

DEC 20 1985

Mr. Warren H. Owen
Executive Vice President
Duke Power Co.
P. O. Box 33189
Charlotte, NC 28242

Dear Mr. Owen:

At the December 11, 1985 Commission meeting to discuss the proposed revision to the 1978 Policy Statement on Standardization (SECY 85-382) (Enclosure 1), the Commission was informed that in revising the Policy Statement the staff had worked closely with the Atomic Industrial Forum (AIF) Study Group on the Practical Application of Standardized Nuclear Power Plants in the United States, chaired by Mr. John Ward. However, the Commission directed the staff to also obtain the additional views of the Nuclear Utility Management and Human Resources Committee (NUMARC), the Electric Power Research Institute (ERPI) and the Edison Electric Institute (EEI). The Commission was specifically interested in determining whether the four concepts, as currently described in the proposed policy statement, are adequate and/or necessary to meet the projected short-term and long-term needs of the nuclear industry. In other words, should a utility desire to build another nuclear unit in the future, is this the correct set of options that should be available for the decisionmaking process? The four concepts addressed in the proposed Policy Statement are: Reference System Concept, including Design Certification; Duplicate Plant Concept; Replicate Plant Concept; and Manufacturing License Concept. In order to fully understand the individual concerns of the Commissioners, Enclosure 2 is a copy of the Commission meeting transcript.

I would appreciate receiving any comments you may have regarding the questions raised by the Commissioners by January 21, 1986.

Sincerely,
Original Signed by
V. Stello

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Victor Stello, Jr.
Deputy Executive Director
Regional Operations and Generic
Requirements

Enclosures:

1. 1978 Policy Statement
on Standardization (SECY-85-382)
2. Transcript of Commission Meeting
on Standardization (12/11/85)

cc: See next page

RD-7-3
Standardization
XRD-8-2
Duke

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cc w/o encl:

Mr. John Ward
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Commissioner Roberts
Commissioner Asselstine
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Commissioner Zech

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Identical Letter Sent to:

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POLICY ISSUE
(Commission Meeting)

December 4, 1985

SECY-85-382

For: The Commissioners

From: William J. Dircks
Executive Director for Operations

Subject: STANDARDIZATION POLICY STATEMENT

Purpose: To respond to those portions of the staff requirements memoranda dated February 22 and April 5, 1985 which requested the staff to prepare for the Commission's consideration a draft revision to its 1978 standardization policy statement. The draft policy statement is provided as Enclosure 1. The balance of the staff's responses was provided in a memorandum to the Commission dated March 18, 1985.

Background: The initial policy statement of the Atomic Energy Commission (AEC) on nuclear power plant standardization was issued in April 1972. In March 1973, the AEC announced its readiness to implement its standardization policy utilizing three distinct concepts--the reference system concept, the duplicate plant concept and the manufacturing license concept. In August 1974, the AEC announced a fourth standardization concept--the replicate plant concept. On January 19, 1975, the AEC was abolished and its regulatory responsibilities were assigned to the newly-formed Nuclear Regulatory Commission (the Commission). In July 1977, the Commission issued a statement that reaffirmed its support of standardization and requested comments and suggestions on proposed program changes and other steps it might undertake to further encourage standardization. The Commission's most recent standardization policy statement was issued in August 1978. That policy statement described in detail the conditions that must be met for each of the standardization concepts, and extended their terms of approval.

Despite the lack of new plant orders, and the numerous cancellations and deferrals of plants already ordered in

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recent years, considerable use has been made of standardization since its inception. A summary of the implementation of the standardization program to date is provided as Enclosure 2.

The Commission recently issued its severe accident policy statement which sets forth licensing requirements for new plant designs, both standard and custom. In addition, the Commission has proposed to the Congress its draft "Nuclear Power Plant Licensing and Standardization Act of 1985" which would provide for the issuance of combined construction permits and operating licenses in a one-step licensing process, early site approvals and standard design approvals. Finally, considerable additional experience has been acquired in implementing the standardization program. Therefore, we believe that it is appropriate at this time to revise the 1978 standardization policy statement to reflect these initiatives.

Discussion:

The draft revision to the 1978 policy statement reflects the applicable provisions of the severe accident policy statement and the draft "Nuclear Power Plant Licensing and Standardization Act of 1985." It also reflects the experience we have acquired in implementing the standardization program since 1978 and our current views on standardization.

The draft policy statement identifies the reference system design certification as the true goal of standardization, but recognizes that the duplicate plant, replicate plant and manufacturing license concepts are necessary options that should be maintained. Industry representatives have indicated that the types of applications most likely in the near term will include reactivation of deferred plants and replication of previously-licensed plants. Policies and procedures regarding deferred plants are being developed separately from this policy statement. The staff has included in the draft policy statement two transition options relating to replication of previously-licensed plants. These options address replication of recently-licensed plants, which have been reviewed against NUREG-0800, and replication of earlier-licensed plants, which have not been reviewed against NUREG-0800. The staff believes that these transition options should conform with the provisions of the draft policy statement. However, during the transition period, the staff recommends that the reference period for replication of such plants be extended for five years from the effective

date of the revised policy statement. In addition, the staff recommends that consideration be given to relaxation of the other provisions of this policy statement during this five-year period if suitably justified.

The most significant proposed revisions to the 1978 standardization policy statement are outlined below. A more detailed discussion of these revisions is provided in Enclosure 3.

- (1) The four licensing requirements for new plant designs as set forth in the Commission's severe accident policy statement have been added.
- (2) Provisions for design certification through rulemaking have been added.
- (3) The ability of the staff and Commission to make changes to approved or certified designs has been made more restrictive. An explanation of the applicability of the backfitting rule (10 CFR 50.109) to each of the options has been added. The ability of holders of design approvals or certifications to make such changes has been made less restrictive.
- (4) The overlap in the reference periods between the duplicate and replicate design concepts has been eliminated.
- (5) Fees required of reference design applicants will be allocated among the applicants for permits and licenses which propose to use the reference design. Enactment of the draft "Nuclear Power Plant Licensing and Standardization Act of 1985" would be necessary prior to adopting this approach.
- (6) Final design approvals and design certifications can be renewed once for a duration up to the original approval period. Preliminary design approvals can only be renewed on a finding of good cause.

To assist the staff in revising the standardization policy statement, the Atomic Industrial Forum (AIF) formed a study group. As a result of this effort they developed an outline of a proposed policy statement. That outline is provided as Enclosure 4. The AIF's proposed standardization policy is consistent with that proposed by the staff with the exception of four differences addressed below.

- (1) The AIF proposes that the duration of the approvals for all standardization concepts be ten years. The staff believes that the ten-year approval period should be reserved for certified designs; all others should be five years.
- (2) The AIF proposes that preliminary design approvals be renewable. The staff believes preliminary design approvals should be renewable by the staff for a period of up to five years only on a finding of good cause.
- (3) The staff believes that final design approvals and design certifications should be based on a level of design detail equivalent to that required for a Final Safety Analysis Report. The AIF appears to suggest that a lesser degree of design detail should be required; however it recognizes the need to further discuss this issue with the staff.
- (4) The AIF proposes that the cost-benefit analysis for staff- or Commission-proposed changes to approved designs be performed on the lead or first unit referencing the given standard design. The procedures described in the backfitting rule will establish the threshold for staff- or Commission-proposed changes to an approved design.

The Executive Legal Director has prepared for the Commission's consideration a paper describing several options for design certification rulemaking proceedings. That paper is provided as Enclosure 5.

Finally, the Office of Administration has prepared for the Commission's consideration a discussion of license fees related to the reference system concept. That paper is provided as Enclosure 6.



William J. Dircks
Executive Director for Operations

Enclosures:
As stated

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ENCLOSURE 1

POLICY STATEMENT ON NUCLEAR POWER PLANT STANDARDIZATION

The Commission continues to strongly support standardization and, while maintaining the option for licensing new custom plants, encourages the use of standard plant designs in all future license applications. The Commission believes that the use of standard plant designs can benefit public health and safety by concentrating the resources of designers, engineers and vendors on particular approaches; by stimulating standardized programs of construction practice and quality assurance; by improving the training of personnel; and by fostering more effective maintenance and improved operation. The use of such designs can also permit more effective and efficient licensing and inspection processes.

The Commission believes that the true goal of standardization should be the reference system design certification as outlined in this policy statement. The Commission anticipates that over the long term the majority of new plant applications will incorporate approved or certified reference system designs. However, the Commission recognizes that the duplicate plant, replicate plant and manufacturing license options have also contributed to the progress that has been made in standardization to date and, therefore, continues to endorse the use of these options. Each of the standardization concepts and their terms and conditions are discussed below.

In addition to the four standardization concepts identified above, the Commission has provided flexibility in the application of the replication concept to allow for a transition period. This provision of the policy statement is also discussed below.

1. Reference System Concept

The reference system concept involves an application for approval or certification of an entire nuclear power plant design or major portion thereof outside the context of an application for a construction permit, operating license, combined construction permit and operating license, or manufacturing license. Approvals are granted by the staff in the forms of preliminary design approvals (PDA) and final design approvals (FDA) for preliminary and final levels of design detail, respectively. Certification is granted by the Commission in the form of design certifications for final levels of design detail only.

To further encourage the use of the reference system design option, the Commission will not require application filing or issuance fees for reference design approvals, certifications or amendments or renewals thereof. The fees that would otherwise have been required of reference design applicants will be allocated among the applicants for construction permits, operating licenses, and combined construction permits and operating licenses which propose to use the reference design. If no application for a permit

or license for a facility is filed within the initial term or the renewal period of the design approval and/or certification, any outstanding fees will become immediately due and payable by the holder of the reference design approval or certification.

In accordance with 10 CFR 50.109, once the initial design approval is issued (i.e., PDA or FDA) the Commission will not require modification to an approved or certified design unless it determines that such modifications provide a substantial increase in the overall protection of the public health and safety or the common defense and security. However, holders of design approvals or certifications may modify the approved or certified design by applying for an amendment to the design approval or certification. Any such amendments will only be required to apply to applications for construction permits, and combined construction permits and operating licenses that are submitted after the amendment is issued unless the modifications are required to provide a substantial increase in the overall protection of the public health and safety or the common defense and security.

a. Preliminary Design Approvals

A preliminary design approval is issued by the staff following the completion of its and the ACRS's reviews of the preliminary design. It deems an entire nuclear power plant design or major portion thereof acceptable for incorporation by reference in applications for construction permits and manufacturing licenses. It also provides that the approved preliminary design shall be utilized and relied upon by the staff and the ACRS in their reviews of those applications. However, an approved preliminary design is subject to litigation in individual licensing proceedings on those applications. A preliminary design approval is not a prerequisite for a final design approval or a design certification.

An application for a preliminary design approval must include to the extent practicable a level of design detail equivalent to that required for a preliminary safety analysis report. In addition, it must address the four licensing requirements for new plant designs as set forth in the Commission's severe accident policy statement.

Preliminary design approvals will be issued with terms of five years. Not less than one year or more than three years prior to the expiration of the preliminary design approval, holders of the approval may apply for the renewal thereof. The approval will be renewed for an additional period of time of not more than five years provided the design is found to comply with the Commission's current regulations and a showing of good cause (e.g., good cause may be established by a pending application that would reference the PDA during the renewal period).

The preliminary designs may be referenced in applications for construction permits and manufacturing licenses docketed during the period commencing

with the docketing date of the preliminary design approval application and terminating five years from the date of issuance of the preliminary design approval. However, no construction permit or manufacturing license will be issued for applications referencing the preliminary design prior to the issuance of the preliminary design approval. Further, any changes to the preliminary design that result from the design approval process will be required to be reflected in those applications as well. The expiration of the preliminary design approval will not affect the use of the approved preliminary design in applications for construction permits and manufacturing licenses docketed prior to its expiration.

b. Final Design Approvals

A final design approval is issued by the staff following the completion of its and the ACRS's reviews of the final design. It deems an entire nuclear power plant design or major portion thereof acceptable for incorporation by reference in applications for construction permits, operating licenses, combined construction permits and operating licenses in a one-step licensing, and manufacturing licenses. It also provides that the approved final design shall be utilized and relied upon by the staff and the ACRS in their reviews of those applications. However, an approved final design is subject to litigation in individual licensing proceedings on those applications. A final design approval is a prerequisite for a design certification.

An application for a final design approval must include to the extent practicable a level of design detail equivalent to that required for a final safety analysis report. In addition, it must address the four licensing requirements for new plant designs as set forth in the Commission's severe accident policy statement.

Final design approvals will be issued with terms of five years. Not less than one year or more than three years prior to the expiration of the final design approval, holders of the approval may apply for the renewal thereof. The approval will be renewed for an additional period of time of not more than five years provided the design is found to comply with the Commission's current regulations.

The final designs may be referenced in applications for construction permits, operating licenses, combined construction permits and operating licenses, and manufacturing licenses docketed during the period commencing with the docketing date of the final design approval application and terminating five years from the date of issuance of the final design approval. However, no construction permit, operating license, combined construction permit and operating license, or manufacturing license will be issued for applications referencing the final design prior to the issuance of the final design approval. Further, any changes to the final design that result from the design approval process will be required to be reflected in

those applications as well. The expiration of the final design approval will not affect the use of the approved final design in applications for construction permits, operating licenses, combined construction permits and operating licenses, and manufacturing licenses docketed prior to its expiration, and operating license applications that referenced the final design approval at the construction permit stage.

c. Design Certifications

A design certification is issued by the Commission following the issuance of a final design approval by the staff and the completion of a rulemaking proceeding. It deems an entire nuclear power plant design or major portion thereof acceptable for incorporation by reference in applications for construction permits, operating licenses, combined construction permits and operating licenses in a one-step licensing process, and manufacturing licenses. It also provides that the certified final design shall be utilized and relied upon by the staff, the ACRS, the hearing boards and the Commission in their review of those applications. A certified final design is not subject to litigation in individual licensing proceedings on those applications.

An application for certification of the final design may accompany the application for a final design approval; however, it must be submitted prior to the issuance of the final design approval.

Design certifications will be issued with terms of ten years. Not less than one year or more than three years prior to the expiration of the design certification, holders of the certification may apply for the renewal thereof. The certification will be renewed for an additional period of time of not less than five years or more than ten years from the date of renewal provided the design is found to comply with the the Commission's current regulations.

The certified designs may be referenced in applications for construction permits, operating licenses, combined construction permits and operating licenses, and manufacturing licenses docketed during the period commencing with the docketing date of the final design approval application and terminating ten years from the date of issuance of the design certification. However, no construction permit, operating license, combined construction permit and operating license, or manufacturing license will be issued for applications referencing the final design prior to the issuance of the final design approval. Further, any changes to the final design that result from the design approval or certification processes will be required to be reflected in those applications as well. The expiration of the design certification will not affect the use of the certified final design in applications for construction permits, operating licenses, combined construction permits and operating licenses, and manufacturing licenses docketed prior to its expiration, and operating license applications that referenced the final design certification at the construction permit stage.

2. Duplicate Plant Concept

The duplicate plant concept involves applications by one or more utilities for licenses to construct and/or operate a number of nuclear power plants of essentially the same design at different sites.

A duplicate plant design may be referenced at both the construction permit and operating license stages, and in applications for combined construction permits and operating licenses in a one-step licensing process. Use of the duplicate plant design at the construction permit stage is a prerequisite for its use at the operating license stage. Although use of the duplicate plant design at the operating license stage is not mandatory, that is, the operating license application may be submitted as a custom plant application, it is strongly recommended. The approved duplicate plant design shall be utilized and relied upon by the staff and the ACRS in their reviews of those applications. However, the duplicate plant design is subject to litigation in individual licensing proceedings on those applications.

A duplicate plant design may utilize a reference system design for an entire nuclear power plant or a major portion thereof. Any portions of the duplicate plant design for which a design certification has been issued shall be utilized and relied upon by the staff, the ACRS, the hearing boards and the Commission in their reviews of applications for construction permits and operating licenses referencing the duplicate plant design. In addition, any portions of the duplicate plant design for which a design certification has been issued are not subject to litigation in individual licensing proceedings on those applications.

An application for a duplicate plant must demonstrate compliance with the four licensing requirements for new plant designs as set forth in the Commission's severe accident policy statement.

A duplicate design approval will be prepared to document the staff's approval of the acceptability of the duplicate plant design for referencing in construction permit, operating license, and combined construction permit and operating license applications. In accordance with 10 CFR 50.109, once the initial duplicate design approval is issued (i.e., preliminary duplicate design approval (PDDA) or final duplicate design approval (FDDA)) the Commission will not require modification to the design unless it determines that such modifications provide substantial increase in the overall protection of the public health and safety or the common defense and security. The duplicate design approval will be included in the safety evaluation report for each license application referencing the duplicate plant design.

Duplicate plant designs may be referenced in applications for construction permits, operating licenses, and combined construction permits and operating licenses during the period commencing with the docketing date of the initial applications referencing the duplicate plant design and terminating on the date of issuance of the duplicate design approval.

The staff will determine the acceptability of the use of a duplicate plant design in the initial applications proposing to reference such a design during pretendering discussions with the involved utilities. Subsequent to the docketing of the initial applications, each additional application proposing to reference the duplicate plant design will be subjected to a qualification review. The qualification review will consider the following information:

- The arrangements made with the developers of the duplicate plant design for its use;
- A discussion of the compatibility of the duplicate plant design with the characteristics of the proposed site;
- A description of any changes to the original duplicate plant design and justification for the changes;
- The status of any matters identified for the duplicate plant design in the safety evaluation report, or subsequently identified by the ACRS or during public hearings on applications referencing the duplicate plant design as requiring subsequent resolution; and
- Identification of the major contractors, with justification for the acceptability of any that are different than those used by earlier applicants using the duplicate plant design.

3. Replicate Plant Concept

The replicate plant concept involves an application by a utility for a license to construct and/or operate one or more nuclear power plants of essentially the same design as one already licensed, (i.e. CP or OL).

The design of the plant already licensed (termed the base plant design) may be replicated at both the construction permit and operating license stages, and in applications for combined construction permits and operating licenses in a one-step licensing process. Replication of an approved base plant design at the construction permit stage is a prerequisite for its replication at the operating license stage. Although replication of the base plant design at the operating license stage is not mandatory, that is, the operating license application may be submitted as a custom plant application, it is strongly recommended.

An application for a replicate plant must demonstrate compliance with the four licensing requirements for new plant designs as set forth in the Commission's severe accident policy statement.

Each application proposing to replicate a previously-licensed plant will be subjected to a qualification review to determine the acceptability of the base plant for replication and to define specific matters that must be addressed in the application for the replicate plant. In applying 10 CFR 50.109, the Commission will not require modifications to those portions of the base plant design that are replicated once it has issued the initial license for the base plant unless it determines that such modifications provide a substantial increase in the overall protection of the public health and safety or the common defense and security. A further requirement for qualification is that the application for a replicate plant must be submitted within five years of the date of issuance of the staff safety evaluation report for the base plant. The qualification review will consider the following information:

- The arrangements made with the developers of the base plant design for its replication;
- The compatibility of the base plant design with the characteristics of the site proposed for the replicate plant;
- A description of any changes to the base plant design with justification for the changes;
- The status of any matters identified for the base plant design in the safety evaluation report, or subsequently identified by the ACRS or during the public hearings on the base plant application as requiring subsequent resolution;
- Identification of the major contractors, with justification for the acceptability of any that are different than those used by the base plant applicant; and
- A discussion of how the replicate plant design will conform to any changes to the Commission's regulations which have become effective since the issuance of the license for the base plant.

4. Manufacturing License Concept

The manufacturing license concept involves an application for a license to manufacture a number of identical nuclear power plants at a location other than those at which they are to be operated.

The application for a manufacturing license must address the four licensing requirements for new plants set forth in the Commission's severe accident policy statement. In accordance with 10 CFR 50.109, once the manufacturing license has been issued, the Commission will not require modifications to the design unless it determines that such modifications provide a substantial increase in overall protection of the public health and safety or the common defense and security.

Appendix M to 10 CFR 50 requires that a manufacturing license specify the number of units permitted to be manufactured. The number of units to be specified in a manufacturing license will be that number whose start of manufacture, as defined in the license application, can practically begin, considering the limitations inherent in the proposed manufacturing facility, during the ten-year period commencing on the date of issuance of the manufacturing license, but in no event will that number be in excess of ten.

5. Other Considerations

Sections 1 through 4 of this policy statement set forth the terms and conditions for the reference system, duplicate plant, replicate plant and manufacturing license standardization concepts, respectively. The Commission recognizes that situations may arise that are not explicitly covered by these four concepts. Three such situations are addressed below. Other such situations, which are expected to be few in number, will be considered on a case-by-case basis.

Discussions with industry representatives indicate that the most likely types of license applications that will be submitted in the near future will involve reactivation of deferred plants and replication of plants that have been previously licensed. While the Commission strongly encourages the use of the four standardization concepts described in Sections 1 through 4 of this policy statement, it recognizes the need to accommodate these latter types of applications, each of which is discussed below.

The Commission acknowledges that the reactivation of deferred plants is a viable licensing option. However, because these plants are based on custom as well as standard designs, and because of the many complex factors involved, the criteria and procedures for the regulatory treatment of these plants as a whole will be a matter of separate consideration apart from this policy statement.

The Commission believes that the replication of previously-licensed plants should be subject to the provisions of Section 3 of this policy statement. However, during the transition period, the reference period for replication of such plants will be extended for five years from the effective date of this policy statement. In addition, consideration will be given to relaxation of the other provisions of this policy statement during this five-year period if suitably justified.

Plants that have been recently licensed, that is, those plants that have been reviewed against NUREG-0900, may be replicated for a period of five years from the effective date of this policy statement provided the application otherwise meets the provisions of Section 3 of this policy statement. Plants so replicated may be located at any suitable site.

Plants licensed earlier, that is, those plants that have not been reviewed against NUREG-0800, may be replicated for a period of five years from the effective date of this policy statement provided that the application otherwise meets the provisions of Section 3 of this policy statement and the design performance and operating history of the base plant justifies its replication. Plants so replicated may be located only on the same site and operated by the same utility as the base plant.

Although some design differences may be encountered as a result of complying with the four licensing requirements set forth in the Commission's severe accident policy statement, the Commission believes that replication of existing designs may offer improvements in public health and safety, and operating costs as a result of operator familiarity and improved maintenance due to the similarity of design.

ENCLOSURE 2

IMPLEMENTATION OF THE STANDARDIZATION PROGRAM TO DATE

- Applications for 23 preliminary design approvals have been submitted for review under the reference system concept. Preliminary design approvals have been issued for 13 of these designs; one application is still under review; and the nine remaining applications have been subsequently withdrawn by the applicants. All of the preliminary design approvals that have been issued have since expired.
- Applications for construction permits for 25 units referencing five of the preliminary designs have been submitted for review. Construction permits have been issued for 18 of the units referencing three of the preliminary designs. The applications for the seven remaining units have been subsequently withdrawn by the applicants.
- Applications for two final design approvals have been submitted for review under the reference system concept. Final design approvals have been issued for both of these designs, however, compliance with the requirements for new plant designs as set forth in the Commission's "Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants" (50 FR 32138) must be demonstrated prior to the issuance of a construction permit for an application referencing these designs.
- Applications for operating licenses for four units referencing one of the final designs have been submitted for review. An operating license has been issued for one of the units; decisions on the issuance of operating licenses for two of the units are awaiting the completion of their construction; and the review of the application for the remaining unit has been deferred at the request of the licensee.
- Applications for construction permits for 15 units have been submitted for review under the duplicate plant concept. Construction permits have been issued for 12 of the units, and the applications for the remaining three units have been subsequently withdrawn by the applicant. Seven of the units with construction permits have been subsequently cancelled. Applications for operating licenses for six units have been submitted for review under the duplicate plant concept. Operating licenses have been issued for three of the units, and decisions on the issuance of operating licenses for the three remaining units are awaiting the completion of their construction.
- Applications for construction permits for six units have been submitted for review under the replication concept. Construction permits have been issued for four of the units. The applications for the two remaining units have been subsequently withdrawn by the applicant. Two of the units with construction permits have been subsequently cancelled. Applications for operating licenses for two units have been submitted for review under the replication concept. These units have been subsequently cancelled.

- An application for a manufacturing license for eight units has been submitted for review under the manufacturing license concept, and the manufacturing license has been issued. Applications for construction permits for two units referencing the design have been submitted for review. These applications have been subsequently withdrawn by the applicant.

ENCLOSURE 3

SUMMARY OF SIGNIFICANT PROPOSED REVISIONS TO THE COMMISSION'S 1978 STANDARDIZATION POLICY STATEMENT

1. Licensing Requirements for New Plant Designs

The Commission's licensing requirements for new plant designs, both standard and custom, are set forth in its severe accident policy statement. These requirements are summarized below:

- Demonstration of compliance with the procedural requirements and criteria of the current Commission regulations, including the Three Mile Island requirements for new plants as reflected in the construction permit rule, 10 CFR 50.34(f);
- Demonstration of technical resolution of all applicable unresolved safety issues and the medium- and high-priority generic safety issues, including a special focus on assuring the reliability of decay heat removal systems and the reliability of both AC and DC electrical supply systems;
- Completion of a probabilistic risk assessment (PRA) and consideration of the severe accident vulnerabilities that the PRA exposes along with the insights that it may add to the assurance of no undue risk to public health and safety; and
- Completion of a staff review of the design with a conclusion of safety acceptability using an approach that stresses deterministic engineering analysis and judgment complemented by PRA.

All applications for design approvals under the reference system concept, applications for construction permits, operating licenses, and combined construction permits and operating licenses under the duplicate plant and replicate plant concepts, and applications for manufacturing licenses under the manufacturing license concept must address these four licensing requirements as set forth in the Commission's severe accident policy statement.

2. Design Certification through Rulemaking

Although Appendix O to 10 CFR 50 provides the opportunity for the Commission to approve a reference system design in a rulemaking proceeding, no one has taken advantage of that opportunity to date. This approach can contribute significantly to the stability of the licensing process. To further encourage the use of this approach, the Commission has outlined in its severe accident policy statement a design certification option for approving a reference system design. Under that option, a design certification would be issued by the Commission for a reference system design following the completion of a rulemaking proceeding. Because of the more rigorous reviews to which these designs would be subjected, design certifications will be issued with terms of ten years. Further, since the design would be approved by the Commission following the completion of a rulemaking proceeding, it would not be subject to litigation in individual license applications that referenced the design.

3. Changes to Approved Designs

We believe that standardization will be best served if changes to approved or certified designs are minimized. Nevertheless, we recognize that there are situations in which such changes are needed or desirable.

Backfitting is defined in 10 CFR 50.109 as the modification of or addition to systems, components, or design of a facility; or the design approval or manufacturing license for a facility; or the procedures or organization required to design, construct or operate a facility; any of which may result from a new or amended provision in the Commission rules or the imposition of a regulatory staff position interpreting the Commission rules or the imposition of a regulatory staff position interpreting the Commission rules that is either new or different from a previously applicable staff position after the date of issuance of the design approval under Appendix M, N or O of Part 50.

The draft policy paper clarifies how the backfitting rule should be applied to each of the four concepts. As stated in the rule, the Commission will require backfitting of a facility only when it determines, based upon the analysis required in 10 CFR 50.109(c), that there is substantial increase in the overall protection of the public health and safety or the common defense and security to be derived from the backfit and that the direct and indirect costs of implementation for that facility are justified in view of the increase protection.

For the reference system concept, the backfitting rule applies after the issuance of the initial design approval, i.e. PDA or FDA.

For the duplicate plant concept the backfitting rule applies after the issuance of the initial duplicate design approval, i.e., PDDA or FDDA.

For the replicate design concept, the backfitting rule applies after the date of the initial CP or QL for the base plant.

For the manufacturing license, the backfitting rule applies after the issuance of the first manufacturing license, i.e., based upon preliminary design information or final design information.

Holders of design approvals or certifications may modify the approved or certified design by applying for an amendment to the design approval or certification. Any such amendments will only be required to apply to applications for construction permits, and combined construction permits and operating licenses that are submitted after the amendment is issued unless the modifications provide a substantial increase in the overall protection of the public health and safety or the common defense and security.

4. Overlap Between Duplicate and Replicate Design Concepts

The Commission's 1978 standardization policy statement permitted duplicate plant designs to be referenced in license applications docketed between the docketing date of the initial application referencing the duplicate plant design and a date five years after the staff approval of the duplicate plant design. It also permitted license applications for replicate plant designs to be docketed within three years of the dates of issuance of the staff safety evaluation reports for the base plants. We believe this overlap is unnecessary; applicants wishing to reference duplicate plant designs subsequent to their approval could do so without penalty under the replicate plant concept provided the three-year referencability period for the replicate plant concept were extended to five years. Therefore, future duplicate plant designs will be permitted to be referenced in license applications docketed between the docketing date of the initial application referencing the duplicate plant design and the date of approval of the duplicate plant design, and future replicate plant designs will be permitted to be referenced in license applications docketed within five years of the dates of issuance of the staff safety evaluation reports for the base plants.

5. Fees

To further encourage the use of the reference system concept, we believe that fees that would otherwise be required of reference design applicants should be allocated among the applicants for permits and licenses which propose to use the reference design. Accordingly, we would not require application filing or issuance fees for reference design approvals or certifications, or amendments or renewals thereof. If no application for a permit or license for a facility is filed within the initial term or renewal period of the design approval or certification, any outstanding fees will become immediately due and payable by the holder of the design approval or certification.

Allocating fees among the applicants for permits and licenses who use a reference design is consistent with the draft "Nuclear Power Plant Licensing and Standardization Act of 1985." It should be noted, however, we have been informed by the Office of the Executive Legal Director that approval of the draft Act would be required prior to the Commission adopting this approach. Enclosure 6 to the Commission paper provides a discussion of license fees related to the reference system concept.

Fees for the other standardization concepts are those required by 10 CFR 170 for the type of license being requested.

6. Renewals of Reference Design Approvals and Certifications

We believe that the standardization policy statement should include provisions for the renewal of final design approvals and design certifications but, in order to provide incentive to holders of preliminary design approvals to proceed with the development of final designs in a timely manner, preliminary design approvals may only be renewed upon a showing of good cause. Accordingly, not less than one year or more than three years prior to the expiration of the final design approval or the design certification, holders of the approval or certification may apply for the renewal thereof. The approval and certification will be renewed for an additional period of time of not more than five years in the case of final design approvals, and not less than five or more than ten years in the case of design certifications provided the designs comply with the Commission's current regulations. If no application for a permit or license for a facility is filed within the renewal period, any outstanding fees will become due and payable by the holder of the reference design approval or certification.

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November 1, 1985

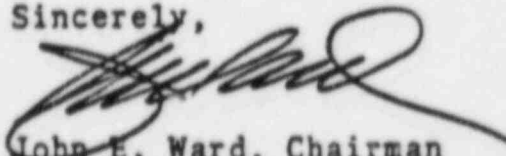
Mr. William J. Dircks
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Maryland National Bank Bldg., #6715
7735 Old Georgetown Road
Bethesda, Maryland 20814

Dear Bill:

In my May 30, 1985, letter to you, I alerted you to the formation of an executive level AIF Study Group on the Practical Application of Standardized Nuclear Power Plants in the United States and of our intent to provide input to you in your efforts to update the NRC Policy Statement on Standardization.

Since then our Study Group has met four times and has made iterative reviews of the work products of two very active working groups, our Working Group on Regulatory Interactions, chaired by Mr. James Rhodes, Vice President, Virginia Power Company, and our Working Group on Design Information Requirements, chaired by Mr. Richard Priory, Vice President of Duke Power Company. The combined efforts of these groups are reflected in our enclosed "expanded outline" on the Policy Statement on Standardization, which we request you incorporate in the development of your Policy Statement revision. The concepts included in the enclosed "expanded outline" were also recently endorsed by our Policy Committee on Nuclear Regulation, chaired by Mr. Wallace Behnke, Vice-Chairman of Commonwealth Edison Company. The enclosed document reflects the collective judgement of the industry and demonstrates the high level of interest in achieving a workable standardization process.

Sincerely,



John E. Ward, Chairman
AIF Study Group on the Practical
Application of Standardized Nuclear
Power Plants in the United States

JEW:wbb

cc: Chairman Palladino
Commissioner Asselstine
Commissioner Bernthal
Commissioner Roberts
Commissioner Zech

10/31/85

POLICY STATEMENT ON STANDARDIZATION
(EXPANDED OUTLINE)

I. INTRODUCTION

Introductory section stating the purposes of the policy statement and the Commission's endorsement and encouragement of standardization.

Language from the proposed legislation would be included indicating that the use of standardized designs can benefit the public health and safety by concentrating the resources of designers, engineers and vendors on particular approaches, by stimulating standardized programs of construction practice and quality assurance, by improving the training of personnel, by fostering more effective maintenance and improved operations, and because the use of such designs will permit a more effective licensing and inspection process.

The Introduction would explain how standardization will benefit the regulatory process by allowing a more expeditious and efficient review of the applications and a better understanding of the designs by the staff. The Commission would be asked to commit to a more disciplined review of standardized plants, and not to allow the staff to re-review applications without due cause and authorization. The need for a well-defined review process would be emphasized, and mention would be made that the staff is cooperating with EPRI and others in the preparation of review guidelines to be used on standard design applications.

This section would indicate that this policy statement will apply to current LWR designs as well as variations of these designs; that it updates, expands, and replaces previous policy statements on the subject; that it is independent of any proposed legislation; and that it will lead to the necessary amendments of appropriate NRC regulations.

This section would indicate that the standardization and licensing reform legislation, presently under consideration in Congress, is not in conflict but in direct support of this policy statement. The Commission believes that both a Congressional mandate and this policy statement, and resulting regulatory changes, are necessary to accomplish all of its goals regarding standardization and licensing reform.

II. BACKGROUND

This section would provide a brief history of standardization, with reference to the 1972 and 1978 policy statements, 10 CFR Part 50 Appendices M, N and O, PDAs and FDAs issued, and other applications processed under the umbrella of standardization, e.g., replicate, reference and duplicate plants.

III. RECENT NRC ACTIONS

This section would summarize recent actions taken by the Commission paving the way for new applications, e.g., completion of TMI-related requirements, emphasis on the resolution of generic issues, backfit rule, policy statement on severe accidents (SAPS*), ongoing work on source terms, and safety goal.

The purpose of this section is to provide the bases for the positions stated below and the Commission's endorsement of new applications. On the basis of the available information and the experience gained from the operating plants, the Commission has concluded in the SAPS that existing plants pose no undue risk to public health and safety. Language would be included indicating that standard designs will not be subject to unnecessary changes by the Commission, and emphasizing the Commission's commitment to provide regulatory stability.

Reference would also be made to the legislation proposed by the Commission that would allow one-step licensing.

IV. COMMISSION POLICY

Reference System Concept

This section would update the corresponding section in the 1978 Policy Statement, and would eliminate the difference between the FDA-1 and FDA-2. It would also indicate that, based on the SAPS, all current FDAs, and those to be granted in the future, may be referenced in applications for a Construction Permit (CP) or Operating License (OL), or combined CP/OL.

* SAPS - Policy Statement on Severe Reactor Accidents
Regarding Future Designs and Existing Plants,
July 30, 1985.

Preliminary Design Approvals

This section would update the corresponding section in the 1978 Policy Statement taking into account the guidance contained in the SAPS (summarized in Section V of this policy statement).

Accordingly, after a PDA is docketed, the preliminary design may be referenced in new CP applications, with the corresponding OL application referencing the approved final design. The SAPS contains criteria and procedural requirements expected to be satisfied by new designs before they are granted final approval or certification. However, PDA applications will be expected to address these criteria and procedural requirements to the extent that it is reasonably possible. For example, although the Commission has indicated in the SAPS that it expects PRAs to be part of the PDA application process, it will not be a prerequisite for issuance of the PDA. If a comprehensive and detailed PRA is not performed, a meaningful, limited, quantitative risk analysis would be expected instead, either as part of the PDA process or of the CP applications referencing the design.

PDAs will be issued following completion of the staff's (including ACRS) review and would be subject to challenge in individual licensing hearings.

The discussion in the 1978 Policy Statement regarding the requirements for extending the life of PDAs active at that time would be eliminated as there are no PDAs active at this time. Instead, this section would indicate that in the future PDAs will be issued for a term of 10 years.

Final Design Approvals

This section would update the corresponding section in the 1978 Policy Statement taking into account the guidance contained in the SAPS (summarized in Section V of this policy statement), and eliminating the difference between the FDA-1 and FDA-2.

As in the past, a PDA will continue not to be a prerequisite for an FDA, with applicants having the option to submit FDA-level information initially and proceed directly with an FDA review. The FDA may be referenced in OL applications which had made reference to the corresponding PDA at the CP stage, and may be referenced also in new CP applications (and combined CP/OL applications).

The SAPS contains criteria and procedural requirements expected to be satisfied by new designs before they are granted an FDA. If the scope of the FDA reference design application is limited to an extent that would preclude the completion of a meaningful, comprehensive PRA, the requirement for a complete PRA may be waived. However, the applicant should still perform and submit supplementary risk analyses, to the extent practical, to demonstrate the adequacy of the proposed design. If a comprehensive PRA is not submitted for an FDA, an OL or combined CP/OL, applicant referencing the approved design would be required to submit a plant-specific PRA.

FDAs will be issued following completion of the staff's (including ACRS) review and would be subject to challenge in individual licensing hearings.

This section would also indicate that in the future FDAs will be issued for a term of 10 years.

Duplicate Plant Concept

This section would update the corresponding section in the 1978 Policy Statement taking into account the guidance contained in the SAPS (summarized in Section V of this policy statement), and eliminating the difference between the FDDA-1 and FDDA-2.

As indicated in the 1978 Policy Statement, the staff will issue a PDDA if the reference design is only preliminary, or an FDDA, if it is final. PDDAs and FDDAs will be issued following completion of the staff's (including ACRS) review and would be subject to challenge in individual licensing hearings. PDDAs may be referenced only in CP applications; FDDAs may be referenced in OL applications which had made reference to the corresponding PDDA at the CP stage, and in new CP applications (or combined CP/OL applications).

To be consistent with the previous sections of this policy statement and the SAPS, this section would indicate that PDDA applications will be expected to address the criteria and procedural requirements described in the SAPS to the extent that it is reasonably possible. Accordingly, PRAs will not be a prerequisite for issuance of the PDDA. However, if a comprehensive and detailed PRA is not performed, a meaningful, limited, quantitative risk analysis would be expected instead, either as part of the PDDA process or of the CP applications referencing it. The criteria and procedural requirements contained in the SAPS will need to be satisfied before issuance of an FDDA.

This section would also indicate that in the future PDDAs and FDDAs will be allowed to be referenced in applications for periods of 10 years from the date of issuance.

Manufacturing License Concept

This section would update the corresponding section in the 1978 Policy Statement taking into account the guidance contained in the SAPS (summarized in Section V of this policy statement).

To be consistent with previous sections, the 1978 Policy Statement would also be changed to require the design to be updated 10 years, instead of 5 years, after its approval.

Replicate Plant Concept

This section would update the corresponding section in the 1978 Policy Statement taking into account the guidance contained in the SAPS (summarized in Section V of this policy statement).

As indicated in the 1978 Policy Statement, when an applicant proposes to replicate a previously approved plant the staff would need to determine whether the base plant may be replicated, and the design would be subject to challenge in individual licensing hearings. Applications for replication would be accepted for periods of 10 years following issuance of the SER for the base plant.

To be consistent with the previous sections of this policy statement and the SAPS, this section would indicate that the criteria and procedural requirements contained in the SAPS would need to be satisfied before a design is accepted for replication.

If the scope of the design to be replicated is limited to an extent that would preclude the completion of a meaningful, comprehensive PRA, the requirement for a complete PRA may be waived. However, plant-specific PRAs would be required from applicants referencing the design.

Standard Design Certifications

This section would formally establish the concept of Standard Design Certifications.

As indicated in the SAPS, the Commission is in favor of offering Standard Design Certifications in addition to the PDA and FDA options. The PDAs and FDAs are issued following completion of the staff's (including ACRS) review and would be subject to challenge in individual licensing hearings. CPs and OLs based on standard design approvals would be subject to any design changes arising from their particular licensing proceedings in accordance with the Commission's backfit rule. The Standard Design Certifications would be issued by the Commission following rulemaking proceedings and could not be challenged in individual hearings.

To be consistent with the proposed legislation, a standardized plant design or "any major subsystem which represents a discrete element" of the facility would qualify for a Standard Design Certification following the staff's final design review and approval. The Commission would also indicate its intent to provide the opportunity for a hearing as part of the rulemaking proceeding for a Standard Design Certification. As a result of this hearing, the design may be changed subject to the Commission's backfit rule.

Standard Design Certifications would be issued for a period of 10 years, and may be referenced in CP or OL applications (or combined CP/OL applications).

(The concept of design certification via a rulemaking proceeding described above is consistent with the SAPS. The proposed legislation uses the term "approval" instead of certification, and would empower the Commission to issue such approvals by means other than rulemaking.)

Level of Detail in Standard Design Certification Applications

Critical to the success of the Commission's standardization policy is the level of information that must be provided in standard design applications. This section would encourage the industry to collaborate with the staff to develop guidelines similar to those currently available for CP and OL applications.

The Commission would emphasize the need for "essentially complete" design information in applications but would stress that the applications should describe what is needed, i.e., methods, procedures, and performance criteria, rather than specific pieces of equipment. The guidelines should be consistent with recent Commission emphasis on regulations that are less prescriptive and more performance oriented, and would incorporate some of the characteristics of the SDA concept discussed in the 1978 Policy Statement. (The proposed legislation indicates that

standardized designs should be "sufficiently detailed and complete to support licensing.") These guidelines will also need to describe the inspections and tests that would be necessary to ascertain that construction was completed in accordance with the design specifications.

Applicants will provide sufficiently detailed criteria to enable the NRC to complete the safety review of the facility. The document provided by the applicant, a Plant Safety Report (PSR) or Standard Design Report (SDR) depending on the type of license requested, would describe major portions of the facility.

Design Criteria and Documentation

To fulfill the NRC need for design detail, the report should define the major design components and include the results of preliminary engineering to identify:

- Design basis criteria
- Analysis and design methods
- Functional design and physical arrangement of auxiliary, BOP, and NSSS systems
- Plant physical arrangements sufficient to accommodate systems and components
- Functional/performance specifications for components and materials sufficiently detailed to become a part of associated procurement specifications
- Acceptance/Test Requirements
- PRA Methodology

Required design documentation for systems, structures and components must include sufficient information to enable the NRC to make the safety determination and should include as appropriate:

- Design basis criteria
- Plant general arrangements of structures and components
- Process and instrumentation diagrams
- Control logic diagrams
- System functional descriptions
- Component and procurement specifications including acceptance test requirements
- Construction and installation specifications
- QA program
- Emergency plans

- Supporting design documentation such as site data and calculations sufficient to support the above level of design detail
- Security
- ALARA/Radiation Protection
- Accident Analysis
- Draft Technical Specifications
- PRA

It should be noted that all designs prepared prior to equipment purchase are subject to refinement and completion once detailed vendor information is available. From a conceptual and performance standpoint these details should not prevent the NRC from completing their health and safety determination. However, to deal with this situation without subsequent licensing proceedings, a program of confirmatory audits, performed by the NRC, could be utilized to review the refinements to detailed design information which are necessary in the process of procurement and installation of plant components.

Probabilistic Risk Assessment

To complement the design criteria, a probabilistic risk assessment (PRA) should be prepared as part of COL applications to identify significant contributions to risk in the design. Except in a few cases, the evaluation of component failures or equipment outages have been based on generic data, therefore, it is not necessary to commit to equipment purchase before performing the PRA. The completion of a PRA with adequate consideration for major risk contributors will increase the assurance that the design presents no undue risk to the public health and safety.

Acceptance/Test Requirements

Licensees and their suppliers should define acceptance/test criteria to assure that designs are properly translated and correctly installed in the plant. These requirements should be defined early in the licensing process and implemented in a series of readiness reviews based on completion of construction and acceptance/test criteria developed during the design stage.

Changes to Standard Designs

This section would indicate that standard design approvals and certifications will not be changed unless the Commission determines, based on significant new information, that a

modification is required to protect the public health and safety, and in accordance with the backfit rule. In implementing the backfit rule, Appendices M, N and O to 10 CFR Part 50 will be revised to indicate that the cost-benefit analyses will be performed on the first or lead unit for the given standard design. If the backfit can be justified on the lead unit, it will be implemented on all subsequent units referencing that design. If the backfit cannot be justified on the lead unit, it will not be applied to any unit referencing that design.

The backfit rule becomes effective after "the date of issuance of the design approval under Appendix M, N or O" to 10 CFR Part 50. For designs going through different levels of approval, e.g., a PDA followed by an FDA, the backfit rule will be considered in effect after the issuance of the first approval, in the same manner that a custom plant triggers the backfit rule after the issuance of the Construction Permit. For designs applying directly for a final approval, e.g., an FDA without a PDA, the Commission will institute a process by which the applicant for a standard design approval or certification would submit to the NRC prior to the submittal of the application a complete list of regulations and staff guidance documents (i.e., SRPs, Reg Guides, BTPs, etc.) applicable to the design.⁽¹⁾ This list will be acknowledged in writing by the staff and will serve as the basis for the review of the design. Changes to these requirements and guidance will need to be reviewed and approved by a high level of management (possibly in a process similar to that followed by the CRGR) and documented in writing. The purpose of this process is to provide discipline and stability to the review of standard applications even before the backfit rule becomes effective, and to serve as an incentive to the industry to develop the more detailed applications needed for a final approval.

Once a Standard Design Certification has been issued, it will not be subject to challenge in individual licensing hearings. Any challenge to the Standard Design Certification, whether sought by reason of special circumstances or otherwise, will only be considered in a rulemaking amendment procedure.

(1) Current regulations - 10 CFR 50.34(g) - require that applications for a construction permit, manufacturing license, and PDA or FDA be evaluated against the SRPs in effect six months prior the docketing date.

This section would also indicate that the Commission recognizes the need to allow standard design holders and utilities to make changes in order to incorporate such considerations as new technical developments, improvements in the reliability or safety of the designs, or to make accommodations for maintenance, radiation protection or procedural practices at a given utility. For example, a utility with other operating nuclear power plants may want to change the design of the control room in a standard design plant in order to maintain common features with the control rooms in its other plants. Similarly a standard design holder may want to incorporate new technical advances that may improve the performance of the design and thus increase its market appeal.

Changes requested by the holders of standard design approvals or certifications, if approved, will apply only to applications referencing the affected standard design and submitted after the change has been approved. Amendments to Standard Design Certifications would result in rulemaking proceedings and the opportunity for hearings.

Changes requested by CP and OL holders, and holders of a combined CP/OL, that referenced a standard design approval or certification will be approved by the Commission if it determines that they are in compliance with the appropriate regulations. Such changes would be limited to the license(s) for which they were requested. Changes to operating licenses and deviations or variances from Standard Design Certifications (exceptions from a rule) may result in the opportunity for a hearing.

Other changes may not require Commission approval in accordance with 10 CFR Part 50.59.

Renewals of Standard Design

As indicated in previous sections, approvals for duplication and replication, and all standard design approvals and certifications would be valid for 10-year periods. The 1978 Policy Statement established life terms of 5 years for the PDAs and FDAs, and for the duplication and replication options. These periods were selected considering the number of plant license applications anticipated at the time, the experience of changes in safety requirements that were then occurring with time, and the relative newness of the concept. However, it is now apparent that, because of the prevailing depressed market for nuclear plants, the period of effectiveness used to date for the different standardization options limit the ability of

participants in the overall design of a plant to develop their portions of the plant designs well before the approval for other sections of the design terminate (e.g., an architect-engineer developing the balance of plant design to mate with an approved nuclear steam supply system design), and thus obtain a reasonable return on investment by use of the design in one or more plants. Considering these factors, the current low order rate for nuclear plants, which effectively reduces the number of units likely to use a specific standard design, and the significantly increased stability in licensing requirements expected in the future, the Commission considers it appropriate to extend to 10 years the life terms of all standardization options.

In addition, this section would indicate that holders of the approvals and certifications described above may request renewals of such approvals and certifications prior to their expiration. The Commission, consistent with the intent of the proposed legislation, will renew the approvals or certifications "for an additional period of time not less than five nor more than ten years from the date of renewal."

V. COMPLIANCE WITH GUIDANCE IN POLICY STATEMENT ON SEVERE REACTOR ACCIDENTS REGARDING FUTURE DESIGNS AND EXISTING PLANTS

On July 30, 1985 the Commission issued a Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants (SAPS) containing the following criteria and procedural requirements that the Commission considers necessary for the licensing of new plants:

- a) Demonstration of compliance with the procedural requirements and criteria of the current Commission regulations, including the Three Mile Island requirements for new plants as reflected in the CP Rule (10 CFR 50.34(f));
- b) Demonstration of technical resolution of all applicable Unresolved Safety Issues and the medium- and high-priority Generic Safety Issues, including a special focus on assuring the reliability of decay heat removal systems and the reliability of both AC and DC electrical supply systems;
- c) Completion of a Probabilistic Risk Assessment (PRA) and consideration of the severe accident vulnerabilities the PRA exposes along with the insights that it may add to the assurance of no undue risk to public health and safety; and

- d) Completion of a staff review of the design with a conclusion of safety acceptability using an approach that stresses deterministic engineering analysis and judgment complemented by PRA.

The SAPS indicates that it is the Commission's belief that a new design for a nuclear power plant can be shown to be acceptable for severe accident concerns if it meets these criteria and procedural requirements.

In addressing criteria (b) and (c), the applicant for approval or certification of a reference design shall consider a range of alternatives and combination of alternatives to address the unresolved and generic safety issues and to search for cost-effective reductions in the risk from severe accidents.

It is intended that a new design would satisfy each of the fundamental criteria listed above before final approval or certification. It is recognized, however, that a new design can go through different stages or levels of approval before this final approval or certification, i.e., a PDA followed by an FDA. The unique circumstances of each design review will, therefore, require flexibility in the application of the criteria listed in the SAPS. In particular, the timing of the PRA requirement may differ considerably from one review to another. In addition, the licensee is required to ensure that the intent of the safety requirements is accomplished during procurement, construction and operation.

A comprehensive and detailed PRA may not be achievable in the absence of essentially complete and final detailed design information. Therefore, to require a complete PRA at the PDA stage would not be realistic. The Commission's recent experience, however, indicates that a substantial amount of design detail that would permit meaningful, limited, quantitative risk analysis does exist at the PDA stage. Because the Commission believes that risk analysis of this type would be a useful design tool, the Commission expects that it would be completed as part of the PDA application process. A complete risk analysis would not be a prerequisite for issuance of a PDA. However, if this risk analysis is not performed in the PDA process, it will have to be provided as part of any CP application referencing the design.

If the scope of the FDA reference design application is limited to an extent that would preclude the completion of a meaningful, comprehensive PRA, the requirement for a complete PRA may be waived. However, the applicant should still perform and submit supplementary risk analyses, to the extent practical, to demonstrate the adequacy of the proposed design. If a comprehensive

PRA is not submitted for an FDA, an OL or combined CP/OL applicant referencing the approved design would be required to submit a plant-specific PRA. For standard design approvals of restricted scope, additional limitations beyond the PRA aspects may exist.

Note: This section is, except for some introductory and linkage words, an exact paraphrase of sections of the SAPS.

ENCLOSURE 5

RULEMAKING OPTIONS FOR STANDARD DESIGN CERTIFICATIONS

With its approval of the Severe Accident Policy Statement, the Commission has cleared the way for proceeding with the certification of standard designs by rulemaking. As the Commission is aware, the Policy Statement does not require that a design vendor pursue certification beyond the staff's Final Design Approval. The staff at present is uncertain whether vendors will request certification by rulemaking, thereby removing from future licensing litigation issues regarding the adequacy of the design itself. ^{1/} The staff believes, however, that vendors are more likely to consider such a step if the rulemaking procedures to be used have been clearly set out in advance. To this end the staff describes below several alternative methods the Commission could choose to apply in a design certification rulemaking.

A. Notice and Written Comments

The simplest procedure meeting the requirements of the Administrative Procedure Act is that used for most NRC rules: a notice of proposed rulemaking requesting written comments, review of the comments, and promulgation of a final rule. If this method, clearly the most expeditious, were adopted, the notice of proposed rulemaking would contain the following: (1) availability of the application, staff SER, and Final Design Approval, and ACRS letters, together with other technical material supporting the application, (2) terms of the proposed rule, i.e., duration of certification, effect on licensing proceedings, (3) specific issues on which comment is requested (if any), (4) role of the ACRS in the review process, and (5) the decisional criteria to be applied by the Commission.

Comments would be evaluated by the staff and the ACRS, with assistance from the applicant as necessary. If substantial technical issues were raised which could not be resolved on the basis of the existing application and SER, the applicant would be required to develop such information to support the application. This new information would have to be reviewed by the NRC staff and might have to be made available for a second round of public comment if it modifies the application in significant respects. A second round of notice-and-comment could obviously delay the issuance of a final rule substantially.

The initial resource investment for this method would be modest, both for the NRC and the applicant. This consideration might make this approach attractive to an applicant not wishing to commit substantial resources when the market for the design is uncertain. As noted above, however, both the applicant and the NRC might have to commit additional resources

^{1/} As the Commission is aware, GE has stated that it will not devote resources to rulemaking at this time, but might consider doing so if a domestic order is received for a GESSAR-II plant.

to respond to public comments and to support a second round of public comment in some circumstances.

B. Notice and Comment with Opportunity to Request
Legislative Hearing

In this approach a notice of proposed rulemaking would be published requesting written comments as in (A), but would offer the opportunity of a legislative hearing upon request of an interested person or persons. As a condition to granting such a request, however, the requesting persons would be required to state what issues they wished to be considered at the hearing, and commit to providing expert testimony on those issues.

If a hearing request were granted, notice of the hearing would be published in the Federal Register, setting out the details of the procedures to be followed and issues to be considered. (Although not an adjudicatory hearing, this process would be very similar to an operating license notice of opportunity for hearing, notice of hearing, etc.) The Commission has the discretion to employ a number of formats, from the simple hearing and recording of testimony to interchanges among those present and a limited right of cross-examination. Since such rulemaking procedures go well beyond the minimum notice and comment requirements for rulemaking, the agency has broad discretion to establish hearing procedures best suited to the matters at issue.

Following such a hearing, the complete record of the rulemaking would be reviewed, including both the hearing record and any other written comments. The notice of final rulemaking would have to include responses to written comments and the agency's resolution of issues considered at the hearing.

The resources needed to implement this option would obviously depend on whether one or more hearings were held. In the absence of a hearing, the resource commitment would be the same as for notice-and-comment. If a hearing were held, it is likely more issues would be raised in greater technical depth, and both applicant and NRC resources would be needed to resolve these issues and perform a thorough review of the hearing record itself. ^{2/} Given this potential for a larger resource commitment, this option might not be favored by an industry applicant in the absence of a clear domestic market for the standard design.

C. Notice and Comment with Hearings Absent Request

^{2/} In this regard, it would be important to impose some limitations on the scope and length proceeding at the outset. Absent any present limits on the hearing, it could easily grow to ECCS-size, i.e., 125 days of hearing and 22,000+ pages of transcript.

This method goes somewhat further than (B) in that the notice of proposed rulemaking would announce the agency's intent to hold informal hearings on the proposed certification. The notice would set out the matters at issue as specifically as possible, the hearing procedures to be used, and request that all persons wishing to participate in the hearings notify the agency within a stated period of time. Written comments would also be invited from those not intending to participate in the hearings. Hearing procedures would be flexible, as stated in (B).

This approach would require a substantial resource investment by the applicant and the NRC. As with the previous alternative, it might not be favored by a potential applicant where a definite market for the design did not yet exist.

D. On-the-Record-Proceeding

The agency has the option of conducting rulemaking by formal hearings, according to the requirements of Sections 556 and 557 of the Administrative Procedure Act. The procedure follows that for licenses, i.e., appointment of a hearing board, use of 10 CFR Part 2 Rules of Practice, formal taking of evidence, including cross-examination, and board findings and recommendations to the Commission. The Commission retains final authority to accept or reject the board's recommendations in promulgating a final rule. In this procedure the record consists only of evidence admitted at the hearing; written comments are not solicited or accepted from the general public.

This option would require the largest resource commitment from the applicant and the NRC. While the informal hearings associated with the previous two options would tend to focus on technical issues, thus limiting the role and associated expense of legal counsel, the formal hearing requires full use of legal representation (in addition to the need for a adjudicatory board chaired by an attorney) to assure that the Rules of Practice are observed. We do not expect that this option would be favored by an applicant for a standard design certification under any circumstances.

Role of the ACRS

In each of the above options, ACRS views would be sought and considered. ACRS review of the design should be performed prior to the rulemaking itself, and the results of that review made available at the time the proposed rule is announced. The ACRS should be given an opportunity to review the complete record (including comments on its own review) and a final ACRS letter on the design should be forwarded to the Commission for its consideration during the final rule process.

The ACRS could, either by direction of the Commission or in its own discretion, hold one or more informal public hearings on the design at which varying technical points of view could be heard. Such hearings would be more limited in scope than those suggested in Options (B) and (C) above, and

participation would most likely be limited to technical experts. To the extent non-industry groups wished to present expert testimony focussed on technical issues, the ACRS could receive and evaluate such testimony, whether written or oral. The ACRS would not be equipped to carry out general public hearings of the legislative type.

Advantages and Disadvantages

Simple notice-and-comment rulemaking involves the least potential for delay (if time is an important factor) and the least initial investment of agency and applicant resources. However, there may be a public perception that notice and comment without opportunity for any type of public hearing is not commensurate with the significance of the outcome of the proceeding, viz., foreclosure of design-related issues for a period of up to ten years. The offering of an informal hearing could reduce the likelihood of legal challenge by providing a broader forum for airing of public concerns.

At the opposite extreme, formal rulemaking carries with it the greatest investment of resources and a large potential for an extended proceeding. The extensiveness of the record developed would give the agency a strong position as regards a substantive challenge to the rule in court (i.e., an assertion that the rule was not based on substantial evidence), but the requirement that Sections 556 and 557 of the APA be followed provides an arena for a variety of procedural-challenges (e.g., impermissibly restricting the scope of cross-examination). If experience is any guide regarding the progress of formal proceedings, a certification conducted by this method would probably take at least a year, with a potential for several years.

Counting from the issuance of the notice of proposed rulemaking, the staff believes the notice-and-comment process could present a final rule to the Commission within six to eight months. This period could lengthen to a year or more if one or more hearings were held. The resource commitment for the agency and the applicant would depend on the scope of issues raised, the technical complexity of those issues, and the amount of work needed for resolution. To the extent possible, the applicant would be relied upon to perform technical work, subject to review and acceptance by the staff assisted by the ACRS.

LICENSE FEES

Currently Part 170 requires full cost recovery (up to a ceiling of \$1,477,100) for review of standard reference designs for a nuclear power plant or major portion thereof when the review is conducted outside the context of a CP, OL or manufacturing license application. The fee is billed to the applicant at six-month intervals as the review progresses until the review is complete either by issuance of an approval, withdrawal or denial.

Prior to June 20, 1984 (date current rule was adopted), Commission regulations required PDA review fees to a ceiling of \$462,100 for each NSSS and BOP and FDA review fees to \$533,400 for the NSSS and \$551,200 for the BOP. The fees were to be paid in five installments based on payment of 20 percent of the approval fee as each of the first five units of the approved design were referenced in utility applications.

Thirteen PDAs have been granted and none were subject to fees under Part 170. Two FDAs have been issued to date. Both were issued during the period of the 1978 fee schedule. Combustion Engineering has paid \$436,720 of \$533,400 in review fees for CESSAR-80 (NSSS) since it was referenced only four times. General Electric has paid only the application fee (\$50,000) since the approved design has not been referenced in a utility application.

The fee proposal contained in the draft revised standardization policy statement would not require an application fee or periodic payment of review costs for approval certification, amendment or renewal applications. Fees designed to recover costs would be allocated among the applicants for CPs, OLs and combined CPs and OLs proposing to use the reference design. If no application for a permit or license for a facility is filed within the initial term or renewal period of the design approval or certification, any outstanding fees become immediately due and payable by the holder of the approval certification.

The modification of fee requirements does not deal with the following issues:

1. The current NRC fee policy, based on court decisions, is that specific charges (fees) are assessed for specific services rendered to identifiable recipients. Thus fees are assessed only to the applicant for the service.

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49-27225

2. If the legal obstacle of charging costs to persons other than the applicant is resolved, the question remains as to how the costs are to be allocated. The court has warned that fee development and assessment must not be arbitrary and capricious.
3. The proposed requirement that the fee shall become immediately due and payable by the applicant for the design approval if no reference application is filed by a utility raises several questions; e.g., is it practical to bill for services performed after a 10-year lapse in time; what if the initial applicant for design approval is no longer in business; who is responsible for the costs if the design application is denied or withdrawn, etc.

The application filed by Westinghouse Electric for RESSAR-SP/90 is currently undergoing staff review and the applicant is subject to fees for full recovery of NRC costs to \$1,477,100. Also, the review of the severe accident analysis report filed by General Electric for GESSAR II is nearing completion, and this amendment to the FDA-1 is subject to full cost recovery under Part 170. General Electric has filed a written request to be exempted from the provisions of the revised rule for the GESSAR II severe accident analysis report. If granted, General Electric would not be required to pay any part of the FDA-1 fee unless it is referenced by utilities.

If the Commission readopts a deferred payment schedule, fairness and equity would seem to dictate that deferred payment also apply to the applications currently on file.

1. The \$1,477,100 PDA for RESAR-SP/90 (which would include the cost for the review of the severe accident analysis) would be deferred until the approved design is referenced in a utility application(s) or the initial approval or its renewal expires.
2. The fee for the GESSAR-II severe accident analysis would be deferred until the approved design is referenced in a utility application or the initial approval or its renewal expires.

The enclosure shows fees required under 1978 and 1984 schedules.

Attachment:
Fees For Review of PDA, FDA

FEEES FOR REVIEW OF PDA, FDA

	<u>1978 Rule</u>	<u>1984 Rule</u>
Application Fee (NSSS, BOP)	\$50,000	\$50,000 (preliminary, final)
PDA (NSSS)	\$412,100 (excludes appl. fee)*	\$1,427,100 (excludes appl. fee)*
PDA (BOP)	\$412,100 (excludes appl. fee)*	
FDA (NSSS)	\$483,400 (excludes appl. fee)*	\$1,427,100 (excludes appl. fee)*
FDA (BOP)	\$501,200 (excludes appl. fee)*	
Amendment to PDA, FDA	Full cost	Full cost
Payment	5 installments for first 5 units referenced	Payment due at 6-month intervals as work progresses

*Charge based on full costs to ceiling.

ORIGINAL

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the matter of:

COMMISSION MEETING

Briefing on Policy
Statement on Nuclear
Power Plant Standardization

(Public Meeting)

Docket No.

Location: Washington, D. C.

Date: Wednesday, December 11, 1985

Pages: 1 - 83

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BRIEFING ON POLICY STATEMENT ON
NUCLEAR POWER PLANT STANDARDIZATION

PUBLIC MEETING

Nuclear Regulatory Commission
Room 1130
1717 H Street, Northwest
Washington, D.C.
Wednesday, 11 December 1985

The Commission met in open session, pursuant to
notice, at 10:15 a.m., the Honorable NUNZIO J. PALLADINO,
Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:

- NUNZIO J. PALLADINO, Chairman of the Commission
- THOMAS M. ROBERTS, Member of the Commission
- JAMES K. ASSELSTINE, Member of the Commission
- FREDERICK M. BERNTHAL, Member of the Commission
- LANDO W. ZECH, JR., Member of the Commission

1 Presenters seated at the Commission Table:

2 William J. Dircks

3 Victor Stello

4 Frank Miraglia

5 Cecil Thomas

6 Sam Chilk

7 Herzel Plaine

8

9 Audience speaker:

10 William Olmstead

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P R O C E E D I N G S

CHAIRMAN PALLADINO: Good morning ladies and gentlemen. Today we have with us members of the Staff to discuss SECY-85-382, the proposed Standardization Policy Statement.

Early this year the Staff forwarded SECY-85-225, which discussed the staff plans for formalizing the subject policy. This is our first meeting with the Staff on this subject.

In 1978 the Commission approved a standardization policy. That policy described the conditions that must be met for each of the standardization concepts. Over the years, this policy has been used extensively.

Recently, the Commission issued its Severe Accidents Policy Statement which set forth licensing requirements for new plant designs.

In addition, the Commission has proposed to the Congress draft legislation entitled Nuclear Power Plant Licensing Standardization Act of 1985

To supplement these actions, I believe it is appropriate for the Commission to update the 1978 Standardization Policy Statement to reflect recent NRC initiatives.

At the completion of today's meeting, I would like to get a feel from my fellow Commissioners to determine

1 whether or not they feel they have enough information to act
2 on SECY-85-382 in the near future, or whether additional
3 actions are needed. And if so, what those actions are: Such
4 as additional meetings or the need for getting additional
5 information.

6 Before turning the meeting over to Staff, do any of
7 my fellow Commissioners have any additional opening remarks at
8 this time?

9 COMMISSIONER ZECH: No.

10 COMMISSIONER ROBERTS: No.

11 COMMISSIONER ASSELSTINE: No.

12 COMMISSIONER BERNTHAL: No.

13 CHAIRMAN PALLADINO: All right. Let me turn the
14 meeting over to Mr. Stello.

15 MR. STELLO: Thank you, Mr. Chairman.

16 What we want to do this morning is to present to you
17 the results of the staff's view on what the Commission ought
18 to adopt as a Standardization Policy Statement.

19 There are two things that I think are important to
20 recognize in doing so. First is that we have had the benefit
21 of considerable discussion with the industry, who formed up a
22 special group under the chairmanship of John Ward, and brought
23 in the various representatives of the industry, the utility
24 organizations, representatives from architect/engineering
25 firms and vendors to try to describe to the best of their

1 ability what they thought was important as they saw the future
2 of nuclear power, and what options they felt was important in
3 a standardization policy that they thought were going to be
4 significant in revitalization of the nuclear industry.

5 We have had the benefit of those discussions, and
6 they have submitted to us their views. And we will be
7 discussing the comparison of what their views are versus what
8 we think, and where those differences are, and why we have
9 those differences.

10 The second point that I think is important, is that
11 in recognizing that there needs to be a rather broad base of
12 standardization options for the interim; that the Policy
13 Statement does reflect that it is the Commission's desire and
14 intent that for the long term some of these other options
15 would, hopefully, move by the wayside and you would have a
16 true certified standardization concept. And that is recognized
17 in the policy.

18 I don't think that there is much more that one can
19 do than recognize that today, in light of the expressed
20 desires of the industry. They believe it is very, very
21 important, and we will get into some of the details as to why,
22 to have those options.

23 COMMISSIONER ASSELSTINE: Vic, let me ask you one
24 question on your interaction with the industry.

25 I understand the AIF effort. We also had a fairly

1 substantial submittal from EEI, and we had a presentation
2 about a year or so ago from EPRI.

3 MR. STELLO: Yes.

4 COMMISSIONER ASSELSTINE: In some respects it
5 appears that the EEI and EPRI efforts were a bit different
6 than the AIF effort, particularly in the aggressiveness to
7 which they wanted certain elements in the standardization;
8 namely more complete facility design.

9 To what extent did you deal with those groups as
10 well, particularly since they would seem to more directly
11 reflect the customers? If those customers don't see what they
12 want from a standardization policy and from standard design,
13 it seems to me there aren't going to be any. If they don't
14 get what they want, they are not going to buy them.

15 To what extent did you involve them as well, as
16 opposed to just focusing on the AIF group as the industry
17 point of contact.

18 MR. STELLO: Well, the AIF group was heavily
19 represented by the utility industry, which is what I think --
20 I agree with you -- which is where the market is. It is who
21 buys them that is going to be important.

22 Of course, who builds them is also important. It is
23 what is available.

24 And they had a fair representation on the AIF
25 committee, and I stressed particularly that it was especially

1 important for them to get that utility input because they
2 were, in fact, the customers and they would, in fact, determine
3 the market. And what we have in the way of comments from them
4 does to the best of our ability to get an industry view. It
5 did not go to someone like NUMARC, which I had hoped perhaps we
6 could get it to go to someone like NUMARC, because it then does
7 truly represent the utility industry view. It fell short of
8 that, but had representation of various members who are
9 associated with NUMARC.

10 COMMISSIONER ASSELSTINE: Is it your view the AIF
11 effort is truly reflective of the EEI work and the EPRI work
12 as well?

13 MR. STELLO: I think some of the work in EPRI and
14 EEI is more in what I would probably call advanced reactor
15 concept as a possibility, rather than in standardization. We
16 are really talking about starting from scratch in terms of
17 designing, not using existing designs, as much as the concept
18 that AIF felt was very important.

19 The things that you hear over and over again is the
20 industry, especially the utility end of it, that if they are
21 going to build another power plant, what they are going to
22 look for is a power plant that has a good record.

23 COMMISSIONER ROBERTS: You bet. Replication. They
24 are not going to start from scratch with some new grandiose
25 design. That's crazy.

1 MR. STELLO: That's the thing that they felt for the
2 next plant that they might be interested in, that is the kind
3 of experience. They want those drawings that are complete
4 drawings, that have a complete set of construction drawings
5 to start with. A complete design. No question as to what the
6 design is. They know what kind of a maintenance history, they
7 know what kind of a training program they have to have. All
8 of the attributes that they need to make a plant run well in
9 front of them and can really copy that kind of a concept.

10 That is what you hear over and over from the industry
11 as the thing that they feel for the short term is very, very
12 important.

13 COMMISSIONER ASSELSTINE: Which utility executive
14 has said that he or his company is interested in replicating
15 an existing plant within the next five or ten years?

16 MR. STELLO: I don't know of anyone --

17 COMMISSIONER ROBERTS: No one with any sense.

18 MR. STELLO: -- who has indicated that they are
19 about to make that commitment. But all of the conversations
20 that I have had were that if they were going to make the
21 commitment, this is what they would consider as the most
22 logical course to follow.

23 MR. MIRAGLIA: I think in our interactions with the
24 AIF, I think it was clear what the EPRI effort is. But
25 certainly, I think the EPRI effort would be consistent with

1 one of the concepts that is proposed in the policy statement,
2 the reference design concept.

3 And the industry was also very interested in
4 maintaining the other options in the near term and in the
5 short term.

6 I think in the discussions we had at the AIF,
7 Commissioner Asselstine, to respond to your last question, I
8 think before a utility executive would make a decision about
9 replication or duplication, they feel that this policy
10 statement would set the stage for that kind of decision base
11 to be met. And so, I think they see it as an important first
12 step towards those kinds of decisions.

13 CHAIRMAN PALLADINO: But I have a problem. Based on
14 what you tell me the industry wants, I don't understand why we
15 talk about not only an entire plant design, but standardizing
16 a portion thereof.

17 It is my impression, and I didn't get it only in the
18 last five years, I have had it for quite a while, that the
19 whole plant is an integrated system, and the interaction
20 between parts of the plant, be it balance of plant or nuclear
21 steam supply system, is very important in knowing whether or
22 not you have got a good reliable design.

23 Why do we talk about standardizing a major portion
24 thereof -- and that is throughout the whole document --
25 because if I hear the industry right, they would like to do

1 exactly what you said, build a plant for which they have a
2 complete design and whose characteristics they know well, and
3 that has some proven record of reliability.

4 MR. MIRAGLIA: I think that if one looks at
5 standardization and the implementation of it, since the early
6 '70s and through '78 and beyond, there was a clear distinction
7 between NSSS and balance of plant. And as we have come down
8 the path in time of implementation, the scope of the designs
9 being put before the Staff are certainly much broader. That
10 was particularly true in the sense of the GESSAR application
11 with the nuclear island, which was essentially the entire
12 plant except for maybe the turbine island, and in the
13 Westinghouse HESSAR review, that is also the case.

14 CHAIRMAN PALLADINO: So why should we perpetuate
15 that thinking?

16 MR. MIRAGLIA: Well, I think it has the options
17 there, whether people avail themselves of that option would
18 remain to be seen. And I think it is also consistent with the
19 language that is in the proposed legislation, sort of had,
20 which the Commission forwarded to the Congress in '85, still
21 had that -- elements of that concept there. So, we preserved
22 them in the policy statement.

23 If one looks at the legislative package that we
24 sent --

25 CHAIRMAN PALLADINO: I haven't looked at it lately.

1 I don't remember that, so I will have to look at it again.

2 MR. MIRAGLIA: I think it was there in '82.

3 CHAIRMAN PALLADINO: Maybe that was a failing of the
4 package.

5 MR. MIRAGLIA: We made some language changes that
6 strongly encouraged the complete design between the '82 and
7 the '85 legislative package, but that option was still there.
8 And on that basis, that language was retained in that policy
9 statement.

10 CHAIRMAN PALLADINO: Well, I'm not sure whether we
11 might not be misleading people if we talk about standardizing
12 a portion of the plant, because these plants do have
13 interactive systems and components that very much affect the
14 reliability and the operation characteristics of the plant.

15 Well, okay --

16 COMMISSIONER ASSELSTINE: I very much agree with
17 that, Joe. I think you are right. And if the reason that we
18 are doing that here is because that is the way the legislation
19 was worded, maybe we ought to rethink that because --

20 CHAIRMAN PALLADINO: I'll have to go back and reread
21 the legislation. I haven't read it in a while.

22 MR. STELLO: I think there are some underlying
23 reasons about the structure that we have in the industry that
24 causes that to happen, too. You have had historically the
25 four major nuclear steam suppliers, who were looking at ways

1 in which to standardize their portion of the plant. And they
2 started to come in.

3 Now, when you have that portion of the plant
4 standardized, and then you have a much larger number of
5 architect/engineers who want then to get into the balance of
6 plant design, and come in with what they consider the balance
7 of plant design that was standard for any one of those four
8 different suppliers, we are talking about a fairly large
9 number of combinations that were possible.

10 Now, it is more difficult in the interface problems
11 in terms of trying to describe the nuclear island or smaller
12 portion of a plant in terms of nuclear steam suppliers' end of
13 the business. But it was necessary because that is the way
14 they were, in fact, going about conducting their business.
15 That is the portion of it they were selling, and they were
16 standardizing that portion that they were selling, which is a
17 good idea.

18 And you had that being a standard package offered
19 to anyone who is going to build a plant. And at least that
20 portion of it you had fairly high confidence that you knew
21 what was in it, you didn't need to go over and review that
22 over and over again. You had a fairly good basis for
23 concluding that you understood that portion of the design.

24 But that did not mean that when you then got the
25 balance of plant designer in, that you had to look at the rest

1 of it to make sure it would work out okay.

2 COMMISSIONER ASSELSTINE: That's an accurate
3 historical picture, I think. But I also think that that
4 identifies the heart of the problem we have had in this
5 country. And if we are going to have a standardization policy
6 that says, not only are you going to have perhaps two or three
7 standardized NSSS designs, but then you are going to have
8 another batch of so-called standardized balance of plant.

9 And then when you put all those things together, you
10 end up with 20 different plants out of the next 20 plants
11 ordered, it seems to me that is not achieving what we want to
12 achieve on standardization. In essence, what we may be
13 creating is the illusion that we are going to have
14 standardization, and in actuality what we will have is more of
15 the same. More custom plants.

16 When you put together what supposedly is a
17 standardized NSSS and supposedly a standardized balance of
18 plant, and you put together lots of different combinations,
19 you are still going to end up with lots of different plants
20 and the same kinds of problems that we have had in the past.

21 MR. STELLO: And that was recognized. That's why I
22 said at the outset that the policy statement indicates that
23 for the long term, the Commission does not want to continue
24 this process. It is in in a transition period where it is
25 going to be necessary -- at least based on what we hear from

1 the industry -- necessary if they are going to be building
2 another plant. And there are a lot of reasons behind that
3 which I think are significant.

4 But, for that long term what we want to achieve is a
5 truly certified, codified standard plant embodied in our
6 regulations, so that if someone in the future wishes to build
7 a plant, they can come to our regulations and there is a
8 preapproved plant in the regulations, hopefully some day a
9 preapproved site. They can pick the two of them together and
10 then only need to deal with those things that are outside of
11 either the site or the plant.

12 And that, hopefully, is the ideal that the Commission
13 would like to achieve in the long term.

14 COMMISSIONER BERNTHAL: Let me see if I can
15 understand, express, perhaps, the problem here in a different
16 way.

17 It seems to me that what you are really up against
18 is that at some point, in your standardized plant design -- at
19 some point maybe isn't the right word -- at some circle around
20 it, your steam steam supply system, the specifications for the
21 plant change from, let's say, Westinghouse, or GE or Combustion
22 or whoever it might be, to where it is no longer a
23 Westinghouse, GE or Combustion, but it then makes a transition
24 that one hopes is smooth, and in a nevertheless integral
25 package to specifications that can be fulfilled by the

1 architect/engineer, by any of the various several
2 architect/engineers.

3 Is that what we are talking about here, so that they
4 objective really is finally to have a rather complete package,
5 but we go from a nuclear steam supply system that is basically
6 single vendor -- it is one of the three or four -- to
7 specifications on balance of plant. But, for a variety of
8 reasons, including antitrust, I suppose, reasons, that balance
9 of plant, though specified, would be filled by various
10 architect/engineers.

11 Is that sort of what we are talking about?

12 MR. STELLO: Yes, that is one of the options.

13 Maybe it would be best if we could go through the
14 presentation, we could see -- we are picking bits and pieces
15 out rather than seeing the whole picture panoply of options
16 that are there.

17 Maybe if we could just go through that so you could
18 see them all.

19 CHAIRMAN PALLADINO: That's good.

20 COMMISSIONER BERNTHAL: Can you answer me very
21 quickly, though, institutionally, is that kind of what you
22 envision?

23 MR. STELLO: I think short answer, that is one of
24 the options.

25 MR. MIRAGLIA: And I think it is an accurate

1 representation, as Commissioner Asselstine said, of where we
2 have been in the past. I think if one goes back to the early
3 applications of standardization policy, the scope of the NSSS
4 design was much more constraining than what we are seeing now.

5 Certainly, if one wants to take full benefit of a
6 replication or duplicate concept that we are thinking about, I
7 think it is in the best interest of everyone concerned to make
8 that scope as broad as possible so that the interface
9 requirements are very small and very easily understood.

10 COMMISSIONER BERNTHAL: But the constraints are
11 driven by the institutions involved, not by any particular
12 desire on the part of the Commission --

13 CHAIRMAN PALLADINO: Or on the utilities.

14 COMMISSIONER BERNTHAL: -- because there are four
15 vendors or three? They are sellers.

16 MR. MIRAGLIA: That's correct.

17 CHAIRMAN PALLADINO: I agree, we ought to go through
18 the presentation. But, Commissioner Roberts had a few --

19 COMMISSIONER ROBERTS: I had a question for Jim.

20 You said what we want in standardization. Would you
21 give me a definition of what we want for standardization?

22 COMMISSIONER ASSELSTINE: What I would like to see
23 is a standardization program that leads to the development and
24 use of a few, essentially complete, standardized designs. Not
25 one, but perhaps two or three standardized designs for this

1 country that when the utility comes in and says, we are ready
2 to start building the plant, the design is sufficiently
3 complete so that all safety issues can be resolved before the
4 first shovel of dirt is turned and where we are dealing with
5 just a few basically complete standard designs.

6 I don't think we can get to one, but I think we
7 could get to just a few. Rather than having this combination
8 of matchups that would lead to -- say if 20 more plants are
9 ordered, 20 different plants. I think that has been part of
10 the problem both for us and the industry in the past, and I
11 think it benefits both the regulators, the public and the
12 industry if we can get away from that for the future.

13 That is what I would like to see. And I think there
14 is a public benefit in doing that.

15 I also think there is a commercial benefit, a
16 benefit to the ratepayers, and a benefit to the public in
17 terms of safety.

18 I think if we get into the situation where we are
19 building 20 different plants again, it is going to be more of
20 the same kind of trouble. You get the systems interaction
21 problems that Joe is talking about, you get the difficulty in
22 supply that the utilities now face, the difficulties in
23 sources of supply for components, replacement parts, equipment,
24 difficulties in maintenance.

25 We would just be much better off if we could get to

1 a fewer number of essentially complete designs, get all the
2 safety issues resolved before you start to build the plant, so
3 that we are not changing the designs or trying to address
4 safety issues while construction is going on and get this
5 mishmash of evolution through the construction and operation
6 process.

7 That is what I would like to see.

8 COMMISSIONER BERNTHAL: All of that is fine, but I
9 don't think that we should be under any illusion that
10 standardized plant design means standardized nameplate.
11 Because that simply, as I read what little I know about
12 antitrust law and the Commission -- after all, we are not the
13 first ones to sit here and debate this issue. Much of that,
14 part of it was gone through in the 1970s. And there is no
15 way, as I understand it, that you were going to specify
16 nameplate throughout the plant. You can't do that. It has
17 got to be a standard design, not standard nameplate.

18 COMMISSIONER ASSELSTINE: Yes. On components I
19 agree with that. But we should be able to specify and resolve
20 design issues prior to the start of construction. I think to
21 the point where you may not specify it has to be a certain
22 kind of pump or a certain kind of valve, but these are the
23 performance characteristics you want from that piece of
24 equipment in order to ensure that any safety issue that we
25 have a concern about about that system or component, is

1 settled. So that we aren't finding out that there are vastly
2 different performance characteristics when they decide which
3 component they are going to use in a particular part.

4 At least that is my perception. I think, Lando, you
5 have been talking much along the same lines.

6 COMMISSIONER ZECH: I feel very much the same. I
7 think that we ought to listen to the Staff first. I do have
8 some thoughts on it. But, I am pretty much in agreement with
9 Commissioner Asselstine's views in this regard.

10 Mr. Chairman, I would suggest we let the Staff --

11 CHAIRMAN PALLADINO: That's where I am trying to go.
12 However, I feel compelled to make one other comment.

13 Even though we talk about a few standard designs,
14 there may be standard design with a sub-A and a sub-B; A being
15 in one seismic area and B in another. But, I think we are
16 probably in closer accord than may first appear.

17 COMMISSIONER BERNTHAL: We'll probably learn more if
18 we listen rather than talk.

19 CHAIRMAN PALLADINO: That's right. As I tell myself
20 once in a while, I ain't learning when I'm talking.

21 MR. MIRAGLIA: With your permission.

22 May I have the first slide, please.

23 [Slide.]

24 This is just an outline of the points we would like
25 to cover today.

1 Briefly the background of the standardization policy
2 and how it evolved over the last decade, the need for us
3 taking some action and revising the existing policy statement
4 that is now on the record.

5 What present standardization concepts we think
6 should be retained, and the reasons for retaining those
7 concepts.

8 We will point out the differences in the proposed
9 revisions to the '78 policy statement that is articulated
10 in the present proposal before you. Discuss the transition
11 replicate provisions and the need for those. And identify for
12 you the differences between what the Staff was proposing and
13 what was in the AIF proposal that was enclosed as part of the
14 Commission paper on the subject.

15 May I have the next slide, please.

16 [Slide.]

17 Standardization, as I said it has been involved over
18 the last decade or more. The initial policy statement was
19 issued in 1972; clarified in March of '73 with specific
20 identification of three standardization concepts. A reference
21 system concept, a duplicate system concept, and a manufacturing
22 license concept.

23 In August of 1974, that policy statement was revised
24 to articulate an additional concept, which is the replicate
25 plant concept.

1 In 1977, the Commission reaffirmed its support for
2 standardization and asked for additional comments and
3 suggestions to determine how that policy, the existing policy
4 should be modified. That was done, and the most recent policy
5 statement was issued in 1978.

6 May I have the next slide, please?

7 [Slide.]

8 Since that time, the Staff has had considerable
9 experience in implementing the various standardization concepts
10 that were outlined in the 1978 policy statement. There were
11 many issuances of PDAs, construction permits, and final design
12 approvals utilizing the reference plant concepts.

13 In addition, there were numerous construction
14 permits issued under the duplication concept. Three of those
15 CPs that were issued, actually have come to fruition in terms
16 of operating licenses. Byron and Braidwood being examples of
17 those.

18 And, there were a number of replicate plant design
19 concepts that were put before the Staff that were the basis
20 for issuance of CPs, but no OLs have resulted from those
21 reviews. And in addition, it was the manufacturing license
22 which was issued in about 1982 for eight units to be built by
23 Westinghouse.

24 COMMISSIONER ASSELSTINE: Are there any replicates
25 that are still under construction? Active construction?

1 MR. MIRAGLIA: To the best of my knowledge, no.

2 COMMISSIONER ASSELSTINE: If WNP-3 were reactivated,
3 would that be one?

4 MR. MIRAGLIA: WNP-3 would be a reference. It
5 references CESSAR. It is a system 80 plant, so it would be
6 under the reference design concept.

7 Marble Hill would --

8 COMMISSIONER ASSELSTINE: Was a replicate?

9 MR. MIRAGLIA: -- was a replicate of the Byron,
10 Braidwood, which was a duplicate.

11 COMMISSIONER ASSELSTINE: Okay.

12 COMMISSIONER BERNTHAL: I'm confused. We have got
13 Palo Verde 1 and 2. Now isn't there 3 coming?

14 MR. MIRAGLIA: Yes, sir.

15 COMMISSIONER BERNTHAL: That's a replicate, is it
16 not?

17 MR. MIRAGLIA: It is a reference plant design. It
18 is a system 80 plant. All three reactors would be --

19 COMMISSIONER ASSELSTINE: They are duplicates, but
20 they started with the reference design, right?

21 MR. MIRAGLIA: They started with a reference design.

22 COMMISSIONER ASSELSTINE: And then they built
23 several according to that reference design.

24 MR. MIRAGLIA: Duplicate is sort of a special case

25 --

1 COMMISSIONER ASSELSTINE: It is a custom plant where
2 you just build another custom plant just like it at the same
3 site, right?

4 CHAIRMAN PALLADINO: At the same site -- Could you
5 refresh me. I have trouble with replicate and duplicate.

6 MR. MIRAGLIA: I have a slide on that, sir.

7 CHAIRMAN PALLADINO: Okay.

8 MR. MIRAGLIA: It is on the next slide. If I can go
9 through this one, I'll get to that.

10 CHAIRMAN PALLADINO: I'll wait. Thank you.

11 [Commissioner Roberts left the room.]

12 MR. MIRAGLIA: In addition, since 1978, we have had
13 various considerations on the severe accident policy
14 statement. And in that policy statement the Commission has
15 articulated additional requirements that new designs should
16 consider; compliance with the current rules, regulations of
17 the Commission, compliance with the CPML rule, technical
18 resolution of unresolved safety issues, and high priority
19 generic issues, the conduct of a PRA and the combination of a
20 deterministic and completion of a deterministic review,
21 considering the insights from that PRA to establish what the
22 design basis for the new plants would be.

23 In addition, there is the proposed legislation that
24 also has certain concepts in it that are related to the
25 standardization policy. That legislation was proposed, I

1 believe -- repropose to the Congress in January '85.

2 And that has the concepts of a combined CP-OL. It
3 had the incentive of waiving fees, set up a design approval
4 process to consider ten years design certification process,
5 and it set a threshold for changes in that standardized
6 design.

7 CHAIRMAN PALLADINO: Which one was this?

8 MR. MIRAGLIA: This is in the Licensing Reform Bill
9 and the Standardization Act of 1985.

10 And as a result of considering all of these, what
11 you have before you is a Staff proposal that represents our
12 current views on how these various pieces should be put
13 together to modify the existing policy.

14 Within the proposed policy statement we have retained
15 the present standardization concepts, the reference system
16 concept. And that is an application for approval or
17 certification of an entire plant or major portion of a plant
18 without having a specific application before us, a specific
19 identified site.

20 It would be a design for a plant such as GESSAR.
21 The GESSAR review was done under the reference plant concept.
22 The RESSAR 90 review was being conducted. It is a reference
23 system. It is a design of a major portion of a nuclear power
24 plant, and that review is being conducted. There is not a
25 specific application at which that design would be put on a

1 site and be used at this point in time.

2 A duplicate --

3 COMMISSIONER ASSELSTINE: Can you give us some
4 examples, then, of plants that have been built using each of
5 these elements.

6 MR. MIRAGLIA: Sure.

7 COMMISSIONER ASSELSTINE: Palo Verde, I take it, is
8 one.

9 MR. MIRAGLIA: Palo Verde is a reference plant
10 design. We had -- Hartsville would have been an example of a
11 reference plant design. It was a forerunner of the current
12 GESSAR.

13 COMMISSIONER ASSELSTINE: Okay.

14 MR. MIRAGLIA: Those would be examples of a reference
15 system design.

16 Duplicate plant would be an application for licenses
17 for a number of plants of essentially the same design at
18 different sites. An example of that would be Wolf Creek and
19 Calloway. That was part of a SNUPPS application. The original
20 SNUPPS application was for six or eight units, having Sterling
21 and several other projects.

22 But, as examples of OLs that have been built under
23 that concept, you would have Calloway, Wolf Creek and certainly
24 Byron and Braidwood are duplicate plants. And Byron is
25 licensed, and two Braidwood units and the additional Byron

1 unit is currently under review now.

2 CHAIRMAN PALLADINO: Why do you say at different
3 sites? What would be wrong with doing it at the same site?

4 MR. MIRAGLIA: Well, essentially you have a
5 combination of both. Byron 1 and 2 are at the same site;
6 Braidwood 1 and 2 is a duplicate --

7 CHAIRMAN PALLADINO: You don't say "or at the same
8 site," and I'm having a little trouble to find out the
9 distinction between duplicate and replicate. At first I
10 thought it was site-related, but now you tell me it isn't.

11 COMMISSIONER BERNTHAL: None of them are
12 site-related, are they?

13 MR. MIRAGLIA: No, sir.

14 CHAIRMAN PALLADINO: Well, this one says "of
15 essentially the same design at different sites."

16 MR. MIRAGLIA: At different sites.

17 CHAIRMAN PALLADINO: So, I thought that --

18 MR. MIRAGLIA: Or, it could be the same site.

19 CHAIRMAN PALLADINO: Okay.

20 Well, I am having difficulty. The distinction seems
21 to be difficult to follow because I don't understand --

22 MR. MIRAGLIA: The major differences come out when
23 one looks at the concepts, is determined in referenceability
24 of the various designs and the time at which the review was
25 conducted.

1 CHAIRMAN PALLADINO: No, I am trying to understand
2 duplicate and replicate. So, why don't you go ahead with
3 replicate.

4 MR. MIRAGLIA: Replicate is an application for one
5 or more plants, essentially of a design that has already been
6 licensed. A duplicate would not necessarily have to be. One
7 difference would be, a duplicate design would not have to
8 have already been licensed in order to be duplicated. However,
9 a replicate would be a design at a different site or at the
10 same site of an already licensed design.

11 CHAIRMAN PALLADINO: So that is the basic
12 difference. Duplicate is --

13 COMMISSIONER ASSELSTINE: It is really timing.

14 MR. MIRAGLIA: It is the timing of the review and
15 the application.

16 COMMISSIONER ASSELSTINE: Duplicate they all come in
17 together. Replicate, you go back later on and say, hey, we
18 want to build another one just like we built here.

19 MR. MIRAGLIA: Yes. The review is essentially
20 complete. You could come in for a duplicate design while the
21 other review was ongoing.

22 CHAIRMAN PALLADINO: Okay.

23 MR. MIRAGLIA: And the manufacturing license was a
24 specific application to manufacture a specified number of
25 identical plants at a location other than where the plant

1 would be operated. And that was the floating plant concept,
2 which result in the utilization and manufacturing license.

3 COMMISSIONER ASSELSTINE: And we've had no
4 replicates, so far.

5 MR. MIRAGLIA: Well, we have issued CPs under the
6 replicate concept. There have been no OLs.

7 COMMISSIONER ASSELSTINE: They have all been
8 cancelled.

9 MR. MIRAGLIA: Jamesport and Marble Hill were
10 replicates. Jamesport was a replicate of Millstone 3, which
11 was just recently licensed. And Marble Hill would have been a
12 replicate of the Byron-Braidwood design.

13 CHAIRMAN PALLADINO: What was it?

14 MR. MIRAGLIA: Jamesport. Long Island Lighting and
15 Power.

16 May I have the next slide.

17 [Slide.]

18 As I said, in developing the Staff proposal for the
19 policy statement that is now before you, we considered the
20 Severe Accident Policy Statement requirements, and the
21 legislation.

22 And the elements that have been folded into this
23 policy statement that is different from the 1978 policy
24 statement reflect those requirements that are in the Severe
25 Accident Policy Statement that I discussed earlier.

1 Clearly, the design certification option, which is
2 consistent with the legislation, is there, which is a new
3 element. Also, there is the threshold for modifying the
4 design of the standard plant. Clearly, the proposed policy
5 statement recognizes the new backfitting considerations in the
6 rules, and that is clearly articulated within the proposed
7 policy statement for each of the concepts.

8 This next point is a clarification of how one would
9 reference duplicate and replicate plant designs. The
10 timeframes for review were specified in the previous policy
11 statement, and there was some overlap that would prevent, I
12 guess, a replicate from being called a duplicate.

13 It has to do with the viewpoint of referenceability,
14 period. And what we have said is that in this policy
15 statement, rather than to have the different timeframes, we
16 have tried to clarify it by saying a replicate plant is tied
17 to the SER issuance for the initial design base plant.

18 And for the duplicate plant, a plant could be
19 duplicate up until the point in time as the design approval
20 for that duplicate expires. And we are saying five years.
21 The design approval is good for five years. And a plant could
22 be duplicated as long as the point of referenceability is --

23 CHAIRMAN PALLADINO: But if they build one of the
24 plants and then come later and want to --

25 MR. MIRAGLIA: It would then become a replicate.

1 CHAIRMAN PALLADINO: It becomes a replicate.

2 MR. MIRAGLIA: Right.

3 So, there was this confusion before as to what bin
4 it fell in.

5 COMMISSIONER ASSELSTINE: How long is the replication
6 period, and when does it run from? Replicate is five years
7 from the issuance of the SER on the base plant.

8 COMMISSIONER ASSELSTINE: So in terms -- if you
9 wanted to replicate, say, one of the SNUPPS plants, when would
10 the door close on that?

11 MR. MIRAGLIA: It would be five years from the base
12 plant, which I think turned out to be Calloway.

13 COMMISSIONER ASSELSTINE: Right.

14 CHAIRMAN PALLADINO: What part of the base plant
15 date do you pick?

16 COMMISSIONER ASSELSTINE: When they issued the SER.

17 MR. MIRAGLIA: When we issued the SER on Calloway,
18 which was probably back in '83.

19 CHAIRMAN PALLADINO: Last supplement?

20 MR. MIRAGLIA: I would say it would probably be
21 post-ACRS supplement. After the Staff has completed the
22 review, it has been to the ACRS and we considered the comments,
23 that supplement there would be the date of referenceability for
24 replication of that design.

25 COMMISSIONER ASSELSTINE: So you can only replicate

1 a SNUPPS design for three more years if you didn't get in
2 your application in two or three --

3 MR. MIRAGLIA: Two to three.

4 CHAIRMAN PALLADINO: Suppose somebody came in in the
5 sixth year --

6 MR. MIRAGLIA: But I think in this policy statement
7 what we are saying is, for the transition period the Commission
8 would be saying, five years from the issuance of the policy
9 statement.

10 CHAIRMAN PALLADINO: But suppose somebody came in
11 after six years and said, I'd like to replicate it. Do they
12 get categorically turned down?

13 MR. MIRAGLIA: They wouldn't fit the replicate plant
14 concept.

15 CHAIRMAN PALLADINO: Well, why do we have categories
16 that might not fit the needs?

17 MR. MIRAGLIA: Well, in --

18 CHAIRMAN PALLADINO: I'm just trying to understand.

19 MR. MIRAGLIA: I think the reason for the cutoff
20 date is to attain the Commission's stated objective of going
21 towards essentially complete designs and getting fewer number,
22 and saying there is a need for this window for a period of
23 time.

24 We picked five years. The Commission could decide it
25 should be three; it could be seven; it could be ten. That

1 number -- the basis was to encourage them to go to the
2 reference plant concept and option, and going to the
3 essentially complete design.

4 CHAIRMAN PALLADINO: But you are getting
5 standardization. You got another one that is the same as
6 something else that went before.

7 Now I can understand if we think it is no longer a
8 viable design because of some new feature that we feel ought
9 to be in. That is one thing.

10 MR. MIRAGLIA: And the policy statement does
11 recognize that these things would have to be looked at on a
12 case-by-case basis. Judgments would have to be reached.

13 CHAIRMAN PALLADINO: I don't recall any escape
14 clause that says the Commission could grant exceptions. I
15 guess maybe there is a general exemption clause.

16 MR. STELLO: As I recall, we are going to allow an
17 extension up to five years in the future. But, in all cases
18 they could fall back to a custom plant review and you could
19 approve it.

20 MR. MIRAGLIA: Just a one-time.

21 MR. STELLO: As a one-time review.

22 There is no prohibition from doing it. But, it
23 would not fall -- and you always have that case where you fall
24 outside of the standardization policy statement, and you will
25 go into a custom review.

1 CHAIRMAN FALLADINO: Well, but if it is a replicate,
2 I don't know why we call it a custom. I am trying to encourage
3 replication.

4 If you let them go back and call it a custom, they
5 might be more inclined to say, oh, well now that I have got it
6 a custom, I will change. And I think we should be trying to
7 encourage them to stay the same.

8 MR. MIRAGLIA: I think the real basis is to encourage
9 and get to a meaningful transition to the overall objective is
10 to be along the lines as the Commissioners here discussed
11 today.

12 COMMISSIONER BERNTHAL: But the reason finally for a
13 cutoff date is very important it seems to me.

14 You cut it off after some period of time, whether
15 it is five years or seven years is a matter of policy
16 decision. If you don't do that, standardization can end up
17 being an inhibition to progress.

18 You are essentially saying that the plant you design
19 today is good enough for all time. You are not demanding that
20 there be some kind of reassessment and reappraisal at
21 intervals.

22 That, I think, is the reason we should have a cutoff
23 date.

24 MR. MIRAGLIA: And as you said clearly it is a
25 policy, and that is the balance that one is trying to --

1 CHAIRMAN PALLADINO: What I was trying to seek, some
2 option whereby if the Commission thought it was a worthy thing
3 to do at a particular point in time, they have that ability to
4 do it.

5 COMMISSIONER ZECH: It seems to me we would always
6 have that option. That is never limiting.

7 COMMISSIONER BERNTHAL: If it turns out that advances
8 in reactor design have not been particularly substantial, the
9 source term research and whatnot confirms that current designs
10 are entirely adequate, then the Commission always would have
11 the option of extending --

12 MR. MIRAGLIA: With justification, that certainly
13 could be done. And that could be brought to the Commission
14 saying it is six years, but here is the basis for the
15 application within this concept. And it could be reviewed on
16 that concept.

17 COMMISSIONER BERNTHAL: Normally -- that is why I
18 feel so strongly that we have got four policy statements that
19 interlock, and that are terribly important that they more or
20 less come out in coordination; safety goal and advanced
21 reactor policy statement fit into this business, it seems to
22 me. And it is very important that the Commission decide where
23 it wants reactor design to go both in terms of safety and
24 progress.

25 You know, if you just sit there with a standardized

1 plant system, we may have an inhibition to any progress
2 whatsoever in terms of true safety characteristics.

3 CHAIRMAN PALLADINO: I wasn't trying to inhibit,
4 just trying to see what degree of flexibility you had
5 envisioned in your thinking.

6 MR. MIRAGLIA: With respect to another element, the
7 policy statement that is now before you is consistent with the
8 proposed legislation with respect to fees.

9 In order for the policy statement to actually
10 implement that, there needs to be change in the legislation.
11 Without that, we would have to go back to the previous position
12 on fees. The fee provision here is one, to be an inducement
13 that their fees could be waived consistent with the
14 standardization legislation. But, it would require a
15 legislative change in order to enact that.

16 CHAIRMAN PALLADINO: I see. We can't --

17 MR. MIRAGLIA: Without the legislation we would have
18 to modify that provision to be consistent with the existing
19 fee schedules.

20 CHAIRMAN PALLADINO: Okay.

21 MR. MIRAGLIA: Which would, I guess, not have the
22 same degree of inducement. There would be some partial waiving
23 of fees depending upon the number of applications that are
24 going to reference the specific designs.

25 COMMISSIONER ASSELSTINE: How do you figure that out

1 as a practical matter, Jim? Here you have got a reference
2 design, you know it costs you X amount of dollars to do the
3 review and approve the design.

4 After that, how do you decide how to apportion those
5 costs? You don't know in advance whether there is going to be
6 one user, two users, five users or twenty users.

7 MR. MIRAGLIA: I will have Cecil -- Cecil has been
8 involved in making those determinations on the last few, so I
9 will let him respond to that.

10 MR. THOMAS: That's a good question. I'm not sure
11 we really have the answer.

12 The fee schedule that was in effect prior to 1984
13 assumed there would be five users. And you would allocate 20
14 percent to each of the five as they came in.

15 We got into this situation a little bit because of
16 the proposed legislation. The language is almost identical.
17 And the Office of Administration has pointed out in your paper
18 that this is something that we have to come to grips with
19 somehow.

20 Not only that question, but if no one references it,
21 how we are authorized to go back and collect retroactive fees
22 from an applicant.

23 CHAIRMAN PALLADINO: But another way is to have the
24 designer pay the fee up front, and then collect from the
25 customers themselves. I expect this is not a major fraction

1 of the costs he is going to incur anyhow. However, I
2 understand the inducement.

3 MR. THOMAS: However, within the current fee
4 structure, it is number of millions of dollars. Yes, in
5 relationship to the up front commitment of the design, it is a
6 small point.

7 COMMISSIONER BERNTHAL: I just wanted to compliment
8 you on what I thought was some creative thinking, and thinking
9 that exhibited a good deal of foresight in the suggestions you
10 have made here in design fees allocations and whatnot.

11 One of the hangups that I had had at least up to
12 this point was wondering how in the world you get this process
13 started when nobody seems willing to step forward right now
14 and ask for design certification.

15 I hope that the approach you are suggesting here
16 can stick. I am a little worried that it may not. But, I
17 think that it will get the ball rolling. Because, if I
18 understand what you are saying here, you are suggesting that
19 the NRC proceed with design certification. But that the
20 burden then of coming up with a design that is salable on the
21 market in the end, at the end of ten years, I guess, falls on
22 the vendor.

23 I think it is a good idea. It is a creative
24 approach. I compliment you on the concept.

25 MR. MIRAGLIA: It is a very small carrot, as the

1 Chairman points out.

2 MR. STELLO: The industry brought up the issue of
3 who would come forward with certification. The major problem
4 is, where are they going to get the funds to support the
5 design effort necessary, which are in the many, many millions
6 of dollars. And that is going to be the bigger problems in
7 terms of an incentive to come forward.

8 COMMISSIONER BERNTHAL: But the -- let me see if I
9 understand right here. My thinking and my presumption was
10 that the three vendors already have a design that is close to
11 something that they could consider coming in for design
12 certification approval on at this point.

13 Is that true?

14 And that that is a \$10 million, roughly, proposition
15 or something like that?

16 MR. MIRAGLIA: I think that is a separate question,
17 the fee question, isn't it?

18 MR. THOMAS: Yes.

19 MR. MIRAGLIA: For going forward with the design
20 certification.

21 MR. THOMAS: It can be related. I don't think we
22 have addressed the fees associated with the certification
23 process. Only through the design approval process right now.

24 MR. STELLO: They already have it.

25 COMMISSIONER BERNTHAL: I see. Only the final

1 design approval process. And you haven't considered applying
2 that to design certification?

3 MR. MIRAGLIA: Well, I think if one looks at the fee
4 structure, there is a cap on the fee. And dependent upon
5 whether you start the fee structure all over for the design
6 certification. I don't know if that is clear.

7 MR. THOMAS: We do intend for the proposal here to
8 apply to the certification process. It is just that no fees
9 have been established for the certification process.

10 COMMISSIONER BERNTHAL: Well then I will get to my
11 question. What kind of money are we talking about here for a
12 design certification?

13 MR. THOMAS: We are not really sure yet because we
14 haven't really come to grips with what --

15 COMMISSIONER BERNTHAL: Give me a guess.

16 MR. THOMAS: Well, if you assume the order of a
17 year, you are probably talking about a half million dollars or
18 so.

19 COMMISSIONER BERNTHAL: A year, with hearings and
20 everything?

21 MR. THOMAS: Okay, half a million dollars a year.

22 The fee for an FDA is the order of what, a million
23 and a half dollars. The certification would be same order of
24 magnitude, in addition.

25 COMMISSIONER BERNTHAL: That sounds low to me.

1 I had been using in my own mind the number \$10
2 million for a complete design certification. And it was that
3 kind of number that was daunting -- I assume was somewhat
4 daunting to the vendors. But, whatever it is --

5 CHAIRMAN PALLADINO: The legal fees would begin to
6 approach that \$500,000 a year.

7 Excuse me.

8 MR. MIRAGLIA: Also, the proposed policy indicates
9 that final design approvals, design certifications are
10 renewable, and that the PDAs would be renewable if good cause
11 were shown as to perhaps why there was a delay in getting into
12 the final design process.

13 And so that element has been incorporated into that.

14 CHAIRMAN PALLADINO: Could you refresh my memory.
15 Why do we have PDAs? What are we approving? Is it a
16 preliminary approval of a design, or is approval of a
17 preliminary design?

18 MR. MIRAGLIA: It would be a design approval that
19 would allow, perhaps, construction to go forward.

20 CHAIRMAN PALLADINO: Answer my question. Is it
21 approval of a preliminary design, or is it preliminary approval
22 of a --

23 MR. MIRAGLIA: It would be consistent with the level
24 of design information necessary to issue a CPU, PSAR type
25 information.

1 MR. STELLO: The concept is, if someone were to
2 submit a CP and you had to review this information, that
3 information could be pulled out and put in as a PDA application
4 for that portion of the plant.

5 Then that level of information which you would
6 normally have available for CP review process could then be
7 approved generically. You wouldn't have to do that on all
8 these CPs.

9 The same concept then for a final design approval
10 with the information you normally need for that final design
11 in a final safety analysis report could be again gleaned out,
12 submitted as a separate package, and then you would not need
13 to review that in these individual cases.

14 And it saves, both for us and for the vendors, a
15 great deal of effort from having to rereview that for each
16 case because you can do it once generically. So when you have
17 then the PDA it means that you don't have to have that
18 rereviewed for each construction permit, or the FDA for each
19 FSAR.

20 CHAIRMAN PALLADINO: So far as the individual
21 performance is concerned?

22 MR. STELLO: That's correct. That's the reason and
23 the concept.

24 COMMISSIONER ASSELSTINE: There is nothing wrong
25 with the PDA concept.

1 I guess where I have difficulty though is saying
2 that the LPDA is going to be good enough then to start building
3 a plant. Then it seems to me you are repeating the mistakes
4 that we made in the past, starting to build plants with lots of
5 issues still open to be resolved by the time you get that FDA
6 type or FDA level of information. It means you are going to
7 end up with lots of changes to the plant.

8 CHAIRMAN PALLADINO: I was taking the view that that
9 PDA may be useful to licensing process. But it isn't
10 conducive, necessarily conducive to standardization.

11 COMMISSIONER ASSELSTINE: Yes.

12 CHAIRMAN PALLADINO: I'm not sure it is necessarily
13 a part of standardization --

14 MR. MIRAGLIA: PDAs would have to be very well
15 conditioned as to what the items are that are still open for
16 review.

17 COMMISSIONER BERNTHAL: I have to confess I am not
18 sure that I am not getting more confused on this alphabet
19 soup, rather than less confused.

20 My naive idea, apparently naive, was that PDA, FDA
21 were preliminary steps leading up to what we area really after
22 here, which was design certification. A kind of license of
23 powerworthiness for a power plant with all the specifications,
24 if not the nameplate for the essential components of a power
25 plant.

1 That was what I thought we were talking about here.
2 I thought PDA and FDA were sort of steps along the way that
3 have no direct applicability to what the Commission's view of
4 standardization really is.

5 Am I off on a tangent?

6 COMMISSIONER ASSELSTINE: I think that is fair.

7 MR. THOMAS: In the past, the PDA and FDA were
8 analogous to a CP and OL respectively. They were approval,
9 preliminary design approval of a final design.

10 COMMISSIONER ASSELSTINE: Which in themselves, at
11 least the PDA level in the past would permit the start of
12 construction of the plant.

13 I think what Fred is talking about, is saying now we
14 are going to have a process that leads to a reference design.
15 The reference design is then what triggers the ability to come
16 in and ask for authority to start building a plant.

17 PDA and FDA may be intermediate steps along the way
18 to achieving the reference design. But, it is now the
19 reference design that becomes the trigger for the ability to
20 come in and ask for approval to start construction.

21 CHAIRMAN PALLADINO: That's why I was saying they
22 may be useful in the licensing process, but I don't think they
23 are a necessary part of the standardization process.

24 MR. MIRAGLIA: The policy statement doesn't have
25 that kind of language. But that is certainly something that

1 can be considered.

2 CHAIRMAN PALLADINO: I think the fewer of these
3 things that we confuse the policy statement with, the better
4 it will be. We may want a supplement that says in addition
5 there are other things going on, and here it explains what
6 they mean.

7 COMMISSIONER ASSELSTINE: It gets awfully convoluted
8 when you throw all that stuff into the pot.

9 COMMISSIONER BERNTHAL: I agree. I think it doesn't
10 matter so much what we call the standardized plant concept.
11 What matters, really, is how we go about doing this.

12 And driving the process to achieving a design
13 certification -- and I will use that term because I thought
14 that is what we were driving for -- in the short term as soon
15 as possible, so this Commission is on record with whatever
16 financing arrangement we can work out, that we are on record
17 that our part of this bargain is completed. Now it is up to
18 you people out there.

19 I thought that is where we were heading. And I
20 would hope that we don't confuse it too much with the arcane
21 terminology that relates back to an earlier time. I am
22 concerned.

23 MR. MIRAGLIA: May I have the next slide, please?

24 [Slide.]

25 MR. MIRAGLIA: As Mr. Stello had indicated in

1 discussions with the industry, it was clear that some period
2 of transition would be necessary in implementing the
3 standardization policy, and the industry view that was
4 articulated, they felt in the near term the most applicable
5 concept that is likely to be used in the near term would be
6 the replication concept. And in the proposed policy statement
7 we recognize the need for this transition, and we have built
8 into the proposed policy statement a replication period that
9 would extend five years from the date of the issuance of the
10 policy statement, that we would look at each of the severe
11 accident policy statement considerations to determine whether
12 there should be any relief from those based on good cause
13 shown and good evaluations indicating the degree that those
14 conditions should be complied with.

15 We have put the additional constraint of the plants
16 that were reviewed against the NUREG 0800, which is the
17 version of the revised standard review plan that incorporated
18 all the TMI requirements, and that was July '82 or '83,
19 I believe. That plant design could be replicated at any
20 site. If it was not reviewed to that version of the SRP, it
21 could be replicated at the same site by the same operator, and
22 in addition would have to be supported by the design
23 performance and operating history of that facility as a
24 consideration of a plant for replication.

25 If it was a plant that has run well and the design

1 is shown to be proven and has a good operating history, we
2 would consider replication of that same design, operated by
3 the same designer at the same site, as a point of departure
4 for a transition.

5 COMMISSIONER ASSELSTINE: Why do you have any
6 site up there?

7 MR. MIRAGLIA: This would be on a newer design
8 plant against the most current version of the SRP, would be at
9 any site.

10 COMMISSIONER BERNTHAL: But the replica concept
11 is a transitional concept, I guess, isn't it? That's how we
12 deal with what we've got out there right now.

13 MR. MIRAGLIA: And we are talking about the five
14 year, we are saying five years from this policy statement.
15 Whether that should be five, or shorter or longer, is really a
16 policy decision. We are trying to balance the innovations and
17 the technology versus what we would require.

18 COMMISSIONER BERNTHAL: So the Commission would
19 make a decision that for some limited period of time during
20 which it appears, we aren't going to have any applications,
21 anyway, we are willing to buy replication, let's say, of a
22 SNUPPS plant. But beyond then, we expect something different
23 and better.

24 COMMISSIONER ASSELSTINE: This non NUREG 0800,
25 though, would be broader than that? That could be an older

1 plant?

2 MR. MIRAGLIA: It could be, and I'm not sure whether
3 St. Lucie is an 0800 plant or not, but as an example, you can
4 have a St. Lucie 3 at the same site, if it was an older plant.

5 MR. STELLO: Let me get to Commissioner Bernthal's
6 question first.

7 The policy statement recognizes that that is the
8 Commission's desire to achieve this true certification
9 process. But what it fails to do is identify when you can get
10 there.

11 I don't think you can answer in terms -- in a
12 quantitative sense -- time. I think that is very, very
13 difficult to do, and I don't know that we can make the
14 judgment. We offer no judgment except to say that's the
15 direction that the Commission wants to go.

16 COMMISSIONER BERNTHAL: You mean how soon we can have
17 our first design certification, first license to manufacture,
18 if you will? Is that what you're saying, we can't --

19 MR. STELLO: No, the latter part of the question,
20 when can we say no more replication or duplication, we're
21 done, we won't permit it any more. When do you stop that? I
22 don't think we know when you can make the judgment that that
23 would no longer be permitted.

24 I don't know how to do that. All we say is, its
25 intent is to move in that direction, but I don't know.

1 Let me see if I can give a simpler answer. NUREG
2 0800, that's in a sense a benchmark in time. Here were all
3 the requirements laid out comprehensively in NUREG 0800 in, I
4 think it was, '83 and then it says from then on, these are a
5 different class of plants from those that were before then.
6 The ones before, if you want to build one at the same site,
7 same operator, we don't think you ought to discourage that if
8 it's a really good plant and it's got a good operating
9 history. You might want to consider that option.

10 COMMISSIONER ASSELSTINE: Even if a plant itself is
11 10 years old?

12 MR. STELLO: No, there's a time tag to it. It's
13 tied to five years of the date of the SER, so there's a time
14 tag in addition to it.

15 MR. MIRAGLIA: I think I also want to clarify a
16 point and make sure Commissioner Bernthal doesn't think that
17 after five years the replication concept as currently
18 constructed in the policy standard -- replication concept
19 would still be an available concept. It is not a sunset
20 provision for that as currently written. I got the sense that
21 that's what you --

22 MR. STELLO: That's a question I am just dealing
23 with. I said we are only dealing with the policy.

24 CHAIRMAN PALLADINO: I'm confused. Your answer was
25 yes, it is a sunset provision.

1 MR. STELLO: Only in terms of the Commission's
2 desire, but not in terms of an actual date. We don't know how
3 to put a date in.

4 CHAIRMAN PALLADINO: That was my problem.

5 MR. STELLO: I don't know how to pick a date, so we
6 simply said --

7 CHAIRMAN PALLADINO: You said five years.

8 MR. STELLO: What we simply said was that we want,
9 you, the Commission, wants in the future to achieve the true
10 concept of standardization in terms of the certification
11 process. That's where you'd like to get to, but you don't
12 know how, we don't know how to tell you when.

13 COMMISSIONER BERNTHAL: I think the date will be
14 determined as time goes on by broad evolution and advance in
15 designs. You know, the advanced reactor policy statement is
16 setting out in a very broad sense, it seems to me, the
17 directions that we think design ought to go.

18 Now how soon you achieve that, I think, finally will
19 determine how soon you say no more replication, because we
20 think that what is out there, perhaps what other countries are
21 already building, is a significant advance over designs that
22 we have had in the past and we are not going to replicate
23 those any more. There are better things now.

24 CHAIRMAN PALLADINO: I'm a little confused.

25 COMMISSIONER BERNTHAL: That's a rolling judgment

1 we'll have to make.

2 CHAIRMAN PALLADINO: I raised the question because I
3 was worried that we were setting a timeframe to limit
4 replication.

5 MR. STELLO: No.

6 CHAIRMAN PALLADINO: That's why I raised my
7 question. When you say, well, we're going to allow replication
8 for five years after the policy statement -- which is fine as a
9 target, and I wanted to make sure that we had a way out, if
10 events showed the situation to be different from the way we
11 perceive it now. And now you are saying, well, you don't want
12 to put the five years, if I understand you, so tell me what it
13 is again that you are telling me.

14 MR. MIRAGLIA: For a plant that's licensed -- if we
15 had -- let's assume five years when the policy statement is
16 up, you could still replicate a plant that was built the year
17 before.

18 In other words, five years from now would be 1990.
19 If we licensed a plant in '89, that plant as currently
20 construed would still be able to be replicated five years past
21 that date.

22 CHAIRMAN PALLADINO: Then what does the five year --

23 MR. MIRAGLIA: This extension here of saying five
24 years from the policy statement is recognition that there have
25 been a number of plants recently licensed that we would be

1 saying their term of referenceability that would be
2 foreshortened.

3 COMMISSIONER BERNTHAL: What you are really saying,
4 then, is every time the Commission licensed a plant, it would
5 not only be licensing a plant, it would be acting on the
6 standardization policy to extend the referenceability by five
7 years?

8 CHAIRMAN PALLADINO: That is the way it sounds.

9 COMMISSIONER BERNTHAL: That's very interesting.
10 I'm not sure --

11 CHAIRMAN PALLADINO: That's why I was confused. I
12 wish you would clarify it in your writing.

13 MR. THOMAS: Could I just take a quick stab at maybe
14 standing back and looking at the big picture? I found this
15 very helpful to understand.

16 I think it is useful to look at standardization, the
17 four options that we have in our policy statement, from the
18 standpoint of who the participants are likely to be.
19 Replication, duplication are largely for the benefit of the
20 utilities. The utilities don't need a vendor in that process.
21 A utility could decide to build a plant just like another one
22 that a previous utility built.

23 The reference design option is aimed primarily at
24 the vendors. The vendors have been the AEs and the vendors
25 have made use of that, although there is nothing that would

1 preclude a utility from having its own design certified.

2 COMMISSIONER ASSELSTINE: They are not going to do
3 that as a practical matter.

4 MR. THOMAS: Right. But the important thing is that
5 for the duplicate and replicate concepts, we want to -- we
6 feel that there is a useful role to be played even at the
7 intermediate term there, and for replication we have allowed a
8 plant to be replicated, not automatically but a proposed
9 application that would replicate a previous plant would have
10 to undergo a qualification review. The Staff would have to
11 make a judgment as to whether or not the base plant is
12 appropriate to be replicated.

13 So it is not an automatic -- once you issue an OL,
14 it is not an automatic invitation for someone to lock onto it
15 for five years.

16 COMMISSIONER BERNTHAL: I wouldn't say five years at
17 all, because it sounds to me like an open-ended possibility
18 that you will be given permission to replicate a plant.

19 MR. THOMAS: It's possible. The five years was
20 really to accommodate -- to keep it relatively current. You
21 would be dealing with regulations, regulatory --

22 MR. MIRAGLIA: It was our desire to replicate within
23 that timeframe, but it would be a conscious decision, "Yes,
24 this plant should be replicated."

25 COMMISSIONER BERNTHAL: But as the Chairman says,

1 what if somebody comes in six years later and says, "We'd like
2 to replicate that plant." Do you say, "No, I'm sorry, the
3 curtain fell last year?"

4 MR. MIRAGLIA: I think you could make that kind of
5 decision again on a case-by-case basis.

6 COMMISSIONER ASSELSTINE: When did the NUREG 0800
7 plants start? After St. Lucie?

8 MR. MIRAGLIA: Well --

9 COMMISSIONER ASSELSTINE: Or do they vary?

10 MR. MIRAGLIA: I'm not sure which the first plant
11 was that it was conducted entirely under that. The issuance
12 was -- I guess it was in July of -- it's either '82 or '83,
13 I'm not sure when the issuance of that was. So plants reviewed
14 -- some of the plants, even though they were licensed
15 afterward, may have been done under a different revision
16 because --

17 CHAIRMAN PALLADINO: How about checking that? It is
18 important that we have accurate information.

19 COMMISSIONER BERNTHAL: I think we are getting hung
20 up on this replicate and duplicate business. I think those
21 are likely to be, as a practical matter, likely to be a very
22 small number of plants that could come along in the early
23 1990s, perhaps. But I have just got to believe by the
24 mid-1990s and beyond when you may see a major construction
25 program of some kind that those are going to be based on

1 something that is sitting here today that we would like to be
2 certified designs. It seems to me that is where we ought to
3 focus.

4 CHAIRMAN PALLADINO: I have a lot of problem with
5 the replicate and duplicate. At times I think it is a
6 distinction without a difference, and then there are times
7 when I say but we are always going to have replicate and
8 duplicate. That's what we want. We want standardization
9 which means you duplicate or replicate these plants. So I get
10 confused by introducing those terms, especially when I can
11 replicate at the same site at which I can duplicate. It
12 depends on the timing, and I suggest you give a little more
13 thought to the names.

14 Maybe these were acceptable names in the past, but
15 we are trying to achieve replication and duplication, and
16 to say we are going to turn it off in five years gives me a
17 little bit of a problem.

18 MR. STELLO: There are two concepts that need to be
19 kept very, very clear:

20 First, is how long would you consider allowing
21 replication of plants, plants that are not certified? Answer:
22 We don't know.

23 That concept, how long will you keep it? Now,
24 question --

25 CHAIRMAN PALLADINO: When I get a standard design, I

1 have to replicate them --

2 MR. STELLO: That's a certified design, and you do
3 those. That's different.

4 CHAIRMAN PALLADINO: That's not replicate.

5 MR. STELLO: No.

6 CHAIRMAN PALLADINO: I can't use the word I'm going
7 to replicate standard design?

8 MR. STELLO: No, because the Commission's policy
9 statement differentiates between those.

10 Now for a plant, a particular plant, Plant X, how
11 long would you allow that plant to be replicated? On that you
12 can put a time estimate, because you don't want this plant
13 replicated for the next 25 years. You will have other plants,
14 hopefully, that you can look for, so you put in a period of
15 time and say you are allowed to replicate this plant for this
16 period of time.

17 But the whole concept of replication continues until
18 we evolve into this true process of certification. How long
19 will that take? I don't know. But if you look at any of the
20 advanced reactor concept, it is very unlikely that you would
21 ever even have one in operation, built in the next 15 years.

22 COMMISSIONER BERNTHAL: The point is replication and
23 duplication have literally nothing to do with standardization
24 as the Commission envisions it. I think that is why it is a
25 distraction, almost, to be so concerned right now about that

1 transition possibility.

2 MR. MIRAGLIA: It's a standardization in a different
3 and more limited sense than having --

4 CHAIRMAN PALLADINO: Maybe the actuality that we are
5 going to face --

6 MR. STELLO: Again, let me get back to what I said.
7 The need for this kind of complexity is a result of what the
8 industry has suggested they want in terms of a market, what
9 they are going to buy.

10 Now if that is not correct, then you clearly don't
11 need those options, and I am not so sure that we know what the
12 market is, if there is anybody that knows what the market is,
13 except the best advice I think you can get in terms of what
14 the market would be are the people who will buy them.

15 If this is what they are telling us, then should the
16 Commission say, "But I am not going to provide for that
17 capability to build plants," if this is what they tell you
18 they want? It clearly -- the Commission has the authority to
19 say no.

20 COMMISSIONER BERNTHAL: We are not suggesting that.
21 What I am saying is that we have spent a lot of time, all of
22 us, in the last few years, talking about standardization. The
23 duplication and replication, to be sure, are an essential
24 practical feature of whatever policy we come up with, but it
25 is not saying that we want our Sizewell II, if you will, in

1 this country, and that's a design-certified plant. That's
2 what the Commission has in mind for the mid-1990s. That's all
3 that I'm saying, and I think this other stuff in here does
4 tend to confuse the issue.

5 That is not to say it needs to be all thrown out.
6 It's not the emphasis, though, of the Commission's policy, it
7 seems to me.

8 COMMISSIONER ASSELSTINE: It does seem to me that
9 what we ought to do is maybe have a little better fix on how
10 this all fits together in terms of what the markets are likely
11 to be over the next say 20 years.

12 As I recall the EPRI discussion, when we had that,
13 you know, when Saul Burstein and the others were here, they
14 seemed to be saying that the industry looks towards ordering
15 plants in the beginning of the early '90s, and they are really
16 looking to somewhat improved designs; not perhaps radical
17 departures from light water reactor technology, but advances
18 in those designs of the sort that Westinghouse and GE and I
19 guess Combustion as well all seem to be working on at the
20 moment, or perhaps even a step beyond that.

21 Then you get into what you do in the interim and how
22 likely is it that utilities will be ordering additional plants
23 between now and the early 1990s, and what their interest is.
24 I would almost like to see a survey of utility CEOs, write
25 them and ask them, "Do you envision ordering another nuclear

1 power plant between now and the early 1990s? And if so, what
2 do you envision ordering? And do you believe that it is
3 essential to retain concepts such as would you build another
4 plant like the ones, a replicate or a duplicate of the ones
5 that are now coming into operation or that have been in
6 operation? And do you think that it's essential to maintain
7 that option between now and say 1991, 1992?"

8 The sense I get is that the vendors would like to
9 retain that option, but that there is considerably less
10 enthusiasm for it or interest among the utilities themselves,
11 other than perhaps something to assist in reactivating some of
12 the plants that have been deferred.

13 Maybe I am wrong about that, but I haven't heard a
14 lot of utility executives that say, "Yes, I want to build
15 another plant" --

16 MR. STELLO: One way I think you can put the issue
17 to bed -- and I was going to suggest it at the end of the
18 meeting. I will suggest it now. The Commission might want to
19 consider, since we have an industry group called NUMARC,
20 ostensibly, with the senior representatives who would be
21 intimate in making a decision on new plants, send it to
22 them and ask them -- not to draft or suggest a modifications
23 policy -- but the simple question, "Does this policy statement
24 allow the kinds of options that you foresee necessary, in your
25 view, what you would do if you were to in fact order another

1 plant," and get an answer from NUMARC.

2 CHAIRMAN PALLADINO: That may be one approach. I
3 think some of the answers to the questions that Jim has raised
4 the AIF has explored from time to time. I don't know if they
5 have been exactly the way you have indicated.

6 I was thinking we ought to ask the industry group to
7 make such surveys, and your suggestion on NUMARC --

8 MR. STELLO: NUMARC is clearly going to be -- they
9 represent the people who buy them.

10 COMMISSIONER ASSELSTINE: Clearly I get very
11 different perceptions from the people who sell them as opposed
12 to the people who buy them. Vendors come through and they
13 say, "You know, we think it is really realistic that somebody
14 could come in and they'll order another SNUPPS plant or order
15 another GESSAR plant or System 80 plant. We think that's
16 really realistic."

17 You talk to the utilities -- and at least I
18 personally don't get the sense that anybody is actively
19 considering that, at least between now and the time when the
20 more advanced or improved generation of light water reactors
21 might well be available and viable options in the early
22 1990s. Maybe I am wrong about that, but it would be
23 interesting to know that.

24 MR. MIRAGLIA: I think the AIF letter tried to
25 capture and balance that in here.

1 COMMISSIONER ASSELSTINE: The problem with AIF is
2 AIF represents the full spectrum of the industry, and what you
3 may be seeing is the vendor perceptions, who aren't the people
4 who are going to be buying them.

5 COMMISSIONER BERNTHAL: We do have a request from
6 AIF to come in and speak to us --

7 CHAIRMAN PALLADINO: I'll bring that up at the
8 agenda planning. We had a conversation on that.

9 COMMISSIONER ZECH: I suggest we let them finish.

10 CHAIRMAN PALLADINO: Yes, why don't we let them
11 finish. I do want to make one point on my question, by
12 clarifying duplicate and replicate I wasn't saying throw them
13 out. I think that may be the realistic future, at least for
14 the next five to 10 years.

15 MR. STELLO: I think that is true.

16 CHAIRMAN PALLADINO: But clarifying them would help.
17 Okay, why don't you go ahead.

18 MR. MIRAGLIA: May I have the last slide, please.

19 [Slide.]

20 The last slide is a brief summary of the difference
21 between the Staff proposal that is before you, as opposed to
22 what was in the AIF letter. In the issue of terms of approval,
23 the Staff is recommending a 10-year term of approval for a
24 design certification, and for the other concepts a five-year
25 term of approval, and the AIF position was all concepts should

1 be 10 years.

2 Again, the reason for the Staff distinction again is
3 to say there is an -- encourage the need to go to design
4 certification process, and we thought there should be that
5 difference. Again, should it be three, five, seven is a
6 matter perhaps of policy. We are suggesting five.

7 With respect to the renewal of a preliminary design
8 application, we said only for good cause. Again, I think
9 while we have not linked it in perhaps the terms that
10 Commissioner Bernthal was thinking, we feel that you should
11 renew the PDA if there is good cause, if we are heading
12 towards the FDA, if we are heading towards design
13 certification, and we should not just allow for automatic
14 renewals.

15 The AIF position would be that timely application
16 for renewal should be considered, and we are saying for cause,
17 for good cause.

18 The level of design information, for design
19 certification, and final design approvals, the Staff's thinking
20 is along the lines we need information equivalent to final
21 design FSAR information. The dialogue with AIF, the indication
22 is something in between, maybe, or less than that might be
23 acceptable.

24 I think AIF recognizes there is a need for both
25 industry and the Staff to really come to grips with what

1 exactly the level of design information is needed to fulfill
2 the terms of requirements.

3 CHAIRMAN PALLADINO: This is a fundamental question,
4 and I can't understand why they want less than the FSAR for
5 final design approval, or design certification.

6 As a matter of fact, in my own thinking, I would
7 expect more than the FSAR.

8 MR. MIRAGLIA: The concern being essentially in
9 order to have a complete design, it's a substantial commitment
10 of engineering and design resources. It's money. Certainly
11 if one talks in terms of near-term options and longer-term
12 options, meeting that on a design that's out there and been
13 approved, on which an FSAR has been prepared, is more likely
14 than one that's already been behind one, as opposed to one
15 we're starting with a clean sheet of paper.

16 So I think it is reflective of those kinds of
17 concerns.

18 COMMISSIONER ASSELSTINE: Again the attention of
19 different parts of the industry, it's money by the vendor to
20 put together a more complete design, but the quid pro quo for
21 that is certainty by the customer in terms of knowing that
22 what he has got really has the final approval isn't going to
23 be tinkered with later on, or throughout the process.

24 MR. STELLO: Frank, I think I recall one other
25 consideration that stands out. One of the other concerns they

1 had was when you put in an FSAR, you can say you bought a
2 Byron Jackson pump, and this is it, right here. When you
3 start to do that design certification and you start to try to
4 incorporate that level of detail, they're concerned about
5 running into the antitrust problems, and there they are
6 looking for ways in which they would have to back away from
7 that kind of information.

8 In the meeting that I was at, I just have a vivid
9 recollection that that was their bigger concern in terms of
10 really trying to lay out the kinds of information you have
11 available in the FSAR, because it exists, it's here, and you
12 can identify it.

13 CHAIRMAN PALLADINO: How do automobile manufacturers
14 get around the antitrust problem?

15 MR. STELLO: I don't know.

16 CHAIRMAN PALLADINO: You get this run of cars and
17 it's got the same generator on it, car after car. What do
18 they do that we can't do? Now perhaps they manufacture it
19 themselves so that they don't have to go out and bid them.

20 MR. STELLO: I don't -- maybe Jim can help us. I
21 don't know enough.

22 CHAIRMAN PALLADINO: Neither do I.

23 MR. STELLO: As I understand the way it's expressed,
24 if you start to give attributes and characteristics such that
25 you will prescribe a particular manufacturing component in

1 what you embody in the regulations for design certification,
2 then that causes us to have a problem with antitrust, as I
3 understand it.

4 CHAIRMAN PALLADINO: If we start to do it?

5 MR. STELLO: No, when we get to design certification
6 and putting it in our rules, we are doing it.

7 COMMISSIONER ASSELSTINE: That's right.

8 MR. STELLO: And that's why it is considered a
9 problem. Obviously if you have FSAR and we approve it, we
10 haven't in any way limited that to one manufacturer. The next
11 FSAR could have a different one.

12 CHAIRMAN PALLADINO: We might want our legal people
13 to --

14 MR. STELLO: I've just given you my understanding.

15 CHAIRMAN PALLADINO: Let me finish the sentence. I
16 do think we ought to have our legal people examine this issue,
17 and to give us a report on the constraints under which we
18 work.

19 COMMISSIONER ASSELSTINE: I think that's a good
20 idea, but I also think there may be a way around the problem.
21 We also ought to look at this; to the extent you can specify
22 performance characteristics, it doesn't necessarily tie you to
23 a specific manufacturer or a specific nameplate component, as
24 Fred mentioned. But this is the performance we expect out of
25 the pump that we are going to use over here in a way that

1 gives you the information you need to resolve any design or
2 safety questions that may be involved. That doesn't get you
3 to a level of detail of saying, as they do in the FSAR, once
4 you've purchased a pump, this is a Byron Jackson pump Model X.

5 MR. STELLO: That is a good proposal.

6 CHAIRMAN PALLADINO: That's a good idea.

7 COMMISSIONER BERNTHAL: It's an interesting sideline,
8 it seems to me, that the more deeply you get into specifying
9 even components, characteristics, as opposed to nameplate, of
10 course, the more deeply you get into that, the more deeply we
11 are going to get as an agency into vendor certification. Tom
12 isn't here. And that would be the vendor inspection.

13 COMMISSIONER ASSELSTINE: The same problem exists in
14 the airline industry. The FAA certifies airplane designs.
15 There has to be a way to deal with that problem, to identify
16 the level of information you need to resolve all the safety
17 issues without getting into antitrust difficulties on the
18 specific component. I'm sure Boeing or McDonnell-Douglas
19 purchases components from a range of suppliers to put on their
20 airplanes. They don't manufacture every piece in a plane.
21 There has to be a way to resolve the design issues, to get
22 that certification of a plane. But that doesn't run you into
23 antitrust problems. There ought to be a way around it.

24 MR. MIRAGLIA: All we are trying to identify here is
25 that this is an issue, and we use the word "equivalent." They

1 are saying "less than." Maybe we should -- it's a semantic
2 kind of thing, and there is certainly room for more dialogue.

3 COMMISSIONER ASSELSTINE: It might be useful to talk
4 to FAA to see how they avoid that very difficulty, because
5 they certify designs and those designs are, I think, very
6 complete when they do the certification.

7 COMMISSIONER BERNTHAL: Do they certify vendors or
8 do they --

9 COMMISSIONER ASSELSTINE: I think they get into
10 that, too.

11 CHAIRMAN PALLADINO: Why not find out what is done
12 in the aviation industry?

13 As long as you are on this FDA, can I ask a question
14 I was confused on? In the document that says, "However, an
15 approved final design is subject to litigation," this is under
16 final design approval. And individual licensing proceedings
17 on these applications. Do you mean if you have an FDA, you
18 still have to litigate the whole matter, or do you just
19 litigate those things that relate to the site and that interact
20 at the site?

21 MR. MIRAGLIA: The final design approval that is
22 being described there is the design, prior to going to the
23 design certification and hearing. Therefore, if you haven't
24 completed that stage, then those issues are ripe for
25 consideration in the individual application.

1 CHAIRMAN PALLADINO: But this says you have to
2 litigate --

3 MR. OLMSTEAD: Excuse me, that's the second time. I
4 want to correct the misunderstanding. If you certify the
5 design by rulemaking, it's not litigable in a hearing. If you
6 don't certify it, then it's still litigable.

7 MR. MIRAGLIA: That's all in --

8 CHAIRMAN PALLADINO: All aspects of it are still
9 litigable?

10 MR. OLMSTEAD: Right. Anything that's in
11 rulemaking. You can combine an early site review and a
12 standardized, certified design and essentially foreclose
13 everything except the site-specific offsite issue.

14 COMMISSIONER ZECH: Which is what we intend to do.

15 CHAIRMAN PALLADINO: Let me finish my line of
16 questioning, because under certified design it doesn't say
17 anything really about rulemaking, unless I missed something.

18 Oh, yes, I guess it does. It says certified final
19 design is not subject to litigation in individual licensing
20 proceedings. And these are applications. That is on the
21 basis that it goes to rulemaking.

22 Then when it comes to final design approval, it says
23 litigation -- an approved final design is subject to litigation
24 and individual licensing proceedings. That's because we
25 haven't gone rulemaking?

1 COMMISSIONER ASSELSTINE: That's right. Design
2 approval is just the Staff sign-off, the Staff is satisfied,
3 without the Commission process for approving, certifying it.

4 CHAIRMAN PALLADINO: Okay. Sorry to interrupt. Why
5 don't we continue, give you a chance to continue.

6 MR. MIRAGLIA: The last point would be on what's the
7 basis for making changes on a design approval, and the Staff
8 has indicated it can be based on the backfit rule. The
9 industry considered that application should be based on the
10 backfit on the lead plant, the difference being, as we
11 perceive, using the backfit rule on the plant that we are
12 considering.

13 CHAIRMAN PALLADINO: I think we have a real problem
14 if we start to do extensive backfitting on the plants that are
15 being replicated or duplicated.

16 MR. MIRAGLIA: What the concepts say is we would
17 follow Commission's policy with regard to this.

18 MR. STELLO: The issue, I think, is a simple one.
19 If you are going to backfit, you are going to have to follow
20 the rule. If you base it on the lead plant, which could
21 conceivably be already constructed and operating, then the
22 considerations in deciding whether or not to backfit would be
23 completely different than if it were a new plant being
24 designed. And the backfit rule recognizes those differences
25 and tells you what to do. And all we said is that we are

1 following the rule. Their proposal would be a departure from
2 the rule.

3 COMMISSIONER ASSELSTINE: Yes. That's right.
4 Because considerations could be very, very different. You
5 could have a plant that is just going into operation now that
6 was designed really in the '60s. Some of them were literally
7 designed in the 1960s. If you are starting off with a new --
8 without a plant being built, considerations are quite
9 different.

10 CHAIRMAN PALLADINO: I'm having trouble, though. If
11 we start to change the plant, then is it a duplicate or a
12 replicate?

13 MR. STELLO: Clearly the intent is not to change it
14 at all.

15 MR. MIRAGLIA: That's right.

16 MR. STELLO: But if you do change, you are required
17 to follow the Commission's backfit rule. In following that
18 rule, there are two ways to do it. We want to follow it
19 literally as it's spelled out in the backfit rule, and they
20 are suggesting something different.

21 MR. MIRAGLIA: That completes the presentation from
22 the Staff. The proposed policy statement was here a response
23 to the Commission's request for us to provide something for
24 their consideration to share for public comment.

25 CHAIRMAN PALLADINO: I very much appreciate receiving

1 the policy statement. I think we had a good discussion. It
2 helped clarify a number of points.

3 Let me ask the Commissioners how they feel on
4 proceeding. One, we could say, well, let's each of us try to
5 vote on this paper and maybe the vote sheet would have a
6 number of suggested changes. I have some I would like to
7 propose. And then see where we stand.

8 Or do you feel there is some other approach such as
9 going after some particular information?

10 Now I know you would like to get on certain issues
11 information from the FAA, but I'm not sure that they are
12 necessary in this policy statement.

13 COMMISSIONER BERNTHAL: I think that the suggestion
14 that Vic or Jim, somebody, made here would show that we get a
15 better idea from the utilities themselves of what they might
16 in their wild imagination contemplate for the next five years
17 or so is worth pursuing. Maybe that could be folded into the
18 AIF request. I don't know. Maybe NUMARC is the better
19 vehicle for that. But I have to say -- again I will say that
20 these distractions -- I can't remember what we're calling them
21 any more -- replication and duplication are just distractions.
22 If you stop and think about what we are talking about here, I
23 don't think anyone, not even Fred Bernthal in some speeches
24 he's made, suggesting you might see construction by 1990 or
25 shortly thereafter, has suggested that within five years from

1 now we will see new plant applications. And then the question
2 becomes in 1989 or 1990, actually Staff is saying five years
3 from '83, I guess -- 1988, if you will -- would we approve for
4 replication a plant, to pick an example, that has an identical
5 control room to the one that we approved in 1983, with the
6 advances in control technology that we all know are going on,
7 and that in my judgment are essential? I think the answer is
8 probably no. I don't think you can do that in 1990. I don't
9 think you would approve a control room of early 1970s design.

10 CHAIRMAN PALLADINO: We'd better watch; otherwise,
11 we are going to be the ones that don't want standardization.

12 COMMISSIONER BERNTHAL: I think we want to drive
13 toward the thing that we are heading for, which is design
14 certification. That is standardized plants. Now if you can
15 demonstrate that there is any remote chance that a utility
16 might have in mind coming in, let's say, by 1990, then we have
17 got something we have to consider. Otherwise, I'm not sure
18 that it's not irrelevant.

19 CHAIRMAN PALLADINO: Let's be careful. Otherwise,
20 we will shoot standardization in the foot before we ever get
21 it off the mark. Because standardization is going to require
22 some fixing of the technology in point of time. That does not
23 mean that after a period of time you shouldn't say we want a
24 different fix, but it does mean for a period of time you fix
25 the technology -- and when I say standardization, I picture

1 those reactors at Fukushima where you walk down and, except
2 for the designation on the building, you couldn't tell whether
3 you were in one, two, three or four.

4 COMMISSIONER BERNTHAL: That's right. But they
5 didn't have a -- well, whatever it is, a 15 or 20 year gap
6 between --

7 CHAIRMAN PALLADINO: I understand how they got
8 there, and that they face a different set of circumstances.
9 But we have got to be ready to admit that we are going to fix
10 technology application in point of time, and then have discrete
11 points in time in which we would encourage new ones. Just like
12 we got the DC-3. Some of them are still running, but that
13 doesn't mean --

14 COMMISSIONER BERNTHAL: We don't build them any
15 more.

16 COMMISSIONER ASSELSTINE: But you don't build a new
17 one.

18 CHAIRMAN PALLADINO: That's right. But we didn't
19 start changing it at every one. We just stopped the DC-3 and
20 went on to others. What I'm saying is you fix the technology
21 in point of time.

22 COMMISSIONER BERNTHAL: But we are driving to design
23 certification. That's what standardization is, it seems to
24 me. Anything else in the interim depends on whether there's
25 going to be any practical need for it, it seems to me, and

1 that is something we can ask the utilities. It is not clear
2 to me that we will be --

3 CHAIRMAN PALLADINO: Let me make a suggestion. I do
4 think it is wise to get the opinions of the utilities, but I
5 would say in the meanwhile we ought to try to fix up this
6 policy statement to be more in keeping with the points we
7 would like to see, such as clarification in terminology, and
8 then get it out for comment. Because the comments will also
9 bring us information that we can use.

10 COMMISSIONER ZECH: Let me make a comment, if I may,
11 couple of comments.

12 First of all, this Commission and the Staff has
13 obviously been talking about standardization for a long time.
14 Not much has happened, in my view. I think now is the time
15 to be serious about it.

16 I do think, though, the Staff has done a very good
17 job in trying to wrestle with this subject and a big part of
18 it, a big difficulty, is the timing issue. Here we are in
19 this country living with all these customized plants. Most
20 everyone, I believe, agrees that it is sound logic, it's in
21 line with public health and safety, it's a sensible thing to
22 do to standardize.

23 Now how do we get from where we are to where we are
24 going? It seems to me timing is really part of what we are
25 talking about and it's a big, big thing to be considering, and

1 so we can't just, I don't think -- even though it might be
2 highly desirable to say put out a very rigid standardization
3 policy, from now on it's going to be one design, two, three,
4 six or whatever, and that's it. It seems to me -- and this is
5 why I have used the term generations before. I think about it
6 this way, anyway. I think we ought to have two generations of
7 standardization.

8 The first generation, the next one that comes along,
9 would include some features of duplication and replication as
10 it is understood in the industry. I think it just makes
11 sense. We can't foreclose that, in my judgment.

12 Also in the first generation we might include a
13 third category. That would be perhaps under duplication,
14 perhaps under replication, but at least what I would call an
15 evolutionary change. We might find a plant out there that we
16 think is acting -- is performing reliably, safely, it's got a
17 fine record and so forth, and we might consider that in what I
18 term the third category of first generation. It's an
19 evolutionary plant, something out there right now that's
20 operating very well, with some modifications to it. That, to
21 me, is a first generation. I look at that as a very
22 conservative approach, but a realistic approach.

23 The second generation I look at in two categories:

24 One, the advanced reactor. We don't know what that
25 is going to be, but hopefully that is being worked on.

1 And also, the second category then of the second
2 generation would be perhaps even a more evolutionary change
3 towards what we have learned from the first generation. To
4 me, if you put it in those categories, it kind of makes
5 standardization feasible, rather than just be concerned with
6 all the difficulties it looks like in getting from here to
7 there. So I think that's a good way to think about it.

8 So I have this recommendation. I think that the
9 Staff has put together a good paper. I would suggest that we
10 give the paper to OPE and that our Commission level offices --
11 the Commissioner offices' assistants work with OPE and with
12 the Staff input also to make the modifications that are
13 necessary to the paper.

14 I also agree that we should get an input from
15 industry. I think NUMARC would indeed be an appropriate
16 group, although I think AIF, EPRI, EEI, others may be
17 interested in participating, too.

18 I think somebody has got to kind of try to get a
19 consensus, but you probably won't, and therefore then we would
20 give options who wants what and so forth. That kind of a
21 proposal I would recommend, and also we should try to come up
22 with a policy to give strong guidance as to what we really
23 want.

24 But again, my thinking is this is first generation,
25 second generation, so it is feasible. As we mentioned earlier,

1 we don't want to make it so impossible it's not going to
2 happen.

3 On the other hand, we are looking out for the public
4 health and safety, we are looking out for the citizens of our
5 country who should benefit from standardization. That is
6 important to me.

7 Then I would envision after that has been reworked
8 that we eventually put out -- and it should not be reworked to
9 be so prescriptive that it has all the fine points that we
10 even talked here today and perhaps discussed, but it should be
11 a general firm guidance, maybe not as specific as we would
12 like, and certainly not as proscriptive, but something that we
13 consider a sensible policy, and then we should supplement it
14 eventually with a NUREG that would perhaps discuss the issues
15 and topics in execution, some of which we have talked about
16 here today, too. It seems to me that is the approach we ought
17 to take.

18 So I think the Staff has done a good job, but it is
19 a very important issue, and we should not let it drag on
20 forever. It need not. But I do think that that kind of a
21 review with all of our Commissioner offices participating
22 would be a responsible thing to do.

23 I think that the Commissioners have a responsibility
24 now. The Staff has done a fine job, and now it is up to us, I
25 think, to take a more active role. I suggest that's what we

1 do.

2 CHAIRMAN PALLADINO: I was proposing that we get
3 our input in. We can get it in through our assistants. That
4 is a perfectly acceptable way, as far as I am concerned. I
5 was trying to avoid the time lag being too great, because if
6 we go for outside opinions, I'm not sure how quickly we are
7 going to be able to get them. But if we can go out for the
8 outside opinions while our staffs are working with OPE and the
9 Staff, then we might be able to save a little bit of time.
10 I'd like to see us get the standardization policy out the
11 first half of 1986.

12 COMMISSIONER ZECH: I'm all for getting it out soon,
13 but it's so important, I think we ought to do it right, and I
14 think many of the things I have said can be done in parallel.

15 CHAIRMAN PALLADINO: Sure.

16 COMMISSIONER ZECH: I don't think we have to take
17 forever to get it done at all, but it seems to me that input
18 from industry and those groups we have mentioned is important
19 because, as was mentioned, they are the customer and the
20 customer really is the citizens of our country, eventually.
21 That is important. We should keep that in mind.

22 CHAIRMAN PALLADINO: This would be going out for
23 comment, anyhow.

24 COMMISSIONER ZECH: That's why it is so important we
25 have it coordinated the best we can.

1 CHAIRMAN PALLADINO: As I understand it, you propose
2 that we get our assistants working together with OPE
3 participating?

4 COMMISSIONER ZECH: The Staff should be involved. I
5 suggest they get somebody full time from the Staff to
6 participate in this group, if they can, and we coordinate
7 again with industry folks.

8 CHAIRMAN PALLADINO: Another way we have generally
9 done is provided our input to the Staff and asked them to
10 revise it. That is the one I would prefer, but --

11 COMMISSIONER ZECH: The Staff has done that.

12 CHAIRMAN PALLADINO: No, generally we react. One
13 way to react is to get OPE and the staffs, our individual
14 staffs, working together, and then we can give it back to OPE
15 -- I mean give it to EDO and ask them to revise it. However,
16 I am open to innovative approaches.

17 COMMISSIONER ZECH: That is just my view. Others
18 may not feel the same way.

19 COMMISSIONER BERNTHAL: I don't know. I'm not sure
20 where we are. I think that somehow we are not keeping our eye
21 on the ball. We are confusing things with possibilities that
22 might arise in the next five years.

23 It seems to me the objective is for this country to
24 have our equivalent of Sizewell II ready for the 1990s. It
25 may well be that a utility, one or more utilities comes in in

1 the intervening years -- by 1990, perhaps -- and says, "We
2 would like to finish up the plant we started," or, "We would
3 like to replicate somebody else's plant." That, I think, is a
4 minor element of the standardization policy.

5 The major element is a design certification for
6 every major vendor, assuming they are willing to step forward
7 and proceed with it. I think there are some innovative ideas
8 here for driving that process of standardization, promoting
9 the process of standardization with some of the financing
10 ideas that have been suggested by the Staff, and I think what
11 we are really after here is a design certification of a
12 Sizewell type at a Sizewell type level.

13 If I ask myself, are we going to be inclined to
14 approve 1990 and beyond a plant that is a replicate of an
15 existing plant today, I am not sure what the answer would be.
16 I doubt we would approve that control technology.

17 CHAIRMAN PALLADINO: But, Fred, I think you are
18 talking to the substance of the issue, and we have to address
19 the substance of the issue, but I was trying to get a feel for
20 how to proceed.

21 COMMISSIONER BERNTHAL: I understand.

22 CHAIRMAN PALLADINO: We have a variety of workable
23 schemes, if we just get agreement that we want to follow a
24 particular scheme, because we want to make sure this Commission
25 input is provided and the suggestion that the assistants get

1 together with OPE to develop a consensus position, I think that
2 is a good approach.

3 Then what do we want to do about resolving --

4 COMMISSIONER BERNTHAL: It doesn't matter to me how
5 we go about this.

6 CHAIRMAN PALLADINO: Except to pick one.

7 COMMISSIONER BERNTHAL: I think the pieces are
8 basically there, and what the Staff has given us, and why
9 isn't a different --

10 COMMISSIONER ZECH: I don't find any fault with what
11 you are saying at all. I think we are in sync on it. I am
12 just trying to get the thing moved on. I think it is the
13 Commissioners' responsibility now to try to play a little more
14 active part. I think the Staff has done a fine job. They
15 have gone about as far as they can go.

16 I agree with what you are saying. I think we are
17 pretty much in agreement on what we want to do, and I think
18 Commissioner Asselstine and I have always felt pretty much the
19 same way about this. I am just trying to figure out a way to
20 move it along and work it out as quickly as we can.

21 COMMISSIONER ASSELSTINE: For myself, I don't care
22 who does it. OPE can do it, or the Staff, and I don't have
23 any problem with providing our input. I guess I view things
24 as Fred has just described them. I think that is more of a
25 restructuring of what is here than simply fine-tuning or

1 editing, and I think somebody is going to have to put some
2 effort in if that's the way the consensus of the Commission is
3 oriented.

4 I think Fred hit it right on the nose. Some of this
5 other stuff, in my view, clutters up what we are really after
6 here. If somebody wants to come in and say -- and build a
7 duplicate of something that now exists, that's fine, we should
8 not preclude that. But to highlight that as an element and
9 feature of our standardization policy, I think is a mistake.
10 I agree with Fred on that. It seems to me what we ought to
11 say is standardization what we're looking for, or the certified
12 designs that look into the future? That's what this program is
13 oriented towards, and let's build on what's in this policy
14 statement on that aspect of it and use it and take out some of
15 this other stuff and look at those things on a case-by-case
16 basis. If anybody really is interested in pursuing them.

17 I would like to see, you know, some effort made to
18 reformulate the policy statement along those lines; whether
19 it's OPE or the Staff doesn't matter to me.

20 CHAIRMAN PALLADINO: What we are trying to do is
21 provide a vehicle whereby individual Commissioner viewpoints,
22 such as Fred's and yours --

23 COMMISSIONER ZECH: I think we can do just that.
24 Perhaps we do differ a little bit in the fact that I believe
25 we should at least recognize that duplication and replication

1 for the immediate future is a very real possibility. I don't
2 think eliminating them would be the appropriate thing to do,
3 but I certainly agree that we should emphasize our goal of
4 getting to a certification, a standardization program that is
5 very real.

6 On that, I certainly agree, but I think that's why I
7 look at it in generations. I think we have to do it in steps
8 or else nothing is going to happen. If we put out a very
9 rigid policy eliminating all chance of duplication, eliminating
10 all chance of replication, I simply don't think anything is
11 going to happen. We are not going to get anywhere in building
12 plants in our country. I think that would probably be an
13 irresponsible regulatory action on our part.

14 COMMISSIONER BERNTHAL: I don't think anyone is
15 suggesting that. It's a question of emphasis, and I guess the
16 only reason for dwelling a bit further on the policy
17 inclinations here at the table is that it might better
18 determine how we want to proceed with the Staff and whatnot.

19 COMMISSIONER ASSELSTINE: Yes.

20 COMMISSIONER BERNTHAL: It's a question of emphasis,
21 I agree.

22 CHAIRMAN PALLADINO: Let me make the suggestion,
23 picking up your point, that we each give our respective views
24 to our assistants, and then the assistants, working with the
25 OPE, meet to reach a consensus on what ought to be done with

1 regard to this.

2 COMMISSIONER ASSELSTINE: Sure.

3 COMMISSIONER ZECH: Very good.

4 CHAIRMAN PALLADINO: Then in parallel I would also
5 ask the Staff to discuss with NUMARC, or perhaps some other
6 group, if it seems more appropriate, to get background
7 information on how the utilities view various options, and I
8 also would ask the Staff to find out a little more about how
9 FAA and aircraft designers manage the antitrust questions.

10 COMMISSIONER ZECH: Okay.

11 CHAIRMAN PALLADINO: Thank you very much, gentlemen.
12 That was a very interesting discussion.

13 Okay, we will stand adjourned.

14 [Whereupon, at 12:05 p.m., the meeting was
15 adjourned.]

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1 CERTIFICATE OF OFFICIAL REPORTER

2
3
4
5 This is to certify that the attached proceedings
6 before the United States Nuclear Regulatory Commission in the
7 matter of: COMMISSION MEETING
8

9 Name of Proceeding: Briefing on Policy Statement on Nuclear
10 Power Plant Standardization (Public Meeting)

11 Docket No.:

12 Place: Washington, D. C.

13 Date: Wednesday, December 11, 1985
14

15 were held as herein appears and that this is the original
16 transcript thereof for the file of the United States Nuclear
17 Regulatory Commission.
18

19 (Signature)

(Typed Name of Reporter) Mimie Meltzer
20
21
22

23 Ann Riley & Associates, Ltd.
24
25

12/11/85

PROPOSED REVISION TO STANDARDIZATION
POLICY STATEMENT -- BRIEFING OUTLINE

- ° BACKGROUND
- ° NEED FOR REVISING 1978 STANDARDIZATION
POLICY STATEMENT
- ° RETAINED PRESENT STANDARDIZATION CONCEPTS
- ° SIGNIFICANT PROPOSED REVISIONS TO 1978
STANDARDIZATION POLICY STATEMENT
- ° TRANSITION REPLICATION PROVISIONS
- ° DIFFERENCES BETWEEN STAFF- AND AIF- PROPOSED
STANDARDIZATION POLICIES

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BACKGROUND

- APRIL 1972 INITIAL POLICY STATEMENT ISSUED
- MARCH 1973 REFERENCE SYSTEM, DUPLICATE PLANT AND
MANUFACTURING LICENSE CONCEPTS ANNOUNCED
- AUGUST 1974 REPLICATE PLANT CONCEPT ANNOUNCED
- JULY 1977 STATEMENT REAFFIRMING SUPPORT OF STANDARDI-
ZATION, AND REQUESTING COMMENTS AND SUGGESTIONS
ON CHANGES ISSUED
- AUGUST 1978 MOST RECENT POLICY STATEMENT ISSUED

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NEED FOR REVISING 1978 STANDARDIZATION
POLICY STATEMENT

- STAFF'S EXPERIENCE IN IMPLEMENTING STANDARDIZATION PROGRAM
- PROVISIONS OF SEVERE ACCIDENT POLICY STATEMENT
- PROVISIONS OF DRAFT NUCLEAR POWER PLANT LICENSING AND
STANDARDIZATION ACT
- STAFF'S CURRENT VIEWS ON STANDARDIZATION

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RETAINED PRESENT STANDARDIZATION CONCEPTS

REFERENCE SYSTEM

DUPLICATE PLANT

REPLICATE PLANT

MANUFACTURING LICENSE

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SIGNIFICANT PROPOSED REVISIONS TO 1978
STANDARDIZATION POLICY STATEMENT

- SEVERE ACCIDENT POLICY STATEMENT LICENSING REQUIREMENTS
- DESIGN CERTIFICATION OPTION
- STAFF/COMMISSION CHANGES TO APPROVED DESIGNS MORE RESTRICTIVE;
INDUSTRY CHANGES LESS RESTRICTIVE
- DUPLICATE-REPLICATE PLANT REFERENCEABILITY PERIOD OVERLAP
ELIMINATED
- REFERENCE DESIGN FEES ALLOCATED AMONG USERS
- FDAs AND DCs RENEWABLE; PDAs RENEWABLE FOR GOOD CAUSE

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TRANSITION REPLICATION PROVISIONS

- REPLICATION PERIOD EXTENDED TO 5 YEARS FROM POLICY STATEMENT
- ADDED FLEXIBILITY IN APPLYING POLICY STATEMENT REQUIREMENTS
- NUREG-0800 PLANTS - ANY SITE
- NON-NUREG-0800 PLANTS - SAME SITE AND OPERATOR AS REPLICATED PLANT .

DIFFERENCES BETWEEN STAFF- AND AIF-PROPOSED
STANDARDIZATION POLICIES

<u>ISSUE</u>	<u>STAFF</u>	<u>AIF</u>
• TERMS OF APPROVAL	DC - 10 YEARS; OTHERS 5 YEARS	ALL CONCEPTS - 10 YEARS
• PDA RENEWABILITY	FOR GOOD CAUSE	YES
• LEVEL OF DESIGN DETAIL FOR FDAs AND DCs	EQUIVALENT TO FSAR	LESS THAN FSAR
• COST-BENEFIT ANALYSIS FOR COMMISSION/STAFF CHANGES	BASED ON BACKFIT RULE	BASED ON LEAD UNIT

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