

**CERTIFIED**

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DATE ISSUED: May 3, 1985

MINUTES OF THE APRIL 4, 1985  
MEETING OF THE ACRS SUBCOMMITTEE ON HUMAN FACTORS  
WASHINGTON, D.C.

Purpose:

The ACRS subcommittee on Human Factors met on April 4, 1985 at 1717 H Street, N.W., Washington D.C. 20555 in Room 1046. The purpose of the meeting was to discuss the following reports: NUREG/CR-3215, "Organizational Analysis and Safety for Utilities With Nuclear Power Plants"; NUREG/CR-3737, "An Initial Empirical Analysis of Nuclear Power Plant Organization and Its Effect of Safety Performance"; and work on a Nuclear Power Plant Safety Measurement and Evaluation Program by John MacEvoy, an A ACRS Senior Fellow. Operator requalification and the check-operator concept were also discussed.

Notice of the meeting, published in the Federal Register on Tuesday, March 19, 1985, is reproduced and shown as Attachment A. The schedule for the meeting is Attachment B. Sign-in sheets of meeting attendees are contained in Attachment C. Attachment D contains a list of meeting handouts kept with the office copy of these minutes. The entire meeting was open to the public. There were no oral or written comments from members of the public. Mr. Richard Major and Mr. John Schiffgens were the assigned ACRS staff members for the meeting.

Attendees:

ACRS

D. A. Ward, Chairman  
G. A. Reed, Member  
F. Remick, Member  
C. J. Wylie, Member  
C. Michelson, Member  
R. Osborn, Invited Expert  
J. Peterson, Invited Expert

C. M. Overbey, RES  
T. G. Ryan, RES  
P. W. McLaughlin, DHFS  
D. B. Jones, DHFS  
L. P. Crocker, DHFS  
J. A. Thurber, PNL  
A. F. Gibson, REG II

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*BYR*

R. K. Major, Staff  
J. O. Schiffgens, Staff  
J. MacEvoy, Fellow

H. B. Kister, REG I  
D. H. Beckham, DHFS  
R. M. Keller, REG. I

Others

E. Oesterle, Bechtel  
T. Houghton, KMC  
L. Neal, GE  
M. Rager, NUS  
N. Suttora, AIF  
A. Bivens, AIF  
S. Seth, MITRE  
P. F. Collins, RFA

Meeting Highlights, Agreements, and Requests:

Mr. Ward discussed briefly the meeting schedule and objectives. Mr. Reed expressed the opinion that the Subcommittee might better have addressed the potential need for more rigorous aptitude evaluation in personnel selection before looking into plant organization. The Subcommittee agreed that this matter should be taken up at a future meeting.

- 2a. Mr. Ryan presented a brief overview of NUREG/CR-3215. He pointed out that in July 1982 the NRC initiated a multiphased research program to focus on an organization and management performance assessment and develop some optimization guidelines.

NUREG/CR-3215, Volumes 1 and 2, reports on the first phase of this research program, which is intended to develop and field validate new innovative standards and protocols for assessing, on both quantitative and qualitative bases, nuclear facility organization and management effectiveness in matters crucial to safety during power plant operations. He said that initial work on the program was halted for a time due to a) a shortage of funds, and b) some NRC questioning of the "propriety" of looking into this area. Mr.

Ward expressed amazement over the latter reason, but the staff offered little insight. At that time, July 1983, the NUREG was published (before many conclusions could be developed).

Mr. Ryan expressed the view that the success or failure of most enterprises rests with the organization and the top-level management. According to Mr. Ryan, people in numerous industries have tried the "bottom-up" approach to organizational analysis and reorganization in efforts to improve company performance and have concluded that improvements are best made through a "top-down" approach. Mr. Michelson suggested that justification for continued support for this program would probably hinge on the staff's ability to establish a solid link between safety and the nature of the organization and management performance.

The main point stressed in Volume 1 is the need for an organizational perspective. Secondly, a three legged interactive model is introduced for analyzing nuclear utility management. One leg is organizational characteristics focusing on the structure, another is intermediate outcomes of performance, and a third is indicators of safety. Volume 2 is essentially a handbook for government and industry researchers and practitioners who are interested in developing the area. An interactive model of organizations, organization management, potential impacts of utility industry environment on organizational design, organizational assessment practices of selected federal agencies, organizational characteristics data sources in the nuclear utility industry, and a critical analysis of existing safety indicator data are discuss in Volume 2.

There was considerable discussion of the ratings for the nine potential data sources identified in Table 1 of the report (see Attachment E). Mr. Ward said that based on the 1 (for good) to 5 (for bad) rating scale, it did not look like the sources listed were very good. Mr. Osborn suggested that the Subcommittee interpret the table as saying that the data sources did not suit

research purposes and were not detailed or specific enough across all plants. He said that this is to be expected for information that is collected for other purposes, as was the case here.

Mr. Reed asked if it was possible and desirable to come up with a standardized organizational chart for nuclear power plant management and a set of rules for the "best" structure. Mr. Osborn replied that the plant organization needs to be tailored to a number of factors; i.e., because plants differ so substantially in their sizes, their technologies, their environmental settings, and the regulatory systems they operate under, standardization may not be a wise choice. Mr. Reed and Mr. Remick wondered about the extent to which the talent of available personnel should influence organizational structure.

Mr. Ward asked if INPO was doing any research in this area. Mr. McLaughlin responded that as far as the staff knows they are only collecting data on indicators of safety performance. Mr. Ward asked the same question with regard to EPRI. Mr. Ryan said EPRI had a small on-going organizational program. Mr. Overbey added that EPRI had published a report in this area and that he would obtain a copy of it for the Subcommittee.

- 2b. Mr. McLaughlin made some introductory remarks before the presentation on NUREG/CR-3737. He emphasized that this report is only an "initial" analysis. He said that NRR considers it an important activity with two objectives: 1. To describe the relationship, if one exists, between organization and management and safe operation of a nuclear power plant; and 2. To develop a set of indicators that would characterize how well (safely) a plant was performing. The first task was to identify and collect existing objective measures of plant safety performance. The second was to identify and collect existing objective measures of plant management organization. The third task was to take these two measures and

attempt to empirically correlate them to establish if, in fact, there is a relationship between them.

Mr. Thurber, the project manager, described the research effort that resulted in NUREG/CR-3737. He began by reminding everyone that the project is not a study of management but, rather, an empirical study that looks at organizational structure with indicators of safety performance as the dependent variable. Structure is something that can be looked at empirically more easily than can be the art of management and the skill with which a manager communicates things. Mr. Ward wondered whether top level personnel or organizational structure is the most reliable and permanent characteristic of the corporate entity. Mr. Thurber ventured that structure is more stable than personnel. Mr. Michelson suggested that staff review procedures for evaluating technical specification changes involving organizational structure should be considered at a future Subcommittee meeting.

Using the approach discussed in NUREG/CR-3215, Mr. Thurber said they identified nine preliminary safety performance variables. Indicators were collected for these nine from LERs, forced outage data, SALP scores, and violations data for 1981, they were controlled for plant age, size, region, reactor type, and vendor, and combined to form the following more reliable and general safety performance indicators:

- \* Human Error Rate
- \* Hardware Failure Rate
- \* Regulatory Compliance
- \* Plant Reliability

These composite indicators, from data that was available to the research team, served as their measure of plant safety. Mr. Thurber said that if they had more money they may have selected INPO's 31 indicators of safety performance.



With regard to organizational structure, Mr. Thurber stated that formal structure is as important in a plant as are managers because it establishes a basis for determining what work has to be done, who will perform given tasks, and what standards are to be applied to the work, as well as how activities are going to be budgeted, coordinated and controlled. From technical specifications, FSAR's, and other sources, the research team collected measures of vertical organization (organizational patterns, such as supervisory spans of control, number of ranks up in the plant, number of ranks from the first line supervisor to the top manager of the unit in question), measures of horizontal organizational patterns (such as number of departments at the first line of management), and measures of management coordination (such as communication and systems of communication). Mr. Ward asked how they measured cross communication. Mr. Thurber said they used, for example, the level at which operations and maintenance functions converge in a plant, and the level at which operations and engineering functions converge.

Mr. Thurber said they did regression and discriminate analyses of the relationship between organizational structure and safety to describe and explain the variance in the dependent variable, safety (actually, the four indicators), in terms of the structural variables. Plants were separated into above average and below average and organizational factors correlated to each group. With regard to safety indicators, the following patterns were discovered:

- \* Plants using many vertical ranks of authority performed less well;
- \* Plants with narrow spans of control or a larger ratio of supervisors to subordinates performed less well; and
- \* Plants with better developed coordinative mechanisms across functions tend to perform better.

Mr. Ward asked if organizational theory gives an optimum number for the spans of control. Mr. Thurber responded that some experienced managers (and the Navy) say six, but there does not seem to be a consensus. He said that damaging events are too rare to be used as the only measures of nuclear power plant (NPP) safety performance, that there is no commonly accepted definition of NPP safety performance at this time, and that there is great danger in making an evaluation based on a single indicator (i.e., the results from all indicators need to be combined).

Mr. McLaughlin said that this work was done with less than \$200,000 of FY-84 funds. He said they had budgeted for programs on maintenance indicators, \$70,000 for FY-85 and \$150,000 for FY-86.

2c. Mr. MacEvoy presented a description of his work on Power Plant Safety and Performance Evaluation. The objective of his effort was to use readily available data sources on performance indicators (that are objective) to provide an overall index of plant safety and performance that will permit reliable comparisons from year to year and from plant to plant. Changes in the index are intended to signal a need for a detailed analysis. He chose the following indicators:

- \* Automatic Scrams at Power per year (premise: challenges to the Reactor Protection System are "bad").
- \* Yearly Occupational Dose (premise: radiation doses to personnel must be minimized).
- \* Airborne Curies Discharged (premise: radiation released to the environment should be minimized).
- \* Plant Yearly Average Availability (premise: high availability is an overall indication that the plant runs well).

- \* Average Yearly Plant (thermal) Efficiency (premise: plants should strive for the highest efficiency possible).

There was considerable discussion of these indicators and the extent to which they are measures of safety. The following views were expressed by various Subcommittee Members: Some routine challenges to the RPS can provide evidence that systems are working properly and, hence, are good. A low yearly occupational dose may be an indication that timely maintenance is not being done (the effects of which may not show up on a short time scale). Airborne curies discharged has to be corrected for reactor type, i.e. PWR or BWR. Again, on a short time scale, a high plant yearly average availability may be reflecting neglect of maintenance rather than safety. A high average yearly plant thermal efficiency may say more about design, environment, and astute use of heat sinks than about safety.

Each factor was mapped to a range from 0 to 2, and summed to obtain a single index. There was some questioning of the mapping procedure which was not the same for all factors. Plots of indices versus time were presented for four plants and the trends reflected were discussed.

- 3a. Mr. Boger presented the NRC Staff's view of the operator requalification program. He talked about the current regulatory requirements concerning requalification, requalification program evaluation, the check-operator concept, and Commissioner Asselstine's questions on these issues.

Operator requalification is regulated according to Appendix A to 10 CFR 55. The program is based on a continuous 2 year cycle with pre-planned lectures. Lecture content depends on how the candidates fared on the last annual written exam and on perceived training needs. As part of on-the-job training each facility license holder (RO and SRO) is required to a) manipulate reactivity controls, b) review facility changes, c) review all emergency and



abnormal procedures, and d) use a plant specific simulator, if available, to perform reactivity manipulations and operations. There is stipulation for an annual written examination. The operator is expected to demonstrate his ability to perform satisfactorily during normal and abnormal conditions.

Mr. Ward asked for the basis of the annual frequency for examination. Mr. Boger could only say that the requirement has always been there. Mr. Ward said that it was his understanding that the annual examination was to identify deficiencies that could then be corrected with a requalification program. Mr. Boger said that that is the case, and added that each facility is required, as part of their FSAR submittal, to include a requalification program for review. The program (lectures and operator evaluations) is conducted by the facility and evaluated by the NRC. Before TMI-2 the NRC looked at the requalification program, the content of written exams, and the facility's grading of operators. The TMI-2 accident caused the NRC to rethink it's role in the requalification process. Mr. Boger pointed out that the NRC now has Examiner Standards to help maintain consistency (e.g., ES-601 deals with how to administer examinations). Due to regionalization the NRC has been able to expand it's staff of examiners (from 10 or 12 to 27 or 30) so as to increase it's involvement in the process.

Mr. Boger said that if a plant has a lot of LER's for operator errors or inattention to details or procedures problems, these may be due to management inattention to requalification, and the plant is likely to be chosen for evaluation. According to the examination format, each candidate is given a full written examination (i.e., about 60 percent of a normal NRC examination) and an operating test (i.e., either a walk-through or a simulator exam). The NRC now tests 20 percent of the operators in 50 percent of the facilities annually. If 80 percent of the operators pass the examination, the program is deemed acceptable. If less than 60 percent pass the facility's program is considered unacceptable and corrective action is required. Whether the examination is given by

the facility or the NRC, an individual operator who does not pass is placed in an accelerated requalification program (the provisions of which are described in the FSAR).

The NRC has produced an Examiner Handbook to guide an examiner on  
sample information from the Operator Knowledge Catalogue to  
consistent examinations.

With regard to the check-operator concept, Mr. Boger said they were reconsidering their initial position that check-operators from one facility examine at another facility (to minimize potential conflict of interest), since check-operators from the same facility should be more knowledgeable examiners. Mr. Remick suggested one benefit of having outsiders give the examinations is the cross-fertilization of ideas that can result.

The NRC Staff sees that the basic duty of a check-operator would be to give operating tests (simulator or oral exams) to licensed operators, not written examinations. The facility would select the check-operator candidate for NRC approval. The NRC would administer some sort of examination to certify the candidate as a check-operator, then would periodically audit the check-operator either on a knowledge level or observe him during the conduct of a test (similar to FAA procedures with regard to check-pilots). The benefits are an annual peer evaluation of all operators, and career enhancement for check-operators (which would presumably benefit the profession as a whole). The disadvantages are at least a perceived conflict of interest, the NRC currently lacks the legislative authority for such a program, such a program would be a drain on SRO resources.

The following are some comments with regard to Commissioner Asselstine's concerns: Mr. Boger expressed the opinion that the training programs are preparing people for the unexpected and if the unexpected doesn't happen, there is no way of really measuring how well they have been trained. Mr. Remick said he thought

training was definitely better as a result of having requalification. Mr. Boger emphasized that as a result of regionalization there are additional examiners available to conduct examinations. Mr. Remick suggested that there may be too much variation among NRC consultants in their ability to conduct uniformly good examinations. Mr. Beckham acknowledged that the staff has had difficulties in attracting qualified candidates for examiner positions.

- 3b. Mr. Kister discussed the overall experience in Region I concerning the requalification program. To date, Region I has conducted 8 evaluations of requalification programs, 4 older and 4 newer programs. The Region uses input from senior residents and resident inspectors, plant operational history, and inspection experience at the facility to determine the level of program review. Five of the eight were rated satisfactory (one which was rated unsatisfactory has since been upgraded and rated satisfactory).

With regard to the evaluations, Mr. Kister said the feedback has been positive. The Region has stressed the need for the programs to have an ongoing versus once-a-year approach, and has increased management involvement where needed. For example, Mr. Keller mentioned that it came as a shock to the management of one multi-unit utility that one of their plants had a program that was limited to about two weeks a year prior to the examination, while another plant was conducting a continuous program (note, test scores at the former were significantly lower). Mr. Kister said that operators are responding favorably to the requalification program. Their evaluation looks at the effect of the program on the overall knowledge level of the operators.

Mr. Kister said that they felt more extensive use of the resident inspector in the current requalification process would have many of the advantages of the check-operator concept (he could watch operators perform on a day-to-day basis). He said that EG&G Idaho

and Battelle provide examiners for Region I. Mr. Keller said operator feedback on the examinations was very positive.

- 3c. Mr. Gibson discussed experiences with the requalification program in Region II. He described inspection findings with regard to training programs. He listed inadequate scope, poor quality lesson plans, licensee examinations too easy, repetitive use of examinations, and excessive dependence on unstructured self-study as perhaps the most significant short comings. He said some utilities have made changes in their NRC approved requalification program without seeking approval for the changes.

Examinations have been administrated at most of the facilities in Region II. They have found that performance on simulators and facility walk-through examinations are generally good. If the plant does not have a simulator only a walk-through examination is given (about 80 percent of the plants in the Region have plant specific simulators). Performance on the written examinations has not been good. Mr. Gibson pointed out that the written examination performance level tends to be inversely proportional to the time licensed. He stressed that initial and requalification examinations are similar in scope, and both are designed to determine if the operator has an acceptable level of knowledge to operate the plant safely.

Region II has completed 13 evaluations of requalification programs following regionalization. Two programs have been declared unsatisfactory because of high failure rate. In Mr. Gibson's opinion, prior to NRC administered examinations, requalification was not taken seriously. He said that they have seen better examination performance at facilities where programs have been accredited. Mr. Osborn noted that failing a test after having passed it the first time (i.e., the previous year) may reflect more about the reliability of the test to do what you want it to do than about the individuals knowledge.

Mr. Gibson said that, in general, industry is opposed to NRC administered requalification examinations (concerned about shutdowns and operator morale). The most frequent comments received are a) the scope of the exam should be restricted to the scope of utility training g, and b) the answers to questions requires knowledge the operator does not need.

4. Mr. Peterson, Acting President of the Professional Reactor Operators Society, discuss views of PROS members on a the check operator concept and requalification. He presented the results of a survey which indicated strong support for the check operator concept provided that it would be a replacement for, not an addition to, the current licensing or requalification requirements. Many operators now take an annual requalification test from the utility and then another one from the NRC. He called the Subcommittee's attention to the fact that not all licensed operators are actual control room operators; some people are licensed but work elsewhere in the plant or for plant management.

Only control room operators (past, present, and in training) were included in the survey; 49 percent (185) of those contacted responded in time for this meeting (51 percent were SROs and 37 percent were ROs). Without knowing the details of a check operator program, 83 percent favored it. With regard to the current licensing process, 90 percent thought that it did not accurately measure an individual's ability to safely operate a nuclear power plant (unqualified examiners and non-performance based examinations). Only 65 percent were willing to participate in the program if it meant maintaining additional certification as an examiner, but 88 percent would like PROS to pursue the idea with those developing the concept.

#### Future Meetings:

The ACRS is scheduled to discuss Requalification of Nuclear Power Plant Operators during the 300th ACRS meeting, April 11-13, 1985.



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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 at cost from ACE Federal Reporter, Inc., 444 N. Capitol St., Washington, D. C. 2001, Telephone (202) 347-3700.

NRC Safety Research Program and budget for FY 1987 and gather information for use by the ACRS in its preparation of the annual report to the Commission on the NRC Safety Research Program.

*Decay Heat Removal Systems.* Date to be determined (May). Washington, DC. The Subcommittee will continue the review of NRR resolution position on USI A-45, "Shutdown Decay Heat Removal Requirements."

*Regulatory Activities.* June 4, 1985 (tentative). Washington, DC. The Subcommittee will review the following: (1) Proposed General Revisions to Appendix J to 10 CFR 50, "Leak Tests for Primary and Secondary Containments of Light-Water Cooled Nuclear Power Plants," (2) Draft Regulatory Guide on "Containment Leakage Testing," and (3) Regulatory Guide 1.23, Rev. 1, "Meteorological Measurement Programs for Nuclear Power Plants."

*Safety Research Program.* June 5, 1985, Washington, DC. The Subcommittee will discuss the updated information (possibly the Budget Review Group mark) on the proposed NRC Safety Research Program and budget for FY 1987. Also, it will discuss a draft ACRS report to the Commission on the NRC Safety Research Program and budget for FY 1987.

*Emergency Core Cooling Systems.* June 12-13, 1985. Alliance, OH. The Subcommittee will continue the review of the joint NRC/B&WOG/EPRI/B&W joint IST Program. A visit to the MIST facility is also planned.

*River Bend 1 and 2.* Date and location to be determined (early June). The Subcommittee will continue the review of Gulf States Utilities' application for an operating license for the River Bend Nuclear Power Plant Units 1 and 2.

*Palo Verde.* Date to be determined. Maricopa County, AZ. The Subcommittee will review the final reports for various construction deficiencies and the results of the preoperational testing as requested in ACRS letter dated December 15, 1981.

*Combined Reliability and Probabilistic Assessment and Millstone 3.* Date and location to be determined. The Subcommittee will review the probabilistic risk assessment for Millstone 3.

*Fluid Dynamics.* Date to be determined. Washington, DC. The Subcommittee will review the status of the implementation effort on the hydrodynamic loads issue for GE BWR Mark I-III containments.

#### ACRS Full Committee Meeting

April 11-13, 1985: Items are tentatively scheduled.

*\*A. Meeting with NRC Commissioners—*discuss ACRS comments/activities regarding safety-related matters including backfitting of nuclear facilities, consideration of a separate board to evaluate accidents at nuclear facilities, and the ACRS role in the civilian radwaste program.

*\*B. Source Term Considered in Nuclear Power Plant Accidents—*briefing by representatives of the American Physical Society regarding the recent APS report on the source term.

*\*C. Scram System Reliability in Water-Cooled Power Reactors—*discuss the reliability of electrical circuit breakers used in PWR scram systems and NRC activities associated with ATWS.

*\*D. Office of International Program—*briefing by Office Director regarding office activities.

*\*E. Vendor Inspection Program—*briefing by representatives of the NRC Office of Inspection and Enforcement regarding the NRC vendor inspection program.

*\*F. NRC Research Programmatic Activities and Policies—*ACRS comments in response to an inquiry from Congressman Morris K. Udall regarding the NRC research and other programmatic activities and policies.

*\*G. Standardized Nuclear Power Plant—*continue review of GESSAR II. Representatives of the NRC Staff and the General Electric Company will participate as appropriate.

*\*H. Quantitative Safety Goals—*discuss NRC staff evaluation of the two-year trial period regarding use of quantitative safety goals.

*\*I. Systematic Review of Nuclear Power Plants—*discuss proposed clarification of ACRS report dated July 18, 1984 on proposed NRC Severe Accident Policy Statement.

*\*J. NRC Consideration of Safety-Related Issues—*proposed ACRS comments on conduct of NRC proceedings.

*\*K. ACRS Subcommittee Activities—*discuss recent and proposed activities of ACRS subcommittees regarding designated areas, including provisions for requalification of reactor operators, a long range program plan for NRC activities, emergency core cooling systems, emergency power supplies in nuclear plants seismic design margins and ACRS procedures and practices.

*\*L. Management and Disposal of Radwaste—*discuss proposed inquiry regarding the role of the ACRS in the NRC evaluation of DOE activities related to the civilian nuclear radwaste program.

*\*M. ACRS Activities—*discuss proposed activities of ACRS members.

ACRS subcommittees and the full committee.

May 9-11, 1985—Agenda to be announced.

June 6-8, 1985—Agenda to be announced.

Dated: March 13, 1985.

John C. Hoyle,

Advisory Committee Management Officer.

[FR Doc. 85-6545 Filed 3-18-85; 8:45 am]

BILLING CODE 7580-01-28

#### Advisory Committee on Reactor Safeguards, Subcommittee on Human Factors; Meeting

The ACRS Subcommittee on Human Factors will hold a meeting on April 4, 1985, Room 1046, 1717 H Street, NW, Washington, DC.

The entire meeting will be open to public attendance.

The agenda for subject meeting shall be as follows:

Thursday, April 4, 1985—8:30 a.m. until the conclusion of business

The Subcommittee will discuss NUREG/CR-3737, a method of ascertaining management/organization's contribution to safety of operating reactors and NUREG/CR-3215, Organizational Analysis and Safety for Utilities with Nuclear Power Plants. Also to be discussed is the topic of operator requalification and the check operator concept.

Oral statements may be presented by members of the public with the concurrence of the Subcommittee Chairman; written statements will be accepted and made available to the Committee. 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 ACRS staff member named below as far in advance as is practicable so that appropriate arrangements can be made.

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, may 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, its 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 ACRS staff member, Mr. Richard Major (telephone 202/634-1414) between 8:15 a.m. and 5:00 p.m., e.s.t. Persons planning to attend this meeting are urged to contact the above named individual one or two days before the scheduled meeting to be advised of any changes in schedule, etc., which may have occurred.

Dated: March 14, 1985.

Morton W. Libarkin,

Assistant Executive Director for Project Review.

[FR Doc. 85-6546 Filed 3-18-85; 8:45 am]

BILLING CODE 7590-01-M

### Detroit Edison Co.; Environmental Assessment and Finding of No Significant Impact

[Docket No. 50-341]

The U.S. Nuclear Regulatory Commission (the Commission) is considering issuance of partial exemption from the requirements of Appendix J to 10 CFR Part 50 to the Detroit Edison Company (the applicant) for the Fermi-2 facility located on Lake Erie in Monroe County, almost 8 miles east-northeast of Monroe, Michigan.

#### Environmental Assessment

**Identification of Proposed Action:** The exemptions would (1) Allow Type C testing of the main steam isolation valves to be conducted at a differential pressure less than that required by Paragraph III.C.2 of Appendix J, and (2) eliminate the full pressure test required by paragraph III.D.2(b)(ii) of Appendix J normal air lock opening and substitute a seal leakage test to be conducted at a pressure specified in the Technical Specifications. The proposed exemptions are in accordance with the applicant's requests dated October 22, 1984 and January 19, 1985, as supplemented by letter dated January 26, 1985.

**The need for the Proposed Action:** The proposed exemptions are required because of the design of the main steam isolation valves and to provide the applicant with greater plant availability over the lifetime of the plant.

**Environmental Impacts of the Proposed Action:** The requested exemptions would allow the Type C testing of the main steam isolation valves to be conducted at a differential pressure less than that required by Appendix J and would grant the substitution of an airlock seal test for an airlock pressure test while the reactor is

in a shutdown or refueling mode. With respect to these exemptions from Appendix J, the increment of environmental impact is related solely to the potential increased probability and the magnitude of containment leakage during an accident which could lead to potentially higher offsite and control room doses. However, the potential increase due to the exemption granted for testing of the airlock is small and would result from the potential leakage path through the door mechanism which will not be measured by this modified test. Other tests at each refueling or when maintenance is performed on the door, will measure the leakage through the door mechanism. Additionally, the reduced pressure when performing the Type C testing of the main steam isolation valves will not increase doses.

**Alternative to the Proposed Action:** Because the staff has concluded that there is no measurable environmental impact associated with the proposed exemptions, any alternative to these exemptions will have either on environmental impact or greater environmental impact.

The principal alternative would be to deny the requested exemptions. This would not reduce the environmental impacts of plant operations and would result in reduced operational flexibility and unwarranted delays in power ascension.

**Alternative Use of Resources:** This action does not involve the use of resources not previously considered in connection with the "Final Environmental Statement related to the operation of Enrico Fermi Atomic Power Plant, Unit No. 2," dated August 1981.

**Agencies and Persons Consulted:** The NRC staff reviewed the applicant's requests that support the proposed exemption. The NRC staff did not consult other agencies or persons.

#### Finding of No Significant Impact

The Commission has determined not to prepare an environmental impact statement for the proposed exemptions.

Based upon the foregoing environmental assessment, we conclude that the proposed actions will not have a significant effect on the quality of the human environment.

For further details with respect to this action, see the requests for the exemptions dated October 22, 1984, January 19, 1985, and January 26, 1985, which are available for public inspection at the Commission's Public Document Room, 1717 H Street, NW., Washington, D.C. 20555 and at the Monroe County Library System, 3700

South Custer Road, Monroe, Michigan 48161.

Dated at Bethesda, Maryland, this 11th day of March 1985.

For the Nuclear Regulatory Commission,  
Thomas M. Novak,  
Assistant Director for Licensing, Division of Licensing.

[FR Doc. 85-6549 Filed 3-18-85; 8:45 am]

BILLING CODE 7590-01-M

[Dockets Nos. 50-277; and 50-278]

### The Philadelphia Electric Company, et al. (Peach Bottom Atomic Power Station, Units 2 and 3); Exemption

I

The Philadelphia Electric Company (the licensee) and three other co-owners are the holders of Facility Operating Licenses Nos. DPR-44 and DPR-56 which authorize the operation of the Peach Bottom Atomic Power Station, Units 2 and 3 (the facilities), at steady-state power levels not in excess of 3293 megawatts thermal for each unit. These facilities are boiling water reactors located at the licensee's site in York County, Pennsylvania. These licenses are subject to all rules, regulations, and orders of the Nuclear Regulatory Commission (the Commission) now or hereafter in effect.

II

On November 19, 1980, the Commission published in the *Federal Register* (45 FR 76602) revised 10 CFR 50.48 and a new Appendix R to 10 CFR Part 50 regarding fire protection features of nuclear power plants. The revised regulation and new appendix became effective on February 17, 1981. Section III of Appendix R identifies specific fire protection requirements in fifteen subsections, lettered A through O. This exemption relates to certain aspects of Sections III.F and III.G, as follows, from which the licensee has requested relief:

(a) A requirement of Section III.F of Appendix R to provide the installation of automatic fire detection systems in all areas of the plant that contain or present an exposure fire hazard to safe shutdown or safety-related systems or components;

(b) A requirement of Subsection III.G.2 to provide the installation of 3-hour fire rated barriers to separate redundant trains;

(c) A requirement of Subsection III.G.2 to provide the installation of automatic suppression systems in specific fire areas, and,

(d) A requirement of Section III.G.3 to provide for the installation of a fixed

TENTATIVE SCHEDULE  
ACRS SUBCOMMITTEE ON HUMAN FACTORS  
APRIL 4, 1985  
WASHINGTON, D.C.

ATTACHMENT B

- 8:30 AM 1. Chairman's Introduction (D. Ward) 10 min  
a) purpose  
b) objectives  
c) schedule
2. Safety Performance Indicators for Nuclear Power Plants
- 8:40 AM a) discussion of NUREG/CR-3215 (C. Overbey, HFSB) 1 hr  
"Organizational Analysis and Safety for Utilities with Nuclear Power Plants"
- 9:40 AM b) discussion of NUREG/CR-3737 (P. McLaughlin, LQB) 2 hr  
"An Initial Empirical Analysis of Nuclear Power Plant Organization and Its Effect on Safety Performance"
- 10:30 AM \*\*\* B R E A K \*\*\* 10 min
- 11:50 AM c) Nuclear Power Plant Safety Measurement (J. MacEvoy, Measurement, ACRS Fellow)  
i) Nov. 7, 1984, Report on Nuclear Power Plant Safety Measurement  
ii) Feb. 13, 1985, Power Plant Evaluation Program
- 1:00 PM \*\*\* L U N C H \*\*\* 1 hr
- 2:00 PM 3. Discussion of Requalification Issues 1 hr  
a) Role of DHFS, OLB - Overview (B. Boyer)  
i) comments on Check Operator Concept  
ii) discuss Commissioner Asselstine's questions:  
° In general, how well is the operator requalification program working?  
° How has regionalization affected the program?  
° How can requalification programs help to increase engineering knowledge on shift?
- 3:00 PM b) Discussion of Operator Requalifi- (H. Kister) 40 min  
cations with Region I  
i) Experience from the field  
ii) Comments on 3.a.i. and 3.a.ii. above
- 3:40 PM \*\*\* B R E A K \*\*\* 10 min
- 3:50 PM c) Discussion of Operator Requalification (A. Gibson) 40 min  
with Region II  
i) Experience from the field  
ii) Comments on 3.a.i. and 3.a.ii. above
- 4:30 PM 4. Future Actions 30 min  
Response to Commissioner Asselstine during April 11-13, 1985 meeting
- 5:00 PM ADJOURN



ACRS SUBCOMMITTEE MEETING ON

HUMAN FACTORS

LOCATION: Room 1046, 1717 H St., NW., Washington, D.C.

DATE: April 4, 1985

ATTENDANCE LISTpls return  
to R. MAJOR

PLEASE PRINT:

NAME	BADGE NO.	AFFILIATION
D. WARD		CHAIR
G. FROED		Member
F. Roush		
C. Wylis		
C. Middleton		
R. Osburn		consultant
J. Peterson		consult
R. MAJOR		STAFF
J. Sch. Fegredo		
John Van Felt	A-470	Acad. Fellow
Charles M. Overbey	B-1520	RES staff
Thomas G. Ryan	B-2074	RES staff
PETER W. McLAUGHLIN	B-2246	NRR/DHRS Staff member
Jim Thurber	E-0988	BATTELLE
Daniel B. Kizes	A-2929	NRR/DHRS
Lawrence P. Crocker	B-3181	NRR/DHRS/LGB
Lynan Connor	E-0965	The NRC calendar
Eric Oesterle	E-0949	Bechtel Power Corp.
Tom Houghton	E-0940	KMC
Lyndon Neal	E-0242	General Electric
MATTHEW RAGER	E-0904	NUS
Nick Sittora	E-0901	AIF



## SUBCOMMITTEE MEETING ON HUMAN FACTORS

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ATTENDANCE LIST

PLEASE PRINT:

NAME	BADGE NO.	AFFILIATION
W. Simmons	E-0986	Ace FEDERAL.
R. Osborn	E-0946	Battelle
ERIC OESTERLE	E-0949	Bechtel Power Corp.
Wynn Connor	E-0965	DSA
James Neal	E-0342	G.E.
<del>Nick Sutter</del>	E-0901	AIF
Michael R. Brown	E-0904	NUS
JIM THURBER	E-0988	BATTELLE
Tom Houghton	E-0940	KMC
ART BIVENS	E-0956	AIF
S. Smith	E-0936	MITRE
PF Collins	E-0956	KMC, INC
D. W. Smith		
G. Reed		
F. Rourke		
C. W. Smith		
C. W. Smith		
J. W. Smith		
R. H. Myers		
J. T. Smith		
J. F. Smith		

ATTACHMENT D

HANDOUTS FOR APRIL 4, 1985  
HUMAN FACTORS SUBCOMMITTEE MEETING

1. NUREG/CR - 3215 - "Organizational Analysis and Safety for Utilities With Nuclear Power Plants".
2. NRR Staff Presentation to the ACRS - Initial Empirical Analysis of Nuclear Power Plant Organization and its Effect on Safety Performance.
3. Power Plant Safety and Performance Evaluation - John MacEvoy, ACRS Fellow.
4. Overview of Operator Requalification.
5. Discussion of Operator Requalification - A. Gibson, Region II
6. Operator Viewpoint on Licensing Issues by The Professional Reactor Operator Society, April 2, 1985.
7. Table 1 - Ratings of Nine Potential Data Sources on 17 Criteria.