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ATOMIC SAFETY AND LICENSING BOARD PANEL  
ANNUAL REPORT

FISCAL YEAR 1991

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December 1992

U.S. NUCLEAR REGULATORY COMMISSION  
Washington, DC 20555

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## ABSTRACT

In Fiscal Year 1991, the Atomic Safety and Licensing Board Panel ("the Panel") handled 48 proceedings, a 20-percent increase over the previous year. The cases addressed issues in the construction, operation, and maintenance of commercial nuclear power reactors and other activities requiring a license from the Nuclear Regulatory

Commission. The Panel also replaced several badly needed technical disciplines lost to retirement over the last two years. This report summarizes, highlights, and analyzes how the wide-ranging issues raised in NRC proceedings were addressed by the judges and licensing boards of the Panel during the year.



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## EXECUTIVE SUMMARY

### Overview

Although the Fiscal Year 1991 caseload reflected the kinds of disputes that arise from the regulation of a newly matured industry, three unusual cases were filed. They included the first litigated hearings involving the appeal by a utility of a major civil penalty, the first antitrust case in a decade, and the first application to construct an enrichment facility.

Otherwise, however, only 3 of the 48 cases on the Panel's docket for Fiscal Year 1991 related to applications for construction permits or operating licenses. The Fiscal Year 1991 cases focused on issues arising out of the continuing operation of more than 115 nuclear power plants or related facilities, or programs related to 8,000 materials licenses and other nuclear licenses. Thus, new filings during the year focused principally on applications for license amendments and challenges to NRC staff enforcement actions.

As described in this report, the Panel continues to improve the efficiency of the Commission's hearing process. The highlights are given below.

### Docket Data

**Case Age:** The average age of all cases on the docket during the fiscal year (as of September 30, 1991) was 13.8 months, a decrease of 49 percent over the Fiscal Year 1986 average age.

**Case Filings:** The number of new cases filed in Fiscal Year 1991 exceeded the number of new cases filed in 1990 by 17 percent.

**Caseload:** Of the 48 cases on the Panel's docket for Fiscal Year 1991, 25 cases involved nuclear power reactors or related facilities (3 involved applications for construction permits or operating licenses). The remaining 23 proceedings involved other types of Commission licensees.

**Enforcement:** During Fiscal Year 1991, 7 of 15 enforcement proceedings were closed.

**Other Cases:** Of the four categories of cases that the Inspector General's audit recommended referring to the Panel, one Equal Employment Opportunity (EEO) case was received at the end of the year.

**Prehearing Contention Resolution:** For all proceedings, almost 73 percent of all formal contentions were resolved before trial, a continuation of prior experiences.

**Caseload per Judge:** The average caseload per full-time judge increased 13 percent in Fiscal Year 1991 over the average of the seven previous years.

**Completed Proceedings:** Of 48 proceedings on the docket during the year, 24 (50 percent of all proceedings) were closed in 1991. Fifty-two percent of the cases closed were on the docket for only 6 months or less.

### Administration

**Staffing:** At the close of the previous fiscal year, retirements had reduced full-time Panel personnel significantly. To replace lost technical disciplines, the Panel hired two full-time and six part-time judges, bringing the total to 40 judges (15 full-time and 25 part-time). The newly hired judges also lowered the average age of full-time Panel members to 56 and part-time Panel members to 68. Nevertheless, more than 70 percent of all judges are currently eligible to retire. Consequently, during the year, the Panel established registers of qualified candidates, both to obtain and replace technical disciplines necessary to the Panel's workload and to expedite replacement of retirees.

**Inspector General's Audit:** During the year, the Panel implemented five recommendations made by the Inspector General in his June 1990 audit of Panel operations. Four of the recommendations urged continuation and completion of existing Panel programs.

**The Panel's Electronic Docket:** The Panel made substantial progress in expanding the scope, depth, and availability of its Computer Automation Project (CAP) electronic docket during Fiscal Year 1991. At the close of the fiscal year, the Panel was: (1) enhancing the system by adding licensing panel and appeal board issuances within 24 hours of decision; (2) briefing other State and Federal agencies that inquired about the CAP system; (3) expanding the database to hold additional caseloads; and (4) conducting a major cost reduction study of personal-computer-based, full-text systems to substitute for our minicomputer-based system.

## I. INTRODUCTION

The Atomic Safety and Licensing Board Panel ("the Panel") was created by the Commission pursuant to Section 191 of the Atomic Energy Act of 1954, as amended. The first licensing board was appointed November 9, 1962. In the ensuing 29 years, nuclear reactor licensing and construction permit hearings conducted before the Panel's licensing boards have been characterized as among the most complex, lengthy, and controversial administrative hearings conducted by the Federal Government. This results principally from three factors.

First, these hearings routinely involve difficult interrelated questions of policy, law, engineering, and risk assessment, often at the cutting edge of science and technology. Thus, licensing boards must confront not only disputed legal and factual arguments, but also competing technical and scientific theories, opinions, and research findings. Second, hearings before licensing boards are the principal public administrative vehicle through which individuals, organizations, and State and local governments can exercise an equal voice in the resolution of their concerns about regulated nuclear activities. Thus, difficult technical questions are often resolved in the complicated environment of local concerns about the consequences of severe accidents and the national debate over the role nuclear power should play in meeting the Nation's energy needs. Third, in deciding whether a license, permit, amendment, or extension should be granted to a particular applicant, individual boards must be more than mere umpires. Where appropriate, they are required to

go beyond the issues placed before them by the parties in order to identify, explore, and resolve any significant question necessary to avoid any threat to the public health and safety. Thus, if the public's health or safety are implicated, licensing boards must ensure that those interests are fully explored and effectively preserved.

Moreover, while the Panel has moved away from the large nuclear power plant operating license proceedings that dominated its docket during much of this decade, the site decontamination, enforcement actions, reactor operator, and materials license proceedings that are taking their place continue to raise difficult and sometimes unexplored questions of law and science. And in the near future, projected proceedings involving facility decommissioning, license renewal, license applications for new reactors, and new reactor design certification are likely to once again rank among the most complex and contested proceedings conducted by the Federal administrative judiciary. Certainly, they will involve novel scientific issues. Finally, work has begun by the Department of Energy which will lead to the high-level waste repository proceeding, a case that could become the most complex and controversial administrative proceeding ever conducted by the Federal Government.

In Fiscal Year 1991, the Panel handled 48 proceedings. This report summarizes, highlights, and analyzes how the wide-ranging issues raised in these proceedings were addressed by the boards and the judges of the Panel during that year.

## II. ENSURING THE PUBLIC HEALTH AND SAFETY: SIGNIFICANT FISCAL YEAR 1991 DECISIONS

### A. Panel Jurisdiction

The Atomic Energy Act of 1954 (as amended by the Energy Reorganization Act of 1974) ("the Act") and its implementing regulations require that a formal hearing be held on every application for a construction permit for a nuclear power plant or related facility. There are also opportunities for hearings at the operating license stage and for hearings for license amendments to nuclear power reactors. Finally, other sections of the Act or the Commission's rules provide an opportunity for a formal hearing on antitrust issues, civil penalties, various enforcement actions, and other matters upon which the Commission could require a hearing. The Panel's formal proceedings are governed by the Administrative Procedure Act, 5 U.S.C. § 551, *et seq.*, as implemented by the Commission's own rules of practice set out at 10 C.F.R. Part 2. Most hearings are held at or near the site of the licensed facility or business.

Informal hearing procedures are authorized in matters affecting one of the NRC's more than 8,000 materials licensees. See 10 C.F.R. §§ 2.1201-2.1251. While the deliberative process for judges remains the same under either type of hearing, informal hearings involve significantly different procedures for developing the record upon which decisions must be based. The principal differences include the use of a presiding officer (a single administrative judge<sup>1</sup>), written submittals by the parties, and, if the presiding officer determines it to be necessary after considering the written submittals, oral presentations by the parties subject to questioning by the presiding officer. Although the informal hearing procedures have the potential to shorten and simplify the hearing process, the realization of that potential in large degree depends on the presiding officer's ability to identify, focus on, and explore the material factual and technical issues.

### B. Significant Panel Decisions

During Fiscal Year 1991, the Panel's boards and presiding officers published 38 decisions and issued several hundred memoranda and orders in connection with the 48 proceedings on the Panel's docket for Fiscal Year 1991.

<sup>1</sup>As a matter of Panel practice, an Atomic Safety and Licensing Board Panel (ASLBP) judge having expertise (*i.e.*, legal or technical) complementing that of the single presiding officer is routinely assigned to the proceeding as a special assistant.

See Appendix D. Some of the more significant of these formal issuances are summarized below.

#### 1. Shoreham Nuclear Power Station Proceedings

During Fiscal Year 1991, a licensing board issued a number of decisions for Shoreham responding to motions and hearing requests filed by the Shoreham-Wading River Central School District and Scientists and Engineers for Secure Energy. These petitioners wanted Shoreham to continue operating as a nuclear facility. Their opposition to decommissioning Shoreham arose out of an agreement between the Long Island Lighting Company ("LILCO") and the State of New York that LILCO would not operate Shoreham and would sell Shoreham to the Long Island Power Authority for subsequent decommissioning.

LILCO did not request decommissioning during Fiscal Year 1991, but it did request and was granted certain license amendments and a Possession Only License on a finding that no significant hazards would result from allowing Shoreham to be maintained more economically. The petitioners opposed these licensing actions, contending that they constituted *de facto* decommissioning, an action that should require the NRC to prepare environmental impact statements. The petitioners also claimed that any environmental impact statements must consider the operation of Shoreham as one of the cost-benefit options.

On the basis of several interim rulings by the Commission indicating, among other things, that resumed operations for Shoreham was not an option, the licensing board rejected most of the petitioners' requests, including all of the contentions they submitted for litigation during this period. *Long Island Lighting Company* (Shoreham Nuclear Power Station, Unit 1), LBP-91-1, 33 NRC 15 (1991); LBP-91-7, 33 NRC 179 (1991); LBP-91-23, 33 NRC 430 (1991); LBP-91-26, 33 NRC 537 (1991); LBP-91-32, 34 NRC 132 (1991). However, the board did find that one of the petitioners had standing to intervene (*see* discussion on organizational standing, *infra*).

#### 2. Experiments with Americium and Plutonium

In a Subpart L proceeding concerning a university testing facility, the presiding officer granted a license for conducting experiments with unencapsulated americium and

<sup>2</sup>All citations refer to volume and page numbers of *Nuclear Regulatory Commission Issuances*, and all cases may be found in the two electronic legal databases, LEXIS and WESTLAW.



plutonium. *Curators of the University of Missouri* (Trump-S Project), LBP-91-31, 34 NRC 29 (1991). To ensure safety, the presiding officer ordered fire extinguishers to be installed and the licensee's procedures to be modified to reduce the risk of a serious fire that might disperse nuclear materials.

### 3. Late Intervention: Ignorance of the Law

In a Subpart L proceeding involving a Massachusetts company engaging in the conversion of depleted uranium, the presiding officer dismissed an untimely petition for a hearing when the petitioners had not requested a hearing within 30 days of receiving actual notice of the application and had not demonstrated an adequate excuse for untimeliness as required by the regulations. *Nuclear Metals, Inc.*, LBP-91-27, 33 NRC 548 (1991). The petitioners argued that they lacked notice because the public information about the application did not include notice of the right to oppose the application. In dismissing the petition, the presiding officer held that the principle "ignorance of the law is no excuse" applies to the timeliness provisions in the regulations, particularly if a petitioner has enough knowledge to inquire further. The presiding officer also noted that in this case the petitioners had received actual notice of the application 8 months before filing their request for a hearing.

### 4. Standing

#### a. Presumption of Standing Based on Close Proximity to the Facility

For purposes of determining whether an intervenor has standing, injury has traditionally been inferred in NRC cases where intervenors live within 50 miles of the nuclear facility. In a license amendment proceeding involving the Palo Verde nuclear facility, a party contended that the 50-mile presumption should only apply to construction permit or operating license proceedings which involve wide-ranging activities that can potentially affect a large geographic area. Because license amendment proceedings are usually much more limited in scope, it claimed that the petitioner, a resident of Tempe, Arizona, must allege the specific injury that could occur from the affected activities. The licensing board disagreed and found that the petitioner did not have to show specific injury if there was potential for offsite consequences. The board found this potential present at Palo Verde because the license amendment involved changes to several systems that were important to safety. *Arizona Public Service Company* (Palo Verde, Units 1, 2, and 3), LBP-91-4, 33 NRC 132 (1991).

#### b. Organizational Standing

In *Long Island Lighting Company* (Shoreham Nuclear Power Station, Unit 1), LBP 91-32, 34 NRC 132 (1991),

the licensing board found that a New York organization had standing to intervene in a license amendment proceeding involving the Shoreham facility. Historically, an organization establishes standing in an NRC proceeding after some of its members, who potentially could be injured by the action in question, authorize it to represent their interests. However, the board concluded that this organization had standing on its own behalf based on its organizational function of disseminating information to its members. Specifically, this organization was unable to act on information that was essential to its activities when the NRC failed to issue environmental impact statements for several licensing actions. In granting standing, the board recognized that the purpose of the National Environmental Policy Act of ensuring well-informed government decisions and stimulating public comment on agency actions effectively lowers the threshold for establishing injury to informational interests.

#### c. Inferred Standing

In a license amendment proceeding involving *Georgia Power Company* (Vogtle, Units 1 and 2), LBP-91-33, 34 NRC 138 (1991), a local intervenor had participated in an earlier NRC proceeding involving the same nuclear facility. The board did not require this intervenor to again establish standing because its standing already was established in the earlier case.

### 5. Technical Specifications Amendments

In *Georgia Power Company* (Vogtle, Units 1 and 2), LBP-91-21, 33 NRC 419 (1991), a local organization contended that a technical specifications amendment, involving a plant modification by a licensee, should not be allowed because there was a better way of making this modification. The licensee's method met current NRC regulatory guidance. In dismissing the contention, the board concluded, as a matter of law, that if regulatory requirements were met, the board could not limit a licensee's choice of actions even if one method was clearly better than the other.

### 6. Civil Penalties

In *Fewell Geotechnical Engineering, Ltd.*, LBP-91-29, 33 NRC 561 (1991), the staff ordered a radiographer to be suspended from his job for 3 years for violating operating procedures and not being truthful. The licensing board modified the order by reducing the period of suspension to 9 months and requiring the radiographer to serve 3 additional months as a radiographer's assistant before resuming work as a radiographer. In reducing the penalty, the board differentiated between types of willful misconduct. The willfulness here, lying when panicked and in a stressed state of mind, was not as culpable as those cases in which individuals have intentionally plotted to deceive the NRC. The board's decision was appealed by the NRC staff.

## 7. Written Testimony

In *Tulsa Gamma Ray, Inc.*, LBP-91-25, 33 NRC 535 (1991), a civil penalty proceeding, a party requested that the licensee, an Oklahoma radiography company, be required to file written testimony, as opposed to being able to use live testimony, at the hearing. The licensing board held that the licensee in a civil penalty case has a right to present live testimony where credibility is a significant factor.

## 8. Inspection Fees

In a show-cause proceeding seeking license revocation for failure to pay an NRC inspection fee, a Missouri-based byproduct material licensee had requested a waiver of that fee on the ground that its licensed equipment was used exclusively for government projects. *Rhodes-Sayre & Associates, Inc.*, LBP-91-15, 33 NRC 535 (1991). The licensing board considered this request and also analyzed whether the staff should have imposed some lesser sanction than license revocation. It concluded that there was no abuse of staff discretion in either instance, and also found that the enforcement actions taken were consistent with other similar NRC actions and with the Commission's regulations.

## 9. Special Nuclear Materials: Emergency Plan

In a Subpart L proceeding concerning a university's testing facility, the presiding officer determined that it is appropriate for a fire department to have a procedure in which firefighters may cease fighting a fire when radiation levels reach dangerous levels. This is similar to procedures when great heat or smoke causes firefighters to cease fighting a fire from a threatened location. *Curators of the University of Missouri (Trump-S Project)*, LBP-90-38, 32 NRC 359 (1990).

## 10. Discovery: Materials License Proceedings

In an enforcement action against an Ohio medical facility, a party against whom summary disposition was granted contended that the licensing board could not rely on certain affidavits in support of the motion since the party had not had an opportunity to cross-examine the affiants. The licensing board ruled that the affidavits were permissible for use because the party had ample time to engage in discovery concerning the affidavits even though a prehearing conference had not been held. The board reasoned that Commission regulations do not prohibit licensing boards from ordering formal or informal discovery upon the request of a party prior to a prehearing conference in a materials license proceeding. The regulatory prohibition against discovery prior to a prehearing conference found in 10 C.F.R. § 2.740(b)(1) is limited to

applications for construction permits or operating licenses for a production or utilization facility. *Advanced Medical Systems, Inc.*, LBP-91-9, 33 NRC 212 (1991).

## 11. Dismissal of Parties from Proceedings

In a license amendment proceeding for the Palo Verde nuclear reactors, several petitioners seeking intervention were dismissed for failing to appear at the prehearing conference. The board concluded that their failure to seek a continuance, formally withdraw, or explain their failure to appear, was not only a default, but was contemptuous conduct proscribed by the Commission's regulations. *Arizona Public Service Company* (Palo Verde Units 1, 2, and 3), LBP-91-13, 33 NRC 259 (1991).

## 12. Informal Procedures to Resolve Contested Issues

In a license amendment proceeding for the Vogtle facility, the licensees agreed to pursue informal resolution of the issues before the issues were accepted as contentions in the proceeding. The licensing board determined that it was authorized to utilize informal procedures to resolve these issues. It further concluded that questions posed by a licensing board preceding the grant of a hearing in order to clarify areas of concern do not amount to discovery. *Georgia Power Company* (Vogtle Units 1 and 2), LBP-91-6, 33 NRC 169 (1991).

## 13. Standards for Review for Show Cause Determinations

In evaluating the actions of the NRC staff in issuing an Order to Show Cause why a license should not be revoked for nonpayment of a license fee, a licensing board based its review on whether the staff abused its discretion. The board concluded that, even though severe, the sanction was consistent with Commission regulations and with enforcement actions in similar cases. *Rhodes-Sayre & Associates, Inc.*, LBP-91-15, 33 NRC 268 (1991).

## 14. Decommissioning: NEPA Requirements

In a proceeding involving an application for a Possession Only License for the Rancho Seco facility, a petitioner, who opposed the facility's shutdown, claimed the license could not be issued without a NEPA review. The licensing board found that NEPA does not obligate the NRC to conduct a review of a licensee's decision to cease operations of the reactor. Moreover, the NRC is not required to review a licensee's decision to cease operations of and decommission a power reactor, and there is no requirement that the licensee submit a decommissioning plan contemporaneously with its application for a Possession Only License as contended by petitioner. *Sacramento Municipal Utility District* (Rancho Seco Station), LBP-91-17, 33 NRC 379 (1991); LBP-91-30, 34 NRC 23 (1991).

### III. FISCAL YEAR 1991 CASELOAD ANALYSIS

#### A. Overview

Since the first licensing board was appointed by the Commission in 1962, 610 cases have been filed, 584 of which had been closed by the end of Fiscal Year 1991. During Fiscal Year 1991, the Panel had 48 proceedings on its docket, representing a 20-percent increase in the number of cases from the previous year. Of these 48 proceedings, 25 involved nuclear power plants or related facilities, and 23 involved other Commission licensees. Unlike the decades of the 1970's and 1980's, construction permit and operating license proceedings for nuclear reactors did not dominate the Panel's docket during Fiscal Year 1991.

#### B. The Fiscal Year 1991 Docket

For proceedings on the Fiscal Year 1991 docket requiring the submittal of contentions, the Panel or parties resolved 73 percent of all these contentions before hearing. In the same period, 30 new cases were docketed as shown in Table 1. The type of new filings continued to reflect a trend, beginning during the late 1980's, toward more focused proceedings of greater technical and legal diversity typical of a maturing industry. Twenty-four proceedings were closed during the year.

Table 1  
Fiscal Year 1991 docket recapitulation

Status of Cases	Date	Number
Pending	10/01/90	18
Docketed	FY91	30
Total	FY91	48
Closed	FY91	24
Pending	10/01/91	24

Table 2 depicts the Panel's caseload during the past 8 years. The total number of cases on the docket during Fiscal Year 1991 was 20 percent greater than in Fiscal Years 1990 and 1989. The Panel is preparing for an even larger caseload over the next few years.

Table 2  
Panel caseload by fiscal year

Fiscal Year	No. of Cases
1984	63
1985	55
1986	58
1987	52
1988	50
1989	40
1990	40
1991	48

Table 2 shows that (although greater than in 1989 and 1990) the number of cases on the ASLBP docket in Fiscal Year 1991 was somewhat less than in Fiscal Years 1984 through 1987.

However, this decrease was accompanied by an even greater decrease in the number of Panel members. At the end of Fiscal Year 1991, the Panel had 40 judges (15 full-time and 25 part-time). In 1982, the Panel had 68 members. Thus, as Table 3 shows, the average caseload of each of the Panel's full-time judges increased over the last 8 years, and in 1991 was 16 percent greater than the average for the 7 previous years.

Table 3  
Increase in average caseload per full-time judge/full-time panel member

Fiscal Year	Average No. of Cases per Judge <sup>a</sup>
1984	5.8
1985	5.6
1986	6.0
1987	5.4
1988	6.2
1989	5.4
1990	5.9
1991	6.8

<sup>a</sup>The figure represents an actual count of cases, including those on which three judges sat and those assigned to a single presiding officer and technical advisor.



## C. Case Management

One measure of success in an adjudicatory program is the speed with which individual proceedings move from initial filing to final resolution. This is generally reflected by the average age of the cases on the docket. Average case age, in turn, is a function of two interrelated factors: case filings and case closings. The average age of proceedings on the Panel's docket has fallen significantly over the last 5 years. In Fiscal Year 1986, the average age of the cases on the Panel docket was approximately 27 months. In Fiscal Years 1988, 1989, and 1990, that number had fallen to 18.1 months, 17.4 months, and 19.2 months, respectively. Then, as Table 4 shows, case age fell even more dramatically to 13.8 months in 1991.

Table 4  
Average case age by type/overall in FY 1991<sup>a</sup>

Type and (Number) of Cases	All Cases (Months)	Average (Months)
Construction Permit (1)	77	77.0
Enforcement (16)	198	12.4
License Amendments (16)	92	5.7
Materials License (6)	39	6.5
Operating Licenses (1)	111	111.0
Remand (5)	30	6.0
Suspended (1)	112	112.0
Retrievable Storage (1)	3	3.0
EEO Matter (1)	1	100.0
Docket Average		13.8

Historically, these numbers for average number of months on the docket are somewhat misleading because they have been inflated by the presence of a handful of proceedings characterized by late development of new issues, delays in the issuance of critical licensing documents, or delays sought by the parties themselves. If these delayed cases are excluded from the calculations, the average age of cases during the past several years would drop significantly and would be only 8.1 months for Fiscal Year 1991.

While in large part owing to a reduction in the number of active operating license proceedings and the long-term period associated with such cases, the reduction in the

<sup>a</sup> "Average age" means the number of months from the time a licensing board is first appointed (usually 30 to 60 days after a license application is formally docketed) until the case is closed or the end of the fiscal year, whichever is earlier. Average age includes waiting time resulting from suspension of work or unavailability of hearing documents (except where a licensee has requested that the entire proceeding be suspended, for example, Washington Public Power Supply System, WPSS Nuclear Project No. 3). "Average age" does not include the time a case has been pending on appeal.

average age of cases can also be traced to the employment of appropriate case management tools. In recent years, licensing boards and presiding officers have been effective in focusing on and efficiently resolving disputed issues between parties, expediting schedules, and encouraging the settlement of cases. See pages 11-13, *infra*.

Efficient case management is also reflected in Table 5. Fifty-two percent of the Panel's cases on the docket in Fiscal Year 1991 were closed within 6 months from the time they were first docketed. Seventy-nine percent were closed in less than 1 year.

Table 5  
Months FY 1991 cases were on docket

Duration of Cases	No. of Cases	Percent
1 to 3 Months	16	33
4 to 6 Months	9	19
7 to 9 Months	7	15
10 to 12 Months	6	12
More Than 12 Months	10	21

## D. Types of Cases

Large, complex operating and construction permit proceedings involving the licensing of nuclear reactors have dominated the Panel's docket during the past several decades; beginning in the late 1980's, however, the Panel's major caseload shifted to cases involving the regulation of these reactors after they had been licensed. The difference in cases for these two eras is demonstrated by comparing Figure 1, depicting the caseload mix for 1983, with Figure 2, representing the caseload mix for 1991.

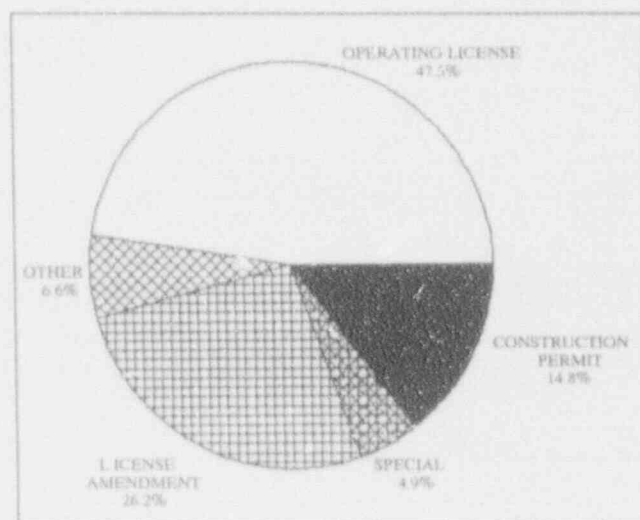


Figure 1. Fiscal Year 1983 caseload mix by percent

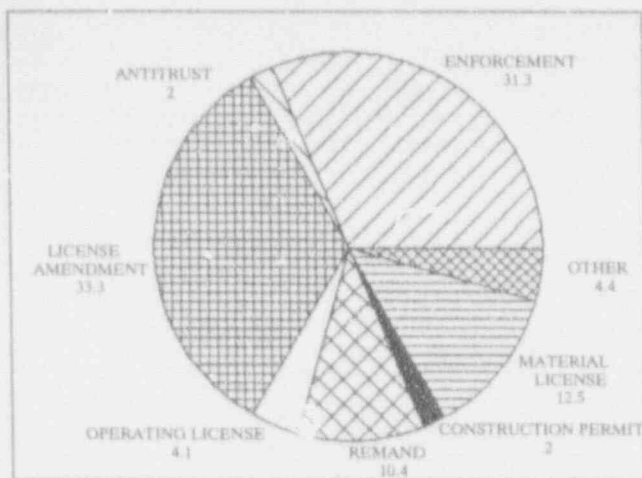


Figure 2. Fiscal Year 1991 caseload mix by percent

The two figures graphically illustrate the significant shift in the nature of the cases before the Panel. In Fiscal Year 1983, construction permit and operating license proceedings accounted for 62 percent of the Panel's docket. And while license amendment proceedings were, at 26 percent, a significant element in the Panel's docket, no significant number of enforcement actions were filed in Fiscal Year 1983.

Fiscal Year 1991, in contrast, saw operating licensing and construction permit proceedings constituting only 4 percent and 2 percent of the Panel's docket, respectively.<sup>5</sup> Enforcement actions and license amendment proceedings, however, accounted for almost 65 percent of the Fiscal Year 1991 Panel docket.

On the basis of caseload projections, the pattern reflected in the Fiscal Year 1991 caseload is expected to continue over the next 4 years with the gradual introduction of license extension, site selection, and standardized design proceedings, and possible renewed action under previously deferred construction permit (CP) and operating license (OL) applications. In addition, beginning in 1993, hearings are projected for rulemaking proceedings which will be held to certify the design of the new reactors presently planned by the nuclear industry. Figures 3 and 4 forecast the projected near-term Panel caseload mix for Fiscal Years 1992 and 1993, respectively.

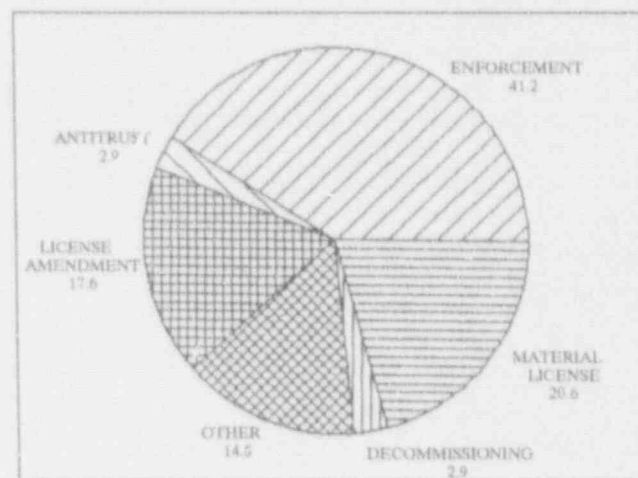


Figure 3. Fiscal Year 1992 projected caseload mix by percent

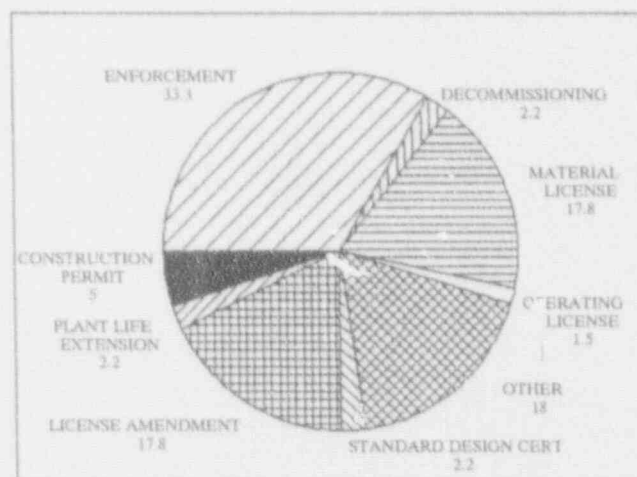


Figure 4. Fiscal Year 1993 projected caseload mix by percent

Just as in Fiscal Year 1991, enforcement and license amendment proceedings are expected to dominate the Panel's near-term docket, with these types of proceedings accounting for approximately 59 percent of the projected Fiscal Year 1992 docket and 51 percent of the projected Fiscal Year 1993 docket. CP and OL proceedings, on the other hand, are expected to drop to less than 5 percent of the Panel's Fiscal Year 1992 docket and 7 percent of its Fiscal Year 1993 docket. Preliminary mid-term projections for Fiscal Year 1993 through Fiscal Year 1995 indicate that the Fiscal Year 1991 type of caseload mix will continue to be the baseload of the Panel's docket. However, its relative importance may diminish with the

<sup>5</sup>In addition to these proceedings, the 1991 docket included four carry-over proceedings remanded after the Seabrook Nuclear Power Station operating license was granted. A potentially large antitrust case and a uranium enrichment facility licensing case were also docketed in 1991.

introduction of, for example, design certification, decommissioning, and license extension proceedings.

### **E. Operating Licenses**

At the end of the fiscal year, only some remand issues on one nuclear power reactor, the Seabrook Nuclear Station, remained under active consideration by a licensing board of the Panel. However, in the last 10 years, licensing boards have authorized or facilitated the issuance of full-power operating licenses for 44 commercial nuclear

power reactors.<sup>6</sup> Although these 44 plants represent only 38 percent of the total number of plants licensed, in fact they represent approximately 45,832 net megawatts of electricity or 46 percent of all electrical generation by nuclear means.

<sup>6</sup>These units include Beaver Valley 2, Braidwood, Byron 1 and 2, Callaway 1, Catawba 1 and 2, Clinton 1 and 2, Comanche Peak 1 and 2, Diablo Canyon 1 and 2, Enrico Fermi 2, Grand Gulf 1 and 2, Nine Mile Point 2, Palo Verde 1, 2, and 3, Perry 1 and 2, River Bend 1, San Onofre 1 and 2, Seabrook, Shoreham 1, St. Lucie 2, Vogtle 1 and 2, Waterford 3, and Wolf Creek 1. Shoreham 1 was licensed but not operated, so its output is not included in these total generation figures.

## IV. PERSONNEL AND SUPPORT

### A. Panel Members

During Fiscal Year 1991, the Panel succeeded in replacing vital technical and legal skills lost in 1990 and recent years. The remarkable stability of the Panel's judicial staffing over the years changed markedly with the loss of full-time Judges Hoyt (Law), Harbour (Geology), Linenberger (Physics), and Paris (Environment). In addition, the Panel lost part-time Judges Kirk-Duggan (Law, Economics), Milhollin (Law), Steindler (Chemistry), and Wenner (Law) during 1990.

Consequently, several new judges were added to the Panel during Fiscal Year 1991. On January 7, 1991, two full-time members, Judges Peter S. Lam (Nuclear Engineering) and Charles N. Kelber (Physics) joined the Panel. Six part-time members, Judges Richard R. Parizek (Geology), Harry Rein (Medicine), George F. Tidey (Medicine), Lester S. Rubenstein (Metallurgical Engineering), Peter A. Morris (Physics), and Thomas E. Elleman (Physical Chemistry) were sworn in. On July 1, 1991, two former NRC Appeal Board members, Judges G. Paul Bollwerk III (Law) and Thomas S. Moore (Law), were added as full-time Panel members following the Appeal Board's abolishment.

Commission appointment to the Panel is based upon the appointee's recognized experience, achievement, and independence in his or her field of expertise. Once appointed to the Panel, judges are assigned, as cases arise, to individual licensing boards where their professional expertise will assist in resolving the technical and legal matters likely to be raised during the proceeding.

As of the end of the fiscal year, the Panel had available a total of 40 judges (15 full-time and 25 part-time). See Appendix B. By profession, the judges of the Panel included 12 lawyers, 10 public health and environment scientists, 8 engineers, 5 physicists, and 3 physicians. Collectively, Panel members held 60 post-baccalaureate degrees in engineering, scientific, or legal disciplines. Several part-time members are or have been heads of departments at major universities or national laboratories. As a group, they represent more than nine centuries of experience in the nuclear field. See Appendix C.

### B. Professional and Support Staff

Support for the activities of the Panel, individual licensing boards, and the Panel's judges is structured along functional lines: (1) legal, (2) technical, and (3) administrative. The Chief Administrative Judge of the Panel manages and supervises these interrelated support activities.

### 1. Technical and Legal Support Staff

Legal support and advice for the Panel and its 41 full- and part-time judges is provided by the Panel's Legal Support Staff. The staff consists of the Panel's Chief Counsel, a Staff Senior Attorney, and seasonal interns and law clerks who are added as required by the caseload. Directed by the Chief Counsel, the staff provides legal advice, research capabilities, opinion drafting, editing services, and support at hearings. It also supports the Chief Administrative Law Judge with assistance on a broad range of policy matters; provides legal training and keeps Panel members informed of important nuclear-related activities and legal proceedings; oversees, with the help of the Administrative Support Staff, the Panel's legal/technical library; and participates in the evaluation of computer support appropriate to the conduct of adjudicatory proceedings.

Historically, individual licensing boards have obtained technical support from a Panel reactor safety engineer and an environmental health scientist. However, both positions were vacated in 1984 and have not been filled because of personnel ceiling limitations. During Fiscal Years 1988 through 1990, technical assistance, particularly in physics and computer development, was provided by the Panel's Senior Technical Advisor. This position was vacated in 1991 and has not been filled. Currently, the Panel uses Administrative Judges (Technical), when they are available, to perform these support functions.

### 2. Administrative Support Staff

**Program Support:** The Panel's Program Support and Analysis Staff (PSAS) plans, develops, and coordinates policies and programs to support the Panel. Its areas of responsibilities include budget assistance, personnel, labor relations, professional services, paralegal services, travel, space and facilities, adjudicatory files and services, library facilities, secretarial, and other administrative hearing support to the Panel. See Appendix A, "Organizational Chart." In addition, the PSAS maintains the Panel's electronic docket, which is available to individual judges and other offices of the Commission through the Panel's INQUIRE system. The PSAS also administers the NRC court reporting contract (excluding the reporting contract for the Office of the Secretary).

**Information Processing Section:** The Chief of the Information Processing Section reports to the Director and Assistant to the Director. The section is responsible for supporting the board by developing and implementing the following services: (1) docket management; (2) mail distribution; (3) automatic data processing (ADP) systems; (4) Panel administration and individual

proceedings support (particularly full-text database management systems); and (5) training in the use of the Panel's computerized systems, including software, hardware, and INQUIRE. See pages 11-13. *infra*. In addition, this section is responsible for conducting, in

consultation with Panel members and Legal Counsel, periodic evaluations of both the Panel's existing computer system and newly introduced computer hardware and software products.



## V. ENHANCING THE ADJUDICATORY PROCESS

### A. General

Restrictions on support personnel and concerns about the costs of delays in the Commission's licensing process, have moved the Panel rapidly toward achieving the goal of an "electronic" office, particularly for managing its voluminous and complex hearing records. Important administrative tasks such as travel and timekeeping have been computerized. The Panel's judges and critical support personnel have been provided the necessary hardware and software to obtain maximum efficiency from their electronic workstations and the Panel's computerized docket.

### B. The Panel's Electronic Docket

As presently configured, judges and professional support staff can, from their desks, draft, share, and comment on proposed decisions; access and quickly search either the Panel's electronic docket or the Commission's document retrieval system; conduct legal research through LEXIS or WESTLAW; and communicate with each other or other employees of the NRC through the Commission's electronic mail system.

In an effort to achieve greater cost benefits, the Panel began to explore replacing INQUIRE, a complicated minicomputer-based system, with a personal computer-based system. INQUIRE, which is composed of an adjudicatory database and a companion search-and-retrieval system, currently operates on an IBM 9370 minicomputer physically located at the Commission's White Flint One facility. Several offices, including the Commission, are wired directly to the minicomputer containing INQUIRE, thereby permitting quick and continuous access to the system. The Panel's system is directly connected to the White Flint minicomputer through a communications controller located at the Panel's Bethesda offices. Other authorized users may access INQUIRE from any location, using a personal computer equipped with a modem.

By the end of the day on which any document in any proceeding is received, the document has been abstracted and routinely entered into the Panel's adjudicatory database. In addition, in selected complex cases, the full text of significant documents such as pre-filed testimony and hearing transcripts are electronically indexed and added to the adjudicatory database. At the close of Fiscal Year 1991, approximately 200,000 pages of hearing transcripts and related materials had been loaded onto the Panel's adjudicatory database. Where appropriate, discrete portions of the database concerning a specific proceeding can be loaded onto the hard disk of one of the Panel's port-

able computers for use by judges conducting hearings in the field.

Finally, all licensing board Panel decisions are added to the adjudicatory database in full-text form, generally on the date those decisions are issued. The decisions are thus immediately available to all Commission offices in full text.

Internally, INQUIRE uses a search-and-retrieval logic similar to that employed by the LEXIS and WESTLAW legal research systems. However, to permit easy access to the system by a potentially wide range of users with varying degrees of expertise, INQUIRE employs a series of user-friendly, fill-in-the-form screen panels. On the basis of information the user provides through these panels about the nature, scope, and form of search desired, INQUIRE automatically generates and executes the necessary search-and-retrieval logic (*i.e.*, commands). In addition, INQUIRE produces formatted and indexed reports according to the user-defined layouts, thereby providing information about types of documents contained on the system. Selected documents can be downloaded for printing or word processing.

However, the memory and storage capabilities of personal computers (PCs) have expanded to the point where PCs can perform specific functions like a minicomputer—but at a fraction of the cost. Similarly, software capabilities have expanded to the point where some programs may well be able to perform functions now performed by INQUIRE.

Consequently, the Information Processing Section is conducting a computer study (based on new ADP requirements developed by the Panel) of personal computer-based full-text systems for possible replacement of the INQUIRE system. The following software were or are being studied:

1. Personal Librarian System (PLS)
2. BRS Software Products
3. Folio Views
4. Innerview
5. IZE Software Products
6. Kenetic
7. Litidex
8. Magellan (Lotus)
9. Oracle (NUDOCS)
10. Racontex
11. Text Management System (TMS)
12. Topic
13. Verity
14. Word Cruncher
15. ZyIndex

These personal computer systems include state-of-the-art information search technology, including CD-ROM databases, image retrieval, concept searching, natural language queries, thesauruses, and graphic interfaces that can be distributed across multiple devices, media, and platforms (mainframes, minicomputers, and personal computers). The Panel anticipates that these enhanced personal computer-based systems can be built on local area networks and can be accessed and maintained by simultaneous users, at a fraction of the cost of maintaining mainframe systems like INQUIRE. During 1991, the Panel completed software research which duplicated some miniframe INQUIRE functions on a personal computer system, and began testing a prototype.

Adjudicatory bodies and legal associations throughout North America are showing much interest in the Panel's electronic docket and its growing experience in the use of such dockets in managing complex cases. The Panel's electronic docket has served as the basis for a course on the use of computers to manage complex cases which is offered annually by the National Judicial College in Reno, Nevada. Articles describing some aspects of the Panel's system appeared in the American Bar Association's *Judges Journal* and the *Federal Bar News and Journal* during the fall of 1990.

### C. Hearing Procedures

In addition to its efforts to computerize the licensing process, the Panel continues to explore and implement traditional case management tools and techniques to streamline, focus, and resolve contested licensing matters. Typically, the hearing on a particular application for a nuclear facility license has three elements: (1) health, safety, and the common defense and security aspects of the application, as required by the Atomic Energy Act; (2) environmental considerations as required by the National Environmental Policy Act; and (3) emergency planning requirements.

For purposes of efficiency, boards frequently structure their hearing schedule into distinct phases, each dealing with discrete groupings of related issues. In the case of a complex proceeding that involves numerous issues under several distinct topics, the Panel has periodically created separate, parallel licensing boards to handle one or more topics. Besides the time saved through parallel adjudication, each board can be assigned Panel members whose expertise matches the issues to be resolved.

Licensing boards have also taken an active role in shaping the issues before them through a thorough review and, if appropriate, consolidation of admissible contentions, an active involvement in monitoring the discovery portion of the proceeding, and an affirmative attempt to foster an atmosphere conducive to the free exchange of views

among the parties and to the possible settlement of disputed issues. In this manner, a large number of proposed contentions and adjudicatory matters are resolved before a formal hearing takes place.

Licensing boards also routinely encourage the settlement of cases. During Fiscal Year 1991, boards had substantial success in settling cases before final adjudication. Significant litigation expenses were avoided by settlements of docketed cases involving *Cambridge Medical Technology Corporation*, Order of October 19, 1990; *Cleveland Electric Illuminating Company* (Perry, Unit 1), LBP-90-39, 32 NRC 368 (1990); *American Radiolabeled Chemicals, Inc.*, Order of November 5, 1991; *St. Mary Medical Center*, LBP-90-46, 32 NRC 463 (1990); *Northern States Power Company* (Prairie Island, Units 1 and 2), LBP-91-8A, 33 NRC 210 (1991); *Cintichem, Incorporated*, Order of March 14, 1991; *Tennessee Valley Authority* (Sequoyah, Units 1 and 2), LBP-91-10, 33 NRC 231 (1991); *Barnett Industrial X Ray*, LBP-91-16, 33 NRC 274 (1991); *Vermont Yankee Nuclear Power Corporation* (Vermont Yankee Nuclear Power Station), Order of September 3, 1991; and *Arizona Public Service Company* (Palo Verde, Units 1, 2, and 3), LBP-91-37A, 34 NRC 199 (1991).

An increasing number of enforcement, reactor license amendment, and materials licensing proceedings now dominate the Panel's docket. The materials licensing proceedings, emanating from NRC oversight of more than 8,000 materials licenses, are generally conducted as informal proceedings under 10 C.F.R. Part 2, Subpart L. These proceedings rely on the active involvement of a single presiding officer to create and shape the record in the proceeding. A hearing is conducted only for those issues that the presiding officer cannot resolve after considering the written submittals of the parties.

In proceedings before a single administrative judge, the Panel has adopted a policy of assigning a legal or technical administrative judge from the Panel as an assistant to the designated presiding officer. While obtaining the benefits of the informal procedures, the assignment preserves the cross-expertise of the traditional three-member licensing boards to ensure issuance of fully informed decisions.

### D. Coordination with the Office of the Licensing Support System Administrator

The Panel's substantial interest in the electronic licensing file to be developed in connection with the proposed construction of a high-level nuclear waste repository is based on several grounds. First, under the Commission's current adjudicatory rules of practice, the Panel will be the adjudicatory body responsible for making the initial decision whether the site ultimately chosen and the facility actually built satisfy applicable safety and

environmental requirements. Second, the Panel has already acquired, through its own electronic docket, substantial experience in the development and use of electronic media. Because of the former, the Panel took an active supporting role in the development of the procedural rules and support systems intended to govern the proceeding. In light of the latter, once the Commission adopted special procedural rules intended to govern any waste repository proceeding, the Panel focused its attention on actively sharing its experience and expertise in "electronic dockets" with the Office of the Licensing Support System Administrator, the office created by the Commission to oversee the development of a state-of-the-art, full-text and image-computerized document retrieval system for the parties and the Panel to use in conducting the high-level waste proceeding. The schedule calls for the Panel to adjudicate any discovery disputes after the discovery documents (estimated at up to 20 million pages) are loaded in the Licensing Support System's electronic registry. That repository will eliminate the need for all but a minimal amount of discovery in the proceeding.

### **E. Agency Court Reporting Services**

During Fiscal Year 1991, the Panel continued to manage the NRC court reporting contract for all proceedings,

meetings, and investigative interviews, other than those of the Commission itself, held anywhere in the United States. The NRC offices using the court reporting services administered by the Program Support and Analysis Staff of the Panel included the Atomic Safety and Licensing Appeal Panel; the Advisory Committee on Reactor Safeguards; the Advisory Committee on Nuclear Waste; and the Offices of Administration, Analysis and Evaluation of Operational Data, General Counsel, Government and Public Affairs, Information Resources Management, Investigations, Inspector General, Nuclear Materials Safety and Safeguards (NMSS), Nuclear Reactor Regulation, and Personnel.

The Panel's court reporting contract provides for the preparation of computer-readable diskettes of the transcript of the hearing in large, complex cases. In the appropriate case, parties are directed to file findings of fact, conclusions of law, and pre-filed testimony on computer-readable diskettes. Such filings are prepared in ASCII (the American Standard Code for Information Interchange) to overcome the problem of incompatibility among computers and software. Each day's filings are then compiled and fully indexed by the PSAS's Information Processing Section.



## VI. CONCLUSIONS

### A. Fiscal Year 1991 in Retrospect

Fiscal Year 1991, like 1990 and 1989, represented a transitional year between the massive operating license proceedings of the 1980's and the more varied, discrete enforcement and materials license proceedings of the early 1990's.

The current docket reflects the maturing of the nuclear industry and its transition from the construction and initial operation era of the 1970's and 1980's to the operation, license renewal, and waste-handling era of the 1990's. Given the increasing elimination of first-generation operating license proceedings as a major factor in the Panel's caseload, the Fiscal Year 1991 caseload could reasonably be viewed as the Commission's adjudicatory "baseload" (*i.e.*, the number and type of cases likely to occur in any particular year given the current number and operations of the Commission's licensees). So viewed, the Panel's Fiscal Year 1991 docket can be used to gauge future demands on the adjudicatory resources of the Commission in light of the additional caseload that would be generated by new or enhanced regulatory programs, the initiation of a second generation of nuclear power reactor licensing proceedings, and license extension cases. What is not clear is whether the major utility civil penalty case and the antitrust case filed during the year are exceptions to the rule or a sign of things to come. Such uncertainties make workload forecasting difficult.

Presumably the Panel's underutilization in areas identified by the Inspector General will be corrected. In those areas (security clearances, personnel, and equal employment opportunity), the Commission can no longer afford the added expense of using outside hearing examiners or

judges to preside. The use of Panel members to conduct such proceedings will not only eliminate concerns regarding the use of the private sector to make discretionary policy decisions, but could also reduce cost by eliminating duplicative administrative overhead and contractor expenses.

### B. Meeting the Adjudicatory Demands of the Next Decade

Given the economic, energy, and public health and safety costs imposed upon Commission applicants, licensees, and the public at large in the event of unnecessary or avoidable delays in the nuclear licensing and enforcement process, the Panel will continue to endeavor to improve its procedures and make the hearing process as efficient as possible.

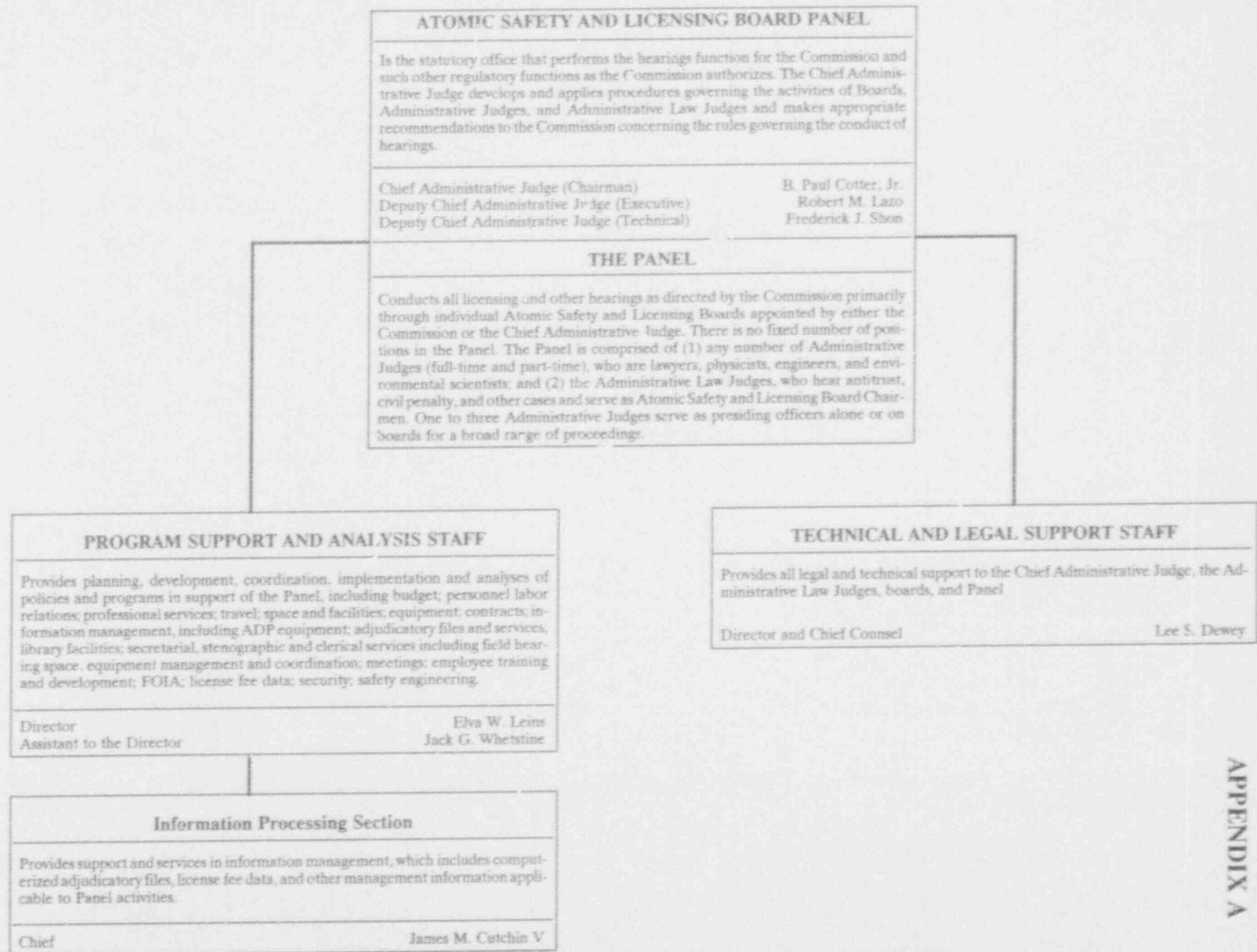
The ability of the Panel as a whole to deal efficiently with the new and different technical issues of future proceedings could be severely impaired by reducing the depth and range of expertise represented by the judges remaining on the Panel. At the end of Fiscal Year 1991, the Panel was substantially at risk in that regard as a consequence of the average ages of 36 for full-time judges and 68 years for part-time judges. Consequently, the Panel has initiated an active program to establish registers of persons qualified for appointment to the Panel in the wide range of disciplines required. The Panel expects its register program to bear fruit in the coming years. The Panel also provides extensive training for its judges in complex technical areas and in the rapidly changing legal areas involved in nuclear law. This training will continue to ensure the necessary expertise to meet the Commission's workload.

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## APPENDICES

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## ORGANIZATIONAL CHART



**APPENDIX B**  
**ATOMIC SAFETY AND LICENSING BOARD PANEL**  
**Fiscal Year 1991**

**I. Panel Members <sup>1</sup>**

**A. Officers**

JUDGE B. PAUL COTTER, JR.  
Chief Administrative Judge (Chairman)

JUDGE FREDERICK J. SHON  
Deputy Chief Administrative Judge (Technical)

JUDGE ROBERT M. LAZO  
Deputy Chief Administrative Judge (Executive)

JUDGE IVAN W. SMITH  
Chief Administrative Law Judge

**B. Full-Time Administrative Judges**

JUDGE CHARLES BECHHOEFER  
Attorney

JUDGE CHARLES N. KELBER  
Physicist

JUDGE PETER B. BLOCH  
Attorney

JUDGE JERRY R. KLINE  
Environmental Scientist

JUDGE G. PAUL BOLLWERK III  
Attorney

JUDGE PETER S. LAM  
Nuclear Engineer

JUDGE JAMES H. CARPENTER  
Oceanographer

JUDGE MORTON A. MARGULIES  
Attorney

JUDGE RICHARD F. COLE  
Environmental Scientist

JUDGE JOHN H. FRYE III  
Attorney

JUDGE THOMAS S. MOORE  
Attorney

**C. Part-Time Administrative Judges**

JUDGE GEORGE C. ANDERSON  
Marine Biologist  
Seattle, Washington

JUDGE THOMAS E. ELLEMAN  
Nuclear Engineer  
Raleigh, North Carolina

JUDGE GLENN O. BRIGHT  
Engineer  
Bethesda, Maryland

JUDGE GEORGE A. FERGUSON  
Physicist  
Shady Side, Maryland

JUDGE A. DIXON CALLIHAN  
Physicist  
Oak Ridge, Tennessee

JUDGE HARRY FOREMAN  
Physician  
Minneapolis, Minnesota

<sup>1</sup>All ASLBP officers, professional and administrative staff, and full-time Panel members are based in Bethesda, Maryland.

JUDGE RICHARD F. FOSTER  
Environmental Scientist  
Sunriver, Oregon

JUDGE JAMES P. GLEASON  
Attorney  
Silver Spring, Maryland

JUDGE CADET H. HAND, JR.  
Marine Biologist  
Bodega Bay, California

JUDGE DAVID L. HETRICK  
Nuclear Engineer  
Tucson, Arizona

JUDGE ERNEST E. HILL  
Nuclear Engineer  
Danville, California

JUDGE FRANK F. HOOPER  
Marine Biologist  
Ann Arbor, Michigan

JUDGE ELIZABETH B. JOHNSON  
Nuclear Engineer  
Oak Ridge, Tennessee

JUDGE WALTER H. JORDAN  
Physicist  
Oak Ridge, Tennessee

JUDGE JAMES C. LAMB III  
Sanitary Engineer  
Washington, D.C.

JUDGE EMMETH A. LUEBKE  
Physicist  
Chevy Chase, Maryland

JUDGE KENNETH A. McCOLLOM  
Electrical Engineer  
Stillwater, Oklahoma

JUDGE MARSHALL E. MILLER  
Attorney  
Daytona Beach, Florida

JUDGE PETER A. MORRIS  
Physicist  
Potomac, Maryland

JUDGE RICHARD R. PARIZEK  
Geologist  
University Park, Pennsylvania

JUDGE HARRY REIN  
Physician  
Longwood, Florida

JUDGE LESTER S. RUBENSTEIN  
Nuclear Engineer  
Oro Valley, Arizona

JUDGE DAVID R. SCHINK  
Oceanographer  
College Station, Texas

JUDGE GEORGE F. TIDEY  
Physician  
Houston, Texas

JUDGE SHELDON J. WOLFE  
Attorney  
Fairfax, Virginia

## II. Professional Staff

LEE S. DEWEY  
Director and Chief Counsel,  
Technical and Legal Support Staff

ROBERT R. PIERCE,  
Senior Attorney

## III. Administrative Officers

ELVA W. LEINS, Director  
Program Support and Analysis Staff

JAMES M. CUTCHIN V, Chief,  
Information Processing Section

JACK G. WHETSTONE  
Assistant to the Director, Program Support  
and Analysis Staff



## APPENDIX C

### BIOGRAPHICAL SKETCHES OF PANEL MEMBERS

**ANDERSON, GEORGE C.** B.S., University of British Columbia (1947); M.A., University of British Columbia (1949); Ph.D., University of Washington (1954). Dr. Anderson, currently Professor Emeritus at the School of Oceanography, University of Washington, has been a part-time member of the Panel since 1973. In addition to authoring over 40 publications in the fields of limnology and oceanography, Dr. Anderson has held numerous teaching, research, and administrative positions over his 40-year career with the University of Washington, the Atomic Energy Commission and the National Science Foundation. He was Director of the School of Oceanography at the University of Washington for several years.

**BECHHOEFER, CHARLES.** A.B., *magna cum laude*, Harvard College (1955); LL.B., Harvard Law School (1958). Judge Bechhoefer has been a full-time legal member of the Panel since 1978. Before his appointment to the Panel, his Federal service included positions as Counsel to the Atomic Safety and Licensing Appeal Board, attorney with the Office of the General Counsel of the Atomic Energy Commission, and attorney-adviser in the Office of the General Counsel, U.S. Housing and Home Finance Agency. He is currently the editor of the *Administrative Judiciary News and Journal* and a member of the Executive Committee of the National Conference of Administrative Law Judges. He has also held several leadership positions within the Section of Administrative Law of the American Bar Association.

**BLOCH, PETER B.** B.S., Tufts University (1962); LL.B., Harvard Law School (1965); LL.M., Harvard Law School (1967). Judge Bloch has been a full-time member of the Panel since 1981. His prior positions include: Assistant Director of the Office of Hearings and Appeals, U.S. Department of Energy; attorney-advisor, Office of Opinions and Review, FERC; Executive Director of the Commission on Law and the Economy of the American Bar Association; Senior Research Associate and Project Manager, the Urban Institute; and attorney-adviser, U.S. Securities and Exchange Commission. Judge Bloch has published several articles on the conduct and management of criminal investigations.

**BOLLWERK, G. PAUL, III.** B.A., University of Notre Dame (1975); J.D., Georgetown University Law Center (1978). Judge Bollwerk has been a full-time legal member of the Panel since July 1991. Before being appointed to the Panel, Judge Bollwerk served as an administrative judge on the Atomic Safety and Licensing Appeal Panel, a senior attorney on the staff of the NRC Office of General Counsel, a Special Assistant U.S. Attorney with the

Department of Justice, and an associate attorney in the law firm of Gardner, Carton & Douglas in Washington, D.C. After graduating from law school, he clerked for a Federal district court judge and a State supreme court judge.

**BRIGHT, GLENN O.** B.S., University of Oklahoma (1949); M.S., University of Oklahoma (1950). Judge Bright has been a full-time member of the Panel since 1972. Before his appointment to the Panel, he spent 22 years with the Phillips Petroleum Company or its successor subsidiaries in various technical and management positions overseeing nuclear matters, including one year as a technical consultant to the Government of Venezuela, and several years at the Idaho National Engineering Laboratory in charge of experiments for SPERT I and SPERT II.

**CALLIHAN, A. DIXON.** A.B., Marshall University (1928); M.A., Duke University (1931); Ph.D., New York University (1933); D.Sc. (Hon.), Marshall University (1961). Dr. Callihan has been a part-time member of the Panel since 1963. In his 58-year career, he has held positions as a physicist with the Union Carbide Corporation and Columbia University, and as assistant professor at the College of the City of New York. Dr. Callihan is currently the chairman or member of several committees concerning nuclear reactor operations for the United States Army and the American Nuclear Society. In 1988, he received the American National Standards Institute's Meritorious Service Award.

**CARPENTER, JAMES H.** B.A., University of Virginia (1949); M.A., Johns Hopkins University (1951); Ph.D., Johns Hopkins University (1957). Dr. Carpenter has been a full-time member of the Panel since 1981. In addition to numerous publications in the fields of marine science and environmental chemistry and research activities for the Chesapeake Bay Institute, Dr. Carpenter has held teaching and administrative positions with Johns Hopkins University and the University of Miami (Coral Gables, Florida). During his 34-year career, Dr. Carpenter has been on the editorial boards of several national journals, held senior positions in several professional associations, and chaired or participated in numerous professional committees on environmental issues, particularly the marine environment. Dr. Carpenter was a member of the committee that issued the BEIR I report (Committee on the Biological Effects of Ionizing Radiation).

**COLE, RICHARD F.** B.S.C.E., Drexel University (1959); M.S.S.E., Massachusetts Institute of Technology (1961); Ph.D., University of North Carolina (1968). Dr. Cole has

been a full-time member of the Panel since 1973. In addition to publishing numerous articles on water, wastewater treatment, and international training of environmental engineering, Dr. Cole has held teaching, administrative, and engineering positions in the United States and Guatemala with the University of North Carolina, Pennsylvania State University, and the State of Pennsylvania. He has held several leadership positions and committee assignments with numerous professional associations, and is a Diplomate of the American Academy of Environmental Engineers.

**COTTER, B. PAUL, JR.** A.B., Princeton University (1959); J.D., Georgetown University (1968). Judge Cotter has been the Chief Administrative Judge of the Panel since 1980. Before 1980, Judge Cotter was a member and then Chief Administrative Judge of the Department of Housing and Urban Development Board of Contract Appeals, a trial attorney with the U.S. Department of Transportation, and in private practice for 6 years. He is on the faculty of the National Judicial College, is a member of the American Law Institute, and is a recognized leader in the use of computers in managing complex cases. He is a trustee of the American Inns of Court Foundation, Chair Elect of the Board of Directors of the Supreme Court Opinion Network, holds several leadership positions with the American Bar Association and the Federal Bar Association, and has written extensively in the field of administrative law.

**ELLEMAN, THOMAS S.** B.S., Denison University (1953); Ph.D., Iowa State University (1957). Dr. Elleman was appointed to the Panel as a part-time member in 1990. Over the course of his 38-year career, Dr. Elleman has conducted research in private industry, including Carolina Power & Light Co. and General Atomics, and at North Carolina State University where he is currently a professor of nuclear engineering, a department he headed from 1974 to 1979. He has published more than 60 articles in the field of nuclear chemistry. Dr. Elleman is also an American Board of Health Physics Board Certified Health Physicist.

**FERGUSON, GEORGE A.** B.S., Howard University (1947); M.S., Howard University (1948); Ph.D., Catholic University (1965). Dr. Ferguson has been a part-time member of the Panel since 1972. During his 44-year career, he has held teaching, administrative, and research positions with Howard University, the U.S. Naval Research Laboratory, the University of Pennsylvania, and Clark College (where he was chairman of the Physics Department). Dr. Ferguson is a member of the American Physical Society and several teaching associations.

**FOREMAN, HARRY.** B.S., Antioch College (1938); Ph.D., Ohio State University (1942); M.D., University of California (1947). Dr. Foreman has been a part-time member of the Panel since 1971. Dr. Foreman's career spans 50 years

in three professional fields. In addition to publishing numerous professional papers in the biological and chemical fields, Dr. Foreman has held teaching, administrative, and research positions with the University of Minnesota and the University of California, the latter involving work in the area of radiation and biomedical research at Los Alamos.

**FOSTER, RICHARD F.** B.S., University of Washington (1938); Ph.D., University of Washington (1948). Dr. Foster has been a part-time member of the Panel since 1981. Dr. Foster is the author of numerous professional papers on the discharge of heat and radionuclides into water pathways, and has headed or participated on several panels and committees on radiation and the environment for, among others, the U.S. Public Health Service, the National Academy of Sciences, the International Atomic Energy Agency, and the NRC Advisory Committee on Reactor Safeguards. During his 50-year career, Dr. Foster has also held research and management positions with the State of Washington, the University of Washington, and numerous laboratories and companies at the Hanford, Washington facility.

**FRYE, JOHN H., III.** A.B., Davidson College (1958); LL.B., Vanderbilt University (1965). Judge Frye has been a full-time member of the Panel since 1981. Before his appointment to the Panel, Judge Frye was the Counsel to the Panel and was in private practice in Washington, D.C., for 8 years. He has held leadership positions with numerous committees of the Federal Bar Association, and has published in various law journals.

**GLEASON, JAMES P.** B.S.S., Georgetown University (1948); LL.B., Georgetown University (1950). Judge Gleason has been a part-time member of the Panel since 1980 and held a similar appointment from 1957-1970. During his 41-year career, Judge Gleason has held numerous elective and appointive offices at the county, State, and Federal level; taught at the University of Maryland and Harvard University; maintained a private law and consultant practice; and served as an aide to two U.S. Senators.

**HAND, CADET H., JR.** B.S., University of Connecticut (1946); M.A., University of California, Berkeley (1948); Ph.D., University of California, Berkeley (1951). Dr. Hand has been a part-time member of the Panel since 1971. Currently Emeritus Professor and Emeritus Director of the University of California Bodega Marine Laboratory, Dr. Hand has held teaching, research, and administrative positions with Mills College, the Scripps Institution of Oceanography, the University of California at Berkeley, and the University of California at Davis.

**HETRICK, DAVID L.** B.S., Rensselaer Polytechnic Institute (1947); M.S., Rensselaer Polytechnic Institute (1950); Ph.D., University of California, Los Angeles (1954). Dr. Hetrick became a part-time Panel member in

1972. During his career as a physicist, Dr. Hetrick has worked as a private consultant to General Atomics, Hughes Research Laboratories, the Marquardt Corporation, and Brookhaven National Laboratory. He has taught physics at California State University at Northridge, the University of Bologna in Italy, Rensselaer Polytechnic Institute, and at the University of Arizona. Dr. Hetrick has also worked on nuclear projects at the United Kingdom Atomic Energy Agency in Aldermaston, England, the International Atomic Energy Agency in Cuernavaca, Mexico, and at the Los Alamos National Laboratory.

**HILL, ERNEST E.** B.S., University of California, Berkeley (1943); M.S., University of California, Berkeley (1959). Judge Hill has been a part-time member of the Panel since 1972. Currently the president of Hill Associates, a nuclear engineering consulting company, Judge Hill has held numerous nuclear engineering and management positions in the private sector, with the Atomic Energy Commission, and at the Lawrence Livermore National Laboratory.

**HOOVER, FRANK F.** B.A., University of California (1939); Ph.D., University of Minnesota (1948). Dr. Hoover has been a part-time member of the Panel since 1973. Currently a Professor Emeritus at the University of Michigan, Dr. Hoover has held teaching and administrative positions at the University of Michigan, the Institute for Fisheries Research, and the University of Minnesota. In 1962-63 and again in 1966, Dr. Hoover was an aquatic ecologist with the Atomic Energy Commission. From 1979 to 1988, he was chairman of the Ecology, Fisheries and Wildlife Program in the School of Natural Resources at the University of Michigan.

**JOHNSON, ELIZABETH B.** B.S., Western Kentucky University (1943); M.S., Vanderbilt University (1952). Judge Johnson has been a part-time member of the Panel since 1975. Currently on the staff of the Instrumentation & Controls Division of the Oak Ridge National Laboratory, Judge Johnson has held physicist and engineer positions on various Union Carbide Corporation nuclear projects at Oak Ridge and elsewhere, and was a research assistant with the Manhattan Project. During her 48-year career, Judge Johnson published numerous Atomic Energy Commission and other professional papers, principally concerned with reactor experiments and nuclear criticality.

**JORDAN, WALTER H.** A.B., University of Oklahoma (1930); M.S., University of Oklahoma (1931); Ph.D., California Institute of Technology (1934). Dr. Jordan has been a part-time member of the Panel since 1970. Dr. Jordan is the author of numerous articles, professional papers, and books in the nuclear and radar fields, and is a Fellow of the American Nuclear Society and the American Physical Society. In addition to holding teaching positions at the University of South Dakota and the University

of Tennessee, Dr. Jordan spent 27 years at the Oak Ridge National Laboratory in various research and management positions, ending his long tenure there as its Deputy Director.

**KELBER, CHARLES N.** B.A., University of Minneapolis (1947); Ph.D., University of Minnesota (1951). Before joining the Panel as a full-time member in 1990, Dr. Kelber was the Panel's Senior Technical Advisor from 1988 to 1990. He also served in various senior technical positions in the Division of Nuclear Regulatory Research at the Atomic Energy Commission and at the NRC. Before joining the Commission in 1973, Dr. Kelber was a senior scientist at Argonne National Laboratory for 18 years. He is a Fellow of the American Nuclear Society and the American Physical Society.

**KLINE, JERRY R.** B.S., University of Minnesota (1957); M.S., University of Minnesota (1960); Ph.D., University of Minnesota (1964). Dr. Kline has been a full-time member of the Panel since 1980. Before he was appointed to the Panel, Dr. Kline held various research and management positions with the Puerto Rico Nuclear Center, the Argonne National Laboratory, the Atomic Energy Commission, and the NRC. He is the author of numerous scientific papers and reports in the fields of radioecology and soil science.

**LAM, PETER S.** B.S., Oregon State University (1967); M.S., Stanford University (1968); Ph.D., Stanford University (1971). Dr. Lam was appointed to the Panel as a full-time judge in 1990. He joined the Nuclear Regulatory Commission as a reactor systems engineer in 1983 and became Chief of the Reactor Systems Section of the NRC Office for Analysis and Evaluation of Operational Data, in 1986. Before coming to the Commission, Dr. Lam held various positions with General Electric and the Argonne National Laboratory. He has taught engineering courses at San Jose State University and George Washington University.

**LAMB, JAMES C., III.** B.S.C.E., Virginia Military Institute (1947); M.S., Massachusetts Institute of Technology (1952); Sc.D., Massachusetts Institute of Technology (1953). Dr. Lamb has been a part-time member of the Panel since 1974. Currently a distinguished visiting professor of civil engineering at George Washington University and professor of sanitary engineering at the University of North Carolina, Dr. Lamb has also held teaching, engineering, management, and research positions in private industry, at Newark College of Engineering, University of North Carolina, and Massachusetts Institute of Technology.

**LAZO, ROBERT M.** B.S., University of Alberta (1946); M.A., University of British Columbia (1950); Ph.D., University of Notre Dame (1954); J.D., Rutgers University (1958). Dr. Lazo has been a member of the Panel since 1970, first in a part-time capacity and, since 1972, in a



full-time capacity. Between 1977-80, he served as the Executive Secretary of the Panel, and since 1980, as its Deputy Chief Administrative Judge. Before joining the Panel as a full-time member, Dr. Iazo maintained a private legal practice and was a member of the Patent Departments of both Standard Oil of New Jersey and Bell Telephone Laboratories.

**LUEBKE, EMMETH A.** B.A., Ripon College (1936); Ph.D., University of Illinois (1941). Dr. Luebke became a part-time member of the Panel in 1987 following 15 years of service as a full-time member. A Fellow of the American Nuclear Society and recipient of a Presidential Certificate of Merit for Microwave Radar Research, Dr. Luebke spent 27 years in private industry involved in the design, testing, and operation of nuclear power plants for submarines. Before that, he taught at the University of Illinois and was a research leader at Massachusetts Institute of Technology.

**MCCOLLOM, KENNETH A.** B.S., Oklahoma State University (1948); M.S., University of Illinois (1949); Ph.D., Iowa State University (1964). Dr. McCollom has been a part-time member of the Panel since 1972. He is currently Dean and Professor Emeritus of the College of Engineering, Architecture and Technology, Oklahoma State University. During his 43-year career, he has held teaching, research, and administrative positions with Oklahoma State University, Iowa State University, and the Atomic Energy Division of Phillips Petroleum Company. In addition, he has held numerous leadership positions with several professional associations and the Oklahoma Board of Registration for Engineers and Land Surveyors.

**MARGULIES, MORTON B.** B.A., Brooklyn College (1953); J.D., Brooklyn Law School (1954). Judge Margulies has been a full-time member of the Panel since 1982. Before his appointment to the Panel, Judge Margulies served as an Administrative Law Judge (1969-1982), Regional Counsel, and trial attorney for the Interstate Commerce Commission, and as a member of the Army Judge Advocate General's Corps.

**MILLER, MARSHALL E.** A.B. with honors, University of Illinois (1935); LL.B., University of Illinois (1937). Judge Miller was a full-time member of the Panel (1974-1985) and has been a part-time member since 1985. Judge Miller was an Administrative Law Judge for the U.S. Department of Labor for 11 years and previously a partner for 15 years in the Washington, D.C., law firm of Danzansky & Dickey. He is the author of several books on legal practice.

**MOORE, THOMAS S.** B.A., Miami University (Ohio) (1968); J.D., Ohio State University (1972). Judge Moore was appointed to the ASLBP in 1991 after a distinguished 10-year career as an administrative judge on the Commission's Atomic Safety and Licensing Appeal Board. Judge

Moore was in private practice in the firm of Volpe, Boskey and Lyons, worked in the Civil Division of the Department of Justice, served as administrative assistant to the Governor of Ohio, and clerked for Judge Miller on the Sixth Circuit before joining the Nuclear Regulatory Commission in 1980.

**MORRIS, PETER A.** B.A., Swarthmore College (1943); Ph.D., University of Virginia (1951). Dr. Morris served as a full-time administrative judge with the Panel from 1981 to 1987. He was appointed as a part-time judge in 1991. Before serving on the Panel, Judge Morris worked as Operational Physics Supervisor with E.I. duPont de Nemours and Co. from 1951 to 1957, and served the Nuclear Regulatory Commission as Director, Office of Operations, and Director, Division of Reactor Licensing.

**PARIZEK, RICHARD R.** B.A., University of Connecticut (1956); M.S., University of Illinois (1960); Ph.D., University of Illinois (1961). Dr. Parizek was appointed as a part-time administrative judge in 1990. He has been a professor in the Geology Department at Pennsylvania State University since 1961 and is president of his own consulting firm. Dr. Parizek holds several positions in professional associations and has authored or co-authored more than 120 scientific and technical papers.

**REIN, HARRY** B.S., New York University (1953); M.D., State University of New York (1957); J.D., University of Florida (1982). Dr. Rein was appointed to the Panel as a part-time administrative judge in 1990. Dr. Rein is an active trial lawyer and has 23 years of active clinical medical experience. Currently, Dr. Rein's trial work is limited to medically related cases. Dr. Rein has published several medical papers and texts, including two on medical malpractice. He has also conducted seminars and courses for lawyers across the United States pertaining to the discovery and trial processes related to cases involving medical questions.

**RUBENSTEIN, LESTER S.** B.S., University of Arizona (1953); M.S., Carnegie Institute of Technology (1962). Judge Rubenstein was appointed to the Panel as a part-time member in 1990. Before joining the Panel, he served in various leadership capacities with the Nuclear Regulatory Commission, including Assistant Director for Region IV Reactors, NRR; Director, Systems Division and Standardization, NRR; and Assistant Director, Division of Systems Integration, NRR. Before joining the Atomic Energy Commission in 1967, he worked for the National Aeronautics and Space Administration as a researcher and for the TRW and Westinghouse corporations. Judge Rubenstein has written several articles and papers and lectured on the policies and licensing procedures of the Nuclear Regulatory Commission.

**SCHINK, DAVID R.** B.A., Pomona College (1952); M.S., University of California, Los Angeles (1953); M.S., Stanford University (1958); Ph.D., University of California,

San Diego (1962). Dr. Schink has been a part-time member of the Panel since 1974. Currently a professor of oceanography and formerly the Associate Dean of the College of Geosciences at Texas A&M University, Dr. Schink has written monographs and professional papers on marine geochemistry, silicon, radium, radon, and early diagenesis. Dr. Schink has also held teaching and research positions at the Palo Alto Laboratory, Teledyne Isotopes, University of Rhode Island, Scripps Institute of Oceanography, and Stanford University. In addition, Dr. Schink has served on several advisory panels for the National Science Foundation and the United Nations.

**SHON, FREDERICK J.** B.S., Columbia University. Judge Shon has been a full-time member of the Panel since 1972 and currently serves as its Deputy Chief Administrative Judge (Technical). Before his appointment to the Panel, Judge Shon held management positions with the Atomic Energy Commission, and worked as a physicist with the Lawrence Radiation Laboratory and several corporations within the nuclear industry. Judge Shon has also served as a consultant on reactor safety to the Spanish and Danish Atomic Energy Commissions, and taught nuclear engineering at the University of California at Berkeley.

**SMITH, IVAN W.** Pre-Law, Ohio State University, Mexico City College, Kent State University (1946-48); J.D., Wm. McKinley School of Law (1952). Serving the NRC as Chief Administrative Law Judge since 1978, Judge Smith has been a full-time member of the Panel since 1975.

Before his appointment to the Panel, Judge Smith served as an Administrative Law Judge for the Social Security Administration and as a trial attorney in the Antitrust Division of the Federal Trade Commission. He also served as a county prosecutor, Deputy Director of the Ohio Department of Liquor Control, and engaged in the private practice of law.

**TIDEY, GEORGE FRANCIS.** B.A., University of Virginia (1980); M.D., University of Virginia (1984). Dr. Tidey was appointed to the Panel as a part-time member in 1991. He is currently an assistant professor in obstetrics and gynecology at the University of Texas Medical School. He taught in the same field at George Washington University and is engaged in a private practice in these areas. Dr. Tidey has co-authored several articles on female fertility. He is a member of the American College of Obstetrics and Gynecology, the American Fertility Society, and the American Medical Association.

**WOLFE, SHELDON J.** A.B., Harvard University (1942); LL.B., Georgetown University (1956). Judge Wolfe was a full-time member of the Panel from 1976 to 1988, when he assumed part-time status. Before his appointment to the Panel, Judge Wolfe was a partner in Coal Mines Equipment Sales Company of Terre Haute, Indiana, an attorney with the Civil Aeronautics Board, and, for 20 years, a trial attorney with the Civil Division of the U.S. Department of Justice.

## APPENDIX D

### SELECTED ISSUANCES OF THE ATOMIC SAFETY AND LICENSING BOARDS

October 1, 1990 to September 30, 1991

- ADVANCED MEDICAL SYSTEMS, INC. (One Factory Row, Geneva, Ohio 44041), Docket No. 30-16055-CivP (ASLBP No. 89-592-02-CivP)  
  
Memorandum and Order, LBP-91-7, 33 NRC 212 (March 19, 1991).
- ARIZONA PUBLIC SERVICE COMPANY, *et al.* (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), Docket Nos. 50-528-OLA, 50-529-OLA, 50-530-OLA (ASLBP No. 91-632-04-OLA)  
  
Memorandum and Order, LBP-91-20, 33 NRC 416 (May 14, 1991).
- ARIZONA PUBLIC SERVICE COMPANY, *et al.* (Palo Verde Nuclear Generating Station, Units 1, 2 and 3), Docket Nos. 50-528-OLA-2, 50-529-OLA-2, 50-530-OLA-2 (ASLBP No. 91-633-05-OLA-2)  
  
Memorandum and Order, LBP-91-4, 33 NRC 153 (February 19, 1991).  
  
Memorandum and Order, LBP-91-13, 33 NRC 259 (April 24, 1991).  
  
Memorandum and Order, LBP-91-18, 33 NRC 394 (May 3, 1991).  
  
Memorandum and Order, LBP-91-19, 33 NRC 397 (May 9, 1991).
- BARNETT INDUSTRIAL X-RAY, Docket No. 30-30691-CivP (ASLBP No. 91-636-03-CivP)  
  
Memorandum and Order, LBP-91-16, 33 NRC 274 (April 30, 1991).
- CLEVELAND ELECTRIC ILLUMINATING COMPANY, *Y, et al.* (Perry Nuclear Power Plant, Unit 1), Docket No. 50-440-OLA-2 (ASLBP No. 90-605-02-OLA)  
  
Initial Decision, LBP-90-39, 32 NRC 368 (November 1, 1990).
- COMMONWEALTH EDISON COMPANY, *et al.* (Carroll County Nuclear Station, Units 1 and 2), Docket Nos. 50-599-ESR, 50-600-ESR (ASLBP No. 79-422-01-ES)  
  
Memorandum and Order, LBP-90-37, 32 NRC 270 (October 31, 1990).
- CURATORS OF THE UNIVERSITY OF MISSOURI (TRUMP-S Project), Docket Nos. 70-00270, 30-02278-MLA (ASLBP No. 90-613-02-MLA)  
  
Memorandum and Order, LBP-90-33, 32 NRC 245 (October 3, 1990).  
  
Memorandum and Order, LBP-90-34, 32 NRC 253 (October 15, 1990).  
  
Memorandum and Order, LBP-90-35, 32 NRC 259 (October 20, 1990).  
  
Memorandum and Order, LBP-90-38, 32 NRC 359 (November 1, 1990).  
  
Memorandum and Order, LBP-90-41, 32 NRC 380 (November 16, 1990).  
  
Memorandum and Order, LBP-90-45, 32 NRC 449 (December 19, 1990).  
  
Memorandum and Order, LBP-91-11, 33 NRC 251 (April 9, 1991).  
  
Memorandum and Order, LBP-91-12, 33 NRC 253 (April 15, 1991).  
  
Memorandum and Order, LBP-91-14, 33 NRC 265 (April 25, 1991).  
  
Memorandum and Order, LBP-91-31, 34 NRC 29 (July 10, 1991).  
  
Memorandum and Order, LBP-91-34, 34 NRC 159 (August 5, 1991).
- FEWELL GEOTECHNICAL ENGINEERING, LTD., Docket No. 030-30870-0M (ASLBP No. 91-629-01-0M)  
  
Initial Decision, LBP-91-29, 33 NRC 561 (June 25, 1991).

- FLORIDA POWER AND LIGHT COMPANY (Turkey Point Nuclear Generating Plant, Units 3 and 4), Docket Nos. 50-250-OLA-6, 50-251-OLA-6 (ASLBP No. 91-625-02-OLA-6)  
  
Memorandum and Order, LBP-91-2, 33 NRC 42 (January 23, 1991).
- GEORGIA POWER COMPANY, *et al.* (Vogtle Electric Generating Plant, Units 1 and 2), Docket Nos. 50-424-OLA, 50-425-OLA (ASLBP No. 90-617-03-OLA)  
  
Memorandum and Order, LBP-91-6, 33 NRC 169 (February 28, 1991).  
  
Memorandum and Order, LBP-91-21, 33 NRC 419 (May 15, 1991).
- GEORGIA POWER COMPANY, *et al.* (Vogtle Electric Generating Plant, Units 1 and 2), Docket Nos. 50-424-OLA-2, 50-425-OLA-2 (ASLBP No. 91-647-OLA-2)  
  
Memorandum and Order, LBP-91-33, 34 NRC 138 (July 23, 1991).  
  
Memorandum and Order, LBP-91-36, 34 NRC 193 (September 12, 1991).
- LONG ISLAND LIGHTING COMPANY (Shoreham Nuclear Power Station, Unit 1), Docket No. 50-322-OLA (ASLBP No. 91-621-01-OLA)  
  
Memorandum and Order, LBP-91-1, 33 NRC 15 (January 8, 1991).  
  
Memorandum and Order, LBP-91-7, 33 NRC 179 (March 6, 1991).  
  
Memorandum and Order, LBP-91-23, 33 NRC 430 (May 23, 1991).  
  
Memorandum and Order, LBP-91-35, 34 NRC 163 (August 29, 1991).
- LONG ISLAND LIGHTING COMPANY (Shoreham Nuclear Power Station, Unit 1), Docket No. 50-322-OLA-2 (ASLBP No. 91-631-03-OLA-2)  
  
Memorandum and Order, LBP-91-26, 33 NRC 537 (June 13, 1991).  
  
Memorandum and Order, LBP-91-32, 34 NRC 132 (July 18, 1991).
- NORTHERN STATES POWER COMPANY (Prairie Island Nuclear Generating Plant, Units 1 and 2), Docket Nos. 72-10, 50-282-RS, 50-306-RS (ASLBP No. 91-627-01-RS)  
  
Memorandum and Order, LBP-91-8A, 33 NRC 210 (March 14, 1991).
- NUCLEAR METALS, INC., Docket No. 40-672-MLA (ASLBP No. 91-639-02-MLA)  
  
Memorandum and Order, LBP-91-22, 33 NRC 427 (May 16, 1991).  
  
Memorandum and Order, LBP-91-27, 33 NRC 548 (June 18, 1991).
- PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE (Seabrook Station, Unit 1), Docket No. 50-443-OLA (ASLBP No. 91-640-09-OLA)  
  
Memorandum and Order, LBP-91-28, 33 NRC 557 (June 18, 1991).
- PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE (Seabrook Station, Units 1 and 2), Docket Nos. 50-443-OLR-3, 50-444-OLR-3 (ASLBP No. 90-619-03-OLR-3)  
  
Memorandum and Order, LBP-90-40, 32 NRC 376 (November 7, 1990).
- PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE (Seabrook Station, Units 1 and 2), Docket Nos. 50-443-OLR-4, 50-444-OLR-4 (ASLBP No. 90-620-04-OLR-4)  
  
Memorandum and Order, LBP-91-8, 33 NRC 197 (March 12, 1991).  
  
Memorandum and Order, LBP-91-24, 33 NRC 446 (May 30, 1991).
- PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE (Seabrook Station, Units 1 and 2), Docket Nos. 50-443-OL-3 & 5, 50-444-OLR-3 & 5 (ASLBP No. 90-619-03-OLR-3, 91-630-01-OLR-5)  
  
Memorandum and Order, LBP-91-2, 33 NRC 49 (January 29, 1991).
- PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE (Seabrook Station, Units 1 and 2), Docket Nos. 50-443-OL-R, 50-444-OL-R (ASLBP No. 90-600-01-OL-R)  
  
Memorandum and Order, LBP-90-44, 32 NRC 433 (December 18, 1990).
- RHODES-SAYRE & ASSOCIATES, INC., Docket No. 30-29086-SC (ASLBP No. 91-628-01-SC)

Memorandum and Order, LBP-91-15, 33 NRC 268 (April 25, 1991).

- SACRAMENTO MUNICIPAL UTILITY DISTRICT (Rancho Seco Nuclear Generating Station), Docket No. 50-312-OLA (ASLBP No. 91-634-06-OLA)

Memorandum and Order, LBP-91-17, 33 NRC 379 (May 1, 1991).

Memorandum and Order, LBP-91-30, 34 NRC 23 (July 1, 1991).

- SEQUOYAH FUELS CORPORATION, Docket No. 40-08027-MLA (ASLBP No. 91-623-01-MLA)

Memorandum and Order, LBP-91-5, 33 NRC 163 (January 24, 1991).

- ST. MARY MEDICAL CENTER—HOBART/ST. MARY MEDICAL CENTER—GARY, Docket Nos. 030-31379-0M, 030-01615-0M (ASLBP No. 90-612-04-0M) Memorandum and Order, LBP-90-36, 32 NRC 267 (October 31, 1990).

Memorandum and Order, LBP-90-46, 32 NRC 463 (December 26, 1990).

- TENNESSEE VALLEY AUTHORITY (Sequoyah Nuclear Plant, Units 1 and 2), Docket Nos. 50-327-OLA, 50-328-OLA (ASLBP No. 90-635-07-OLA)

Memorandum and Order, LBP-91-10, 33 NRC 231 (March 18, 1991).

- TULSA GAMMA RAY, INC. Docket No. 30-12319-CivP (ASLBP No. 90-618-03-CivP)

Memorandum and Order, LBP-90-42, 32 NRC 387 (October 29, 1990).

Memorandum and Order, LBP-90-43, 32 NRC 390 (November 15, 1990).

Memorandum and Order, LBP-91-25, 33 NRC 535 (June 13, 1991).

- WRANGLER LABORATORIES, LARSEN LABORATORIES, ORION CHEMICAL COMPANY AND JOHN P. LARSEN, Docket No. 9999004-SC-R (ASLBP No. 91-648-01-SC-R)

Memorandum and Order, LBP-91-37, 34 NRC 196 (September 26, 1991).



## APPENDIX E

### MAJOR FEDERAL STATUTES AND REGULATIONS RELEVANT TO ASLBP ADJUDICATIONS

#### I. Federal Statutes

1. The Atomic Energy Act of 1954, as amended, 42 U.S.C. §§ 2011 *et seq.*, Pub.L. 83-703, 68 STAT. 919.
2. The Energy Reorganization Act of 1974, as amended, 42 U.S.C. §§ 201-401, Pub.L. 93-438, 88 STAT. 1233.
3. Uranium Mill Tailings Radiation Control Act of 1978, as amended, 42 U.S.C. §§ 7901 *et seq.*, Pub.L. 95-604, 92 STAT. 3021.
4. Administrative Procedure Act, 5 U.S.C. §§ 551-559.
5. Transportation Safety Act of 1974, 49 U.S.C. §§ 1801 *et seq.*, Pub.L. 93-633, 88 STAT. 2156.
6. National Environmental Policy Act of 1969, as amended, Pub.L. 91-190, 83 STAT. 852.
7. Clean Air Act Amendments of 1977, Pub.L. 95-95, 91 STAT. 685.
8. Nuclear Waste Policy Act of 1982, 42 U.S.C. §§ 10101 *et seq.*, Pub.L. 97-425, 96 STAT. 2201.

#### II. REGULATIONS

Title 10, Code of Federal Regulations (26 Parts):

Part 0, Conduct of Employees

Part 2, Rules of Practice for Domestic Licensing Proceedings

Part 19, Notices, Instructions, and Reports to Workers; Inspections

Part 20, Standards for Protection Against Radiation

Part 21, Reporting of Defects and Noncompliance

Part 30, Rules of General Applicability to Domestic Licensing of Byproduct Material

Part 32, Specific Domestic Licenses to Manufacture or Transfer Certain Items Containing Byproduct Material

Part 33, Specific Domestic Licenses of Broad Scope for Byproduct Material

Part 34, Licenses for Radiography and Radiation Safety Requirements for Radiographic Operations

Part 35, Medical Use of Byproduct Material

Part 39, Licenses and Radiation Safety Requirements for Well Logging

Part 40, Domestic Licensing of Source Material

Part 50, Domestic Licensing of Production and Utilization Facilities

Part 51, Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions

Part 53, Criteria and Procedures for Determining Adequacy of Available Spent Nuclear Fuel Storage Capacity

Part 55, Operators' Licenses

Part 60, Disposal of High-Level Radioactive Wastes Geologic Repositories

Part 61, Licensing Requirements for Land Disposal of Radioactive Waste

Part 70, Domestic Licensing of Special Nuclear Material

Part 71, Packaging and Transportation of Radioactive Material

Part 72, Licensing Requirements for the Storage of Spent Fuel in an Independent Spent Fuel Storage Installation (ISFSI)

Part 73, Material Control and Accounting of Special Nuclear Materials

Part 100, Reactor Site Criteria

Part 140, Financial Protection Requirements and Indemnity Agreements

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11. ABSTRACT (200 words or less)

In Fiscal Year 1991, the Atomic Safety and Licensing Board Panel ("the Panel") handled 48 proceedings, a 20-percent increase over the previous year. The cases addressed issues in the construction, operation, and maintenance of commercial nuclear power reactors or other activities requiring a license from the Nuclear Regulatory Commission. The panel also replaced several badly needed technical disciplines lost to retirement over the last two years. This report summarizes, highlights, and analyzes how the wide-ranging issues raised in NRC proceedings were addressed by the judges and licensing boards of the Panel during the year.

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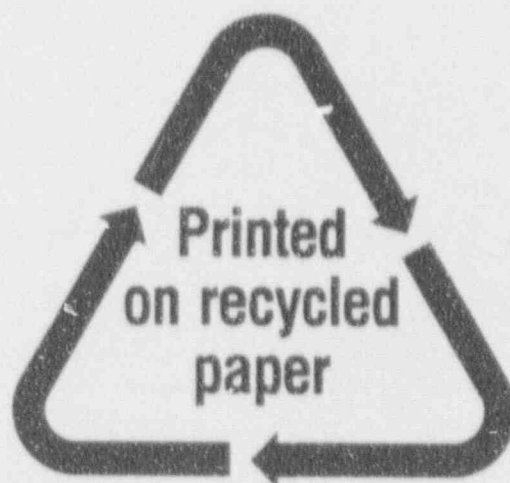
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