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MINUTES OF THE ACRS SUBCOMMITTEE MEETING ON THE SYSTEMATIC EVALUATION PROGRAM NOVEMBER 30, 1982

The ACRS Subcommittee on the Systematic Evaluation Program (SEP) met in Room 1046 at 1717 H St. NW., Washington, D. C. on November 30, 1982. The purpose of the meeting was to continue the review of Millstone 1 and Dresden 2 for the Systematic Evaluation Program. These two power plants had been previously reviewed during an October 27, 1982 Subcommittee meeting. Notice of this meeting was published in the Federal Register on Wednesday, November 15, 1982 (Attachment A). A copy of the schedule of presentations is Attachment B. A list of attendees is Attachment C. Attachment D is a list of slides used and documents distributed during the presentations. A complete set of the presentation slides and handouts is on file in the ACRS office. Herman Alderman was the Designated Federal Employee for the meeting. The entire meeting was open to the public. There were no requests for time to make oral statements and no written statements received from members of the public.

CHAIRMAN'S OPENING REMARKS:

Dr. Siess explained that the Integrated Plant Safety Assessment Systematic Evaluation Program for both Dresden 2 and Millstone 1 would be reviewed in parallel, with the goal of selecting those issues to be presented to the full Committee during the December 1982 general meeting. Issues common to the plants would be presented together. Differences and unique aspects of the two plant reviews would be presented separately. Dr. Siess also explained

DESIGNATED ORIGINAL

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that he wanted to address sepcifically the usefulness of having a plant specific limited PRA (the Millstone 1 IREP) in formulating judgements on backfit requirements. Other Subcommittee members and consultants were polled as to specific topics they would liked discussed during the course of the meeting.

DRESDEN 2, OPERATING HISTORY AND PLANT DESCRIPTION: T. Rausch, Commonwealth Edison

Mr. Rausch presented a brief history of Dresden Unit 2, a GE BWR-3 with a rated thermal power of 2527 MWt and a rated electrical output of 834 MWe gross. The construction permit was issued in January 1966 and initial criticality was attained in January 1970. The plant has a 2-loop 20-jet-pump recirculation system. The containment is a Mark I (Torus suppression pool and light-bulb primary containment vessel). Dresden has the ability to passively remove decay heat using an isolation condenser.

Mr. Rausch mentioned that Dresden Units 2 and 3 were licensed about a year apart and were covered by a single FSAR. When Unit 3 was licensed, a full term operating license was issued. Unit 2 received a provisional operating license.

MILLSTONE 1, OPERATING HISTORY AND PLANT DESCRIPTION: W. Romberg, Northeast Utilities

Millstone Unit 1 is a BWR-3 with a Mark I containment, a design slightly earlier than Dresden 2. It is a 2-recirculation loop, 20-jet-pump plant.

The plant has an isolation condenser that can cool the plant down very close to a cold shutdown condition. Millstone is unique in that it has a gas turbine emergency power supply. The plant also has a backup diesel generator. Millstone can accommodate a 100% steam by-pass on the main turbine, while the reactor withstands a 100% load rejection and still remain in operation, a feature unique in the industry.

The plant produces 2,011 MWt and 685 MWe, slightly smaller than the Dresden 2 plant. The condenser heat sink is Long Island Sound. Construction was started in May 1966. The initial criticality was in October 1970.

TOPICS DELETED FROM CONSIDERATION IN THE INTEGRATED ASSESSMENT: C. Grimes, NRC/SEP Branch

Mr. Grimes made a few preliminary remarks noting receipt of the NRC consultant comments. Mr. Grimes said he felt Staff positions would not change as a result of the comments.

Mr. Grimes explained that of the 137 total Phase II SEP topics reviewed following deletion of generic topics and plant specific topics, 88 topics were reviewed on Dresden 2 and 86 on Millstone 1. During topic reviews, 54 topics for Dresden and 48 topics for Millstone were found acceptable. The integrated assessments for Dresden and Millstone contained 34 and 38 topics respectively. These topics represent 72 issues for Dresden and 87 issues for Millstone, where an issue represents a subtopic. The Staff placed each of these issues for the days discussion into categories related to the

the Staff's proposed action, such as no backfitting, hardware backfitting, procedural backfitting, or further evaluation which could potentially result in any of the above categories. It was noted that reports by NRC Staff consultants on the Dresden and Millstone IPSARs (Integrated Plant Safety Assessment Reports) would be forwarded to the ACRS in about one week and prior to the full Committee meeting.

GENERIC TOPICS DELETED:

Mr. Grimes noted that the list of items deleted because they were being addressed under the TMI Action Plan, as an Unresolved Safety Issue, or as a multi-plant action, were basically identical for Millstone and Dresden reviews. One item dealing with furnace sensitized safe-ends was left open on the Dresden review since some sensitized piping had not been replaced on this plant. This topic was found acceptable later during the project review. Overall, 19 generic topics were deleted from the Dresden 2 review and 20 generic topics were deleted from the Millstone 1 review.

TOPICS NOT APPLICABLE TO THE PLANT:

Topics that were deleted on a plant specific basis from the two reviews were identical with one exception. The exception was a review of dam integrity that could affect the Dresden plant (which is sited on a river as opposed to the Millstone ocean site). The dam integrity question was later found acceptable. 30 plant specific topics were deleted from the Dresden 2 review and 31 plant specific topics were deleted from the Millstone 1 review.

TOPICS WHICH MEET CURRENT CRITERIA OR ARE ACCEPTABLE ON ANOTHER DEFINED BASIS: C. Grimes, NRC Staff

In summary, 54 of 88 topics reviewed on Dresden 2 were found acceptable.and 48 of 86 topics revived on Millstone were found acceptable. 44 topics were common to both reviews. Those topics that were unique to one plant or the other were predominately site related matters.

APPLICATION OF PROBABALISTIC RISK ASSESSMENT (PRA) - TOPICS/ISSUES ADDRESSED BY PRA - C. Grimes

There were 14 issues addressed by PRA that were common to the two reviews. Five issues were unique to Dresden and six issues were unique to Millstone. In the Dresden case, there was no plant specific PRA; issues were ranked as low, medium or high in importance to risk. In the Millstone case, which has a plant specific PRA (the IREP), items were ranked according to a ratio to old risk to new risk (the new risk resulting from a design or procedure change in the plant.

Mr. Grimes noted that a 1% change in the ratio of old to new risk corresponded to a low ranking, 1% - 10% change a medium ranking, and greater than 10% change in ranking high. Mr. Grimes stated that the PRA was useful in the review in helping to focus topics, but he was unsure if it would change any positions that were previously determined. He noted that the plant specific PRA for Millstone was used in about the same fashion as previous non-plant specific risk reviews. The usefulness of the IREP may have been diminished somewhat by the short time period available to the Staff to study the report and make use of it in the IPSAR.

Mr. Russell pointed out that in the case of Dresden, it is Commonwealth Edison's intention to make those SEP modification necessary on Dresden 2 also on Dresden 3 and Quad Cities 1 and 2. If a measure is significant enough to alter one unit they will consider changing all four units. This four-plant review has resulted in some slow downs as far as receiving the licensee's responses on Dresden 2 issues.

USE OF PRA IN SEP INTEGRATED ASSESSMENT - R. Spulak, Sandia National Lab. Mr. Spulak discussed the qualitative methodology that was used to evaluate SEP issues for the Dresden 2 and Oyster Creek PRA assessments and the quantitative methodology that was used for Millstone 1. For Oyster Creek and Dresden 2, issues were addressed in a qualitative way. The resolution of each issue was assessed to determine its impact on the dominant core melt sequences. For Millstone 1, an actual sensitivity study was performed using the IREP PRA to deduce the actual changes in core melt frequency, exposure, and risk from resolution of each isse.

The Millstone 1 IREP was used as the base case for all of the studies. For Dresden 2 and Oyster Creek, the Millstone IREP fault trees were changed to represent the actual plant. The fault trees were not solved. The modified fault trees were used to qualitatively assess the impact of resolution of an issue on the tops of the fault trees and therefore on the dominant sequences that were identified in the Millstone IREP.

The most significant issue with regard to change in risk was "Redundancy of Electrical Busses." This results in a decrease in exposure of 90 person-rem per reactor-year, and a new risk to old risk ratio of 0.84, a 16% reduction in risk. This reduction applied to the Millstone plant only.

ISSUES CONSIDERED IN THE INTEGRATED ASSESSMENT - C. Grimes, NRC Staff
Each issue considered in the integrated assessments for Millstone 1 and Dresden 2 was identified along with the corresponding topic from which the issue evolved. Also noted were the issues as they arose on the Oyster Creek review, which was examined by the subcommittee the previous month. The resolution for each topic and whether it was common to all the plants or unique to a particular plant was presented. These topics and issues are presented in meeting handout slides from C. Grimes (set #3) which summarize the resolution of each issue. Issues were divided into four categories. Issues requiring no backfit, issues requiring further evaluation, issues requiring procedural or Technical Specification changes, and issues requiring hardware backfits.

It was explained that for issues requiring additional evaluation, the potential exists for backfitting.

On the Millstone plant case, as a part of issues to receive further evaluation, there will be an integrated structural assessment conducted. The assessment will address a number of related issues together as part of topic III-7.B, "Design Codes, Design Criteria, Load Combinations, and Reactor Cavity Design

Criteria." Under the integrated structural assessment, an evaluation of the adequacy of the original design criteria will be made on a sampling basis for specified structural elements. It will provide information requested on topics II-3.B, II-4.F, III-2, III-3.A, and III-G that have been deferred to this topic.

Hardware backfits as a result of the SEP review were discussed. Hardware backfits common to both Dresden 2 and Millstone 1 include:

- Installation of Class IE protection at the interface between RPS Power Supply and the RPS.
- The emergency generator protective trip will be bypassed during accident conditions.
- Licensees will provide control room indication of recommended battery status information.

Hardware backfits that were unique to Dresden 2 include:

- Installing scuppers to prevent ponding on building roofs to assure water loading is within roof structural capability.
- Installing a second locked close valve on lines that contain a single isolation valve and threaded cap.
- Installing control room indications on the status of shared batteries.

The Licensee has agreed to the following hardware backfits that will be unique to Millstone 1 including:

- The Licensee has agreed to evaluate alternatives and provide a shutdown method which is protected from the effects of tornado missiles.
- The Licensee has agreed to install an independent pressure interlock between the reactor water coolant system and the reactor water cleanup system.
- The Licensee has agreed to provide locks and appropriate administrative controls on a number of valves on test, vent, drain, or sample lines to assure containment isolation.
- The Licensee has agreed to bypass 2 of 4 gas turbine generator startup trips (Light-off Speed and Excitation Speed Trips) under accident conditions.,
- Two of four gas turbine generator startup trips will be retained in order to provide protection against a potential explosion (Light-off temperature and starting air-ignition cutoff speed trips).
- There are six operational trips (high exhaust gas temperature, high lube oil temperature, high gas generator speed, high turbine overspread, high vibration jet, and low lube oil pressure) not now bypassed during emergency operation of the gas turbine generator. The licensee will bypass the high lube oil temperature trip under accident conditions. The high gas generator speed and

high turbine overspeed trips are analogous to the engine overspeed trip on a diesel generator and are necessary to prevent overspeed failures. The high exhaust gas temperature trip protects the unit against melting of mechanical parts. The high vibration jet trip protects against total mechanical degradation of the gas turbine generator caused by high vibration. The addition of another channel to provide coincident logic for all of the unbypassed trips would not provide significant improvement in reliability. Precautions are taken in setting the trip points so that the probability of a trip during accident conditions is minimized. In almost all cases when a failure of the gas turbine generator occurred, it occurred because of an actual component failure and not because of spurious signals.

TOPICS FOR WHICH LICENSEE DISAGREES OR HAS NOT RESPONDED:

III-6 Seismic Evaluation of Motor Operated Valves - this issue relates to the seismic capability of large motor-operated valves on small lines. This issue is open only on Millstone because Northeast Nuclear has not responded to the concern.

XI-10.A Flux Channel Surveillance Frequency - This issue involves a disagreement between Northeast Nuclear and the NRC Staff. The NRC Staff believes that Standard (GE) technical specification requirements for flux channel surveillance testing should be utilized on the Millstone plant. The utility believes that the ability to increase inspection intervals based on past performance as currently allowed by existing tech. specs. is appropriate. It was noted that less frequent inspection intervals have never been allowed due to a lack of the experience base (exposure hours and performance required to relax the monthly testing requirement to quarterly.) The basis for this relaxation is contained in an article by Jacobs from General Electric. The Staff agreed to supply the Subcommittee with a copy of this article. Dr. Siess asked Drs. Catton and Lipinski for their written comments on the issue of test frequency.

XV-16 & XV-18 Primary Coolant Activity Limits - This is contested only by Northeast Nuclear on the Millstone case. The Staff's position is that 0.2 μ Ci dose equivalent of I-131 should be used when the I-131 contribution to the total radioiodine activity is not known, with a maximum of 4 μ Ci/gm dose equivalent of radioiodine. The concern of the utility is that if they have leaky fuel, they may be hampered in their operation or precluded from operation without a hazard to the public existing. The utility believes there are so many conservative assumptions in the dose calculations that they can operate beyond the current standard technical specifications limits without a hazard to the public. A hazard would only be present in the event of a pipe break and radioactive steam release outside of containment.

Dr. Siess noted that a similar sequence of presentations as used for the Subcommittee meeting would be approprate for the full Committee meeting, December 9, 1982. He explained that items with procedural and hardware changes and areas of disagreement would be of special interest to the Committee.

NOTE: A complete transcript of the meeting is on file at the NRC Public Document Room at 1717 H St. NW., Washington, D. C. or can be obtained from Alderson Reporters, 300 7th St. SW, Washington, D. C. 202-554-2345.

data, such as salaries: and personal information concerning individuals associated with the proposals. These matters are within exemptions (4) and (6) of 5 U.S.C. 552b(c), Government in the Sunshine Act.

Authority to Close Meeting: This determination was made by the Committee Management Officer pursuant to provisions of Section 10(d) of Pub. L. 92-463. The Committee Management Officer was delegated the authority to make such determinations by the Director, NSF, on July 6, 1979.

November 9, 1982.

M. Rebecca Winkler,

Committee Management Coordinator.

[FR Doc. 82-31171 Filed 11-12-82; 8:45 am]

BILLING CODE 7555-01-M

NUCLEAR REGULATORY COMMISSION

Advisory Committee on Reactor Safeguards; Subcommittee on Systematic Evaluation Program for Millstone 1 and Dresden 2; Meeting

The ACRS Subcommittee on the Systematic Evaluation Program for Millstone 1 and Dresden 2 will hold a meeting on November 30, 1982 in Room 1046, 1717 H Street, NW., Washington, DC. The Subcommittee will continue the review of Systematic Evaluation for Millstone 1 and Dresden 2.

In accordance with the procedures outlined in the Federal Register on October 1, 1982 (47 FR 43474), oral or written statements may be presented by members of the public, recordings will be permitted only during those portions of the meeting when a transcript is being kept, and questions may be asked only by members of the Subcommittee, its consultants, and Staff. Persons desiring to make oral statements should notify the Designated Federal Employee as far in advance as practicable so that appropriate arrangements can be made to allow the necessary time during the meeting for such statements.

The entire meeting will be open to public attendance except for those sessions during which the Subcommittee finds it necessary to discuss proprietary information. (Sunshine Act Exemption 4). One or more closed sessions may be necessary to discuss such information. To the extent practicable, these closed sessions will be held so as to minimize inconvenience to members of the public in attendance.

The agenda for subject meeting shall be as follows:

Tuesday, November 30, 1982—8:30 a.m. until the conclusion of business

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, will exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will then hear presentations by and hold discussions with representatives of the NRC Staff, their consultants, and other interested persons regarding this review.

Further information regarding topics to be discussed, whether the meeting has been cancelled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor can be obtained by a prepaid telephone call to the cognizant Designated Federal Employee, Mr. Herman Alderman (telephone 202/634-1414) between 8:15 a.m. and 5:00 p.m., e.s.t.

I have determined, in accordance with Subsection 10(d) of the Federal Advisory Committee Act, that it may be necessary to close some portions of this meeting to public attendance to protect proprietary information. The authority for such closure is Exemption (4) to the Sunshine Act, 5 U.S.C. 552b(c)(4).

Dated: November 8, 1982.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 82-31184 Filed 11-12-82; 8:45 am]

BILLING CODE 7590-01-M

[Docket No. 50-255]

Consumers Power Co.; Systematic Evaluation Program; Availability of Final Integrated Plant Safety Assessment Report for the Palisades Plant

The Nuclear Regulatory Commission's (NRC) Office of Nuclear Reactor Regulation (NRR) has published its Final Integrated Plant Safety Assessment Report (IPSAR) (NUREG-0820) related to the Consumers Power Company's (licensee) Palisades Plant located in Covert, Van Buren County, Michigan.

The Systematic Evaluation Program (SEP) was initiated by the NRC to review the design of older operating nuclear reactor plants to reconfirm and document their safety. This report documents the review completed under the Systematic Evaluation Program for the Palisades Plant. Areas in the report identified as requiring further analysis or evaluation and required modifications for which design descriptions have not yet been provided by the licensee to the NRC will be reviewed as part of the operating license conversion review. Supplements to the Final IPSAR will be issued addressing items requiring further analysis and review. The review has provided for: (1) An assessment of the significance of differences between current technical positions on selected safety issues and those that existed when the Palisades Plant was licensed, (2) a basis for deciding on how these differences should be resolved in an integrated plant review, and (3) a documented evaluation of plant safety when all supplements to the IPSAR and the Safety Evaluation report for converting the license from a provisional to a full-term license have been issued. Equipment and procedural changes have been identified as a result of the review. The report also addresses the comments and recommendations made by the Advisory Committee on Reactor Safeguards (ACRS) in connection with its review of the Draft Report, issued in April 1982 (47 FR 16127, April 14, 1982). These comments and recommendations, as contained in a report by the ACRS dated May 11, 1982, and the NRC staff's related responses are included in Appendix H of the report.

The Final IPSAR and its supplements will form part of the bases for considering the conversion of the existing provisional operating license to a full-term operating license.

Pursuant to 10 CFR 50.71(e)(3)(ii), the licensee is required within 24 months after receipt of the letter dated October 29, 1982, from the Director of the Office of Nuclear Reactor Regulation to the license transmitting the Final IPSAR, to file a complete Final Safety Analysis Report (FSAR), which is up to date as of a maximum of six months prior to the date of filing the revision.

The Final IPSAR is being made available at the NRC's Public Document Room, 1717 H Street, NW., Washington, D.C. 20555 and at the Kalamazoo Public Library, 315 South Rose Street, Kalamazoo, Michigan 49006 for inspection and copying. Copies of this Final Report (Document No. NUREG-0820) may be purchased at current rates from the National Technical Information Service, Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, and from the Sales Office, U.S. Nuclear Regulatory Commission, Director, Division of Technical Information and Document Control, Washington, D.C. 20555, Attention: Publications Unit.

Dated at Bethesda, Maryland, this 29th day of October 1982.

ATTACHMENT A

ATTACHMENT B

TENTATIVE MEETING SCHEDULE FOR THE NOVEMBER 30, 1982 MEETING OF THE ACRS SUBCOMMITTEE ON THE SYSTEMATIC EVALUATION PROGRAM (SEP) MILLSTONE UNIT 1 AND DRESDEN UNIT 2

0830 1. Introduction - Operating History and Plant Description
 1.1 Dresden 2
 1.2 Millstone 1

0910 2. Topics Deleted [TMI, USI, and not applicable]
 2.1 Common to Dresden 2 and Millstone 1
 2.2 Plant-specific differences

0930 3. Topics that meet or are equivalent to current criteria
 3.1 Common to Dresden 2 and Millstone 1
 3.2 Acceptable on another defined basis
 3.3 Differences

1000 4. Application of PRA
 4.1 Topics/Issues addressed by PRA - common and differences
 4.2 Use of PRA in SEP Integrated Assessment

1030 BREAK

1040 4.3 Millstone 1 IREP - plant-specific PRA

1110 5. Issues considered in the Integrated Assessment [issues common to Dresden 2, Millstone 1, and Oyster Creek first, followed by issues unique to either Dresden 2 or Millstone 1]
 FROM TO 5.1 Issues requiring no backfit

HERE 1200 LUNCH

1300 5.2 Issues requiring further evaluation
 5.3 Issues requiring procedural or Technical Specification changes
 5.4 Issues requiring hardware backfits

1430 6. Issues for which the licensee disagrees
 6.1 Common to Dresden 2 and Millstone 1
 6.2 Unique to Dresden 2
 6.3 Unique to Millstone 1

1520 BREAK

1530 7. Discussion by licensee on the value of SEP/Integrated Assessment
 Full COMM 7.1 Dresden 2
 7.2 Millstone 1

1600 8. Summary and Conclusions
 8.1 Application of PRA
 8.2 Additional questions for licensees
 8.3 Directions to Staff and Licensees for full Committee presentations

1630 ADJOURN

ATTACHMENT C

ATTENDEE LIST

NOVEMBER 30, 1982 SEP SUBCOMMITTEE MEETING
WASHINGTON, D.C.

ACRS

C. Siess, Chairman
D. Ward, Member
J. Ray, Member
I. Catton, Consultant
W. Lipinski, Consultant
D. Fitzsimmons, Consultant
R. K. Major, Staff
H. Alderman, DFE

NRC

W. T. Russell
C. I. Grimes
A. Thadani
R. Frahm
M. P. Rubin
J. A. Murphy
D. Persinko
P. W. O'Connor
R. F. Scholl, Jr.
G. Cwalina
J. J. Shea
J. Shediosky

Northeast Utilities

M. Bain
W. Romberg
R. M. Kacich

Commonwealth Edison

S. P. Powers, Jr.
T. J. Rausch
R. Rybak
N. P. Smith

NUS CORP

S. B. Gerges

Bechtel

E. Hill

Alderson

M. E. Hanson
J. Beach

SAI

D. W. Gallagher
P. J. Amico

Sandia

R. G. Spulak

ATTACHMENT D

LIST OF MEETING HANDOUTS

NOVEMBER 30, 1982 SEP SUBCOMMITTEE MEETING
WASHINGTON, D.C.

1. Slides used by T. Rausch, Commonwealth Edison, Commonwealth Edison Co., Dresden Unit 2," 14 slides.

2. Slides used by W. Romberg, Northeast Utilities, "ACRS Subcommittee on SEP, November 30, 1982, Millstone Unit No. 1, Northeast Utilities," 4 slides.

3. Slides used by C. Grimes, NRC SEP Branch, "Summary Phase II Topics - 137," 67 slides.

4. Slides used by R. Spilak, Sandia National Lab. "Risk Analysis of Oyster Creek, Dresden-2, and Millstone 1 SEP Issues" Slides.

OTHER DOCUMENTS AVAILABLE TO THE SUBCOMMITTEE
IN ITS REVIEW

1. U.S. Nuclear Regulatory Commission Draft Report, "Integrated Plant Safety Assessment, Systematic Evaluation Program, Dresden Nuclear Power Station, Unit 2 "NUREG-0823, October 1982.

2. U.S. Nuclear Regulatory Commission Safety Evaluation Reports, Dresden 2 Systematic Evaluation Program Topics, Volume 1 through 3, dated October 1982.

3. Interim Reliability Evaluation Program: Analysis of the Millstone Point Unit 1 Nuclear Power Plant, Volume I, Main Report (SAI-002-82-BE), Draft dated 1 October 1982.

4. U.S. Nuclear Regulatory Commission Draft Report, "Integrated Plant Safety Assessment, Systematic Evaluation Program, Millstone Nuclear Power Station, Unit 1 "NUREG-0824, November 1982.

5. U.S. Nuclear Regulatory Commission Safety Evaluation Reports, Millstone 1 Systematic Evaluation Program Topics, Volume 1 and 2, dated November 1982.