

STATEMENT
OF THE
UNITED STATES NUCLEAR REGULATORY COMMISSION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT
COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
UNITED STATES HOUSE OF REPRESENTATIVES
CONCERNING
FY 1987 BUDGET

PRESENTED BY NUNZIO J. PALLADINO, CHAIRMAN

SUBMITTED: FEBRUARY 6, 1986

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U.S. NUCLEAR REGULATORY COMMISSION

FY 1987 BUDGET TESTIMONY

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, THE COMMISSION APPEARS BEFORE YOU TODAY TO DISCUSS NRC'S FY 1987 BUDGET REQUEST. WITH ME TODAY ARE MY FELLOW COMMISSIONERS, THE ACTING EXECUTIVE DIRECTOR FOR OPERATIONS AND THE DIRECTORS OF THE PRINCIPAL OFFICES OF THE COMMISSION.

OVERVIEW

OUR OMB APPROVED BUDGET REQUEST FOR FISCAL YEAR 1987 IS FOR \$405 MILLION. THIS IS \$13 MILLION BELOW OUR FY 1986 APPROPRIATION PRIOR TO ANY REDUCTION RESULTING FROM THE PROVISIONS OF THE BALANCED BUDGET AND EMERGENCY DEFICIT CONTROL ACT OF 1985 (PUBLIC LAW 99-177) AND \$43 MILLION BELOW OUR FY 1985

APPROPRIATION. OUR STAFFING CEILING IS ALSO BEING REDUCED BY 122 FULL-TIME EQUIVALENT STAFF.

APPENDIX A TO OUR TESTIMONY GRAPHICALLY DEMONSTRATES HOW ACTUAL PURCHASING POWER HAS DECREASED EVERY YEAR SINCE 1981. THE PAST TWO YEARS HAVE SEEN THE MOST SIGNIFICANT REDUCTIONS.

PUBLIC LAW 99-177 WILL REDUCE NRC AN ADDITIONAL \$18 MILLION IN FY 1986. A REDUCTION OF THIS MAGNITUDE, ALMOST HALF-WAY THROUGH THE FISCAL YEAR, WILL HAVE A SIGNIFICANT IMPACT ON THE PROGRAMS NECESSARY TO SUPPORT OUR REGULATORY RESPONSIBILITIES. THE STAFF IS CURRENTLY EVALUATING THE SPECIFIC IMPACTS THAT WILL RESULT IN FY 1986. FURTHERMORE, ALTHOUGH THE FUTURE IMPACT PUBLIC LAW 99-177 WILL HAVE ON NRC IS NOT YET KNOWN, I CAN TELL YOU THAT, IF THE RECENT HIGHLY PUBLICIZED PROJECTIONS ARE ACCURATE, THE NUCLEAR REGULATORY COMMISSION'S PROGRAMS TO ENSURE THE ADEQUATE PROTECTION OF THE PUBLIC HEALTH AND SAFETY WOULD BE SERIOUSLY JEOPARDIZED IN FY 1987.

WHILE WE RECOGNIZE AND ARE SUPPORTIVE OF THE NEED FOR BUDGET AUSTERITY, THE CONGRESS AND THE PUBLIC MUST RECOGNIZE THAT WITH THESE REDUCED RESOURCE LEVELS THE NRC WILL BE PERFORMING LESS REGULATORY OVERSIGHT ACTIVITIES, NOT MORE. OUR CAPABILITY TO RESPOND TO AND RESOLVE ISSUES FROM UNPLANNED EVENTS SUCH AS THOSE AT DAVIS-BESSE, SAN ONOFRE, RANCHO SECO, TVA, AND KERR-McGEE IN A COMPREHENSIVE AND TIMELY MANNER WILL BE DIMINISHED. AT THE SAME TIME, ANY FORWARD-LOOKING ACTIONS AND PROGRAMS NECESSARY TO MEET FUTURE ISSUES AND CHALLENGES HAVE BEEN REDUCED OR ELIMINATED.

THERE WILL SOON BE OVER ONE HUNDRED NUCLEAR POWER PLANTS LICENSED FOR OPERATION. RECENT EVENTS HAVE DEMONSTRATED THAT THE RESOURCES NEEDED FOR REGULATING AN OPERATING REACTOR CAN BE ABOUT AS MUCH AS FOR LICENSING A REACTOR. AFTER THE OPERATING LICENSE IS ISSUED, RESOURCES ARE STILL NEEDED TO PROCESS LICENSE AMENDMENTS, CONDUCT RELATED SAFETY EVALUATIONS, LICENSE PLANT OPERATORS, AND RESPOND TO AND EVALUATE THE IMPACT OF UNANTICIPATED EVENTS. IN ADDITION, MORE OPERATING REACTORS WILL REQUIRE MORE RESOURCES FOR TASKS.

SUCH AS CONDUCTING THE RESIDENT AND REGION-BASED INSPECTION PROGRAMS AND ANALYZING OPERATIONAL DATA.

APPENDIX B TO OUR TESTIMONY SUMMARIZES THE AGENCY'S BUDGET REQUEST BY MAJOR BUDGET CATEGORIES. THE REDUCTIONS VARY IN MAGNITUDE, BUT ALL MAJOR PROGRAMS ARE AFFECTED. I WILL BRIEFLY SUMMARIZE EACH PROGRAM. PLEASE NOTE THAT THE TABLE IN APPENDIX B DOES NOT REFLECT THE DETAIL RESULTING FROM BUDGET CUTS DUE TO PUBLIC LAW 99-177.

REACTOR REGULATION

THE NUCLEAR REACTOR REGULATION PROGRAM IS IN TRANSITION. WHILE DEMAND FOR RESOURCES NEEDED TO REVIEW NEW LICENSE APPLICATIONS DECREASES, THE DEMAND FOR RESOURCES NEEDED TO EVALUATE SAFETY-RELATED LICENSING ACTIONS, RESPOND TO EVENTS, AND PERFORM OVERALL PROJECT MANAGEMENT IS INCREASING WITH THE NUMBER OF REACTORS COMING ON-LINE. FOR EXAMPLE, ABOUT 600-700 MORE LICENSING ACTIONS

ARE ANTICIPATED FOR OPERATING PLANTS IN FY 1987 THAN WERE ACTUALLY RECEIVED IN FY 1985.

IN FY 1987, WE WILL CONTINUE TO WORK ON OPERATING LICENSE AND STANDARD PLANT APPLICATIONS STILL PENDING. WE ALSO INTEND TO CONDUCT ACTIVE PROGRAMS TO OVERSEE THE SAFE OPERATION OF OPERATING PLANTS, TO LICENSE REACTOR OPERATORS, TO CONTINUE WORKING ON UNRESOLVED AND HIGH PRIORITY GENERIC SAFETY AND HUMAN FACTORS ISSUES, AND WORK ON INITIATIVES RELATED TO SEVERE ACCIDENTS AND SAFETY GOALS.

FY 1987 BUDGET CUTS IN THE NUCLEAR REACTOR REGULATION PROGRAM WILL REDUCE OR ELIMINATE IMPROVEMENTS IN SUCH AREAS AS RISK ASSESSMENT, HUMAN FACTORS, AND ADVANCED REACTOR CONCEPTS. FURTHER, WE WILL NOT BE ABLE TO IMPLEMENT THE INTEGRATED SAFETY ASSESSMENT PROGRAM AS A SEPARATE PROGRAM. ALSO, OUR ABILITY TO RESOLVE MAJOR UNANTICIPATED PROBLEMS AT OPERATING FACILITIES AND THOSE UNDER LICENSING REVIEW WILL BE SEVERELY CONSTRAINED.

RESEARCH

IN TERMS OF CONSTANT DOLLARS, OUR RESEARCH BUDGET WILL BE LOWER IN FY 1987 THAN IT WAS WHEN THE AGENCY WAS FORMED IN 1975. BETWEEN 1981 AND 1987, THE NUCLEAR REGULATORY RESEARCH PROGRAM WILL HAVE BEEN REDUCED BY MORE THAN \$110 MILLION, ABOUT 53 PERCENT. JOINT PROGRAMS WITH OTHER PARTIES AND IMPROVED OPERATING ECONOMICS CANNOT MAKE UP FOR THESE REDUCTIONS OVER THE YEARS. THE REDUCTIONS IN THE FY 1987 RESEARCH BUDGET WILL MEAN AN END TO SOME PROGRAMS AND SIGNIFICANT DELAYS IN OR DEFERRAL OF OTHERS.

THE ABSENCE OF NEEDED SAFETY INFORMATION WILL LEAD TO GREATER CONSERVATISM IN THE REGULATORY PROCESS AND COULD LEAD TO PLANT SHUTDOWNS AND POWER REDUCTIONS. IN THE LONG RUN, IT COULD COST THE PUBLIC MORE BY NOT ADEQUATELY FUNDING THE NRC RESEARCH PROGRAM.

THE NRC RESEARCH PROGRAM IS THE PRINCIPAL U.S. GOVERNMENT PROGRAM OF NUCLEAR SAFETY RESEARCH AND IS AN ESSENTIAL PART OF OUR REGULATORY PROCESS. IT PROVIDES US WITH THE SOUND TECHNICAL INFORMATION WE NEED TO DEAL EFFECTIVELY WITH COMPLEX TECHNICAL ISSUES IN REACTOR REGULATION, INSPECTION, AND NUCLEAR MATERIAL SAFETY AND SAFEGUARDS.

A MAJOR FEATURE OF THE RESEARCH PROGRAM IS ITS EMPHASIS ON SAFETY AT OPERATING FACILITIES WHERE PROBLEMS CONTINUE TO ARISE. PROBLEMS WITH CORROSION, RADIATION EMBRITTLEMENT, AND FATIGUE HAVE RAISED SPECIFIC QUESTIONS ABOUT THE CONTINUED SAFETY OF SOME CURRENTLY OPERATING PLANTS. OPERATIONAL PROBLEMS INCLUDE CRACKED PIPING AT BOILING WATER REACTORS, STEAM GENERATOR DEGRADATION AT PRESSURIZED WATER REACTORS, DEFECTIVE VALVES AND RELAYS, AND INADEQUATE MEANS FOR DETECTING AND CHARACTERIZING FLAWS.

SOME OF THESE QUESTIONS ARE BEING RESOLVED BY RESEARCH AND REGULATORY ACTION, BUT MORE QUESTIONS ARE LIKELY TO CONTINUE TO

ARISE AS PLANTS MATURE AND TECHNOLOGY EVOLVES. THE NRC AS WELL AS INDUSTRY MUST BE PREPARED FOR THESE AND OTHER NEW SAFETY ISSUES. AS SUCH, A STABLE, PROPERLY BALANCED RESEARCH PROGRAM IS ESSENTIAL FOR THE COMMISSION TO CARRY OUT ITS RESPONSIBILITIES FOR EFFECTIVE NUCLEAR SAFETY REGULATION.

NRC RESEARCH EFFORTS PLANNED FOR FY 1987 WILL FOCUS PRIMARILY ON:

- * THE STUDY OF PLANT AGING AND DETERIORATION OF EQUIPMENT AND STRUCTURES IMPORTANT TO SAFE OPERATION;
- * EVALUATION OF RECENT SOURCE-TERM WORK TO DEVELOP CRITERIA FOR EXAMINATION OF INDIVIDUAL PLANTS AND TO IDENTIFY REGULATIONS THAT COULD BE AFFECTED BY NEW SOURCE-TERM KNOWLEDGE;
- * SEVERE ACCIDENT SEQUENCE ANALYSIS, DAMAGED FUEL, FISSION PRODUCT RELEASE AND OTHER RESEARCH NEEDED TO PROVIDE A SOUND TECHNICAL BASIS FOR IMPLEMENTATION OF THE SEVERE ACCIDENT POLICY;

- * ASSESSMENT OF COMPUTER CODES USED TO EVALUATE THE SAFETY RESPONSE TO A WIDE RANGE OF TRANSIENTS AND ACCIDENTS;
- * SEISMIC ANALYSIS, AND
- * DEVELOPMENT OF METHODS AND TOOLS FOR EVALUATING DOE'S PROPOSED NUCLEAR WASTE REPOSITORY.

INSPECTION AND ENFORCEMENT

THE INSPECTION AND ENFORCEMENT (IE) PROGRAM WILL CONTINUE TO EMPHASIZE ON-SITE INSPECTION OF REACTORS. IT WILL PROVIDE FOR A SECOND RESIDENT INSPECTOR AT MOST OPERATING SITES AND WILL CONTINUE THE ASSIGNMENT OF AT LEAST TWO RESIDENT INSPECTORS AT ALL CONSTRUCTION AND PRE-OPERATIONAL TESTING SITES. WE ALSO INTEND TO CONTINUE TO FOCUS OUR ATTENTION ON OPERATING EXPERIENCE TO IDENTIFY ISSUES OF GENERIC SAFETY SIGNIFICANCE AND LICENSEES REQUIRING INCREASED REGULATORY ATTENTION.

WORK ON THE QUALITY ASSURANCE INITIATIVES DESCRIBED IN THE STAFF'S REPORT ON IMPROVING QUALITY AND THE ASSURANCE OF QUALITY IN THE DESIGN AND CONSTRUCTION OF NUCLEAR POWER PLANTS, SUBMITTED TO THE CONGRESS IN APRIL 1984, WILL BE SEVERELY CURTAILED IN FY 1986 AS A RESULT OF PUBLIC LAW 99-177 REDUCTIONS INCLUDING INITIATIVES RELATED TO FUTURE APPLICATIONS FOR CONSTRUCTION. TECHNICAL ASSISTANCE TO INSPECTIONS OF NUCLEAR SUPPLIERS AND DESIGNERS WILL BE REDUCED BY 50 PERCENT IN FY 1986. THERE WILL ONLY BE MINIMUM FUNDING TO SUPPORT TEAM INSPECTIONS OF MAJOR NUCLEAR POWER PLANT MODIFICATIONS DURING OUTAGES.

FUNDING REDUCTIONS WILL ALSO OCCUR IN FYS 1986 AND 1987 IN THE SPECIAL TEAM INSPECTION PROGRAMS (CONSTRUCTION APPRAISAL TEAM, INTEGRATED DESIGN INSPECTION PROGRAM AND INDEPENDENT DESIGN VERIFICATION PROGRAM) FOR CONSTRUCTION SITES, IN THE EMERGENCY PREPAREDNESS PROGRAM, AND IN TECHNICAL SUPPORT TO THE STAFF FOR PROBLEM FACILITIES IN BOTH CONSTRUCTION AND OPERATION. OTHER

INSPECTION AND ENFORCEMENT PROGRAMS WILL BE RETAINED ESSENTIALLY AT THEIR FY 1986 LEVELS.

NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

DURING THE REMAINDER OF FY 1986 AND IN FY 1987, THE NUCLEAR MATERIAL SAFETY AND SAFEGUARDS (NMSS) PROGRAM WILL FOCUS ON SEVERAL PRIORITY ACTIVITIES.

SPECIFICALLY, WE WILL CONTINUE TO CARRY OUT OUR EXTENSIVE REGULATORY RESPONSIBILITIES UNDER THE NUCLEAR WASTE POLICY ACT AND THE URANIUM MILL TAILINGS RADIATION CONTROL ACT. WE WILL BE EXAMINING ALL ASPECTS OF THE RECENT URANIUM HEXAFLORIDE INCIDENT AT THE KERR-McGEE SEQUOYAH FACILITY TO DETERMINE IF ANY REGULATORY CHANGES ARE APPROPRIATE. WE WILL BE EXAMINING THE ADEQUACY OF NRC SAFEGUARDS REQUIREMENTS AT LICENSED FACILITIES IN LIGHT OF AN INCREASED SENSITIVITY TO CURRENT TERRORIST ACTIVITIES ELSEWHERE IN THE WORLD. AND, WE WILL BEGIN EXECUTING OUR RESPONSIBILITIES

UNDER THE LOW-LEVEL RADIOACTIVE WASTE POLICY AMENDMENTS ACT OF 1985.

HOWEVER, YOU SHOULD BE AWARE THAT THE NRC FY 1987 BUDGET REQUEST DOES NOT CONTAIN RESOURCES TO IMPLEMENT THE RECENTLY ENACTED LOW-LEVEL WASTE ACT AMENDMENTS. WE ARE CURRENTLY EXAMINING WHERE WE CAN REPROGRAM RESOURCES FROM OTHER IMPORTANT ACTIVITIES WITHIN THE AGENCY.

OTHER IMPORTANT NMSS EFFORTS IN FY 1987 INCLUDE IDENTIFYING AND RESOLVING ISSUES ASSOCIATED WITH SPENT FUEL SHIPMENT AND STORAGE, RESPONDING TO UNANTICIPATED EVENTS INVOLVING FUEL CYCLE FACILITIES AND MATERIALS LICENSEES, COMPLETION OF LICENSING CASES FOR FUEL CYCLE FACILITIES AND THOUSANDS OF MATERIAL LICENSEES, AND THE CONDUCT OF A LIMITED NUMBER OF OPERATING REACTOR SAFEGUARDS REGULATORY EFFECTIVENESS REVIEWS.

BUILDING CONSOLIDATION

OF URGENT INTEREST TO THE COMMISSION IS THE MATTER OF NRC BUILDING CONSOLIDATION. AS YOU KNOW THE NRC STAFF HAS BEEN HOUSED IN TEN BUILDINGS IN ROCKVILLE, BETHESDA, SILVER SPRING AND THE DISTRICT. WE APPRECIATE THE COMMITTEE'S CONTINUED SUPPORT IN OUR QUEST TO CONSOLIDATE AND HOPE OUR EFFORTS WILL BEAR FRUIT.

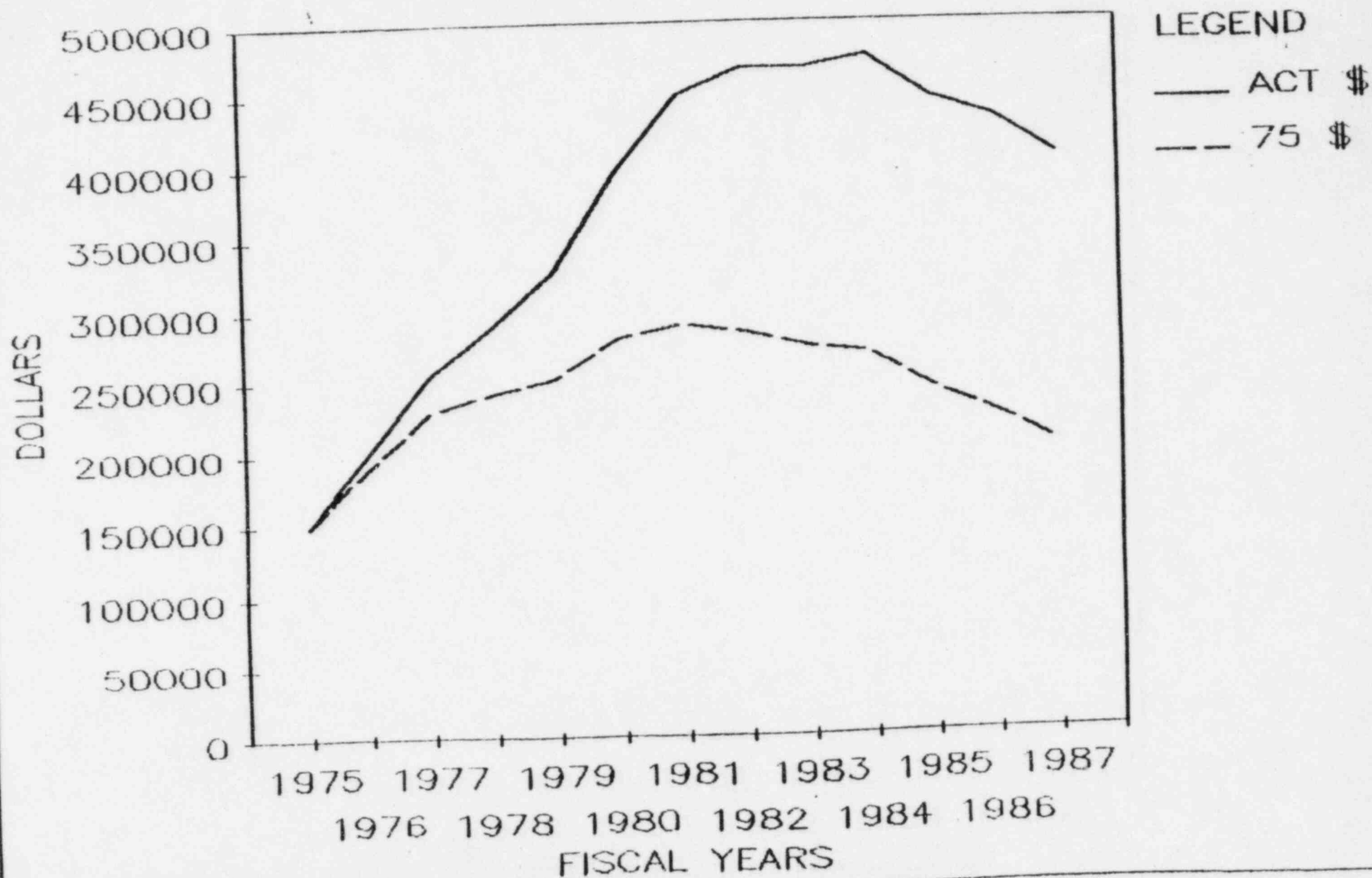
CONCLUSION

THE DETAILS OF OUR BUDGET REQUEST ARE CONTAINED IN OUR BUDGET SUBMISSION, WHICH HAS ALREADY BEEN PROVIDED TO THE SUBCOMMITTEE. APPENDIX C PROVIDES EXAMPLES OF NRC ACCOMPLISHMENTS IN FY 1985.

IN CLOSING, LET ME REEMPHASIZE THAT THE BUDGET REQUEST SUBMITTED TO CONGRESS REPRESENTS A MINIMUM PROGRAM IN THE VIEW OF THE COMMISSION. WE URGE YOUR STRONG SUPPORT FOR THE FULL AMOUNT OF OUR REQUEST.

U.S. NUCLEAR REGULATORY COMMISSION

TOTAL OBLIGATIONS IN CONSTANT DOLLARS
(Dollars in Thousands)



APPENDIX B

BUDGET RESOURCE SUMMARY ^{1/}

<u>PROGRAMS</u>	<u>FY 1985</u>		<u>FY 1986</u> ^{2/}		<u>FY 1987</u> ^{3/}	
	<u>FTE</u>	<u>\$</u>	<u>FTE</u>	<u>\$</u>	<u>FTE</u>	<u>\$</u>
NUCLEAR REACTOR REGULATION	711	86.5	716	83.8	683	<u>79.8</u>
INSPECTION AND ENFORCEMENT	1,105	94.6	1,140	98.2	1,135	<u>98.6</u>
NUCLEAR MAT'L SAFETY AND SAFEGUARDS	362	40.0	370	41.0	360	<u>39.5</u>
NUCLEAR REGULATORY RESEARCH	226	150.0	207	134.7	180	
	<u>113.5</u>					
PROGRAM TECHNICAL SUPPORT	365	30.8	355	30.3	330	<u>30.5</u>
PROGRAM DIRECTION AND ADMIN.	<u>729</u>	<u>43.5</u>	<u>703</u>	<u>43.3</u>	<u>681</u>	
	<u>43.1</u>					
	3,498	445.4	3,491	431.3	3,369	405.0

^{1/} DOLLARS ARE EXPRESSED IN MILLIONS.

^{2/} ESTIMATES DO NOT REFLECT THE \$18 MILLION REDUCTION REQUIRED BY THE BALANCED BUDGET AND EMERGENCY DEFICIT CONTROL ACT OF 1985.

^{3/} DEFICIT CONTROL ACT REDUCTIONS ARE NOT KNOWN AT THIS TIME.

EXAMPLES OF FY 1985 ACCOMPLISHMENTS

- 0 ISSUED INITIAL LICENSES (RESTRICTED TO 5% POWER) FOR 10 REACTORS, 8 OF WHICH WERE GRANTED FULL-POWER AUTHORIZATIONS. IN ADDITION, 3 PREVIOUSLY LICENSED REACTORS RECEIVED FULL-POWER AUTHORIZATIONS.
- 0 DEALT WITH PROBLEMS AND UNANTICIPATED EVENTS INVOLVING REACTORS UNDER CONSTRUCTION, OPERATING REACTORS, MATERIALS LICENSEES AND FUEL CYCLE FACILITIES, INCLUDING INITIATING A PROGRAM TO RESPOND TO REACTOR INCIDENTS.
- 0 CARRIED OUT OUR RESPONSIBILITIES UNDER THE NUCLEAR WASTE POLICY ACT.
- 0 THE COMMISSION ISSUED:
 - SEVERE ACCIDENT POLICY STATEMENT;
 - NEW BACKFIT RULE TO IMPROVE METHODS FOR ADMINISTERING THE IMPOSITION OF NEW REQUIREMENTS ON LICENSEES;
 - POLICY STATEMENT ON TRAINING;
 - FINAL RULE ON PRESSURIZED THERMAL SHOCK;
 - PROPOSED RULE FOR PUBLIC COMMENT ON CRITERIA FOR DECOMMISSIONING FACILITIES;
 - PROPOSED POLICY STATEMENT FOR REGULATION OF ADVANCED NUCLEAR POWER PLANTS.
- 0 PROVIDED CONGRESS WITH REVISED LICENSING AND STANDARDIZATION LEGISLATION AND SUBMITTED SIX OTHER MISCELLANEOUS LEGISLATIVE PROPOSALS FOR CONGRESSIONAL CONSIDERATION.
- 0 MONITORED AND TOOK APPROPRIATE REGULATORY ACTION ON TMI CLEANUP ACTIVITIES.

QUESTION 1. (A) PLEASE IDENTIFY ALL NUCLEAR POWER PLANTS NOW UNDER CONSTRUCTION AND THE DATE BY WHICH LOW-POWER AND FULL-POWER OPERATING LICENSES ARE EXPECTED TO BE GRANTED. PLEASE PROVIDE A LIST OF ALL REACTORS WHICH RECEIVED OPERATING LICENSES SINCE 1980 INCLUDING THE DATES ON WHICH THE LPOL'S AND FPOL'S WERE ISSUED AND THE DATES AT WHICH THE FOLLOWING OCCURRED: CRITICALITY, 5% POWER, AND 100 HOURS OF FULL POWER OPERATIONS.

ANSWER.

TABLE 1 LISTS ALL PLANTS NOW UNDER ACTIVE CONSTRUCTION, THE APPLICANT'S PROJECTED LOW POWER LICENSE DATE, AND AN ESTIMATE OF THE FULL POWER LICENSE DATE. THIS ESTIMATE IS BASED ON A TWO MONTH LOW POWER TEST PROGRAM FOR PRESSURIZED WATER REACTORS (PWRs) AND A THREE MONTH LOW POWER TEST PROGRAM FOR BOILING WATER REACTORS (BWRs). IN THOSE INSTANCES WHERE THE APPLICANT HAS PROVIDED A TEST SCHEDULE, THEIR DATE IS GIVEN FOR FULL POWER LICENSING, AND IS INDICATED BY AN ASTERISK.

TABLE 2 LISTS ALL PLANTS LICENSED SINCE 1980. THE TABLE SHOWS THE DATES OF: LOW POWER AND FULL POWER LICENSE ISSUANCE, INITIAL CRITICALITY, 5% POWER, AND COMMERCIAL OPERATION. THE STAFF DOES

NOT HAVE INFORMATION REGARDING THE DATE ON WHICH THE PLANTS
ATTAINED 100 HOURS OF FULL POWER OPERATION; HOWEVER, PLANTS ARE
OFTEN DECLARED COMMERCIAL IMMEDIATELY AFTER THE 100 HOUR WARRANTY
RUN.

ENCLOSURE:

TABLE 2

TABLE 1
ESTIMATED OPERATING LICENSE DATES

<u>PLANT</u>	<u>LOW POWER LICENSE DATE</u>	<u>FULL POWER LICENSE DATE</u>
SHOREHAM 1	7/85C	N/S
COMANCHE PEAK 1	N/S	N/S
WATTS BAR 1	N/S	N/S
COMANCHE PEAK 2	N/S	N/S
MILLSTONE 3	11/85C	1/86*
PALO VERDE 2	12/85C	3/86*
CATAWBA 2	2/86	5/86
PERRY 1	2/86	5/86*
HOPE CREEK	3/86	5/86*
CLINTON 1	3/86	5/86*
NINE MILE POINT 2	5/86	8/86
HARRIS 1	6/86	8/86
SEABROOK 1	6/86	8/86
BRAIDWOOD 1	9/86	11/86
BYRON 2	10/86	12/86
VOGTLE 1	12/86	2/87
PALO VERDE 3	3/87	5/87
WATTS BAR 2	3/87	5/87

* APPLICANT'S PROJECTION OF READINESS FOR FULL POWER LICENSING.

<u>PLANT</u>	<u>LOW POWER LICENSE DATE</u>	<u>FULL POWER LICENSE DATE</u>
BEAVER VALLEY 2	4/87	7/87
SOUTH TEXAS 1	6/87	8/87
BRAIDWOOD 2	1/88	3/86
VOGTLE 2	3/88	5/88
SOUTH TEXAS 2	12/88	2/89
LIMERICK 2	7/90	10/90
BELLEFONTE 1	1/93	3/93
BELLEFONTE 2	1/95	3/95

Milestone Data for Plants Licensed Since TMI

Plant Name	Type	NGSS	5% Power Lic. Issued	Begin Fuel Load	Complete Fuel Load	Initial Criticality	Full Power Lic. Issued	Exceed 5% Power	Commercial Operation
+++++	+++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
Sequoyah 1	PWR	West	29-Feb-80	29-Feb-80	05-Mar-80	05-Jul-80	17-Sep-80	02-Oct-80	01-Jul-81
Norlin Anna 2	PWR	West	11-Apr-80	12-Apr-80	15-Apr-80	12-Jun-80	21-Aug-80	25-Aug-80	14-Dec-80
Salmon 2	PWR	West	13-Apr-80	23-May-80	27-May-80	02-Aug-80	20-May-81	29-May-81	13-Oct-81
Harley 2	PWR	West	23-Oct-80	08-Mar-81	11-Mar-81	08-May-81	31-Mar-81	27-May-81	30-Jul-81
McGuire 1	PWR	West	12-Jun-81	28-Jan-81	02-Feb-81	08-Aug-81	08-Jul-81	12-Sep-81	01-Dec-81
Sequoyah 2	PWR	West	25-Jun-81	03-Jul-81	07-Jul-81	06-Nov-81	15-Sep-81	22-Dec-81	01-Jun-82
San Onofre 2	PWR	CE	16-Feb-82	19-Feb-82	26-Feb-82	26-Jul-82	07-Sep-82	17-Sep-82	08-Aug-83
LaSalle 1	BWR	GE/MK II	17-Apr-82	18-Apr-82	30-Apr-82	21-Jun-82	13-Aug-82	15-Aug-82	01-Jan-84
Grand Gulf 1	BWR	GE/MK III	16-Jun-82	01-Jul-82	06-Aug-82	18-Aug-82	31-Aug-84	08-Nov-84	01-Jul-85
Susquehanna 1	BWR	GE/MK II	17-Jul-82	27-Jul-82	12-Aug-82	10-Sep-82	12-Nov-82	12-Nov-82	08-Jun-83
Summer 1	PWR	West	06-Aug-82	10-Aug-82	13-Aug-82	22-Oct-82	12-Nov-82	16-Nov-82	01-Jan-84
San Onofre 3	PWR	CE	15-Nov-82	15-Nov-82	21-Nov-82	29-Aug-83	16-Sep-83	18-Sep-83	01-Apr-84
McGuire 2	PWR	West	03-Mar-83	04-Mar-83	08-Mar-83	08-May-83	27-May-83	28-May-83	01-Mar-84
St. Lucie 2	PWR	CE	06-Apr-83	06-Apr-83	10-Apr-83	02-Jun-83	10-Jun-83	13-Jun-83	08-Aug-83
LaSalle 2	BWR	GE/MK II	16-Dec-83	30-Dec-83	11-Jan-84	10-Mar-84	23-Mar-84	28-Mar-84	17-Oct-84
WNP-2	BWR	GE/MK II	20-Dec-83	25-Dec-83	12-Jan-84	19-Jan-84	13-Apr-84	20-Apr-84	13-Dec-84
Susquehanna 2	BWR	GE/MK II	23-Mar-84	28-Mar-84	13-Apr-84	08-May-84	27-Jun-84	27-Jun-84	08-Feb-85
Diablo Canyon 1	PWR	West	19-Apr-84	15-Nov-83	20-Nov-83	29-Apr-84	02-Nov-84	21-Nov-84	07-May-85
Callaway 1	PWR	West	11-Jun-84	13-Jun-84	20-Jun-84	02-Oct-84	18-Oct-84	19-Oct-84	19-Dec-84
Limerick 1	BWR	GE/MK II	26-Oct-84	26-Oct-84	13-Nov-84	27-Dec-84	08-Aug-85	10-Aug-85	†
Byron 1	PWR	West	31-Oct-84	02-Nov-84	17-Nov-84	02-Feb-85	14-Feb-85	24-Feb-85	10-Sep-85
Catawba 1	PWR	West	06-Dec-84	19-Jul-84	23-Jul-84	07-Jan-85	17-Jan-85	21-Jan-85	29-Jun-85
Shoreham 1 (FL) BWR	GE/MK II	07-Dec-84	21-Dec-84	19-Jan-85	15-Feb-85	†	†	†	†
Shoreham 1 (5%) BWR	GE/MK II	03-Jul-85	†	†	†	†	†	†	†
Waterford 3	PWR	CE	18-Dec-84	18-Dec-84	23-Dec-84	04-Mar-85	16-Mar-85	18-Mar-85	24-Sep-85
Palo Verde 1	PWR	CE	31-Dec-84	07-Jan-85	11-Jan-85	25-May-85	01-Jun-85	06-Jun-85	†
Wolf Creek	PWR	West	11-Mar-85	12-Mar-85	17-Mar-85	22-May-85	04-Jun-85	06-Jun-85	03-Sep-85
Fernal 2	BWR	GE/MK I	20-Mar-85	20-Mar-85	04-Apr-85	21-Jun-85	15-Jul-85	†	†
Diablo Canyon 2	PWR	West	26-Apr-85	07-May-85	15-May-85	20-Aug-85	26-Aug-85	03-Nov-85	†
River Bend	BWR	GE/MK III	29-Aug-85	31-Aug-85	21-Sep-85	31-Oct-85	20-Nov-85	25-Nov-85	†
Millstone 3	PWR	West	25-Nov-85	26-Nov-85	02-Dec-85	23-Jan-86	†	†	†
Palo Verde 2	PWR	CE	09-Dec-85	11-Dec-85	16-Dec-85	†	†	†	†

† Milestone not completed

QUESTION 1. (B) PLEASE DESCRIBE WHAT STEPS ARE BEING TAKEN OR CONSIDERED TO REALLOCATE AGENCY RESOURCES FROM LICENSING PLANTS TO ENSURING THE SAFE OPERATION OF OPERATING PLANTS.

ANSWER.

THE NRC BUDGET REQUEST CONTINUES TO REFLECT A SHIFT IN THE AGENCY'S WORKLOAD FROM LICENSING TO OPERATING REACTORS. THIS IS PARTICULARLY TRUE FOR SEVERAL OF THE PROGRAMS CARRIED OUT BY NRR, IE AND RES. SOME SPECIFIC ACTIONS TAKEN DURING THE PAST YEAR INCLUDE THE FOLLOWING:

- THE OFFICE OF NUCLEAR REACTOR REGULATION (NRR) RECENTLY IMPLEMENTED A MAJOR REORGANIZATION TO REFLECT THE CHANGED ENVIRONMENT FROM EMPHASIS ON LICENSING PLANTS TO EMPHASIS ON REGULATING PLANTS IN OPERATION. THE MATRIX ORGANIZATION THAT WAS EFFECTIVE FOR MANAGING THE LICENSING OF PLANTS OF DIFFERING DESIGNS HAS BEEN REPLACED BY AN ORGANIZATION FOCUSED ON THE FOUR MAJOR REACTOR DESIGNS AND OPERATIONAL SAFETY MATTERS. THIS NEW ORGANIZATION RECOGNIZES THAT MANY OPERATIONAL PROBLEMS ARE DESIGN SPECIFIC AND STRENGTHENS THE PROJECT MANAGEMENT FUNCTION, WHICH IS THE PRIMARY FOCUS FOR COORDINATING THE SAFETY AND ENGINEERING REVIEWS FOR OPERATING REACTORS.

- IN THE PERSONNEL STAFFING AREA, INCREASED EMPHASIS IS BEING PLACED ON TRYING TO HIRE STAFF WITH NUCLEAR POWER PLANT OPERATIONAL EXPERIENCE AND PROVIDING FORMAL AND ON THE JOB TRAINING THAT RELATES TO OPERATIONS. SKILLS REQUIRED PRIMARILY FOR LICENSING REVIEWS HAVE BEEN REDUCED.
- INSPECTIONS ARE BEING INCREASED BY PLACING A SECOND RESIDENT INSPECTOR AT MOST SINGLE UNIT OPERATING REACTORS.
- MORE EMPHASIS HAS BEEN PLACED ON EVALUATING LICENSEE PERFORMANCE IN OPERATING THEIR PLANT THROUGH SUCH MEANS AS THE SYSTEMMATIC ASSESSMENT OF LICENSEE PERFORMANCE.
- EFFORTS TO RESPOND TO AND ANALYZE EVENTS AT OPERATING REACTORS HAVE INCREASED (E.G., THE UTILIZATION OF INCIDENT INVESTIGATION TEAMS).
- THE EVALUATION OF OPERATIONAL EXPERIENCE IS BEING PURSUED.
- DIFFERENT APPROACHES TO REGULATING NUCLEAR POWER PLANTS ARE BEING EXPLORED WITH EMPHASIS BEING PLACED ON REACTOR OPERATIONS (E.G., CONSIDERATION OF BALANCE-OF-PLANT IMPACT ON SAFE OPERATIONS).

QUESTION 2. (A) TO WHAT EXTENT ARE THE RESOURCES OF THE OFFICE OF NUCLEAR REGULATORY RESEARCH BEING APPLIED TO THE PROBLEMS OF OPERATING REACTORS (E.G., REDUCING ACCIDENT INITIATORS AND IMPROVING THE TECHNOLOGY FOR MONITORING, DIAGNOSING, CONTROLLING, AND RECOVERING FROM ACCIDENTS WHEN THEY OCCUR) AS OPPOSED TO DETAILED ANALYSIS OF ACCIDENT CONSEQUENCES?

ANSWER.

A SUBSTANTIAL AND INCREASING PERCENTAGE OF THE COMMISSION'S RESEARCH PROGRAM IS BEING DIRECTED TOWARDS THE BROAD AREA OF ACCIDENT PREVENTION AND MITIGATION IN OPERATING REACTORS, AS DISTINCT FROM RESEARCH DIRECTED TOWARDS PROVIDING AN IMPROVED UNDERSTANDING OF THE PHYSICAL PROCESSES ASSOCIATED WITH SEVERE REACTOR ACCIDENTS.

RES IS DEVELOPING THE KNOWLEDGE NEEDED TO EVALUATE REACTOR PLANT SYSTEMS/SAFETY SYSTEMS SO THAT NRC CAN IDENTIFY POTENTIAL WEAKNESSES AND EVALUATE ALTERNATIVES TO REDUCE ACCIDENT RISK. THIS EFFORT INCLUDES CONDUCTING JOINT PROGRAMS WITH INDUSTRY TO DEVELOP IMPROVED UNDERSTANDING OF REACTOR PHENOMENOLOGY. SUCH UNDERSTANDING PROVIDES NRC WITH A BASIS FOR EVALUATING "SIMILAR" PLANTS WHEN INCIDENTS OCCUR, ASSESSING INDUSTRY PROPOSALS, AND SUPPORTING ANALYSIS OF PLANT OPERATIONAL EXPERIENCE.

FURTHER WORK ON RISK ASSESSMENT TECHNIQUES FOR REACTOR PLANTS WILL BE FOCUSING IN AREAS THAT ARE IMPORTANT TO SAFETY, SO THAT PROPER EMPHASIS AND DIRECTION CAN BE APPLIED TO IMPROVE REACTOR OPERATIONS. THIS WILL INCLUDE: RISK STATUS OF PLANT CONFIGURATION AND UNDERSTANDING THE IMPACT OF PLANNED RECONFIGURATIONS, E.G., EQUIPMENT OUTAGE FOR MAINTENANCE; THE REAL-TIME ANALYSIS OF OPERATING OCCURRENCES AND UNDERSTANDING OF WEAKNESSES IN PLANT DESIGN AND PROCEDURES.

QUESTION 2. (B) WHAT WERE THE MAJOR FINDINGS OF EXPERIMENTS, TESTS, AND ANALYSES CONDUCTED IN FY 1985?

ANSWER.

LISTED BELOW ARE ILLUSTRATIVE EXAMPLES OF MAJOR FINDINGS OF EXPERIMENTS, TESTS AND ANALYSES IN 1985:

- O VALIDATED APPLICABILITY OF THE "PRESSURIZED THERMAL SHOCK" ANALYSIS RULE AND SCREENING CRITERION DEVELOPED USING SMALL SPECIMENS, PRESSURE VESSELS AND WIDE-PLATE CRACK ARREST TESTS.
- O DEVELOPED EQUIPMENT AND COMPLETED ADVANCED NONDESTRUCTIVE EXAMINATION (SAFT-UT) OF PRIMARY PIPING IN TWO POWER REACTORS (DRESDEN 3 AND VERMONT YANKEE) TO RESOLVE REPORTED DISAGREEMENT BETWEEN COMMERCIAL INSPECTION TEAMS.
- O EXPERIMENTALLY SHOWED ERRORS IN THE INDUSTRY-PROPOSED RULES FOR EVALUATION OF CRACKS IN STAINLESS STEEL REACTOR PIPING, AND GUIDED DEVELOPMENT OF ACCEPTANCE RULES.
- O VALIDATED APPLICABILITY OF COMMERCIAL TUBE REPAIR TECHNIQUES FOR STEAM GENERATOR TUBES.

- O DEMONSTRATED THE ACCEPTABILITY OF OVERLAY WELDING TO INHIBIT CRACK GROWTH IN BWR PIPING.
- O DEVELOPED CRITERIA FOR QUALIFYING PERSONNEL, PROCEDURES AND EQUIPMENT FOR INSERVICE INSPECTION OF REACTOR VESSELS AND PRIMARY PIPING FOR INCORPORATION IN NATIONAL STANDARDS USED BY INDUSTRY.
- O DEMONSTRATED THAT THE LIKELIHOOD OF A RUPTURE IN PRESSURIZED WATER REACTOR MAIN COOLANT PIPING IS VERY SMALL.
- O DEVELOPED AN APPROACH TO DETERMINE THE SEISMIC SAFETY MARGIN AVAILABLE FOR PLANTS TO WITHSTAND EARTHQUAKES LARGER THAN THEIR DESIGN BASIS.
- O DEVELOPED METHODS TO PREDICT, ON A PROBABILISTIC BASIS, THE BEHAVIOR OF STRUCTURES, SYSTEMS, AND COMPONENTS SUBJECTED TO LARGE EARTHQUAKES.

QUESTION 2. (C) WHAT REGULATORY CHANGES RESULTED FROM
RESEARCH CONDUCTED IN THE YEARS 1980-1985?

ANSWER.

LISTED BELOW ARE SIGNIFICANT EXAMPLES OF REGULATORY CHANGES
RESULTING FROM RESEARCH, 1980-1985.

- O DEVELOPED NEW RULE, 10 CFR 50.61, TO ADDRESS PRESSURIZED
THERMAL SHOCK CRITERIA FOR REACTOR VESSELS.
- O, AMENDED PART 50, APPENDIX G, TO INCORPORATE UPDATED FRACTURE
TOUGHNESS REQUIREMENTS.
- O AMENDED PART 50, APPENDIX H, TO INCORPORATE UPDATED REACTOR
VESSEL MATERIALS SURVEILLANCE PROGRAM REQUIREMENTS.
- O AMENDED CODES AND STANDARDS RULE, 10 CFR 50.55A, TO
INCORPORATE BY REFERENCE LATER EDITIONS AND ADDENDA OF THE
ASME BOILER AND PRESSURE VESSEL CODE.
- O REVISED REGULATORY GUIDE 1.99 TO INCORPORATE NEW BASIS FOR
PREDICTING RADIATION DAMAGE TO REACTOR VESSEL MATERIALS.
- O ESTABLISHED CRITERIA FOR PROTECTION AGAINST STRESS CORROSION
CRACKING OF BWR PIPES.

- O REVISED REGULATORY GUIDES 1.147, 1.84 AND 1.85 TO INDICATE ACCEPTABILITY OF ASME CODE CASES.
- O PROVIDED A BASIS FOR THE RESOLUTION OF THE UNRESOLVED SAFETY ISSUE (A-11) DEALING WITH THE EVALUATION OF REACTOR VESSEL INTEGRITY.
- O ESTABLISHED BASIS FOR LICENSEE EXEMPTIONS THAT PERMIT THE REMOVAL OF PIPE WHIP RESTRAINTS IN PRESSURIZED WATER REACTOR MAIN COOLANT PIPING SYSTEMS.
- O ESTABLISHED BASIS FOR LICENSEE EXEMPTIONS THAT PERMIT HIGHER PIPE DAMPING VALUES LEADING TO REMOVAL OF PIPE SNUBBERS.
- O ESTABLISHED BASIS FOR MODIFYING THE LICENSING STAFF POSITION REGARDING STRUCTURAL BUCKLING AROUND FRAMES.
- O ISSUED SECTION 50.49 TO 10 CFR PART 50 WHICH PROVIDES FOR THE ENVIRONMENTAL QUALIFICATION OF CERTAIN ELECTRIC EQUIPMENT.
- O ESTABLISHED BASIS FOR LICENSING STAFF TO EVALUATE AND CONFIRM USE OF IGNITERS FOR HYDROGEN CONTROL IN CONTAINMENT.

- 0 A PROPOSED REVISION TO THE ECCS RULE (10 CFR 50.46 AND APPENDIX K) HAS BEEN AGREED TO BY THE NRR AND RES TECHNICAL STAFF. A REGULATORY GUIDE SUPPORTING THIS PROPOSED RULE REVISION HAS BEEN DRAFTED AND IS BEING REVIEWED BY NRR STAFF.

- 0 A DETAILED TECHNICAL DOCUMENT SUMMARIZING THE RESEARCH SUPPORTING THE PROPOSED ECCS RULE REVISION HAS BEEN DRAFTED. THIS DOCUMENT HAS BEEN SENT TO INEL TO COORDINATE REVIEW AND COMMENT BY THE TECHNICAL COMMUNITY.

QUESTION 3(A). WHAT IS THE STATUS OF NRC AND INDUSTRY SPONSORED SOURCE TERM RESEARCH? WHAT LEVEL OF CONFIDENCE DOES THE COMMISSION HAVE IN THESE RESEARCH RESULTS, PARTICULARLY IN LIGHT OF RECENT EXPERIMENTS THAT APPEAR TO CONTRADICT EARLIER EXPERIMENTS ON IODINE BEHAVIOR UNDER ACCIDENT CONDITIONS? PLEASE DESCRIBE THE MAJOR UNCERTAINTIES IN SOURCE TERM ANALYSES FOR THE MAJOR REACTOR TYPES.

ANSWER.

SEVERE ACCIDENT RESEARCH (INCLUDING SOURCE TERM RESEARCH) CONDUCTED DURING THE PERIOD 1982-1985 HAS BEEN REVIEWED BY THE NRC STAFF AND USED AS THE FOUNDATION TO THE NRC STAFF DRAFT REASSESSMENT OF THE TECHNICAL BASES FOR ESTIMATING SOURCE TERMS, WHICH WAS ISSUED AS NUREG-0956 IN AUGUST 1985 FOR PUBLIC COMMENT. THE PUBLIC COMMENT PERIOD ENDED JANUARY 7, 1986. THE DRAFT DOCUMENT, COVERING THE SCIENCE OF SOURCE TERMS, CONCLUDED, AMONG OTHER THINGS, THAT THE ANALYTICAL PROCEDURE DEVELOPED FOR THE STAFF WAS A MAJOR ADVANCE OVER THE PROCEDURES OF THE REACTOR SAFETY STUDY (WASH-1400) BUT IDENTIFIED EIGHT MAJOR AREAS OF UNCERTAINTY WHICH REMAIN. NUREG-0956 WILL BE FOLLOWED, IN THE LATE SUMMER OF 1986, BY A COMPANION DOCUMENT (NUREG-1150)

CONTAINING THE STAFF'S EVALUATION OF THE PUBLIC RISK FROM RADIOACTIVE SOURCE TERMS.

A SUMMARY REPORT OF INDUSTRY-SPONSORED RESEARCH WAS ISSUED IN NOVEMBER 1984. THROUGH THE INDUSTRY DEGRADED CORE RULEMAKING (IDCOR) PROGRAM, INDUSTRY HAS DEVELOPED A DETAILED RISK EVALUATION METHOD AND APPLIED IT TO FOUR PLANTS. NUMEROUS TECHNICAL ISSUES HAVE BEEN RESOLVED. SOME DIFFERENCES REMAIN BETWEEN THE IDCOR RISK ANALYSES AND THOSE PERFORMED BY THE NRC-SPONSORED RESEARCH PROGRAM. IDCOR HAS ALSO DEVELOPED AND TESTED A SIMPLIFIED METHODOLOGY TO BE USED BY UTILITIES FOR THE INDIVIDUAL PLANT EXAMINATIONS. THE METHOD HAS BEEN APPLIED TO THREE BWRs AND FOUR PWRs. THE NRC STAFF INTENDS TO REVIEW THE SIMPLIFIED METHODOLOGY WITH THE INTENTION OF APPROVING IT, WITH MODIFICATIONS, FOR USE BY LICENSEES IN THE SEARCH FOR PLANT-SPECIFIC HIGH RISK SEQUENCES.

RECENT EXPERIMENTS AT SANDIA NATIONAL LABORATORIES (SNL) HAVE INDICATED THAT RADIATION CAN CAUSE CESIUM IODIDE TO DISASSOCIATE YIELDING VOLATILE IODINE. ASSUMPTIONS THAT RESULTED FROM LOW IODINE RELEASES FROM THE TMI-2 ACCIDENT LED TO A BODY OF BELIEF THAT NRC WOULD FIND SIGNIFICANT QUANTITIES OF CESIUM IODIDE IN ITS IN-REACTOR EXPERIMENTS THAT ATTEMPTED TO DUPLICATE THE TMI CONDITIONS. IN FACT NRC HAS NOT FOUND SIGNIFICANT QUANTITIES OF CESIUM IODIDE IN ITS IN-REACTOR EXPERIMENTS AND THE SNL

EXPERIMENTS MAY BE GIVING AN ANSWER AS TO WHY THIS IS SO. NRC IS STILL NOT ABLE TO FULLY EXPLAIN THE LOW IODINE RELEASES AT TMI BUT EXPECTS THE ANSWERS TO COME FROM RESULTS NOW IN HAND BUT NOT ANALYZED AND FROM EXPERIMENTS AND ANALYSES TO BE CONDUCTED IN FY 1986 AND FY 1987.

THE MAJOR AREAS (ISSUES) OF UNCERTAINTY AS IDENTIFIED IN DRAFT NUREG-0956 ARE:

1. NATURAL CIRCULATION IN THE REACTOR VESSEL
2. CORE MELT PROGRESSION AND HYDROGEN GENERATION
3. IN-VESSEL FISSION PRODUCT RELEASE FROM THE FUEL AND AEROSOL GENERATION
4. RETENTION AND REVAPORIZATION OF FISSION PRODUCTS IN THE REACTOR COOLANT SYSTEM
5. FISSION PRODUCT RELEASE AND AEROSOL GENERATION
6. SCRUBBING EFFICIENCY OF SUPPRESSION POOLS (BWRs) AND ICE COMPARTMENTS (PWRs)
7. CONTAINMENT PRESSURE LOADS
8. CONTAINMENT FAILURE MODES

NRC'S SEVERE ACCIDENT RESEARCH PROGRAM FOR FY 1986 AND FY 1987 IS ADDRESSING THESE UNCERTAINTIES AND NRC EXPECTS THE LEVEL OF UNCERTAINTY TO BE SIGNIFICANTLY REDUCED BY THE END OF 1987 THROUGH THESE PROGRAMS.

QUESTION 3: (B): IS THE COMMISSION CONSIDERING MODIFYING ANY EXISTING SAFETY REGULATIONS ON THE BASIS OF SOURCE TERM RESEARCH RESULTS? IF SO, WHICH REGULATIONS AND WHEN?

ANSWER:

BASED UPON SOURCE TERM RESEARCH, THE STAFF WILL BE REVIEWING A NUMBER OF REGULATIONS PLUS OTHER REGULATORY PRACTICES, SUCH AS REGULATORY GUIDES AND THE STANDARD REVIEW PLAN, AND INTENDS IN TIME TO PROPOSE CHANGES, AS APPROPRIATE,

AS FAR AS THE REGULATIONS ARE CONCERNED, THE FOLLOWING ARE POTENTIAL CANDIDATES FOR REVISION:

10 CFR 50.47 AND 10 CFR 50, APP. E	- EMERGENCY PLANNING
10 CFR 50.49	- ENVIRONMENTAL QUALIFICATION OF SAFETY-RELATED EQUIPMENT
10 CFR 50, APP. J	- CONTAINMENT LEAK RATE TESTS
10 CFR 100	- REACTOR SITE CRITERIA

THE NRC'S OFFICE OF NUCLEAR REGULATORY RESEARCH WILL PROVIDE A REVISED RISK PROFILE, BASED UPON THE LATEST ACCIDENT SOURCE

TERM RESEARCH, FOR EACH OF SIX REFERENCE PLANTS REPRESENTING THE SPECTRUM OF U.S. LIGHT WATER REACTOR (LWR) CONTAINMENT TYPES. THIS REPORT, NUREG-1150, IS SCHEDULED TO BE ISSUED FOR PUBLIC COMMENT BY ABOUT AUGUST 1986. WHILE MANY CHANGES IN NRC RULES AND REGULATORY PRACTICES MUST AWAIT THE INSIGHTS TO BE GAINED FROM NUREG-1150, THE STAFF INTENDS TO INITIATE CHANGES AS DIRECTED BY THE COMMISSION'S POLICY AND PLANNING GUIDANCE, AS SOON AS THE AVAILABLE INFORMATION WARRANTS SUCH CHANGES, AND FOLLOWING FULL SCIENTIFIC REVIEWS AND PUBLIC COMMENT ON AVAILABLE INFORMATION.

QUESTION 3

(C) IN PARTICULAR, WHAT IS THE STATUS OF BALTIMORE GAS ELECTRIC COMPANY'S APPLICATION TO REDUCE THE RADIUS OF THE EMERGENCY PLANNING ZONE FOR ITS CALVERT CLIFFS PLANT FROM TEN TO TWO MILES? WHAT PART WILL SOURCE TERM RESEARCH PLAY IN THE COMMISSION'S DECISION ON THIS APPLICATION?

ANSWER.

THE NRC STAFF IS STUDYING THE BROAD RANGE OF TECHNICAL AND INSTITUTIONAL ISSUES ASSOCIATED WITH BALTIMORE GAS & ELECTRIC'S APPLICATION TO REDUCE ITS CALVERT CLIFF'S EMERGENCY PLANNING ZONE FROM 10 MILES TO 2 MILES. AT THIS TIME, HOWEVER, MUCH OF THE TECHNICAL BASIS FOR THE EPZ REDUCTION, SPECIFICALLY THE REFINEMENTS IN THE QUANTITY AND TYPE OF RADIOACTIVE MATERIAL RELEASED DURING SEVERE ACCIDENTS, IS STILL UNDER EVALUATION BY THE NRC AND INDUSTRY. RESOLUTION OF THESE FACTORS IS CONSIDERED NECESSARY BY THE NRC BEFORE FINAL DETERMINATION OF THIS ISSUE.

QUESTION 4:

TO WHAT EXTENT DOES THE COMMISSION NOW EMPLOY PRA IN REGULATORY DECISION MAKING? WHAT ARE THE LIMITATIONS OF PRAs? WHAT ARE THE DOMINANT UNCERTAINTIES WHICH LIMIT THE APPLICATION OF PRAs?

ANSWER:

PROBABILISTIC RISK ASSESSMENTS (PRA) PROVIDE A UNIFORM METHODOLOGY WHICH INTEGRATES RELEVANT INFORMATION ABOUT PLANT DESIGN, OPERATING PRACTICES, OPERATING HISTORY, COMPONENT RELIABILITY, HUMAN RELIABILITY, AND PHYSICAL PROGRESSION OF CORE-DAMAGE ACCIDENTS AND POTENTIAL ENVIRONMENTAL AND HEALTH EFFECTS IN A SYSTEMATIC MANNER. ANTICIPATED PLANT BEHAVIOR INFORMATION EXTRACTED FROM PRAs PROVIDES VALUABLE QUANTITATIVE AND QUALITATIVE INSIGHTS INTO ASPECTS OF NUCLEAR POWER PLANT DESIGN AND OPERATIONS THAT ARE MOST SIGNIFICANT TO RISK. IT IS RECOGNIZED THAT THE PRESENT STATE-OF-THE-ART OF PRA METHODOLOGY AND RELIABILITY DATA DOES NOT ALLOW PRA USAGE AS THE PRIMARY BASIS FOR DECISIONMAKING. PROBABILISTIC ANALYSES ARE EVALUATED, AND A JUDGMENT IS MADE REGARDING THE VALIDITY OF ASSUMPTIONS, BOUNDARY CONDITIONS, AND THE OVERALL RESULTS AND A DECISION IS MADE REGARDING USE IN DETERMINISTIC REGULATORY DECISIONS.

RECENTLY, PRA HAS FOUND INCREASINGLY BROADER USE WITHIN THE REGULATORY ARENA. THIS USAGE HAS SPANNED A BROAD SPECTRUM OF APPLICATIONS INCLUDING ALLOCATION OF RESOURCES, SETTING OF REGULATORY PRIORITIES, RESOLVING SAFETY ISSUES AND IDENTIFYING OUTLIER PLANT FEATURES. CURRENT TRENDS SUCH AS SAFETY GOAL EVALUATIONS AND SEVERE ACCIDENT POLICY CONSIDERATIONS FORESHADOW THE POTENTIAL FOR AN EVEN GREATER USE OF PRA, ITS MODELS AND ITS INSIGHTS WITHIN THE REGULATORY PROCESS.

LIMITATIONS ON THE USE OF PRA ARISE FROM THOSE LIMITATIONS INHERENT IN PRA METHODOLOGY. METHODOLOGICAL LIMITATIONS ARE DISCUSSED IN DETAIL IN "PRA STATUS REPORT AND GUIDANCE FOR REGULATORY APPLICATION." (NUREG 1050 FEBRUARY 1984). AMONG THESE LIMITATIONS ARE GAPS AND INADEQUACIES IN THE DATA BASE, INADEQUACIES IN THE COVERAGE AND MODELING OF CORE-DAMAGE PHENOMENOLOGY, EXTERNAL EVENTS (E.G., SEISMIC, FLOODING), FAILURE DEPENDENCIES (E.G., SYSTEM INTERACTIONS), HUMAN PERFORMANCES, EQUIPMENT BEHAVIOR UNDER ACCIDENT ENVIRONMENT, AND HEAVY RELIANCE ON JUDGMENT AND ANALYST SKILLS.

UNCERTAINTIES IN THE SYSTEMS ANALYSIS SEGMENT OF PRA, ARE DOMINATED BY UNCERTAINTIES IN THE AREAS OF HUMAN RELIABILITY ANALYSIS, COMMON CAUSE FAILURES, AND EXTERNAL EVENTS. IN HUMAN

RELIABILITY ANALYSIS, DATA ARE HEAVILY DEPENDENT ON EXPERT OPINION. MODELING OF ERROR OF COGNITION, RECOVERY ACTIONS, DEPENDENCIES IN PROCEDURAL FAILURES, AND MAN-MACHINE INTERACTIONS ARE NOT FULLY DEVELOPED. MODELING AND COMPLETENESS IN THE TREATMENT OF COMMON CAUSE FAILURE AND SYSTEMS INTERACTIONS HAVE SIGNIFICANT IMPACT ON UNCERTAINTIES. TREATMENT OF EXTERNAL EVENTS HAS NOT FULLY MATURED YET. UNCERTAINTIES STILL EXIST IN THE HAZARD AND RESPONSE ANALYSES.

THE PRA PROCEDURES GUIDE (NUREG/CR-2300, JANUARY 1983) INCLUDES A TENTATIVE LISTING AND RANKING OF THE RELATIVE CONTRIBUTION TO TOTAL UNCERTAINTIES OF THE MAJOR PARAMETERS AND MODELS OF THE OFFSITE CONSEQUENCE ANALYSIS. HOWEVER, MANY OF THE PROBABILISTIC ANALYSES PERFORMED TO DATE HAVE PROVIDED IMPORTANT INSIGHTS INTO POTENTIAL PLANT VULNERABILITIES THAT WERE NOT OTHERWISE CONSIDERED IN THE TRADITIONAL DETERMINISTIC EVALUATIONS OF THE NUCLEAR POWER PLANTS.

A CONSIDERABLE EFFORT IS UNDERWAY AT THE NRC TO ADDRESS THESE PRA LIMITATIONS AND HENCE IMPROVE THE CONFIDENCE IN PRA ANALYSES AND RESULTS.

TO PROVIDE A MORE COMPLETE PERSPECTIVE ON THESE QUESTIONS, IT IS WORTH MENTIONING HERE ALSO, THAT THE FACTORS NOTED ABOVE WHICH

GIVE RISE TO UNCERTAINTIES IN PRAS AND PRA RESULTS, PRODUCE UNCERTAINTIES IN DETERMINISTIC ANALYSES AND DECISIONMAKING AS WELL. AN ADVANTAGE OF PRA METHODOLOGY IS THAT, BY ITS VERY NATURE, IT TENDS TO FORCE US TO IDENTIFY SOURCES OF UNCERTAINTY MORE EXPLICITLY AND PROVIDES A VERY USEFUL FRAMEWORK IN WHICH TO CONSIDER THE VARIOUS SOURCES OF UNCERTAINTY IN A MORE FULLY INTEGRATED MANNER, AND IN WHICH TO TRY TO QUANTIFY UNCERTAINTICS TO A GREATER DEGREE. AS A GENERAL CHARACTERIZATION, IN THE DETERMINISTIC CONTEXT, ONE TRIES TO COMPENSATE FOR UNCERTAINTY IN A MORE QUALITATIVE WAY BY RESORTING TO VERY CONSERVATIVE ASSUMPTIONS OR MARGINS. BUT IT MUST BE SAID THAT SUCH AN APPROACH ALSO HAS WEAKNESSES. WE HAVE SOMETIMES BEEN TOO SINGLEMINDED IN APPLYING THAT APPROACH IN WAYS THAT MAY NOT BE EFFECTIVE TO EITHER SAFETY OR COST. AN IMPORTANT CONCLUSION OF BOTH THE KEMENY COMMISSION AND THE ROGOVIN INQUIRY FOLLOWING THE TMI ACCIDENT WAS THAT PRA METHODS SHOULD BE USED INCREASINGLY IN THE REGULATORY SAFETY DECISION PROCESS. A SIMILAR CONCLUSION WAS DRAWN BY THE LEWIS COMMITTEE EARLIER, PRIOR TO THE TMI ACCIDENT.

WE ARE TRYING TO DO THIS AT NRC (AND HAVE BEEN MOVING STEADILY IN THAT DIRECTION FOR SEVERAL YEARS NOW), BUT IN A WAY THAT PROVIDES A JUDICIOUS BALANCE OF DETERMINISTIC AND PROBABILISTIC ELEMENTS IN THE COMPLEX SAFETY DECISION TASKS THAT ARISE IN THE REGULATORY PROCESS. AS A FINAL POINT, WE SHOULD NOTE THAT MANY FOREIGN

COUNTRIES HAVE ALSO INCREASINGLY INTRODUCED PRA INTO THEIR NUCLEAR DESIGN AND SAFETY DECISION PROCESS FOR MANY OF THE SAME REASONS THE U.S. HAS.

Question 4

Commissioner Asselstine adds the following:

The fundamental issue being raised in the proposals for safety goals that are before the Commission involves the extent to which the safety goals should incorporate or address: core-melt frequency, health effects, and cost-benefit analyses. Each of these is measured through the "bottom-line" results of probabilistic risk assessments and they are being proposed as "the three major decision factors" in the safety goals. The Commission's backfit rule also mandates use of such risk values and cost-benefit analyses in deciding whether to improve the level of safety at operating nuclear plants. On the other hand, such use of these factors is an apparent contradiction with the Agency's comments to the U.S. General Accounting Office: "... that NRC should not use end-result numerical risk estimates as the sole or primary basis for regulatory decisions." (See attached letter from William J. Dircks to J. Dexter Peach dated April 24, 1985.) In my view, the Commission has yet to come to grips with the proper and improper use of PRA in regulatory decision making and the Commission has yet to articulate how uncertainties are to be factored into regulatory decision making.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

APR 24 1985

Mr. J. Dexter Peach
Director, Resources, Community and Economic
Development Division
U.S. General Accounting Office
441 G. Street, N.W.
Washington, DC 20548

Dear Mr. Peach:

We appreciate the opportunity to comment on the draft GAO report "Probabilistic Risk Assessment: An Emerging Aid to Nuclear Power Plant Safety Regulations." We found the report to be an excellent document describing the nature of probabilistic risk assessment (PRA) and its use in dealing with complex nuclear power plant safety issues under conditions of high uncertainty. The report, in general, is accurate and provides a clear perspective on the subject. In particular, we are pleased to note its major conclusion which states, "GAO believes that in view of the evolving nature of PRA, the time and expense required to prepare and review major PRA studies, and the staff's experience and training, NRC is making timely and reasonable use of PRA in the nuclear regulatory process." We are also in agreement, "---that NRC should not use end-result numerical risk estimates as the sole or primary basis for regulatory decisions."

Enclosed are some suggestions for factual modifications or clarifications that we believe, would strengthen the report. In addition, some information has been provided to update the status of programs which have changed and PRAs which have been completed since the GAO inquiry was performed.

If you have any questions, please contact Dr. Gary Burdick (443-7960).

Sincerely,

A handwritten signature in dark ink, appearing to read "William J. Dircks".

William J. Dircks
Executive Director for Operations

Enclosure:
Comments on GAO Report

~~8505070426~~

QUESTION 5.

ENVIRONMENTAL QUALIFICATION

PLEASE IDENTIFY ALL PLANTS THAT DO NOT NOW MEET THE COMMISSION'S ENVIRONMENTAL QUALIFICATION REQUIREMENTS AND, FOR EACH SUCH PLANT, THE BASIS FOR EXTENDING THE DEADLINE FOR MEETING THESE REQUIREMENTS.

ANSWER.

THE COMMISSION HAS GRANTED EXTENSION REQUESTS FOR MEETING THE ENVIRONMENTAL QUALIFICATION REQUIREMENTS FOR THE FOLLOWING PLANTS:

<u>PLANT</u>	<u>EXTENSION</u>
D. C. COOK 2	2/28/86
FT. ST. VRAIN	3/31/86
MILLSTONE 1	SCHEDULED FOR INTEGRATED SAFETY ASSESSMENT PROGRAM
NINE MILE PT. 1	SPRING 1986
PALO VERDE 1/2	3/30/86
POINT BEACH 1	5/86 (REFUELING)

OTHER PLANTS WHICH WERE GRANTED EXTENSIONS HAVE SUBSEQUENTLY COMPLETED THEIR EQUIPMENT QUALIFICATION PROGRAMS OR ARE SHUTDOWN. IN EACH CASE THE COMMISSION ISSUED AN ORDER EXTENDING THE EQUIPMENT QUALIFICATION DEADLINE IN ACCORDANCE

WITH THE PROVISIONS OF THE CODE OF FEDERAL REGULATIONS 10 CFR 50.49(g). THE COMMISSION DECISIONS WERE BASED ON A DETERMINATION THAT THE SAFETY CONCERNS WITH EQUIPMENT QUALIFICATION WERE ADEQUATELY ADDRESSED BY THE LICENSEE'S JUSTIFICATIONS FOR CONTINUED OPERATION WHICH WERE REVIEWED AND APPROVED BY THE NRC STAFF. IN GENERAL, THE JUSTIFICATIONS FOR CONTINUED OPERATION WERE BASED ON THE AVAILABILITY OF BACKUP EQUIPMENT TO ACCOMPLISH THE FUNCTION OF THE UNQUALIFIED EQUIPMENT. IN ADDITION, THE COMMISSION REQUIRED EACH LICENSEE GRANTED AN EXTENSION TO DEMONSTRATE THAT THEY HAD TAKEN DILIGENT MEASURES TO ATTEMPT TO BE IN COMPLIANCE WITH 10 CFR 50.49 BEFORE NOVEMBER 30, 1985, AND THAT FAILURE TO DO SO RESULTED FROM CIRCUMSTANCES ENTIRELY BEYOND LICENSEES' CONTROL. THE DETAILS OF EACH EXTENSION ARE AVAILABLE IN THE COMMISSION ORDERS REFERRED TO ABOVE.

WITH REGARD TO THOSE LICENSEES WHO HAVE NOT REQUESTED EXEMPTIONS FROM 10 CFR 50.49, THE NRC STAFF HAS COMMENCED AN INSPECTION PROGRAM TO CONFIRM THAT THOSE LICENSEES HAVE IMPLEMENTED A PROGRAM THAT MEETS THE REQUIREMENT OF THE RULE. THE PRESENT SCHEDULE IS TO COMPLETE THOSE INSPECTIONS WITHIN ABOUT TWO YEARS.

QUESTION 6

PLEASE COMMENT ON THE COMMISSION'S EXPERIENCE WITH THE NEW BACKFIT RULE. WHY WASN'T THE RULE APPLIED TO THE PROPOSED REVISIONS TO THE COMMISSION'S RADIATION PROTECTION STANDARDS? PLEASE IDENTIFY ALL ACTIONS REQUIRED OF LICENSEES SINCE THE BACKFIT RULE TOOK EFFECT TO WHICH THE RULE HAS BEEN APPLIED.

ANSWER

THE BACKFIT RULE IS BEING APPLIED TO THE PROPOSED REVISIONS TO THE COMMISSION'S RADIATION PROTECTION STANDARDS. THE STAFF IS PREPARING A BACKFIT ANALYSIS FOR THE PROPOSED PART 20 REVISIONS WHICH WILL BE TRANSMITTED TO THE COMMISSION SHORTLY. THE COMMISSION WILL REVIEW BOTH THE PROPOSED RULE ITSELF AND THE BACKFIT ANALYSIS.

THE STAFF HAS ALSO PREPARED A BACKFIT ANALYSIS FOR THE PROPOSED RULE ON STATION BLACKOUT. THE ANALYSIS WILL BE PUBLISHED FOR COMMENT IN THE FEDERAL REGISTER ALONG WITH THE PROPOSED RULE. THE COMMISSION SPECIFICALLY REQUESTED COMMENT ON WHETHER THE PROPOSED RULE MEETS THE "SUBSTANTIAL INCREASE" STANDARD.

SINCE THE BACKFIT RULE TOOK EFFECT ON OCTOBER 21, 1985, NO PLANT-SPECIFIC OR GENERIC BACKFITS HAVE BEEN IMPOSED ON LICENSEES.

Question 6

Commissioner Asselstine adds the following:

The Commission claims that, without the backfit rule, there was no way to discipline the NRC staff's decisions to develop new or modified positions on safety matters. However, rather than merely requiring the documentation of the rationale for a new safety requirement, the backfit rule erects substantial barriers to improving safety, skews the cost-benefit analyses against safety, injects indefensible analyses into the decision-making process, and ignores uncertainties in reactor risks.

Further, it appears that the Commission does not intend to discipline all of the staff's processes for conducting safety analyses. The Commission does not intend to apply the "disciplining principles" of the backfit rule in developing rules or staff positions that relax existing safety standards. Thus, the Commission places the burden of proof on the proponent of improved safety but has developed no "disciplining principles" for the proponent of relaxed safety standards. For example, the Commission has directed the staff not to apply the "disciplining principles" of the backfit rule if a licensee requests a relaxation of its safety standards. Such a double standard is but one example of how poorly thought through and potentially dangerous the backfit rule is.

QUESTION 7. WHAT STEPS WILL BE TAKEN TO ENSURE THE INDEPENDENCE OF INTER-OFFICE INCIDENT INVESTIGATION TEAMS? WHAT WAS THE BASIS FOR THE COMMISSION'S DECISION NOT TO ESTABLISH A COMMISSION-LEVEL OFFICE OR TO RECOMMEND CREATION OF AN INDEPENDENT AGENCY TO INVESTIGATE NUCLEAR PLANT ACCIDENTS?

ANSWER

THE COMMISSION HAS PLACED A HIGH PRIORITY ON ASSURING THAT INCIDENT INVESTIGATION TEAMS (IITs) PERSONNEL ARE SUFFICIENT IN NUMBER AND EXPERTISE TO CONDUCT A THOROUGH AND SYSTEMATIC INVESTIGATION OF SIGNIFICANT OPERATING EVENTS, AND SUFFICIENTLY INDEPENDENT TO BE OBJECTIVE AND CANDID. THUS, WHILE A REVIEW OF THE NRC INVESTIGATION OF SIGNIFICANT EVENTS BY BROOKHAVEN NATIONAL LABORATORY (NUREG/CR-4152 DATED FEBRUARY 1985) CONCLUDED THAT "THE REVIEW OF THESE EVENTS HAS NOT IDENTIFIED ANY INSTANCE OF INVESTIGATORY BIAS," THE REVISED INCIDENT INVESTIGATION PROGRAM SHOULD ENSURE THAT NRC INVESTIGATIONS OF SIGNIFICANT EVENTS ARE CONDUCTED IN A THOROUGH, STRUCTURED AND COORDINATED MANNER THAT EMPHASIZES FACT-FINDING AND DETERMINATION OF PROBABLE CAUSE.

ATTACHMENT

THE LEADER AND MEMBERS OF TEAMS WILL BE SELECTED ON THE BASIS OF TECHNICAL COMPETENCE AND POTENTIAL CONTRIBUTIONS TO THE INVESTIGATION. TO THE DEGREE POSSIBLE, EACH TEAM WILL BE LARGELY STAFFED WITH INDIVIDUALS WITH NO SIGNIFICANT INVOLVEMENT WITH LICENSING AND INSPECTION ACTIVITIES ASSOCIATED WITH THE PARTICULAR EVENT OR SPECIFIC PLANT. SPECIFIC ACTIONS TAKEN INCLUDE THE FOLLOWING:

- THE TEAM LEADER AND MEMBERS ARE APPOINTED DIRECTLY BY THE EDO (WITH STAFF ASSISTANCE FROM AEOD). THE TEAM LEADER REPORTS DIRECTLY TO THE EDO.
- THE DEVELOPMENT OF PROGRAM GUIDANCE AND PROCEDURES, MAINTENANCE OF PERSONNEL ROSTERS AND DEVELOPMENT OF AN APPROPRIATE TRAINING PROGRAM IS A RESPONSIBILITY OF AEOD (AN OFFICE THAT HAS NO LICENSING, INSPECTION OR ENFORCEMENT RESPONSIBILITIES).
- THE TEAM LEADER AND TEAM MEMBERS WILL BE SELECTED FROM A ROSTER ON THE BASIS OF THEIR TECHNICAL EXPERTISE AND THEIR INDEPENDENCE FROM PRIOR INVOLVEMENT WITH LICENSING AND INSPECTION ACTIVITIES AT THE PLANT WHERE THE EVENT OCCURRED.
- THE TEAM'S REPORT IS DEVELOPED ENTIRELY BY THE TEAM, AND THE TEAM IS SOLELY RESPONSIBLE FOR THE REPORT CONTENTS AND

FINDINGS. PRIOR TO FINAL PUBLICATION, THE ONLY OUTSIDE REVIEW IS BY THE DIRECTOR AND DEPUTY DIRECTOR OF AEOD, AND THEIR COMMENTS ARE ADVISORY IN NATURE TO THE TEAM LEADER.

COMMISSIONER ASSELSTINE WOULD HAVE PREFERRED THE ESTABLISHMENT OF A COMMISSION-LEVEL OFFICE OF NUCLEAR SAFETY WITH EXECUTIVE AND SUPERVISORY AUTHORITY OVER ACCIDENT INVESTIGATION. COMMISSIONER BERNTHAL WOULD HAVE PREFERRED THAT THE COMMISSION REQUEST A COMPREHENSIVE STUDY OF THE CONCEPT OF A SMALL ONS INVESTIGATIVE TEAM THAT WOULD REPORT DIRECTLY TO THE COMMISSION AND THAT THE COMMISSION USE THAT STUDY AS THE BASIS FOR ESTABLISHING SUCH A TEAM.

IN CONNECTION WITH HIS APPROVAL OF THE COMMISSION'S DECISION NOT TO ESTABLISH A COMMISSION-LEVEL OFFICE OR TO RECOMMEND CREATION OF AN INDEPENDENT AGENCY TO INVESTIGATE NUCLEAR PLANT ACCIDENTS, CHAIRMAN PALLADING STATED THAT THE COMMISSION RESERVES THE RIGHT, IN A GIVEN CASE, TO FORM A SPECIAL BOARD WHEN CIRCUMSTANCES SO WARRANT. COMMISSIONER ROBERTS NOTED THAT HE APPROVED WITH THE UNDERSTANDING THAT HIS VOTE IN NO WAY REOPENED THE INCIDENT INVESTIGATION COORDINATING-GROUP ISSUE DISCUSSED IN THE CHAIRMAN'S 1987 BUDGET MEMO OF JULY 22, 1985. HE ENVISIONED THE GROUP(S) AS BEING STRUCTURED AND WORKING SIMILAR TO THE NRC TEAM ON THE DAVIS-BESSE EVENT.

FINALLY, THE COMMISSION HAS ESTABLISHED AN AD HOC GROUP TO REVIEW ISSUES ARISING OUT OF THE JUNE 9, 1985 INCIDENT AT DAVIS-BESSE, TO IDENTIFY ADDITIONAL LESSONS THAT MIGHT BE LEARNED FROM THE INCIDENT AND TO RECOMMEND HOW NRC'S INTERNAL PROCEDURES AND ITS OVERSIGHT OF REACTOR LICENSEES MAY BE IMPROVED (SEE ATTACHED STAFF REQUIREMENTS MEMORANDUM). IT SHOULD BE NOTED THAT TO DATE IIT'S HAVE INVESTIGATED EVENTS AT THE DAVIS-BESSE, SAN ONOFRE, AND RANCHO SECO NUCLEAR PLANTS. ALL BUT THE RANCHO SECO IIT REPORT HAVE BEEN PRESENTED TO THE COMMISSION. THESE REPORTS HAVE BEEN THE MOST THOROUGH AND OBJECTIVE FACT FINDING EFFORTS SINCE TMI.

Commissioner Bernthal has the following comments:

On November 14, 1985 the Chairman of the ACRS wrote the Commission expressing his concern that the Commission had "reject[ed] the Brookhaven recommendation for the formation of an independent office" to investigate serious incidents at nuclear powerplants. Dr. Ward further noted that the Commission also rejected the recommendation of the ACRS in this matter, and expressed his concern over "coherence" and continuity in incident investigations, should the NRC "revert to its balkanized format" in handling investigations of incidents such as that at Davis-Besse.

Last June, I had asked the Commission to consider the concept of a small, independent, Commission-level office with "matrix-management" authority to investigate Davis-Besse type events. In the wake of the Chairman's September proposal to establish an ad-hoc group to review Davis-Besse, I again expressed my concern that "the elements of such a team, reporting to the Commission, should be made a rather more permanent feature for Commission evaluation of the causes of significant powerplant incidents".

I continue to believe the Commission's judgment and handling of this matter has been mistaken. The Commission's belated decision last fall to convene an ad-hoc group to carry out largely the same functions as could appropriately be assigned to a permanent, Commission-level panel only compounds the mistake with confusion. Moreover, with all due respect to OIA's considerable capability, it remains highly questionable whether OIA has the expertise and resources to carry out an independent, authoritative assessment of our own Staff's performance in incidents such as Davis-Besse.

If there was any doubt as to the need for an element of independence and continuity in such assessments, events since Davis-Besse have confirmed my belief that an independent, Commission-level Office of Nuclear Safety will save the Commission time and grief in the long run. Will the Commission now also form ad-hoc groups to explore the causes and remedies for the recent events at Rancho-Seco and at the Sequoyah facility in Gore, Oklahoma?

It is unrealistic to expect that there will not be at least a few such significant events per year, on average, and it is becoming increasingly apparent that the Commission needs some entity to deal with events where the procedures of the NRC itself might be in question. Refusing even now to do so, after having been clearly and repeatedly counseled by the Brookhaven study, by ACRS, and by events, simply invites Congress to consider what I do not believe would be necessary or wise -- yet another independent outside agency, analogous to the NTSB, to investigate nuclear events of special safety significance.