




OFFICE OF THE
COMMISSIONER

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

January 21, 1986

MEMORANDUM FOR: Victor Stello
Acting Executive Director for Operations

FROM: James K. Asselstine 

SUBJECT: QUALITY ASSURANCE AT TVA

Following are observations of NRC senior officials regarding the TVA quality assurance program in 1975 at hearings before the Joint Committee on Atomic Energy following the Browns Ferry fire:

- ° Dr. Hanauer. "We turn now to the discussion of the gaps in the lines of defense - the failures that occurred at Browns Ferry. They included weaknesses in equipment design, operating procedures and quality control. The NRC must take its share of the responsibility for these failures. Brown Ferry was licensed after review of the proposed design and operation. So the lessons are for NRC as well as the industry."
(Browns Ferry Nuclear Fire, Hearings before the Joint Committee on Atomic Energy, Congress of the United States, Ninety-Fourth Congress, First Session, September 16, 1975, p. 87)
- ° Representative Price. "Mr. Chairman, I just would like to say for years the Joint Committee emphasized quality control. I don't know how many hearings we have had on that. Most of the equipment in this particular plant should have benefited over the years. So there is a real tight quality control program; yet we find here that one of the failures that occurred at Browns Ferry was in quality control. Would someone address themselves to that and tell us what type of equipment fell into that category?"
Dr. Knuth. "Yes. This is, of course, one of the issues that we did highlight in our investigation report and our enforcement correspondence with TVA. In the quality assurance system, adequate procedures for controlling work in vital areas such as the cable spreading room were not adequately evaluated; and in our view, procedures were not detailed enough to exert quality control. There also was not sufficient independence of the quality control people observing and witnessing what the people were doing in the work area." (ibid, p. 92)

In the Report of the Special Review Group on Browns Ferry

Fire (NUREG-0050, February 1976), the following are observed:

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PDR COMMS NRCC
CORRESPONDENCE PDR

"Quality assurance (QA) programs are intended to catch errors in design, construction, and operation, and to rectify such errors; QA is an essential component of defense-in-depth. Many aspects of the Browns Ferry fire can be considered as lapses in QA." (p. 6)

"The Review Group believes that the causes, course, and consequences of the Browns Ferry fire are evidence of substantial inadequacies in the Browns Ferry QA program. A revised QA program has been adopted by TVA; the Group has not evaluated the details of the new program. It should be evaluated in the light of experience. The Review Group notes that NRC (and formerly AEC) licensing review and inspection also failed to uncover these lapses in QA." (p. 6)

"The description of the Browns Ferry QA program for operations is on pages 24-30 of Appendix D, FSAR. It was judged to be acceptable then; it would not be acceptable by today's standards." (p. 49)

Taking 1976 as the starting point, I would like to learn for what periods of time through 1985 the staff believes TVA had and implemented an adequate QA program in their Headquarters Offices, at Browns Ferry, at Sequoyah and at Watts Bar.

cc: Chairman Palladino
Commissioner Roberts
Commissioner Bernthal
Commissioner Zech
OPE
OGC
SECY



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

OFFICE OF THE
CHAIRMAN

December 12, 1985

The Honorable Thomas P. O'Neill, Jr.
Speaker of the United States
House of Representatives
Washington, DC 20515

Dear Mr. Speaker:

The NRC Authorization Act for fiscal years 1982/83 (P.L. 97-415) directed the NRC to conduct a study of quality and quality assurance (QA) in the design and construction of nuclear power plants and to develop improvements to NRC's and the industry's programs for achieving and assuring quality in design and construction. In April 1984, the NRC staff completed their study in response to that Congressional request. The report of that study is entitled "Improving Quality and the Assurance of Quality in the Design and Construction of Nuclear Power Plants." The Commission transmitted that report to Congress on April 20, 1984, and it was subsequently published as an NRC staff report, NUREG-1055. In the transmittal letter, the Commission indicated that the staff report was complex and had several interrelated recommendations. The Commission also indicated that it would need to take further time for analysis, including an opportunity for public comments, before informing Congress of its final actions or recommendations for legislation.

The Commission has completed that process and its staff is currently implementing a plan entitled "Programs to Improve Quality and the Assurance of Quality in the Design, Construction and Operation of Licensed Nuclear Activities." This plan, with minor exception, implements the recommendations of NUREG-1055.

The Commission's conclusions and exceptions regarding the QA report, which was previously transmitted to Congress as a staff report, are contained in Attachment A. As required by P.L. 97-415, administrative actions that are underway or planned by the Commission as a direct consequence of the QA report are summarized in Tables 1 and 2 of Attachment A.

To put its decisions into suitable context, the Commission wishes to make clear that licensees, not the NRC, are primarily responsible for achieving and assuring quality. Substantive improvements in quality in the nuclear industry must come from the industry itself; they cannot be "inspected in" or "regulated in" by the NRC. The QA report found that the key to achieving quality and assuring quality lies with utility management. The focus of NRC's and the industry's programs for improving quality in the nuclear industry should be oriented toward prevention and early detection of quality problems, and identifying and correcting root causes of those quality problems.

The NRC has significantly increased its design and construction inspection effort for plants currently under construction, including such things as adding a second resident inspector at all single-unit construction sites. The NRC has made a number of other improvements to its overall programs which have the

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effect of improving quality in the nuclear industry. These improvements focus largely on the approximately ninety units presently licensed for operation and include such initiatives as improved training and requalification programs for plant operational staff; increased staff and industry attention to preventive and routine maintenance; a major new focus on the effectiveness and quality of plant activities related to plant outages; and a thorough reanalysis, for all operating plants, of the NRC-required technical specifications issued as conditions of operating licenses.

Since the introduction of the legislation that led to the QA study, the industry also has initiated a number of activities that should result in an overall improvement in the quality of nuclear plant construction and operations. These include the Construction Project Evaluation Program of the Institute of Nuclear Power Operations (INPO); the establishment of a new senior-level industry group, the Nuclear Utility Management and Human Resources Committee (NUMARC), to address some of the difficult people-oriented issues facing the industry, such as operator training; and the voluntary use of third-party management audits by some utilities. In addition, two utilities have volunteered to undertake a pilot test of the readiness review concept identified by the QA report as an area for further analysis. Georgia Power Company is applying the concept to their Vogtle project and the Washington Public Power Supply System is employing the concept for the potential restart of their WNP-3 project. Readiness Reviews are expected to lead to improvements in managing, licensing, and confirming the quality of nuclear construction projects, including the incremental acceptance by NRC of properly completed work. These pilot tests are underway and are being closely followed by the Commission and the industry.

As stated in its policy and planning guidance to the staff, the Commission believes that NRC's fundamental task is to ensure that existing nuclear facilities and those coming on-line operate safely. Consequently, the highest priority will be given to assuring that operating facilities maintain adequate protection of public health and safety. Following operating plants, in decreasing order of priority, are plants currently under construction and future plants for which construction applications have not yet been received. Budget and resource limitations preclude the extensive development of quality and quality assurance initiatives for the future generation of nuclear power plants. However, the Commission recognizes that the success of this future generation of plants is closely coupled to an aggressive and mature policy and implementation plan assuring quality and quality assurance in design and construction. Therefore, the Commission intends to explore creative solutions to past design and construction QA problems and to apply these solutions where opportunities are presented in the future. Where possible, the Commission will draw from the experience of activities underway at operating plants. The Commission views the present hiatus in new plant orders as an opportune time to address innovative QA approaches through such pilot programs.

Although the staff's program plan necessarily deals principally with NRC actions, we believe that it does embody the Commission's QA philosophy, which emphasizes the importance of the industry's role in improving nuclear quality. The NRC directly controls only its own activities, but NRC actions can provide great leverage to foster or inhibit licensee actions. The QA report made it clear that simple regulatory compliance is not enough to assure excellence in the

construction or operation of nuclear power plants. The planned NRC QA program revisions are intended to create an environment which maximizes the incentives for and ability of utilities to achieve excellence while assuring compliance with the Commission's regulations.

At this time, no changes to NRC authorizing legislation are recommended. Each of the Commission's proposed administrative actions can be implemented within the NRC's current statutory authority. However, after further analysis, some issues may result in legislative proposals at a future date.

Commissioner Asselstine adds the following comments:

I believe that the NRC staff report "Improving Quality and the Assurance of Quality in the Design and Construction of Nuclear Power Plants, NUREG-1055," provides many useful insights. For example, the staff reported that the key to achieving and assuring quality lies with utility management. The report highlights the fact that one of the greatest contributors to the risk associated with nuclear plants is the human component which plays a part in design, construction, operation and maintenance of nuclear facilities. And, how the human element affects nuclear plants, whether for good or for ill, depends largely upon the quality of utility management.

However, the Commission seems to take this idea one step too far. The Commission's letter states:

To put its decisions into suitable context, the Commission wishes to make clear that licensees, not the NRC, are primarily responsible for achieving and assuring quality. Substantial improvements in quality in the nuclear industry must come from the industry itself; they cannot be "inspected in" or "regulated in" by the NRC.

While I agree that the primary responsibility for achieving quality must lie with the industry, the Commission also has substantial responsibility for assuring quality. The NRC must establish and enforce minimum standards to ensure quality in the design, construction, operation, and maintenance of nuclear power plants. The Commission cannot abdicate this responsibility and merely rely on the industry to regulate itself.

In my view, the Commission should do much more to ensure quality in operation and maintenance of plants than it does presently. Instead, the Commission has chosen not to take aggressive action to ensure quality. Specifically, the NRC's quality assurance plan, "Programs to Improve Quality and the Assurance of Quality in the Design, Construction, and Operation of Licensed Nuclear Activities," does not go far enough. A fundamental premise of the plan is the idea that the NRC cannot regulate in quality. The Commission has used this philosophy as an excuse to defer regulatory initiatives in the area of plant operations, maintenance, and management, and instead to rely upon voluntary industry programs in these essential areas.

The Commission should not take the most useful insight from the NRC staff report, that utility management and the human component are key to quality, misinterpret it, and then use it as a reason to step back from and do less in the area of operations and maintenance. Rather, the Commission should use that insight as a springboard and get much more involved in working with the industry to ensure quality.

I also agree with Commissioner Bernthal's comments.

Commissioner Bernthal adds the following comments:

The Commission's letter leaves too much unsaid; its proposed actions will surely be judged inadequate to meet the challenges that lie ahead. Midland, Zimmer, Marble Hill and doubtless other plants which never approached the threshold of completion remain as monuments to abrogation of responsibility by government at all levels. The public will and should demand better in the 1990's. I do not believe the NRC will be prepared to offer better if the Commission contents itself to focus almost exclusively on operating plants for the foreseeable future.

Serious consideration should be given now to the concept of third-party QA audits during plant construction, and to the institutional framework that might be required to carry out such audit functions. For example, NRC appears to know and care surprisingly little about the considerable success of the Technische Überwachungs-Verein (TUV) third-party audit program in Germany, a program that deserves careful study by NRC to determine what an American analog may have to offer.

The "designated representative" concept that has served the airline industry so ably deserves further exploration as well, at least to determine the level of utility interest, and to see whether utility volunteers for a pilot program might be found.

In short, I consider the Commission's commitment to the future to be insufficient. As a minimum, the Commission should initiate, and Congress should fund the following:

- ° A serious, in-depth study of the third-party audit concept for future power plant construction.
- ° A pilot program to test the third-party audit concept on major plant modifications during planned outages. This would allow the Commission and licensees to gain experience, on small scale, with one concept that shows promise for improved quality assurance, but which cannot and should not now be broadly implemented because of resource limitations and the current hiatus in new power plant orders.
- ° A pilot program for volunteer utilities to test the designated representative concept.

These few specific actions hardly constitute a tall order or a burdensome commitment; there are doubtless other concepts which deserve similar active exploration by the Commission.

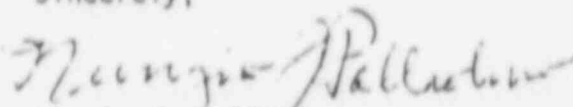
Chairman Palladino adds the following comment:

The Commission has expended significant resources on quality assurance. The information provided in this letter and attachments thereto clearly attest to this fact. Furthermore, the Commission has continued to authorize significant expenditures of funds for QA initiatives. The most recent approval authorized \$1,500,000 for technical assistance contracts to help us develop and implement quality assurance programs.

I believe that the Commission has afforded the correct priority and appropriate resources to quality assurance consistent with our budget constraints. This letter is meant to describe how the NRC is meeting, and will continue to meet, its QA responsibilities. Emphasis has been placed on operating plants and new plants coming on-line; we will continue to look at ways to improve our QA Program for these plants. These actions certainly do not lend credence to Commissioner Asselstine's assertion that the NRC's philosophy to not "regulate in quality" is "an excuse to defer further regulatory initiatives...and instead to rely upon voluntary industry programs in these essential areas."

Regarding Commissioner Bernthal's comments about the Commission's involvement with future plants, we are considering, or have considered the initiatives he suggested. However, we do not feel that attention to future construction should dilute our efforts to ensure high quality assurance for existing plants and those coming on-line.

Sincerely,



Nunzio J. Palladino
Chairman

Enclosure:

Attachment A, Commission Conclusions on the
Staff QA Report to Congress

ATTACHMENT A

COMMISSION CONCLUSIONS ON THE STAFF QA REPORT TO CONGRESS

The Commission is in general agreement with the findings and conclusions of the QA report (which was previously forwarded to Congress as a staff report) and has approved the staff's action plan (which takes into account public comments received on the QA report and current budget limitations) to implement the findings of the report. The Commission endorses the staff's earlier findings, conclusions and recommendations contained in the QA report, with the following modifications:

- 1) We do not think, at this time, that construction permits (CPs) for future nuclear power plant applicants need be conditioned on post-CP demonstration by the applicant of its capability and effectiveness in implementing its quality assurance program. The NRC has ample authority within its current regulations to take appropriate action if a licensee does not capably and effectively implement its QA program. Changes in the Commission's practices are being undertaken, however, to improve NRC and licensee ability to assess the effectiveness of QA programs at the earliest possible stage in the construction process. Licensees should demonstrate the effectiveness of their programs continually throughout the construction process, but the CP need not be conditioned on such demonstration.
- 2) It is not clear that a new, special advisory board needs to be established to supplement staff advice on the qualifications of new applicants. This is one alternative that would have to be further analyzed before implementation to see if an additional source of advice is needed or whether an already existing body (e.g., the Advisory Committee on Reactor Safeguards) could perform that function. Efforts by industry-sponsored groups such as the Nuclear Utility Management and Human Resources Committee (NUMARC) and the Institute of Nuclear Power Operations (INPO), having the effect of a "self-screening" process, will also affect any decision in this area. Planned further analysis of the advisory board concept will not be undertaken at this time.
- 3) Other feasible alternatives to mandatory third-party audits are available to accomplish the QA program goals of improved management and increased prevention and detection capability. Readiness reviews, now being tested and evaluated at the Vogtle nuclear plant and WNP-3, provide one possible alternative. Increased NRC use of team inspections and resident inspectors and voluntary use of third parties by some utilities provide other alternatives. As a result of these considerations, the staff has proposed, and the Commission has agreed, to defer rulemaking activities to require periodic third-party audits for plants under construction, pending results of the pilot Readiness Review Program tests.

TABLE 1. Commission Action on Staff Recommendations Contained
in the QA Report to Congress (see NUREG-1055, Table 2.1)

<u>QA Report Recommendation</u>	<u>Commission Action</u>
1. Enhanced Pre-Construction Permit (CP) Review of Experience and Managerial Quality	Seek opportunities to test concepts with industry volunteers
Establishment of an Advisory Board	Dropped pending exploration of potential industry action on this topic
2. Post-CP Demonstration of Management Effectiveness	Dropped in favor of Readiness Review program
3. QA Program Performance Objectives	NRC inspection program being revised to place more emphasis on performance
4. Management Appraisals as an Adjunct to Construction Appraisal Team (CAT) Inspections	Dropped in favor of readiness reviews and other management initiatives
5. Inspection Prioritization of Plants Currently Under Construction (Problem Plant Identification)	All plants currently under construction are receiving a "graded" inspection approach. Additional work planned in this area
6. Improved Diagnostic Capability/Trend Analysis	Implement as part of QA Performance Objectives program
7. Senior Management Meetings	Being implemented
8. Enhanced Vendor Program	Being implemented
9. Third-Party Audit/Interim CAT Inspections/Interim Independent Design Verification Program (IDVP)	Third-party rulemaking deferred pending outcome of readiness review program; perform CAT inspections at 4/year (no expansion in program); continue IDVP on case-by-case basis
10. Regional Team Inspections	Increasing use of team inspections. Pilots under way in several NRC regions

QA Report Recommendation

Commission Action

11. Expanded Resident Program

More residents being assigned to sites. Pilot test under way in one NRC region to reduce regional inspections in favor of resident inspections

12. Improved Licensee Detection Capability

Primary responsibility for improvement remains with industry. NRC inspection program revisions will cause greater NRC attention to this area

13. Independent Audits of NRC QA Programs

Being implemented


TABLE 2. Commission Action on Staff Recommendations for Further Analysis
Contained in the QA Report to Congress (see NUREG-1055, Table 2.2)

<u>Area Recommended For Further Analysis</u>	<u>Commission Action</u>
1. QA Report-Type Study for Plants in Operation	Separate report not necessary--lessons from plants under construction also apply to operating plants
2. Prioritization of QA Measures: Guidance on "Safety-Related" vs. "Important to Safety"	The Commission has a proposed rulemaking under review
3. Measuring Effectiveness of QA	Further analysis conducted. Results being used in revised NRC inspection program
4. Essentially Complete Design at CP Stage	Regulatory reform legislation has been proposed to Congress that addresses this issue
5. Configuration Management	Seek opportunities to test concepts with industry volunteers
6. Readiness Reviews	Pilot programs at Vogtle and WNP-3 underway
7. Quality Engineering	Further analysis and developmental work not planned due to budget priorities
8. Alternate Ownership and Management Arrangements	Efforts redirected to explore improvements within current arrangements in an all operating reactor environment
9. Feasibility of Designated Representatives	Further consideration deferred pending a licensee request for a pilot program
10. Limiting Construction Permits	Analysis of the problems faced by NRC in the event of resumption of nuclear plant construction is included as a possible contingency in the study described in 8., above

QUESTION 10. WHAT IS THE COMMISSION'S RESPONSE TO THE OBSERVATION THAT THE DECEMBER 26 ACCIDENT AT RANCHO SECO WAS A CLOSE CALL WHICH EMPHASIZES THE NEED FOR A REASSESSMENT OF THE ADEQUACY OF THE NRC'S EFFORTS TO ASSURE THAT A PTS EVENT DOES NOT LEAD TO A CATASTROPHIC ACCIDENT?

RESPONSE:

DURING DEVELOPMENT OF THE PRESSURIZED THERMAL SHOCK (PTS) RULE, THE STAFF TOOK INTO FULL ACCOUNT THE POSSIBLE RANGE OF PTS EVENTS. THE MOST SEVERE EVENTS (THAT RESULT IN THE LOWEST TEMPERATURES) WERE TAKEN INTO ACCOUNT BASED ON THEORETICAL PREDICTION METHODS, SINCE THEY OCCUR AT A FREQUENCY SO LOW THAT NONE HAVE BEEN EXPERIENCED. THE EIGHT MOST SEVERE EVENTS THAT HAD ACTUALLY OCCURRED WERE EXPLICITLY TAKEN INTO ACCOUNT, USING THE OBSERVED FREQUENCY OF OCCURRENCE AND THE LOWEST TEMPERATURES EXPERIENCED DURING THE EVENTS, WHICH RANGED FROM 225°F FOR THE MOST SEVERE TO 350°F FOR THE LEAST SEVERE EVENT. NUMEROUS LESS SEVERE EVENTS THAT HAD OCCURRED, WITH LOWEST TEMPERATURES ABOVE 350°F, WERE ALSO TAKEN INTO ACCOUNT. THESE EVENTS WERE OF NEGLIGIBLE SAFETY SIGNIFICANCE DUE TO THE RELATIVELY WARM LOWEST TEMPERATURES REACHED: THAT IS, THEY POSED NO SIGNIFICANT THREAT TO VESSEL INTEGRITY. HOWEVER, THEY



DO OCCUR AT A HIGHER FREQUENCY THAN THE MORE SEVERE EVENTS, AND THEREFORE WERE TAKEN INTO ACCOUNT BECAUSE OF THE POSSIBILITY THAT ADDITIONAL FAILURES OR ERRORS COULD HAVE OCCURRED DURING THE EVENTS, CAUSING PTS EVENTS OF MORE SEVERE PROPORTIONS. IT WAS FULLY ANTICIPATED THAT IT WOULD NOT BE POSSIBLE TO TOTALLY ELIMINATE THE FUTURE OCCURRENCE OF ALL SUCH LESS SEVERE EVENTS, EVEN WITH THE TRAINING AND PROCEDURAL IMPROVEMENTS THAT HAVE NOW BEEN ACCOMPLISHED.

TAKING ALL OF THE ABOVE INTO ACCOUNT, THE STAFF CONCLUDED THAT PTS-RELATED RISK AT ANY PRESSURIZED WATER REACTOR IS ACCEPTABLE SO LONG AS THE VESSEL'S MAXIMUM RT_{NDT} (A MEASURE OF DUCTILITY LOSS AND SUSCEPTIBILITY TO BRITTLE FRACTURE) REMAINS BELOW 270°F , WHICH IS THEREFORE THE RT_{NDT} LIMIT STATED IN THE PTS RULE.

THE RECENT RANCHO SECO EVENT REACHED A LOWEST TEMPERATURE OF 386°F AND THUS FALLS INTO THE CATEGORY OF THE "NUMEROUS LESS SEVERE EVENTS" ALREADY DISCUSSED. THE LICENSEE MUST PERFORM ANALYSES DEMONSTRATING LACK OF ANY SIGNIFICANT THREAT TO THE VESSEL'S INTEGRITY BEFORE PLANT RE-START WILL BE ALLOWED. BASED ON PRIOR ANALYSES OF SIMILAR EVENTS, WE BELIEVE THOSE ANALYSES WILL SHOW THAT NO SIGNIFICANT CHALLENGE TO VESSEL INTEGRITY OCCURRED. THIS EVENTS' OCCURRENCE THEREFORE DOES

NOT INVALIDATE OR CALL INTO QUESTION ANY OF THE BASES OF THE PTS RULE. HENCE, NO REASSESSMENT OF THE PTS RULE IS PLANNED.

HOWEVER, THE STAFF SENT AN INCIDENT INVESTIGATION TEAM (IIT) TO RANCHO SECO TO EXAMINE A NUMBER OF ISSUES, INCLUDING THE OCCURRENCE RATE OF THESE LESS SEVERE CATEGORY PTS EVENTS AT RANCHO SECO. THE STAFF ALSO HAS INITIATED ACTIONS TO ADDRESS THE SAME QUESTIONS AT ALL OTHER B&W PLANTS. THESE EFFORTS ARE TO DETERMINE THE CAUSES OF THESE EVENTS AND IDENTIFY ANY ACTIONS THAT SHOULD BE REQUIRED AT THESE PLANTS TO REDUCE THE FREQUENCY OF SUCH EVENTS. THE INTENT IS TO REDUCE THE FREQUENCY OF THESE EVENTS, THEREBY REDUCING THE CHANCE OF A MORE SEVERE PTS EVENT THAT COULD OCCUR IF ADDITIONAL FAILURES OR ERRORS WERE TO HAPPEN AS PART OF SOME FUTURE EVENT OF THIS TYPE. A COMMISSION MEETING TO DISCUSS THE IIT REPORT HAS BEEN SCHEDULED FOR LATE FEBRUARY.

Question 10

Commissioner Asselstine adds the following:

While I approved the final PTS rule, I would have gone a step further by exploring the practicality of a requirement that would have led to the search for single failure vulnerabilities or common cause events (including human error) that could lead to unacceptable PTS events. The December 26, 1985 accident at Rancho Seco suggests a value in reassessing the PTS hazard and the adequacy of the Commission's efforts to reduce it, to ensure that every practical step has been taken to avoid a reactor pressure failure.

QUESTION 11. (A) PLEASE PROVIDE A BRIEF STATEMENT DESCRIBING THE JANUARY 4 ACCIDENT AT KERR-McGEE'S UF6 PLANT, THE CAUSES OF THIS EVENT, AND THE NEED, IF ANY, FOR REGULATORY CHANGES IN LIGHT OF THIS EVENT.

ANSWER.

ON JANUARY 4, 1986, THERE WAS AN ACCIDENT AT THE KERR-McGEE SEQUOYAH FACILITY, LOCATED NEAR GORE, OKLAHOMA. IT INVOLVED THE RELEASE OF A LARGE QUANTITY OF URANIUM HEXAFLUORIDE (UF6) FROM A SHIPPING CYLINDER. UPON EXPOSURE TO AIR, UF6 RAPIDLY COMBINES WITH MOISTURE TO FORM URANYL FLUORIDE (UO2F2) AND HYDROGEN FLUORIDE (HF). THE LATTER IS A VERY REACTIVE (BUT NONRADIOACTIVE) ACID THAT CAN BE LETHAL IF A PERSON IS EXPOSED TO SUFFICIENT CONCENTRATIONS. THE ONE DEATH RESULTING FROM THE KERR-McGEE ACCIDENT REPORTEDLY WAS DUE TO INHALATION OF HF.

THE ACCIDENT OCCURRED WHILE THE CYLINDER WAS BEING HEATED BY STEAM WHICH APPARENTLY WAS NOT PROPER LICENSEE PROCEDURE. WE ARE INVESTIGATING THE CAUSES OF THE ACCIDENT, INCLUDING THE PHYSICAL CAUSE OF THE RUPTURE. BASED ON VISUAL EXAMINATION OF THE CYLINDER, TECHNICAL SPECIALISTS PRELIMINARILY CONCLUDED THAT THE RUPTURE WAS CAUSED BY HYDRAULIC PRESSURE. HOWEVER, THE EXACT CAUSE OF THE RUPTURE IS BEING CONFIRMED BY LABORATORY ANALYSIS AND CALCULATIONS. THE STAFF WILL DETERMINE THE NEED, IF ANY, FOR ENFORCEMENT ACTIONS AND REGULATORY CHANGES UPON COMPLETION OF ITS INVESTIGATION.

QUESTION 11. (B) IS THERE A REGULATORY GAP?

ANSWER.

TO GAIN A BETTER UNDERSTANDING OF THE RESPONSIBILITIES AND PROGRAMS OF OTHER FEDERAL AGENCIES RELATED TO FUEL CYCLE FACILITIES REGULATED BY THE NRC STAFF MET ON JANUARY 22, 1986 WITH HEADQUARTERS REPRESENTATIVES OF THE OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION (OSHA) AND THE ENVIRONMENTAL PROTECTION AGENCY (EPA), SHOULD REGULATORY GAPS BE IDENTIFIED AS A RESULT OF THIS EFFORT, CONSIDERATION WILL BE GIVEN TO THE MOST EFFECTIVE MANNER TO ELIMINATE THEM.

QUESTION 11. (C) WHAT STEPS HAVE BEEN TAKEN OR ARE UNDER CONSIDERATION TO PREVENT SUCH ACCIDENTS IN THE FUTURE?

ANSWER.

A LESSONS LEARNED GROUP HAS BEEN FORMED AND WILL CONSIDER THE STEPS THAT SHOULD BE TAKEN TO PREVENT SUCH ACCIDENTS FROM OCCURRING IN THE FUTURE. IN THE MEANTIME, THE FEW OTHER NRC LICENSEES THAT HAVE PROCESSES INVOLVING THIS MATERIAL ARE BEING KEPT INFORMED, AS IS DOE. A LESSONS LEARNED REPORT IS EXPECTED WITHIN ABOUT 8 WEEKS AT WHICH TIME ANY REQUIREMENTS FOR FUTURE ACCIDENT PREVENTION WILL BE ASSESSED.

QUESTION 11. (D) WHY HAS THE COMMISSION NOT REQUIRED URANIUM PROCESSING FACILITIES AND SIMILAR MATERIALS LICENSEES TO MAINTAIN FINANCIAL PROTECTION UNDER THE PRICE ANDERSON ACT ?

ANSWER.

SUBSECTION 170A OF THE PRICE-ANDERSON ACT ALLOWS NRC DISCRETION TO REQUIRE FINANCIAL PROTECTION AND TO EXTEND INDEMNITY COVERAGE TO ACTIVITIES NOT INVOLVING THE OPERATION OF PRODUCTION OR UTILIZATION FACILITIES. SUBSEQUENT TO THE RENEWAL OF PRICE-ANDERSON IN 1975 THE COMMISSION CONSIDERED WHETHER IT SHOULD EXERCISE ITS DISCRETIONARY AUTHORITY AND REQUIRE FINANCIAL PROTECTION FOR MATERIAL LICENSEES IN GENERAL AND SPECIFICALLY A CERTAIN CLASS OF MATERIALS LICENSEES, I.E., THOSE POSSESSING OR USING PLUTONIUM IN PLUTONIUM PROCESSING AND FUEL FABRICATION PLANTS. AFTER STUDYING THE ISSUE, THE NRC DECIDED IN 1977 TO EXERCISE ITS DISCRETIONARY AUTHORITY BY REQUIRING FINANCIAL PROTECTION OF AND EXTENDING INDEMNITY TO THOSE PLUTONIUM PROCESSING AND FUEL FABRICATION PLANT LICENSEES AUTHORIZED TO POSSESS PLUTONIUM IN AMOUNTS OF FIVE (5) KILOGRAMS OR MORE. IT SHOULD BE NOTED THAT WHENEVER THE COMMISSION EXERCISES ITS DISCRETIONARY AUTHORITY AND REQUIRES A LICENSEE OTHER THAN A POWER REACTOR LICENSEE TO HAVE AND MAINTAIN FINANCIAL PROTECTION, THE RETROSPECTIVE PREMIUM LAYER OF FINANCIAL PROTECTION IS NOT APPLICABLE. HOWEVER, THE PRICE-ANDERSON ACT REQUIRES THAT THE COMMISSION INDEMNIFY THE LICENSEE IN THE EVENT OF A NUCLEAR

INCIDENT INDEMNITY IN CONNECTION WITH THE LICENSED ACTIVITY. THE AMOUNT OF GOVERNMENT INDEMNITY IS LIMITED TO \$500 MILLION; HOWEVER, WHERE THE FINANCIAL PROTECTION REQUIRED OF THE LICENSEE EXCEEDS \$60 MILLION, GOVERNMENT INDEMNITY IS REDUCED BY THE AMOUNT OF THIS EXCESS. IT SHOULD ALSO BE EMPHASIZED THAT THESE FUNDS WOULD ONLY BE AVAILABLE TO PAY PUBLIC LIABILITY CLAIMS RESULTING FROM A "NUCLEAR INCIDENT" AS THAT TERM IS DEFINED IN SUBSECTION 11Q. OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED. THIS MEANS THAT THE PERSONAL INJURY OR PROPERTY DAMAGE MUST ARISE OUT OF OR RESULT FROM "THE RADIOACTIVE, TOXIC, EXPLOSIVE, OR OTHER HAZARDOUS PROPERTIES OF SOURCE, SPECIAL NUCLEAR, OR BYPRODUCT MATERIAL" BEING USED BY THE LICENSEE. THUS, PRICE-ANDERSON FUNDS WOULD NOT COVER THE CONSEQUENCES OF AN ACCIDENT THAT IS PURELY CHEMICAL IN NATURE AND NOT A RADIOLOGICALLY RELATED ACCIDENT.

BASED ON WORK PERFORMED FOR THE NRC BY THE OAK RIDGE NATIONAL LABORATORY AND AN IN-HOUSE STUDY OF THIS QUESTION, IN 1980 THE NRC STAFF ADVISED THE COMMISSION THAT NO APPARENT NEED EXISTED TO EXTEND PRICE-ANDERSON COVERAGE TO OTHER CLASSES OF MATERIALS LICENSEES. AT THAT TIME THE INSURANCE THAT COULD BE PURCHASED THROUGH THE NUCLEAR INSURANCE POOLS OR PURCHASED FROM OTHER PRIVATE SOURCES EXCEEDED THE ESTIMATED COST OF ANY ACCIDENT THAT COULD OCCUR AT THESE FACILITIES. THE INSURANCE CLIMATE APPEARS TO HAVE CHANGED. IN CONJUNCTION WITH ITS REVIEW OF THE COMMENTS ON THE ANPR NOTED BELOW, THE STAFF IS REASSESSING THE PRESENT AVAILABILITY OF PRIVATE INSURANCE FOR THESE ACTIVITIES.

THE COMMISSION STAFF IS PRESENTLY REVIEWING COMMENTS RECEIVED IN CONNECTION WITH AN ADVANCED NOTICE OF PROPOSED RULEMAKING (ANPR) ON THE QUESTION OF REQUIRING INSURANCE OR OTHER GUARANTEES FROM MATERIALS LICENSEES TO COVER THE COSTS OF BOTH ONSITE AND OFFSITE CLEANUP RESULTING FROM A NUCLEAR ACCIDENT. IT IS ANTICIPATED THAT AFTER EVALUATION OF THESE COMMENTS AS WELL AS FURTHER STUDY OF THIS QUESTION, THE STAFF WILL BE IN A BETTER POSITION TO PROVIDE GUIDANCE TO THE COMMISSION ON WHETHER FINANCIAL ASSURANCE REQUIREMENTS SHOULD BE IMPOSED ON MATERIALS LICENSEES.

QUESTION 12. (A) PLEASE DESCRIBE THE STATUS OF NEGOTIATIONS BETWEEN THE COMMISSION AND THE ENVIRONMENTAL PROTECTION AGENCY REGARDING REGULATION OF LOW-LEVEL NUCLEAR WASTE DISPOSAL AND URANIUM MILL TAILINGS. IF THE COMMISSION BELIEVES LEGISLATION IS NECESSARY TO CLARIFY THE JURISDICTIONAL ROLES OF THE AGENCIES, SPECIFICALLY WHAT LEGISLATIVE CHANGES DOES THE COMMISSION RECOMMEND?

ANSWER.

ALTHOUGH THE ATOMIC ENERGY ACT GAVE NRC EXCLUSIVE JURISDICTION OVER SOURCE, SPECIAL NUCLEAR AND BYPRODUCT MATERIAL, THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA), EPA REGULATIONS AND HAZARDOUS WASTE DISPOSAL PERMIT REQUIREMENTS RAISE QUESTIONS AS TO WHETHER RADIOACTIVE WASTES WHICH CONTAIN CHEMICAL CONSTITUENTS DEFINED AS HAZARDOUS UNDER EPA REGULATIONS ARE ALSO SUBJECT TO DIRECT EPA JURISDICTION AND REGULATION.

LOW-LEVEL NUCLEAR WASTE

NRC ISSUED ITS REGULATIONS FOR NEAR-SURFACE DISPOSAL OF LLW (10 CFR PART 61) IN DECEMBER OF 1982. EPA MAINTAINED THAT PART 61 DID NOT ADEQUATELY ADDRESS DISPOSAL OF THE HAZARDOUS, NON-RADIOACTIVE CONSTITUENTS OF LLW AND COMMENTED THAT "AS A MINIMUM, PART 61

REGULATIONS SHOULD INDICATE THAT THESE MATERIALS MUST BE HANDLED IN A MANNER COMPATIBLE WITH RCRA REQUIREMENTS." NEGOTIATIONS ON AN MOU TO CLARIFY THE REGULATION OF LLW SITES HAVE BEEN UNDERWAY SINCE THAT TIME. DISCUSSIONS ON AN MOU WERE DEFERRED BY MUTUAL CONSENT IN 1984 PENDING COMPLETION OF NRC STUDIES TO ANALYZE COMMERCIAL LLW STREAMS TO DETERMINE THE EXTENT AND NATURE OF THE NON-RADIOACTIVE COMPONENTS AND TO RECOMMEND MANAGEMENT PRACTICES TO ENHANCE GROUNDWATER PROTECTION. THE FIRST STUDY IDENTIFYING THE NON-RADIOACTIVE HAZARDOUS COMPONENT IN LLW WAS COMPLETED IN DECEMBER, 1985, AND THE REPORT ON MANAGEMENT OPTIONS IS DUE TO BE ISSUED FOR PUBLIC COMMENT IN FEBRUARY 1986. NRC WILL DEVELOP RECOMMENDATIONS FOR THE MANAGEMENT OF MIXED LOW-LEVEL WASTES AFTER REVIEWING THE COMMENTS ON THAT DOCUMENT.

THE COMMISSION IS CONCERNED THAT CONTINUING UNCERTAINTIES MAY BE AN OBSTACLE TO SUCCESSFUL IMPLEMENTATION OF THE RECENT LOW-LEVEL RADIOACTIVE WASTE POLICY ACT AMENDMENTS OF 1985. LEGISLATION CLARIFYING THE RESPECTIVE ROLES OF THE EPA, NRC, AND THE STATES IS THEREFORE RECOMMENDED. THE COMMISSION SUPPORTS THE LEGISLATIVE APPROACH TAKEN IN SECTION 15 OF H.R. 1083 AS REPORTED BY THE HOUSE COMMITTEE ON INTERIOR AND INSULAR AFFAIRS, ALTHOUGH WE ARE RECOMMENDING SOME MODIFICATIONS TO THAT PROPOSAL.

FIRST, THE BILL DID NOT CLEARLY SPECIFY THAT THE DELEGATION OF AUTHORITY FOR MIXED WASTES FROM EPA TO NRC WOULD SUPERSEDE ANY PRIOR DELEGATIONS OF AUTHORITY BY EPA TO STATES TO ISSUE PERMITS AS THEY WOULD APPLY TO NRC-LICENSED DISPOSAL FACILITIES. WITHOUT SUCH CLARIFICATION, SECTION 15 MAY BE CONSTRUED TO PROVIDE THAT NRC IS TO BE DELEGATED AUTHORITY IN ADDITION TO SUCH STATES, AND NRC-LICENSED FACILITIES WITHIN THESE STATES COULD BE SUBJECT TO DUAL NRC-STATE AGENCY REGULATION UNDER RCRA.

SECOND, SECTION 15 IS SILENT REGARDING WHETHER PURSUANT TO THE EPA-NRC AGREEMENT MANDATED UNDER THAT SECTION, THE NRC COULD REDELEGATE ITS RCRA AUTHORITY FOR MIXED-WASTE REGULATION TO ITS AGREEMENT STATES. IT WOULD BE APPROPRIATE TO CLARIFY THAT THE NRC COULD DELEGATE ITS RCRA AUTHORITY TO AGREEMENT STATES AUTHORIZED TO REGULATE LOW-LEVEL DISPOSAL FACILITIES UNDER SECTION 274B, OF THE ATOMIC ENERGY ACT. IT SHOULD ALSO BE MADE CLEAR THAT THIS AUTHORITY WOULD BE CARRIED OUT UNDER NRC OVERSIGHT PURSUANT TO ITS AGREEMENT WITH EPA.

URANIUM MILL TAILINGS

EPA'S MILL TAILINGS STANDARDS INCORPORATE GROUNDWATER PROTECTION REQUIREMENTS FOR TAILINGS CONSTITUENTS DEFINED AS HAZARDOUS UNDER RCRA. THESE REQUIREMENTS ARE NOT CONSISTENT WITH REQUIREMENTS

PREVIOUSLY ESTABLISHED BY NRC FOR PROTECTION OF PUBLIC HEALTH, NEGOTIATIONS WITH EPA WERE INITIATED SOON AFTER THE EPA STANDARDS WERE ISSUED IN OCTOBER OF 1983, TO FACILITATE NRC IMPLEMENTATION, TO REDUCE INCONSISTENCIES, AND TO CLARIFY RESPONSIBILITIES. MANY OF THE ORIGINAL ISSUES HAVE BEEN RESOLVED. THE KEY ISSUE REMAINING IS HOW NRC WILL DECIDE ON SITE-SPECIFIC APPLICATIONS FOR ALTERNATE CONCENTRATION LIMITS (ACL'S) AND TO WHAT EXTENT EPA WILL BE INVOLVED IN THOSE DECISIONS. RECENT EFFORTS HAVE BEEN DIRECTED TOWARD DEVELOPMENT OF A MUTUALLY AGREEABLE GENERIC METHODOLOGY FOR EVALUATING ACL APPLICATIONS. TOWARDS THAT END, NRC AND EPA STAFFS HAVE EXCHANGED INITIAL DRAFT ACL GUIDANCE DOCUMENTS. ADDITIONAL DOCUMENTS ARE UNDER PREPARATION BY EPA AND WILL BE REVIEWED WHEN COMPLETED. NRC BELIEVES THAT USE OF AN EPA-ACCEPTED GENERIC METHODOLOGY WILL RESOLVE THIS ISSUE. THEREFORE, NRC DOES NOT RECOMMEND FURTHER LEGISLATIVE CHANGES FOR MILL TAILINGS AT THIS TIME.

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QUESTION 12. (B) PLEASE PROVIDE THE COMMITTEE WITH AN OVERVIEW OF ANY ONGOING LITIGATION CONCERNING NRC'S ROLE IN THE REGULATION OF URANIUM MILL TAILINGS, AND A DESCRIPTION OF THE STATUS OF NEGOTIATIONS BETWEEN THE COMMISSION AND THE ENVIRONMENTAL PROTECTION AGENCY REGARDING MILL TAILINGS REGULATION.

ANSWER.

OVERVIEW OF ONGOING LITIGATION

1. NRC REGULATIONS IN 10 CFR PART 40

A. KERR-McGEE CORP. AND OTHERS V. NRC (10TH CIR. NO. 80-2043, 80-2271, 80-2269, 80-2043)

ON OCTOBER 3, 1980, KERR-McGEE, ET AL., PETITIONED THE TENTH CIRCUIT TO REVIEW THE COMMISSION'S URANIUM MILL LICENSING REQUIREMENTS IN 10 CFR PART 40. SEE 45 FED. REG. 65521 (OCT. 3, 1980). THE INDUSTRY CHALLENGED THE COMMISSION'S REGULATIONS ON A NUMBER OF GROUNDS, INCLUDING ALLEGED INSIGNIFICANCE OF THE RADON RISK, EXCESSIVE COST OF COMPLYING WITH THE REGULATIONS AND THE NRC'S FAILURE TO AWAIT PROMULGATION OF EPA STANDARDS. IN 1982 A PANEL OF THE COURT UPHELD THE REGULATIONS BUT REHEARING EN BANC WAS GRANTED. THIS CASE REMAINS IN ABEYANCE PENDING THE COMPLETION OF

RULEMAKING CONFORMING NRC REQUIREMENTS TO EPA STANDARDS PROMULGATED SEPTEMBER 30, 1983. NRC CONFORMED ITS RULES TO SOME OF THE EPA STANDARDS ON OCTOBER 16, 1985 (50 FR 41852) BUT RULEMAKING WITH RESPECT TO EPA'S GROUNDWATER STANDARDS HAS NOT YET BEEN COMPLETED.

B. QUIVIRA MINING CO., ET AL. v. NRC, (10TH CIR. No. 85-2853)
ENVIRONMENTAL DEFENSE FUND, ET AL. v. NRC (D.C. CIR. No. 85-1817)

ON DECEMBER 13, 1985, QUIVIRA ET AL. FILED SUIT CHALLENGING NRC FINAL RULE CHANGES TO 10 CFR PART 40. 50 FED. REG. 41852 (OCTOBER 16, 1985). THESE AMENDMENTS CONFORM NRC REQUIREMENTS TO THE STABILITY AND RADON RELEASE PROVISIONS OF EPA STANDARDS FOR URANIUM AND THORIUM MILL TAILINGS (40 CFR PART 192). ON JANUARY 31, 1986, QUIVIRA AND NRC JOINTLY MOVED THE COURT TO HOLD THIS CASE IN ABEYANCE PENDING SUPREME COURT ACTION ON THE PETITIONS FOR CERTIORARI, FILED ON JANUARY 28, 1986, IN AMERICAN MINING CONGRESS, ET AL. v. THOMAS, 772 F. 2D 640 (10TH CIR. 1985) AND AMERICAN MINING CONGRESS, ET AL. v. THOMAS, 772 F. 2D 617 (10TH CIR. 1985). IN THESE CASES THE 10TH CIRCUIT UPHELD EPA'S STANDARDS. ON JANUARY 24, 1986, NRC MOVED THE D.C. CIRCUIT TO TRANSFER THE EDF CASE, WHICH CHALLENGES THE SAME RULE, TO THE 10TH CIRCUIT.

2. NRC REGULATIONS IN 10 CFR PART 20

AMERICAN MINING CONGRESS V. U.S.A. (10TH CIR. NO. 81-1566)
KERR-MCGEE NUCLEAR CORP., ET AL. V. NRC (10TH CIR. NO.
81-1569)

ON MAY 22, 1981 KERR-MCGEE NUCLEAR CORPORATION, HOMESTAKE MINING COMPANY AND AMC FILED PETITIONS TO REVIEW THE AMENDMENT TO 10 CFR PART 20 WHICH INCORPORATED EXPLICITLY 40 CFR PART 190, THE EPA'S GENERAL ENVIRONMENTAL STANDARDS FOR URANIUM FUEL CYCLE FACILITIES INCLUDING URANIUM MILLS. SEE 46 FR 18525 (MARCH 25, 1981). PETITIONERS ALSO SOUGHT REVIEW OF THE COMMISSION'S MARCH 26, 1981 DENIAL OF THEIR MOTION TO RECONSIDER OR DEFER IMPLEMENTATION OF THE EPA REGULATIONS AT URANIUM MILLS PENDING A FINAL DECISION ON THEIR MOTION TO EPA TO RECONSIDER THE REGULATIONS. THE LAWSUITS HAVE BEEN HELD IN ABEYANCE PENDING EPA'S RESOLUTION OF AMC'S PETITION TO REOPEN THE RECORD AND RECONSIDER THE GENERAL STANDARDS.

3. HEARING REQUESTS ON NRC IMPLEMENTATION OF 40 CFR PART 192

HEARING REQUEST (ADMINISTRATIVELY BEFORE COMMISSION; NOT IN COURTS)

THE NRC ISSUED ORDERS IMPLEMENTING DETECTION MONITORING REQUIREMENTS IN EPA'S MILL TAILINGS STANDARDS ON JULY 19, 1985.

LICENSES WERE AMENDED BY ADDING CONDITIONS REQUIRING LICENSEES TO IMPLEMENT A GROUND-WATER DETECTION MONITORING PROGRAM TO ENSURE COMPLIANCE WITH 40 CFR 192. OF THE 13 LICENSEES ORDERED TO COMPLY, 11 REQUESTED HEARINGS. AS A RESULT OF CONSIDERATION OF LICENSEE COMMENTS, A REVISION OF ORDERS TO MODIFY LICENSES WAS PUBLISHED IN THE FEDERAL REGISTER NOVEMBER 7, 1985 (50 FR 46370). THE ORDERS WERE REVISED TO WITHDRAW THE IMMEDIATE EFFECTIVENESS.

FOLLOWING THIS NOTICE THE ENVIRONMENTAL DEFENSE FUND REQUESTED PARTICIPATION IN THE HEARING IN A LETTER DATED DECEMBER 2, 1985.

4. RELATED CASES

A. ATLANTIC RICHFIELD CO., AND OTHER MILLING COMPANIES V. U.S.A.
(U.S. CLAIMS COURT No. 576-84-C, 580-84-C, 143-84-C, 581-84-C,
144-84-C, 579-84-C, 565-84-C, 281-83-C)

THESE CASES WERE FILED AGAINST THE UNITED STATES TO RECOVER ANTICIPATED EXPENSES OF CLEANING UP TAILINGS PILES GENERATED IN CARRYING OUT URANIUM MINING AND MILLING OPERATIONS UNDER CONTRACT WITH THE FEDERAL GOVERNMENT. PLAINTIFFS FILED SUIT IN THE COURT OF CLAIMS INVOKING THE DOCTRINE OF "MUTUAL MISTAKE" TO ASK THE COURT TO REFORM THEIR CONTRACTS TO PROVIDE REIMBURSEMENT TO THE PLAINTIFFS FOR THE COSTS OF ITS MILL TAILINGS CLEANUP. THE FEDERAL GOVERNMENT HAS FILED MOTIONS ASKING THE COURT TO DISMISS EACH OF THESE CASES. THE COURT HAS NOT YET RULED ON THE MOTIONS.

B. AMERICAN MINING CONGRESS AND OTHERS V. EPA (10TH CIR. No. 83-2226, 1014, 1352, 1482, 1908, 1041, 1206, 1300, 1602C, 2277, 2227, 2504, 2524, 1349)

ON SEPTEMBER 30, 1983, THE EPA PROMULGATED STANDARDS FOR REGULATING MILL TAILINGS PILES AT ACTIVE (TITLE II) AND INACTIVE (TITLE I) URANIUM PROCESSING SITES. CASE No. 83-2226 OPPOSED THE EPA STANDARDS FOR ACTIVE MILLS AND CASE No. 83-1014 OPPOSED EPA STANDARDS FOR INACTIVE MILLS. OTHER CASES RAISED PROCEDURAL ISSUES. THE TENTH CIRCUIT COURT OF APPEALS DECISIONS OF SEPTEMBER 3, 1985 UPHELD EPA STANDARDS FOR TITLE I AND TITLE II SITES WITH THE EXCEPTION OF TITLE I GROUND WATER STANDARDS. GROUND WATER CONTAMINATION REGULATIONS FOR INACTIVE URANIUM MILL SITES WERE REMANDED TO THE AGENCY FOR FURTHER CONSIDERATION. THE TENTH CIRCUIT DENIED A PETITION FOR REHEARING BUT A PETITION OF CERTIORARI WAS SUBMITTED TO THE SUPREME COURT ON JANUARY 28, 1986.

STATUS OF NEGOTIATIONS BETWEEN NRC AND EPA

THE RESPONSE TO THIS PART OF THE QUESTION IS CONTAINED IN THE RESPONSE TO QUESTION 12.(A).

QUESTION 12. (C) ARE THE AMOUNTS CURRENTLY HELD IN SURETY ARRANGEMENTS FOR ACTIVE URANIUM PROCESSING SITES ADEQUATE TO ENSURE RECLAMATION ACCORDING TO THE EXISTING STANDARDS? IF NOT, WHY NOT? DOES NRC INTEND TO MODIFY ITS SURETY REQUIREMENTS TO COMPENSATE FOR ANY DIFFERENCE?

ANSWER.

THE MAJORITY OF THE SURETY ARRANGEMENTS AT NRC- AND AGREEMENT STATE-LICENSED URANIUM RECOVERY FACILITIES WERE ESTABLISHED PRIOR TO IMPLEMENTING THE EPA STANDARDS AND DO NOT COVER FUNDING FOR GROUNDWATER RESTORATION. THESE SURETY ARRANGEMENTS NEED TO BE RE-EVALUATED IN LIGHT OF THE EPA GROUNDWATER STANDARDS (40 CFR PART 192). THE NRC LICENSING STAFF IS IN THE PROCESS OF REQUIRING LICENSEES TO UPDATE THEIR RECLAMATION PLANS TO INCLUDE GROUNDWATER RESTORATION, WHEN APPLICABLE. IT SHOULD BE NOTED THAT, IN THE CASE OF THE STATE OF NEW MEXICO WHICH IS AN AGREEMENT STATE, THE STATE DOES NOT BELIEVE ITS CURRENT SURETY ARRANGEMENTS FOR TAILINGS STABILIZATION TO BE ADEQUATE SINCE THEY WERE BASED ON STATE REGULATIONS WHICH ARE LESS STRINGENT THAN THOSE OF NRC OR EPA. EFFORTS ARE UNDERWAY IN NEW MEXICO TO CHANGE THESE STATE REGULATIONS TO MAKE THEM COMPATIBLE WITH APPLICABLE FEDERAL STANDARDS.

QUESTION 13. (A) WHAT DOES THE COMMISSION VIEW AS THE MAJOR
LEGAL, TECHNICAL, AND ADMINISTRATIVE ISSUES
FACING THE NRC CONCERNING THE CIVILIAN
RADIOACTIVE WASTE MANAGEMENT PROGRAM?

ANSWER.

1. IDENTIFY AND IMPLEMENT EFFICIENCIES IN THE LICENSING PROCESS
THAT WOULD ENABLE THE NRC TO MEET THE THREE-YEAR STATUTORY
MANDATE FOR A CONSTRUCTION AUTHORIZATION DECISION.
2. IDENTIFY AND IMPLEMENT ACTION TO PROVIDE TECHNICAL CONTINUITY
AND AVOID CONFLICT OF INTEREST IN NRC'S TECHNICAL CONTRACT
SUPPORT WORK OVER THE LONG DURATION OF THE PROGRAM (20 +
YEARS).
3. DEVELOP TECHNICAL CONSENSUS ON METHODOLOGIES FOR
DEMONSTRATING COMPLIANCE WITH 10 CFR 60 REQUIREMENTS.
4. DEVELOP A CONSENSUS ON THE QA PROGRAM NECESSARY TO SUPPORT
THE LICENSING PROCESS AND AVOID PROBLEMS SUCH AS HAVE
OCCURRED IN CERTAIN REACTOR PLANTS.

5. ENSURE EFFECTIVE AND TIMELY INVOLVEMENT BY HOST STATES AND AFFECTED INDIAN TRIBES IN ITEMS 3 AND 4 ABOVE.
6. DEVELOP A COMMON UNDERSTANDING THAT NRC'S ROLE IS LIMITED TO NRC ACTIONS SPECIFIED IN THE NWPA (AS NRC IS PLANNING AND BUDGETING) RATHER THAN ALSO CONSISTING OF A BROAD OVERSIGHT OVER DOE'S GENERAL IMPLEMENTATION OF THE TOTAL ACT.

QUESTION 13. (B) PLEASE PROVIDE AN OVERVIEW OF NRC'S ROLE WITH REGARD TO OVERSEEING THE DEPARTMENT OF ENERGY'S IMPLEMENTATION OF THE HIGH-LEVEL WASTE PROGRAM. WHAT SPECIFICALLY WILL BE THE COMMISSION'S RESPONSIBILITIES CONCERNING THE PROPOSED CONSTRUCTION OF A MONITORED RETRIEVABLE STORAGE FACILITY?

ANSWER.

THE NUCLEAR REGULATORY COMMISSION IS THE INDEPENDENT FEDERAL AGENCY HAVING PRIME REGULATORY RESPONSIBILITY UNDER THE NUCLEAR WASTE POLICY ACT OF 1982. THE NRC HAS THE REGULATORY AUTHORITY TO OVERSEE AND CONFIRM THAT DOE'S ACTIONS UNDER THE NWPA ADEQUATELY PROTECT PUBLIC HEALTH AND SAFETY AND THE ENVIRONMENT. DOE CANNOT BUILD OR OPERATE A GEOLOGIC REPOSITORY FOR HIGH-LEVEL RADIOACTIVE WASTES WITHOUT THE COMMISSION'S AUTHORIZATION. SIMILARLY, THE STORAGE OF COMMERCIAL SPENT FUEL PRIOR TO DISPOSAL IS UNDER NRC REGULATORY AUTHORITY. FOR THE NATIONAL WASTE PROGRAM, DOE HAS OPERATIONAL RESPONSIBILITY -- PLANNING, SITING, CONSTRUCTING, OPERATING, AND CLOSING THE FACILITIES. NRC FOCUSES ON THE HEALTH, SAFETY, AND ENVIRONMENTAL PROTECTION ASPECTS OF THE PROGRAM.

IF THE MONITORED RETRIEVABLE STORAGE (MRS) FACILITY IS AUTHORIZED BY CONGRESS, NRC HAS LICENSING AUTHORITY OVER THE FACILITY ON THE BASIS OF SAFETY AND ENVIRONMENTAL REVIEWS. BOTH THE ENVIRONMENTAL IMPACT REVIEW AND THE SAFETY EVALUATION REVIEW PROCEDURES OF THE NRC WOULD AFFORD AN OPPORTUNITY FOR FEDERAL, STATE, AND LOCAL AGENCIES AND THE PUBLIC TO OBTAIN INFORMATION AND COMMENT ON THE MRS FACILITY. INSPECTIONS WOULD BE CONDUCTED DURING CONSTRUCTION AND SUBSEQUENT OPERATION.

QUESTION 13. (C) NRC COMMENTS ON THE DEPARTMENT'S MISSION PLAN AND DRAFT PROJECT DECISION SCHEDULE ARE CRITICAL OF DOE'S NINE MONTH REDUCTION IN THE AMOUNT OF TIME ALLOTTED FOR NRC REVIEW OF A REPOSITORY LICENSE APPLICATION. BY LETTER OF OCTOBER 24, 1985, CHAIRMAN PALLADINO IDENTIFIED SIX ACTIONS WHICH, TOGETHER, MIGHT ALLOW THE COMMISSION TO COMPLY WITH DOE'S SCHEDULE. TO WHAT EXTENT HAVE SUBSEQUENT DOE ACTIONS OR COMMUNICATIONS INDICATED DOE'S INTENT TO ACT ON ANY OR ALL ASPECTS OF THE SIX-POINT PROGRAM?

ANSWER.

THE DOE MISSION PLAN AND THE DRAFT PROJECT DECISION SCHEDULE (PDS) CALL FOR A 27-MONTH PERIOD FOR NRC REVIEW OF A REPOSITORY LICENSE APPLICATION AS COMPARED TO THE 36-MONTH PERIOD (EXTENDABLE TO 48 MONTHS) SPECIFIED IN THE NWPA. THE OCTOBER 24, 1985 LETTER FROM CHAIRMAN PALLADINO COMMENTING ON THE DRAFT PDS STATES THAT MEETING THE 36 MONTH REVIEW PERIOD MIGHT BE POSSIBLE IF DOE COMPLETES, IN A TIMELY AND EXEMPLARY FASHION, SIX KEY ACTIONS. IN ADDITION, THE ADEQUACY OF A 36-MONTH REVIEW PERIOD IS STATED TO BE DEPENDENT ON THE SUBMITTAL BY DOE OF A COMPLETE AND HIGH-QUALITY APPLICATION FOR A REPOSITORY LICENSE. THE NRC IS COMMITTED TO MAKING THE LICENSING

REVIEW AS EFFICIENT AS POSSIBLE BUT CONTINUES TO BELIEVE THAT THE 36 MONTHS PROVIDED IN SECTION 114(D) OF THE NWPA IS A VERY OPTIMISTIC ESTIMATE FOR THE TIME REQUIRED TO REACH A LICENSING DECISION ON REPOSITORY CONSTRUCTION. DOE HAS INDICATED ITS INTENT TO ACT ON EACH OF THE SIX KEY ACTIONS IDENTIFIED. HOWEVER, IT IS PREMATURE TO JUDGE THE DEGREE TO WHICH DOE WILL BE ABLE TO IMPLEMENT THE SIX KEY ACTIONS IN A TIMELY FASHION.

Question 13.

Commissioner Asselstine believes that the Commission's response to your question is inadequate. He believes that the response requires a much more thorough discussion of the legal, technical and administrative issues facing the Commission. He will provide you with his response to this question separately.

QUESTION 14. USER FEES. PLEASE PROVIDE A STATEMENT OF THE COMMISSION'S VIEWS ON SECTION 7601 OF THE CONFERENCE REPORT ON THE CONSOLIDATED OMNIBUS RECONCILIATION ACT OF 1985 [131 CONG. REC. H13114 (DEC. 19, 1985)], WHICH WOULD REQUIRE THE NRC TO COLLECT 33 PERCENT OF ITS ANNUAL BUDGET FROM ITS LICENSEES THROUGH ANNUAL FEES.

ANSWER

IF THE INTENT OF THE PROPOSED LEGISLATION IS TO RECEIVE REVENUES THAT WOULD ACCOUNT FOR A LARGE PERCENT OF THE NRC BUDGET, THE COMMISSION HAS NO OBJECTION TO THE CONCEPT. THE COMMISSION HAS STRONG FEELINGS, HOWEVER, CONCERNING THE METHOD TO ACHIEVE THIS OBJECTIVE. THE PROPOSED LEGISLATION IS A VERY BROAD LEGISLATIVE DELEGATION OF FEE-SETTING AUTHORITY WITH FEW CONTROLLING STANDARDS. THIS KIND OF BROAD DELEGATION RESEMBLES AN AUTHORIZATION TO LEVY A TAX ON COMMISSION LICENSEES, WHICH COULD RAISE A SERIOUS CONSTITUTIONAL QUESTION. SEE NATIONAL CABLE TELEVISION V. UNITED STATES, 415 U.S. 336 (1974), AND FEDERAL POWER COMPANY V. NEW ENGLAND POWER COMPANY, 415 U.S. 345 (1974).

THE PROPOSED LEGISLATION WOULD ALSO IMPOSE A SEVERE ADMINISTRATIVE WORKLOAD THAT WOULD RESULT IN AN UNACCEPTABLY LARGE AMOUNT OF RESOURCES THAT SHOULD BE ALLOCATED TO PROGRAMS BEING SPENT ON EVALUATING, ASSESSING, ALLOCATING, COLLECTING, ACCOUNTING FOR

FEES. THE COMMISSION STRONGLY URGES THAT IN THE EVENT THE CONGRESS DECIDES TO SIGNIFICANTLY INCREASE THE REVENUE FOR NRC SERVICES AS INDICATED IN THE REFERENCED ACT, THE MEANS FOR SO DOING SHOULD BE EASY TO DESIGN AND IMPLEMENT, BE HANDLED BY CONGRESSIONAL LEGISLATION RATHER THAN BY COMMISSION RULE AND BE RELATIVELY STABLE. ONE METHOD IS TO DETERMINE THE AMOUNT OF REVENUE THAT IS DESIRED TO BE RECEIVED AND CALCULATE, ON THE BASIS OF COST PER DESIGN OR INSTALLED KILOWATT, AN ANNUAL ASSESSMENT FOR ALL OPERATING REACTORS IN THE COUNTRY. SUCH A SYSTEM SHOULD REPLACE THE LICENSE FEES CHARGED OPERATING REACTORS IN ACCORDANCE WITH THE PROVISIONS OF THE INDEPENDENT OFFICES APPROPRIATION ACT OF 1952 (31 U.S.C. SEC. 9701). LICENSE FEES FOR ALL REACTORS UNDER CONSTRUCTION AND ALL NON-REACTOR LICENSEES COULD CONTINUE AS IS. ESTABLISHING A FEE FOR OPERATING REACTORS BASED ON DESIGN/INSTALLED POWER HAS THE ADVANTAGES OF BEING EASY TO UNDERSTAND, IS READILY CALCULATED, AND REQUIRES VERY LITTLE ADMINISTRATIVE COSTS.

COMMISSIONER ROBERTS FEELS THAT FOR THE REGULATED TO FUND THE ACTIVITIES OF THE REGULATOR IS AN INIMICAL CONFLICT OF INTEREST.

QUESTION 15. PRICE-ANDERSON

- (A) PLEASE COMMENT ON PROPOSALS TO ALLOW UTILITIES PAYING DEFERRED PREMIUMS UNDER SECTION 170B OF THE ATOMIC ENERGY ACT TO RECOVER THE AMOUNT OF SUCH PREMIUMS FROM ANY PERSON THAT MAY HAVE BEEN LIABLE FOR THE ACCIDENT. IN PARTICULAR, WHAT IMPACT WOULD ADOPTION OF THIS PROPOSAL HAVE ON: (A) THE ABILITY OF THE PUBLIC TO RECOVER PROMPTLY AND EFFICIENTLY IN THE EVENT OF AN ACCIDENT; (B) THE AVAILABILITY OF INSURANCE COVERAGE FOR NUCLEAR ENERGY ACTIVITIES; (C) THE SAFETY CONSCIOUSNESS OF UTILITIES, VENDORS, PART SUPPLIERS, AND OTHER PERSONS WHO MIGHT BE LIABLE UNDER THE PROPOSAL?

ANSWER.

(A) AN IMPORTANT FEATURE OF THE PRICE-ANDERSON ACT HAS ALWAYS BEEN THE "OMNIBUS COVERAGE" PROVISION WHEREBY THE SYSTEM PROVIDES LIABILITY PROTECTION NOT ONLY FOR THE UTILITIES NAMED IN THE INDEMNITY AGREEMENTS AND INSURANCE POLICIES BUT ALSO FOR ALL PERSONS WHO MAY BE LIABLE FOR THE NUCLEAR INCIDENT. PROPOSALS TO ALLOW RECOVERY OF PREMIUMS FROM ANY PERSON LIABLE FOR THE

ACCIDENT WOULD NOT AFFECT THE GOAL OF FULL AND PROMPT RECOVERY BY INJURED MEMBERS OF THE PUBLIC FOR THEIR LEGITIMATE CLAIMS REGARDLESS OF WHO MAY BE LIABLE AND THE SIZE OF THEIR ASSETS. THESE SUBROGATION PROPOSALS, WHICH WOULD COME INTO PLAY AFTER THE RECOVERY BY THE PUBLIC OF THEIR CLAIMS, WOULD PRESENT A SIGNIFICANT, NEW EXPOSURE, HOWEVER, TO PERSONS WHO MAY BE LIABLE FOR A NUCLEAR INCIDENT AND THIS EXPOSURE WOULD NOT BE PROTECTED BY PRICE-ANDERSON.

(B) WE UNDERSTAND FROM OUR DISCUSSIONS WITH THE INSURANCE INDUSTRY THAT IT COULD AFFECT INSURANCE COVERAGE. OUR UNDERSTANDING IS THAT IF THE PERSON WHO COULD BE SUED FOR THE DEFERRED PREMIUMS WERE ABLE TO CALL ON OTHER (NON-PRICE-ANDERSON FINANCIAL PROTECTION) INSURANCE, THEN THE INSURANCE INDUSTRY WOULD NOT BE ABLE TO DETERMINE IN ADVANCE THE LIMITS OF THEIR INSURANCE EXPOSURE FOR A PARTICULAR ACCIDENT. AS LONG AS THERE IS A LIMITATION OF LIABILITY COUPLED WITH THE INSURANCE COMPANIES' PARTICIPATION EXCLUSIVELY THROUGH PRICE-ANDERSON FINANCIAL PROTECTION, THE COMPANIES KNOW THAT THEIR EXPOSURE, REGARDLESS OF WHO IS LIABLE, IS LIMITED TO THE AMOUNT OF CAPACITY THAT IS MADE AVAILABLE TO THE NUCLEAR INSURANCE POOLS.

(C) A SIMILAR ARGUMENT HAS BEEN RAISED FROM TIME TO TIME ABOUT WHETHER THE LIMITATION OF LIABILITY PROVISION IN THE PRICE-ANDERSON ACT ACTS AS A DISINCENTIVE TO THE SAFE OPERATION OF NUCLEAR POWER PLANTS. A NUMBER OF THE REBUTTALS MADE TO THAT PROPOSITION ARE EQUALLY VALID IN CONNECTION WITH THIS PRESENT PROPOSAL. FIRST, THE DESIGN, CONSTRUCTION AND OPERATION OF NUCLEAR POWER PLANTS RESTS IN PART UPON A STRINGENT FEDERAL REGULATION SYSTEM. LICENSEES ARE REQUIRED TO COMPLY WITH COMPREHENSIVE SAFETY STANDARDS. VIOLATIONS OF THESE STANDARDS MAY RESULT IN THE IMPOSITION OF CIVIL MONETARY FINES AND, IN SERIOUS CASES, EVEN REVOCATION OF A LICENSE. SECOND, IN RESPONSE TO THE THREE MILE ISLAND ACCIDENT, THE INDUSTRY ESTABLISHED THE INSTITUTE OF NUCLEAR POWER OPERATIONS (INPO) TO IMPROVE THE OPERATIONS OF NUCLEAR POWER PLANTS AND PROVIDE FOR GREATER COORDINATION WITHIN THE INDUSTRY. FURTHER, AS POINTED OUT IN THE JANUARY 1984 COLUMBIA UNIVERSITY LEGISLATIVE DRAFTING RESEARCH FUND STUDY:

"ONE OF THE FUNDAMENTAL PREMISES UNDERLYING THE IMPOSITION OF LIABILITY FOR NEGLIGENT ACTS AT COMMON LAW WAS THAT THE THREAT OF INCURRING SUCH LIABILITY WOULD ACT AS A DETERRENT TO NEGLIGENT BEHAVIOR. ON THE BASIS OF THIS PREMISE, EARLY LIABILITY INSURANCE PLANS WERE ATTACKED, AND IN A FEW CASES ACTUALLY HELD VOID AS AGAINST PUBLIC POLICY BECAUSE THEY

WERE THOUGHT TO REMOVE THIS DETERRENT EFFECT BY SHIELDING THE INSURED FROM THE CONSEQUENCES OF HIS BEHAVIOR. AS EXPERIENCE WITH LIABILITY INSURANCE GREW, IT BECAME APPARENT THAT THIS FEAR WAS UNFOUNDED, . . . BUT, WHILE THE ARGUMENT AGAINST PROVIDING PROTECTION FROM TORT LIABILITY HAS LONG SINCE BEEN DISCREDITED IN OTHER AREAS, IT CONTINUES TO BE RAISED IN CONNECTION WITH THE PROBLEM OF PROVIDING FINANCIAL PROTECTION AGAINST THE NUCLEAR RISK. SPECIFICALLY, THE PRICE-ANDERSON ACT CONTINUES TO BE CRITICIZED AS REMOVING AN IMPORTANT MOTIVATION FOR DIRECTING THE ATTENTION OF INDUSTRY TO THE SAFETY OF NUCLEAR POWER PLANTS."

THE COLUMBIA STUDY FURTHER POINTS OUT THAT THERE ARE SIGNIFICANT BUSINESS AND ECONOMIC PRESSURES ON THE UTILITY INDUSTRY TO PREVENT THE OCCURRENCE OF A NUCLEAR ACCIDENT. IF A NUCLEAR PLANT SUFFERS AN ACCIDENT, IN ADDITION TO THE DAMAGE TO THE REACTOR ITSELF, WHICH COULD VERY WELL EXCEED THE AMOUNT OF THE INSURANCE A UTILITY IS ABLE TO PURCHASE, THE COSTS OF PURCHASING REPLACEMENT POWER AND THE LOSS OF THE PLANT FROM THE UTILITY'S RATE BASE WOULD BE SUBSTANTIAL. IN ADDITION, THE STUDY STATES THAT THE THREE MILE ISLAND ACCIDENT DEMONSTRATED THAT MANUFACTURERS, ARCHITECT-ENGINEERS AND VENDORS ARE ALL POTENTIALLY EXPOSED TO LIABILITY FOR LOSSES OF THE UTILITY OTHER THAN THE COSTS OF THIRD PARTY LIABILITY CLAIMS COVERED UNDER THE PRICE-ANDERSON ACT.

QUESTION 15. PRICE-ANDERSON

(B) PLEASE COMMENT ON THE IMPLICATIONS OF
REDEFINING "PUBLIC LIABILITY" UNDER SECTION
11W OF THE ATOMIC ENERGY ACT SO AS TO EXCLUDE
CLAIMS FOR PUNITIVE DAMAGES.

ANSWER.

THE COMMISSION IS ON RECORD AS SUPPORTING MODIFICATION OF THE PRICE-ANDERSON SYSTEM TO EXPLICITLY EXCLUDE COVERAGE OF PUNITIVE DAMAGES. IN THE COMMISSION'S VIEW, THE PUNITIVE EFFECT OF SUCH AWARDS IS LOST IF A DEFENDANT CAN INSURE ITSELF AGAINST SUCH LIABILITY UNDER THE PRICE-ANDERSON SYSTEM. FURTHER, IN ANY EVENT, AT THE VERY LEAST PAYMENT OF PUNITIVE DAMAGES SHOULD NOT BE ALLOWED TO DISPLACE PAYMENT FOR COMPENSATORY DAMAGES. SO LONG AS THERE IS A CAP OR A PRACTICAL LIMIT ON THE AMOUNT OF LIABILITY PER ACCIDENT, ULTIMATE COMPENSATORY PAYMENT FOR DAMAGES OF A NUCLEAR ACCIDENT COULD BE JEOPARDIZED BY EARLIER ASSESSMENTS OF PUNITIVE DAMAGES.

Q15

Commissioner Asselstine Adds:

I am not opposed to proposals to allow utilities paying deferred premiums under section 170B of the AEA to recover the amount of such premiums from any person who may have been responsible for the accident. The proposal would not have an adverse effect on the public's ability to recover quickly because the deferred premiums would be available. On the other hand, it would help to address the fairness problem -- that a licensee has to pay for an accident which it did not cause.

As a practical matter in the case of a large consequence accident, the utility experiencing the event is likely to be in very poor financial shape and will not be very real source of funds. However, a provision to allow recovery from anyone responsible would enable utilities to seek recovery of their premiums from other responsible entities such as vendors, parts suppliers, etc., and may in turn create an increased safety consciousness in those persons.

QUESTION 16. ROLE OF INTERVENORS

PLEASE IDENTIFY MAJOR INSTANCES IN WHICH SIGNIFICANT SAFETY ISSUES HAVE COME TO LIGHT AS A RESULT OF ACTIONS TAKEN BY LICENSEES' EMPLOYEES OR CONTRACTORS WHO BYPASSED THE LICENSEES' ESTABLISHED REPORTING SYSTEM, OR BY PUBLIC INTEREST GROUPS, INTERVENORS, INPO, OR CONGRESSIONAL OVERSIGHT COMMITTEE? WHY WAS THE NRC UNABLE TO UNCOVER THESE PROBLEMS THROUGH ESTABLISHED REPORTING AND INSPECTION PROCEDURES?

ANSWER

OUR ANSWER IS PRESENTED IN TERMS OF THE VARIOUS GROUPS IDENTIFIED IN THE QUESTION WITH EXAMPLES THAT CHARACTERIZE THE TYPES OF CONCERNS RAISED BY EACH GROUP. LICENSEE EMPLOYEES AND CONTRACTORS HAVE FIRST-HAND KNOWLEDGE OF ON-SITE ACTIVITIES THEY PARTICIPATED IN OR OBSERVED, AND OFTEN ARE THE MAJOR SOURCE FOR IDENTIFYING PROBLEMS - BOTH THOSE WHICH COME TO LIGHT THROUGH THE ESTABLISHED REPORTING SYSTEMS AND THOSE WHICH DO NOT. INTERVENOR GROUPS MAY RAISE ISSUES INDEPENDENTLY OR MAY RAISE SAFETY ISSUES ON BEHALF OF LICENSEE EMPLOYEES OR CONTRACTORS.

MAJOR INSTANCES OF SAFETY ISSUES COMING TO LIGHT AS A RESULT OF ACTION TAKEN BY LICENSEES' EMPLOYEES OR CONTRACTORS, WHERE THE LICENSEES' ESTABLISHED REPORTING SYSTEM WAS BYPASSED, ARE EXEMPLIFIED BY (1) ANONYMOUS CONCERNS REPORTED TO THE NRC AND A LICENSEE CONTRACTOR INVOLVING A TVA FACILITY (ISSUES REGARDING THE GENERAL ADEQUACY OF WELDING, CABLING, AND MANAGEMENT) AND (2) ISSUES SUCH AS THOSE RAISED BY PIPE SUPPORT DESIGNERS ON THE COMANCHE PEAK FACILITY INVOLVING SPECIFIC DESIGN ISSUES ON SAFETY RELATED PIPE SUPPORTS. EACH OF THESE EXAMPLES ACTED AS A CATALYST LEADING TO MAJOR SAFETY REVIEWS BY LICENSEES AND THE NRC STAFF FOR THE AFFECTED FACILITIES.

IT APPEARS THAT IN SUCH CASES THE EMPLOYEES OR CONTRACTORS PERCEIVED THAT THEIR CONCERNS WERE BEING IGNORED BY LICENSEE MANAGEMENT OR THAT SOME DEGREE OF FEAR OF REPRISAL EXISTED SUCH THAT THEY DID NOT FEEL COMFORTABLE TAKING SUCH ISSUES TO THEIR MANAGEMENT. AS A RESULT, NORMAL LICENSEE CHANNELS WERE NOT EFFECTIVE IN IDENTIFYING AND RESOLVING THE CONCERNS.

INTERVENORS HAVE RECENTLY BROUGHT SIGNIFICANT SAFETY ISSUES TO LIGHT. INTERVENORS IN THE COMANCHE PEAK CASE RAISED QA AND PIPING AND PIPE SUPPORT CONTENTIONS AS A RESULT OF INFORMATION RECEIVED FROM ALLEGERS. INTERVENORS IN THE SHEARON HARRIS

CASE RAISED THE QUESTION OF WHETHER EMERGENCY SIRENS COULD BE HEARD AT NIGHT IN THE SUMMERTIME. AS A RESULT, THE APPLICANT HAS DECIDED TO DISTRIBUTE TONE ALERT RADIOS TO RESIDENTS IN THE AREAS WHERE NIGHTTIME AROUSAL WAS QUESTIONABLE.

WITH RESPECT TO NRC'S ABILITY TO UNCOVER SUCH PROBLEMS, IT IS IMPORTANT TO NOTE THAT THE PURPOSE OF THE NRC'S INSPECTION PROGRAM IS TO ENSURE, BY MEANS OF INSPECTIONS DONE ON A SAMPLING BASIS, THAT LICENSEES HAVE ESTABLISHED AND IMPLEMENTED PROCEDURES TO ENSURE THAT NUCLEAR FACILITIES ARE CONSTRUCTED AND OPERATED IN ACCORDANCE WITH NRC REQUIREMENTS AND LICENSEE COMMITMENTS. THE KEYSTONE OF THE NRC'S INSPECTION PROGRAM IS VERIFICATION THAT THE APPLICANT HAS AN ADEQUATE QUALITY ASSURANCE PROGRAM THAT IS BEING EFFECTIVELY IMPLEMENTED. THE NRC PROGRAM CONSISTS OF (1) REVIEW OF THE APPLICANT'S QA PROGRAM, INCLUDING THE PROGRAMS OF THE VARIOUS SITE CONTRACTORS;

(2) OBSERVATION, ON A SAMPLING BASIS, OF THE ACTUAL WORK AND INSPECTION ACTIVITIES IN THE FIELD; AND (3) REVIEW, AGAIN ON A SAMPLING BASIS, OF THE RECORDS AND LICENSEE ACTIONS WHICH DOCUMENT BOTH THE WORK ACCOMPLISHED AND THE RESULTS OF THE LICENSEE'S SELF INSPECTIONS AND AUDITS.

DURING THE DESIGN AND CONSTRUCTION OF A NUCLEAR POWER PLANT IT IS NEITHER UNUSUAL NOR UNEXPECTED THAT DESIGN ERRORS OR EQUIPMENT MALFUNCTIONS ARE DETECTED AND CORRECTED BY THE CONTRACTOR. THE NRC REGULATIONS REQUIRE THAT THE LICENSEE MAINTAIN AN EFFECTIVE QUALITY ASSURANCE PROGRAM THAT FOLLOWS UP EACH ASPECT OF THE PLANT'S CONSTRUCTION TO ASSURE THAT THE FACILITY AND ITS CONSTITUENT SYSTEMS ARE CONSTRUCTED AS DESIGNED AND ARE PROPERLY INSPECTED AND TESTED TO DETECT DESIGN OR CONSTRUCTION ERRORS.

THE INTENT OF NRC INSPECTIONS IS NOT TO IDENTIFY EVERY DEFICIENCY IN MATERIALS OR WORKMANSHIP (WHICH IS NOT PRACTICABLE CONSIDERING THE RESOURCE LIMITATIONS OF THE NRC), BUT RATHER TO ENSURE THAT THE LICENSEE IS DISCHARGING ITS RESPONSIBILITY BY IDENTIFYING AND REQUIRING CORRECTIONS OF SAFETY RELATED DESIGN AND CONSTRUCTION DEFICIENCIES. THIS APPROACH, COUPLED WITH THE MULTIPLE LEVELS OF SAFETY WHICH ARE DESIGNED INTO THE PLANT THROUGH REDUNDANCY OF SAFETY SYSTEMS AND CONTAINMENTS AND THE MARGINS OF SAFETY IN STRUCTURAL DESIGN, IS MEANT TO ENSURE THAT ANY UNIDENTIFIED DEFICIENCIES IN CONSTRUCTION WILL NOT BE OF A SIGNIFICANCE, TYPE, OR QUANTITY WHICH WILL COMPROMISE THE OVERALL SAFETY OF THE PLANT DURING FUTURE OPERATIONS.

QUESTION 17. LEGAL OFFICES

PLEASE DESCRIBE THE COMMISSION'S PLANS FOR COMBINING ITS OFFICE OF GENERAL COUNSEL WITH THE OFFICE OF THE EXECUTIVE LEGAL DIRECTOR. WHAT IS THE PURPOSE OF THIS ACTION? WHAT ARE THE IMPLICATIONS OF THIS ACTION?

ANSWER.

THE COMMISSION DECIDED DURING RECENT DELIBERATIONS ON THE FY 1987 BUDGET TO COMBINE THE TWO OFFICES INTO A SINGLE LEGAL OFFICE REPORTING TO THE COMMISSION. THE STAFF HAS BEEN DIRECTED TO DEVELOP A REORGANIZATION PLAN FOR COMMISSION CONSIDERATION BY APRIL 15. THE PRIMARY PURPOSE OF THE ACTION IS TO BETTER REFLECT THE CHANGING WORKLOAD OF THE AGENCY AND TO REDUCE UNNECESSARY DUPLICATION OF EFFORT, THEREBY ACHIEVING A REDUCTION IN THE NUMBER OF POSITIONS NOW AUTHORIZED FOR THE TWO EXISTING OFFICES. SAVINGS SHOULD BE ACHIEVABLE THROUGH THE ELIMINATION OF DUPLICATION IN SUPPORT SERVICES (FOR EXAMPLE, ONE RATHER THAN TWO LAW LIBRARIES), AND IN SOME LEGAL REVIEWS, SUCH AS RULEMAKINGS.

QUESTION 18. OPEN COMMISSION MEETINGS

(A) WHAT IS THE STATUS OF THE COMMISSION'S RULE REVISING ITS FORMER GOVERNMENT IN THE SUNSHINE ACT REGULATIONS?

ANSWER.

ON JANUARY 17, 1986, THE COMMISSION RECEIVED A BRIEFING FROM ITS GENERAL COUNSEL ON THE SUNSHINE ACT RULE. THE BRIEFING COVERED THE COMMENTS WHICH WERE SUBMITTED ON THE MAY 21, 1985 INTERIM RULE, AND THE GENERAL COUNSEL'S PROPOSED REVISION OF THE RULE IN LIGHT OF THOSE COMMENTS.

THE GENERAL COUNSEL ALSO DESCRIBED TO THE COMMISSION THE EFFORT NOW UNDERWAY BY A TASK FORCE OF THE ADMINISTRATIVE LAW SECTION OF THE AMERICAN BAR ASSOCIATION TO STUDY A VARIETY OF SUNSHINE ACT ISSUES. THE TASK FORCE IS EXAMINING, AMONG OTHER THINGS, THE SUPREME COURT'S DECISION IN THE III CASE AND ITS IMPLICATIONS; THE NRC'S MAY 21 RULE AND THE GENERAL COUNSEL'S SUGGESTED REVISIONS OF THE RULE; AND THE PROBLEM OF DIFFERENTIATING BETWEEN THE TYPES OF DISCUSSIONS WHICH MAY LEGALLY BE HELD IN A NON-SUNSHINE ACT CONTEXT AND THOSE WHICH BRING THE SUNSHINE ACT'S REQUIREMENTS INTO PLAY.

IN VIEW OF THE FACT THAT TASK FORCE'S INQUIRY IS SO DIRECTLY GERMANE TO THE COMMISSION'S CONSIDERATION OF ITS SUNSHINE ACT RULE, AND THAT ITS SCHEDULE CALLS FOR A FINAL REPORT IN APRIL,

1986, THE COMMISSION DECIDED UNANIMOUSLY TO DEFER ACTION ON THE
SUNSHINE ACT RULE UNTIL AFTER IT HAS HAD AN OPPORTUNITY TO BE
BRIEFED ON THE TASK FORCE'S REPORT.

QUESTION 18. OPEN COMMISSION MEETINGS

(B) WHAT BENEFITS DOES THE COMMISSION EXPECT FROM IMPLEMENTATION OF THIS RULE THAT ARE NOT PROVIDED BY THE FORMER REGULATIONS?

ANSWER.

THE NRC'S SUNSHINE ACT REGULATIONS AS ADOPTED INITIALLY, ARE PERHAPS THE MOST RESTRICTIVE OF ANY AGENCY IN GOVERNMENT, GOING WELL BEYOND THE LAW'S REQUIREMENTS. THE SUPREME COURT, IN A UNANIMOUS 1984 DECISION, FCC v. ITT WORLD COMMUNICATIONS, 104 S.Ct. 1936, EMPHASIZED THAT INFORMAL BACKGROUND DISCUSSIONS WHICH CLARIFY ISSUES AND EXPOSE VARYING VIEWS WERE AN ESSENTIAL PART OF AN AGENCY'S FUNCTIONING, AND WERE NEVER INTENDED BY CONGRESS TO FALL WITHIN THE AMBIT OF THE SUNSHINE ACT. ALSO IN 1984, THE ADMINISTRATIVE CONFERENCE, A BODY WHICH BY STATUTE HAS A SPECIAL ROLE IN THE INTERPRETATION AND IMPLEMENTATION OF THE SUNSHINE ACT, STATED IN RECOMMENDATION 84-3 THAT ONE OF THE MOST SIGNIFICANT EFFECTS OF THE SUNSHINE ACT HAD BEEN ITS DIMINUTION OF AGENCY COLLEGIALITY. THE ADMINISTRATIVE CONFERENCE RECOMMENDED THAT CONGRESS CONSIDER AMENDING THE SUNSHINE ACT TO CORRECT THIS PROBLEM.

THE COMMISSION'S PROPOSED SUNSHINE ACT RULE WAS DESIGNED TO ALLOW THE COMMISSION TO USE THE FLEXIBILITY PROVIDED UNDER EXISTING LAW TO HOLD INFORMAL BACKGROUND DISCUSSIONS THAT CLARIFY ISSUES AND EXPOSE VARYING VIEWS. IT WAS DESIGNED TO BRING THE AGENCY'S REGULATIONS INTO LINE WITH THE GUIDANCE PROVIDED BY THE SUPREME

COURT, SINCE THE COURT'S DECISION MADE CLEAR THAT THE EXISTING REGULATIONS WERE UNDULY RESTRICTIVE. IT WAS DESIGNED TO HELP BUILD COLLEGIALITY IN THE COMMISSION'S DECISIONAL PROCESS, AND TO HELP PERMIT THE COMMISSIONERS TO ENGAGE IN LONG-RANGE, "BIG PICTURE" THINKING ABOUT THE AGENCY'S PRESENT AND FUTURE ROLE, AND TO HOLD "BRAINSTORMING SESSIONS" IN WHICH IDEAS ARE GENERATED.

QUESTION 18. OPEN COMMISSION MEETINGS

(c) WHAT TYPES OF COMMISSION DISCUSSIONS WOULD BE CLOSED TO THE PUBLIC UNDER THE NEW RULE?

ANSWER.

WITH REGARD TO THE QUESTION OF WHAT TYPES OF DISCUSSIONS COULD BE HELD UNDER THE NEW RULE, AN ANSWER IS PREMATURE, SINCE WE MAY WELL OBTAIN CLARIFICATION OF THAT ISSUE FROM THE TASK FORCE OF THE ADMINISTRATIVE LAW SECTION OF THE AMERICAN BAR ASSOCIATION. IT IS WORTH NOTING, HOWEVER, THAT THE GENERAL COUNSEL HAS ADVISED US THAT AS A MATTER OF LAW, DISCUSSIONS OF THE LICENSING OF A PARTICULAR PLANT, INCLUDING DISCUSSIONS OF ANY NRC LICENSING PROCEEDING, WOULD NEVER BE APPROPRIATE FOR NON-SUNSHINE ACT DISCUSSIONS. MOREOVER, UNDER THE PROPOSAL FORWARDED TO THE COMMISSION BY THE GENERAL COUNSEL, TECHNICAL BRIEFINGS ON ISSUES OF NUCLEAR POWER PLANT SAFETY WOULD, AS A MATTER OF COMMISSION DISCRETION, BE TREATED AT ALL TIMES AS SUNSHINE ACT MEETINGS. I HAVE RECENTLY SENT A MEMORANDUM TO THE GENERAL COUNSEL ASKING HIM TO CONSIDER A LIST OF VARIOUS TYPES OF MEETINGS AND TO PROVIDE HIS VIEWS AS TO WHICH OF THEM WOULD AND WOULD NOT BRING THE SUNSHINE ACT'S REQUIREMENTS INTO PLAY.

QUESTION 18. OPEN COMMISSION MEETINGS

(D) WHAT SAFEGUARDS HAVE BEEN ESTABLISHED TO ENSURE THAT THE PUBLIC WILL HAVE ACCESS TO ALL DISCUSSIONS TO WHICH IT IS ENTITLED UNDER THE SUNSHINE ACT?

ANSWER.

THE DECISION TO DEFER FINAL ACTION ON THE SUNSHINE ACT RULE THEREFORE CONTINUES THE STATUS QUO IN PLACE. THAT STATUS QUO, AS DESCRIBED IN CONGRESSIONAL TESTIMONY ON MAY 21, 1985, AND IN LETTERS TO CONGRESSMAN MARKEY, MOORHEAD, DINGELL, AND BROYHILL ON JUNE 6, 1985, PROVIDES THAT UNTIL SUCH TIME AS IMPLEMENTING PROCEDURES ARE DEVELOPED, APPROVED, AND PROVIDED TO THE CONGRESS, THE COMMISSION WILL: MAINTAIN A RECORD OF ALL INFORMAL GATHERINGS NOT SUBJECT TO THE SUNSHINE ACT; KEEP THE CONGRESS AND THE PUBLIC INFORMED ON A MONTHLY BASIS OF THE NATURE OF SUCH GATHERINGS; AND RECORD AND MAKE AVAILABLE TO THE CONGRESS THE DATE, PARTICIPANTS, AND SUBJECT OF EACH SUCH DISCUSSION, TOGETHER WITH A LIST OF ANY DOCUMENTS DISCUSSED. IN ADDITION, A LAWYER WILL BE PRESENT TO ASSURE THAT ANY NON-SUNSHINE ACT DISCUSSION REMAINS WITHIN THE CONFINES OF WHAT IS PROPER.

Udall Q18

Commissioner Asselstine Adds:

I do not support the Commission's new Sunshine rule for several reasons. First, the standard for determining whether the Commission may hold a "gathering" - whether the discussions are sufficiently focused as to cause individual commissioners to form reasonably firm positions on issues - is vague and subjective. The rule contains no explanation of this standard and no examples of what kinds of things the Commission thinks it will discuss in these gatherings. Without such guidance, there is clearly a potential for abuse, either intentional or inadvertent. And, should the Commission abuse the rule, there is no effective remedy, because for non-meetings there will be no transcript, no notice, and no minutes.

Second, I question the usefulness of holding such gatherings. If the discussions at gatherings are limited, as they should be, only to very preliminary discussions, such discussions will not be very beneficial. The Commission argues, however, that holding gatherings to discuss agency business is needed to improve the agency's efficiency and to enhance collegiality. Put simply, the argument is that individual commissioners are more comfortable in expressing their views and exchanging ideas if they can do so in private. While a preference for privacy may be understandable, it is fundamentally at odds with a purpose of the Sunshine Act -- the need to ensure the accountability of senior government officials.

Finally, in publishing and defending the Commission's new rule, the Commission has given the public the impression that it would rather do business behind closed doors and off-the-record. This impression can only adversely affect public confidence in the workings of this agency. Instead of limiting public access to the Commission's decisionmaking process, the Commission should be increasing public participation. That is the only way to restore and maintain public confidence.

QUESTION 19.

BUILDING CONSOLIDATION

WHAT IS THE STATUS OF EFFORTS TO ACHIEVE BUILDING CONSOLIDATION? IN THE EVENT THE NRC'S OFFICES ARE CONSOLIDATED OUTSIDE OF THE DISTRICT OF COLUMBIA, WILL THE COMMISSION MAINTAIN A PUBLIC DOCUMENT ROOM WITHIN THE DISTRICT OF COLUMBIA?

ANSWER.

OF CONTINUING INTEREST TO THE COMMISSION AND TO YOUR COMMITTEE 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 FINALLY HAVE THE GLIMMER OF HOPE THAT CONSOLIDATION PLANS ARE IN THE OFFING.

RECENTLY GSA HAS SUBMITTED FOR OMB APPROVAL A PLAN FOR NRC CONSOLIDATION WITH POSSIBLE OPTIONS. GSA DESIRES THAT THE DETAILS NOT BE DISCUSSED IN PUBLIC AT THE PRESENT TIME TO PERMIT THEM FLEXIBILITY IN NEGOTIATIONS ON VARIOUS APPROACHES.

WE APPRECIATE THE COMMITTEE'S CONTINUED SUPPORT IN OUR QUEST TO CONSOLIDATE AND HOPE OUR EFFORTS WILL BEAR FRUIT.

QUESTION 19. (CONTINUED)

THE COMMISSION DESIRES TO MOVE THE PDR TO THE CONSOLIDATED SITE WITH OTHER ELEMENTS OF THE COMMISSION BECAUSE IT BELIEVES THAT THE PDR CAN PROVIDE THE BEST SERVICE TO THE PUBLIC FROM THAT LOCATION.

AT THIS STAGE OF PLANNING FOR THE CONSOLIDATION OF NRC ELEMENTS, THERE IS INSUFFICIENT SPACE INITIALLY TO ACCOMMODATE THE PDR IN ADDITION TO THE OPERATIONAL AND NECESSARY SUPPORT UNITS OF THE AGENCY. UNDER THESE CIRCUMSTANCES IT IS THE INTENTION OF THE COMMISSION TO LEAVE THE PDR IN WASHINGTON, D. C.

STATEMENT OF COMMISSIONER JAMES K. ASSELSTINE

BEFORE THE

SUBCOMMITTEE ON ENERGY AND THE ENVIRONMENT

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS

FEBRUARY 6, 1986

Mr. Chairman, I would like to add a few brief comments on the Administration's FY 1987 budget request for the NRC. The Commission's testimony has identified a number of NRC programs that will have to be scaled back or eliminated altogether as a result of the reductions to our budget request imposed by OMB. As the Commission's testimony notes, many of NRC's forward-looking programs will be either reduced substantially or terminated. This will leave us with little in the way of change from the reactive approach to regulation that we have employed in the past. It will also hinder our ability to respond effectively to serious operating events when they do occur.

The consequence of this reactive approach to regulation is, I think, clear. By the end of 1985, eight operating reactors -- Davis-Besse, Rancho Seco, San Onofre Unit 1, and TVA's Sequoyah and Browns Ferry plants -- were shut down as a result of serious operating events or a breakdown in the licensee's management so severe that neither we nor the licensee had confidence that its plants could be operated safely. This group of plants is equal to the number of plants that received new full-power operating licenses last year, and represents about 8 percent of the total number of plants with operating license. The Commission's original FY 1987 budget

proposal contained a few modest efforts to improve our ability to identify such problem cases before they result in serious operating events that pose a potential hazard to the public. These efforts included the expanded use of team inspections to review plant operations, maintenance and surveillance activities and modification work at the plants. They also included efforts to take a more integrated look at safety at a few plants. These were steps toward a more proactive approach to regulation that is needed if we are to improve the performance of the existing plants and reduce the number of serious operating events. In addition, the Commission had begun some regulatory review work on advanced reactor concepts such as the high-temperature gas cooled reactor and the PIUS light-water reactor that hold the promise of greater simplicity, higher margins of safety and ease of construction when compared with existing reactors. I believe that the consequence of reducing or eliminating these more forward-looking programs will be that we will see more serious operating events of the type experienced this past year. As the number of operating plants continues to increase, as the existing plants grow older, and as we see continued evidence of the complexities and hidden vulnerabilities in these plants, we should be doing more rather than less forward-looking work.

Like my colleagues on the Commission, I, too, recognize the need for budget austerity. But rather than eliminate these needed programs, I would prefer to explore some more creative measures to obtain the necessary funding. An alternative, which appears to have the support of the Administration and OMB, is to obtain additional funding from the industry. I would recommend that the Congress consider two options here.

The first is funding the NRC's high-level radioactive waste disposal program from the Nuclear Waste Fund established by the Nuclear Waste Policy Act. Our high-level waste program is focused on the licensing of the high-level waste repository. Just as with DOE's repository development program, our repository licensing program is required to support the use of commercial power reactors. The costs of the repository program -- regulatory as well as developmental -- should be paid by those who benefit from the use of nuclear power. This could be accomplished in a variety of ways, including direct reimbursement to NRC from the Nuclear Waste Fund for the annual costs of our high-level waste licensing and research expenses or by means of an annual license fee to be paid by DOE and recovered from the Fund. Whatever means is used, it seems to me that the utilities through the Fund, rather than the taxpayers, should pay for the regulatory costs of the repository that are attributable to the commercial industry.

The second option that I believe the Congress should consider is the imposition of annual charges on our licensees to recover a greater portion of the costs of our reactor safety research program from the industry. At present, we charge license fees to cover the costs of our licensing and inspection activities that can be attributed to a particular facility. However, we do not take that approach with our safety research programs. Many of these programs provide a direct benefit to the industry. For example, as the Commission's budget testimony and our more detailed budget description note, some of our research programs are aimed at determining the acceptability of plant operations with degraded safety equipment such as cracked pipes in boiling water reactors and weakened steam generators in

pressurized water reactors. These and other conditions constitute reductions in the quality and condition of safety systems from what was expected when the plants were licensed. Other NRC research programs are aimed at reducing the level of conservatism in our existing safety regulations -- actions which can reduce plant operating, maintenance and surveillance costs, and which could result in higher power levels for the plants. Because it has been difficult to quantify and assign such benefits to individual plants, we have not attempted to impose the costs of these research programs on the industry. While the industry has voluntarily participated in some safety research programs, the lion's share of the cost has been paid over the years by the taxpayer.

I believe that a greater portion of the costs of these programs should be recovered from the industry. There are several ways of accomplishing this. One means is the imposition of annual charges as proposed in the Consolidated Omnibus Budget Reconciliation Act of 1985. Whatever the means used, recovery of a greater portion of the costs of our safety research program from the industry, coupled with payment of the repository regulatory costs from the Nuclear Waste Fund, would provide the funds needed to carry out a set of aggressive, forward-looking regulatory initiatives to improve the performance of our commercial power reactors without increasing, and perhaps even by reducing somewhat, the financial burden on the Federal taxpayer. I believe that now is the time to consider such a creative approach for funding NRC's regulatory programs.