The NRC staff will assist the INSRP as technical advisor. In this role NRC staff will: (1) attend significant meetings of the panel; (2) participate in drafting and sign significant correspondence of the panel; (3) support selected subpanel meetings and other technical meetings (e.g., Biological and Environmental Effects, Meteorology, Uncertainty Working Group); (4) participate in the drafting of the Safety Evaluation Report for the Cassini Mission and other missions, as required; (5) participate in producing independent calculations estimating the risks from launch of nuclear materials, if necessary (6) review major safety-related mission documents and provide comments as appropriate; and (7) participate in periodic briefings of the Office of Science and Technology Policy.

Justification for NRC Involvement: NRC involvement was requested by the President's Science Advisor, Director of the Office of Science and Technology Policy (OSTP), in a letter to the Chairman, NRC. The NRC accepted participation in INSRP as Technical Advisor, in a letter to Dr. Gibbons from the Director, NMSS, dated November 28, 1994.

Reimbursement Procedures: The NASA is billed quarterly for all direct staff hours expended for work specified in the Statement of Work requirements included in the interagency agreement established by Purchase Order Number W-18,806. The hourly rate which is charged to NASA for NRC direct staff time is established in 10 CFR Part 170. This agreement is entered into pursuant to the authority of the Economy Act of 1932, as amended 31 U.S.C. 1535 and adheres to Federal Acquisition Regulation (FAR) 6.002 and other applicable Federal Laws and Regulations.

NRC FORM 335 (2-89) NRCM 1102, 3201, 3202

U.S. NUCLEAR REGULATORY COMMISSION

BIBLIOGRAPHIC DATA SHEET

(See instructions on the reverse)

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Fiscal Year 1997

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Division of Budget and Analysis
Office of the Controller
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

9. SPONSORING ORGANIZATION – NAME AND ADDRESS *(If NRC, type "Same as above"; if contractor, provide NRC Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address.)*

Division of Budget and Analysis
Office of the Controller
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

10. SUPPLEMENTARY NOTES

11. ABSTRACT *(200 words or less)*

This report contains the fiscal year budget justification to Congress. The budget provides estimates for salaries and expenses and for the Office of the Inspector General for fiscal year 1997.

12. KEY WORDS/DESCRIPTORS *(List words or phrases that will assist researchers in locating the report.)*

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Congressional Budget Submittal
Fiscal Year 1997

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Federal Recycling Program

1 SUMMARY

2 REACTOR PROGRAM

3 NUCLEAR MATERIALS AND NUCLEAR WASTE PROGRAM

4 MANAGEMENT AND SUPPORT PROGRAM

5 INSPECTOR GENERAL PROGRAM

6 SPECIAL SUPPORTING TABLES

UNITED STATES
NUCLEAR REGULATORY COMMISSION
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