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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
)	Docket No. 50-155-OLA
CONSUMERS POWER COMPANY)	(Spent Fuel Pool
)	Modification)
(Big Rock Point Nuclear Power)	
Plant))	

CONSUMERS POWER COMPANY'S PROPOSED FINDINGS
OF FACT AND CONCLUSIONS OF LAW
ON THE ADMINISTRATIVE CONTROLS CONTENTION
(O'NEILL II G (a)) AND CERTAIN EMERGENCY
PLANNING SUBCONTENTIONS (CHRISTA-MARIA 9(4),
9(5), 9(7), AND PART OF 9(2))

I. FINDINGS OF FACT

Emergency Planning Subcontention 9(2) in part -- Radiation Education of the public and local and school officials.

1. The second sentence of Christa-Maria Subcontention 9(2) states:

In addition, the public, local officials and school officials should be more completely educated in problems of radiation exposure.

2. Mr. Danny B. Bement is an Emergency Management Specialist with the Federal Emergency Management Agency ("FEMA"). Mr. Bement submitted testimony addressing the radiation education of local and school officials.^{1/}

^{1/} "Direct Testimony of Danny B. Bement Regarding Christa-Maria Emergency Planning Subcontentions 9(2), 9(3), 9(4), 9(5) and 9(7)", following Tr. 833, hereinafter "Bement Testimony".

3. Charles E. Axtell is the Licensee's Chemistry and Health Physics Superintendent at the Big Rock Point Plant. His testimony addressed the radiation education of local and school officials.^{2/}

4. The State of Michigan Emergency Plan provides a comprehensive framework for training local officials in emergency duties.^{3/}

5. Local officials and school officials are trained in radiation and radiation hazards through such activities as the development and revision of emergency plans and annexes, public officials conferences, briefings by Big Rock Point Plant officials, training drills and annual exercises.^{4/}

6. Licensee also provides training to organizations which may be called upon in an emergency and participates in the state's program of training of local officials.^{5/}

7. Radiation education is regularly included in the training of offsite emergency organizations such as hospital emergency room staffs, ambulance crews and fire departments. This activity has been ongoing for at least 14 years.^{6/}

2/ "Testimony of Charles E. Axtell with Respect to Certain Subcontentions of Christa-Maria's Contention 9 Regarding Emergency Planning," following Tr. 1047, (hereinafter "Axtell Testimony").

3/ Axtell Testimony, p. 4 and Attachment 1.

4/ Bement Testimony, p. 4.

5/ Axtell Testimony, p. 5.

6/ Id., p. 5, Tr. 1109-10.

8. Licensee participates in training courses conducted by the State for local officials and said courses include discussion of radiation effect.^{7/}

9. Numerous local and school officials, as well as members of the public, have toured the Big Rock Point Plant or attended lectures by its personnel. The tours and lectures routinely include a discussion of the effects of radiation exposure.^{8/}

Emergency Planning Subcontention 9(4) - Assistance of
of persons without vehicles in an emergency.

10. Christa-Maria Subcontention 9(4) states:

Applicant should be required to assist persons without vehicles to leave the area during an emergency evacuation.

11. State and local officials, including the Sherriff of Charlevoix County have the responsibility for the evacuation of off-site personnel.^{9/}

12. Under the Charlevoix County Emergency Operations Plan and Letters of Agreement between Licensee and Charlevoix County, the responsibility for evacuation of residents during an emergency rests with County Sheriff's Department. A similar Letter of Agreement is in effect with nearby Emmet County.^{10/}

13. The public information pamphlet advises persons with special transportation needs in an emergency to seek the

^{7/} Axtell Testimony, p. 5.

^{8/} Id., pp. 6-7.

^{9/} Axtell Testimony, Attachment 1, pp. A 17 and A 18 and Attachment 2.

^{10/} Axtell Testimony, pp. 9-10 and Attachment 3.

assistance of a neighbor or listen to the media for transportation information. The public information pamphlet also encourages residences with special transportation needs to make advance arrangements with their County Sheriff or Emergency Services Coordinator. The new public information pamphlet provides a form which individuals can use to notify the Emergency Services Directors of their special needs.^{11/}

14. FEMA has concluded that adequate planning has taken place to assist persons without vehicles so they could leave the area around the Big Rock Point Plant during an emergency evacuation.^{11a/}

Emergency Planning Subcontention 9(5) - List of Invalids for Emergency Evacuation.

15. Christa-Maria Subcontention 9(5) states:

A current list of invalids should be kept so that they can be assisted in time of emergency.

16. FEMA has concluded that a list of invalids who may need assistance in time of emergency is maintained by the Charlevoix County Sheriff. The list contains the names of 40 invalids who reside in Charlevoix County within the 5 mile plume exposure pathway.^{12/}

17. The list of invalids is comprised of names and addresses of invalids who responded to newspaper articles and to the original public information pamphlet which solicited

^{11/} Bement Testimony, pp. 5-6; Consumers Power Company Exhibit, No. 5, pp. 8, 23.

^{11a/} Bement Testimony, p. 5.

^{12/} Bement Testimony, pp. 6-7; Tr. 962-64, 1478-79.

names of invalids for this purpose.^{13/}

18. The new public information pamphlet provides a form for those who need assistance in an emergency which can be mailed to the County sheriff.^{14/}

Emergency Planning Subcontention 9(7)- Emergency Plan Personnel

19. Christa-Maria Subcontention 9(7) states:

Applicant's emergency plan should be revised so that it relies only on people who exist and have been properly identified and so that there will be adequate coordination among responsible personnel.

20. The Site Emergency Plan and the Site Emergency Plan Implementing Procedures of the Big Rock Point Plant Manual do rely only on people who exist and have been properly identified. A review of the pertinent sections of those documents by Mr. Axtell found all positions in the emergency plan to be filled with identified persons who have been trained in their respective emergency functions.^{15/}

21. Mr. Axtell reviews the personnel assigned to emergency positions every three months as part of a routine updating and verification of telephone numbers which will be needed in an emergency. This procedure is prescribed by the Big Rock Point Plant emergency plan.^{16/}

13/ Tr. 834-35, 963-964, 981.

14/ Consumers Power Company Exhibit No. 5, p. 23. This exhibit was the pamphlet Licensee uses at its Palisades facility but which it intends to adapt for use at the Big Rock Point Plant. Tr. 1030-31.

15/ Axtell Testimony, p. 11 and Attachment 4.

16/ Id., pp. 11-12.

22. In an annual exercise conducted April 6, 1982, the primary and back-up Emergency Operations Center staffs for Charlevoix and Emmett Counties demonstrated to the satisfaction of FEMA that the necessary people exist and adequate coordination among responsible personnel occurred. During the exercise, both counties showed a capability for staffing and carrying out 24-hour operational capability through partial shift changes. However, the exercise indicated that a second shift is needed for certain Charlevoix County personnel, an assessment which is contested by the Charlevoix County Emergency Services Coordinator.^{17/}

23. Licensee and local and state emergency organizations participated in a nuclear incident response exercise on June 24, 1980, which was also observed and evaluated by FEMA. FEMA evaluated the exercise against the NUREG-0654/FEMA-REP-1 criteria of January, 1980. The unanimous opinion of the FEMA panel was that the state and local staffs demonstrated a high degree of competence in executing the emergency plan and FEMA generally commended the communication, coordination and cooperation demonstrated during the exercise. One criticism, however was lack of communication between the Emergency Operations Center and the Big Rock Point Plant. On FEMA's recommendation, a dedicated line has been established between the Emergency Operations Center and the Big Rock Point Plant.^{18/}

^{17/} Bement Testimony, p. 8.

^{18/} Axtell Testimony, pp. 12-13 and Attachment 5.

Administrative Controls^{19/}

24. O'Neill Contention II G(a) states:

Administrative controls proposed to prevent a cask drop over the pool are inadequate. These are mentioned on pages 4-9 of the application. Administrative controls have proved inadequate in the past in preventing incidents and are frequently violated at the plant.

25. Licensee's Application states in pertinent part:

Administrative controls will be established for casks other than the fuel transfer cask to ensure that: (1) no cask is moved over stored spent fuel, (2) all cask handling operations are limited to the southwest corner of the spent fuel pool, and (3) no spent fuel is stored in the two existing "A" racks adjacent to the cask handling area during cask handling operations. These controls will preclude the dropping or tipping of a cask onto a fuel rack with stored fuel.^{20/}

^{19/} Licensee presented three witnesses on its behalf on this contention. Their written statements appear following Tr. 2579 and is captioned "Testimony of Edmund W. Raciborski Concerning O'Neill Contention II. G(a)", "Testimony of David P. Blanchard Concerning O'Neill Contention II. G(a)", and "Testimony of Patrick M. Donnelly Concerning O'Neill Contention II. G(a)", hereinafter referred to as "Raciborski Testimony", "Blanchard Testimony", and "Donnelly Testimony", respectively. Staff also presented a witness, Richard L. Emch, who sponsored the "Testimony of Walter A. Paulson Concerning O'Neill No. II. G(a)" and "Supplemental Testimony of Walter A. Paulson Concerning O'Neill Contention II. G(a)" which appear following Tr. 2597, hereinafter referred to as "Paulson Testimony" and "Paulson Supplemental Testimony".

^{20/} "Big Rock Point Plant Spent Fuel Rack Addition Consolidated Environmental Impact Evaluation, Description and Safety Analysis", Consumers Power Company Exhibit No. 2, (the "Application"), p. 2-18. In the original Application, the cited section appeared on page 4-9. The reference to more than one page of the Application in O'Neill Contention II. G(a) is erroneous. See Blanchard Testimony, p. 2.

(These controls will be hereinafter referred to as the cask handling administrative controls).

26. The cask handling administrative controls apply to all casks handled in the spent fuel pool except for the fuel transfer cask. The cask handling administrative controls are not necessary for the fuel transfer cask because it is equipped with safety slings which prevent the cask from dropping.^{21/}

27. Two casks other than the fuel transfer cask are frequently used in the vicinity of the spent fuel pool. The Treat-II Cask, referred to as the "7 1/2 ton cask" in the Staff's Safety Evaluation Report of May 15, 1981, is used to transfer irradiated rods to fuel vendors for research purposes. The Treat-II cask is lowered into the fuel pool to load rods packaged for shipment. Based on experience, the Treat-II cask is used for shipment two to three times a year and typically involves one-half dozen rods. The other cask is a 15-ton cask used to transfer irradiated Cobalt-60 for shipment to a fabricator of Cobalt sources for medical and industrial uses. The 15-ton cask is also lowered into the spent fuel pool two to three times a year. However, use of the 15-ton cask is expected to terminate within the next few years because Cobalt irradiation has become uneconomical. The cask handling administrative controls apply to the use of the Treat-II and 15-ton casks. The administrative controls

^{21/} Blanchard Testimony, p. 3. The reliability of the safety mechanism for the fuel transfer cask is the subject of a separate contention not considered in the present findings.

also apply to the use of other less frequently used casks.^{22/}

28. The purpose of the cask handling administrative controls is to prevent damage to fuel stored in the spent fuel pool should a cask be dropped in the pool.^{23/}

29. The cask handling administrative controls limit operations which involve cask handling to the southwest corner of the spent fuel pool. The procedures implementing these controls specifically restrict cask handling operations to this area.^{24/}

30. No fuel storage racks are presently located in the vicinity of the southwest corner of the pool.^{25/}

31. Under the proposed expanded use of the spent fuel pool, two racks will be relocated to the vicinity of the southwest corner of the pool. The cask handling procedure will be modified to prevent lowering of casks into the pool until the two racks are verified to be empty of fuel. This control will provide continued assurance that the dropping or tipping of a cask in the southwest corner of the pool will not result in fuel damage.^{26/}

32. David P. Blanchard is a Technical Engineer at the Big Rock Point Plant. He was responsible for implementation

^{22/} Blanchard Testimony, pp. 4-6.

^{23/} Id., p. 8.

^{24/} Blanchard Testimony, p. 8.

^{25/} Id., p. 8.

^{26/} Id., pp. 8-9.

of a program for handling and accountability of nuclear fuel and reactor internals hardware at the Big Rock Point Plant. His responsibilities included development of procedures for all aspects of fuel handling from its arrival to its storage and shipment offsite. Transfer of fuel is associated with the handling of casks designed for safe transfer and disposal of irradiated material. Mr. Blanchard was partly responsible for administrative controls and procedures used during operations involving the handling of casks.^{27/} Mr. Blanchard's opinion is that the cask handling administrative controls are adequate to preclude fuel damage during cask handling operations in the spent fuel pool.^{28/}

33. Mr. Blanchard also detailed inspection, preventive maintenance, and functional testing procedures which are performed on a periodic basis to assure that all controls load bearing and safety devices are in satisfactory working order. These procedures have changed periodically to comply with changing requirements as they occur.^{29/}

34. There has not been a cask drop in over 19 years of operation of the Big Rock Point Plant.^{30/}

35. Mr. Edward W. Raciborski is the Quality Assurance Superintendent at the Big Rock Point Plant. His responsibilities include verification of implementation of

^{27/} Blanchard Testimony, pp. 1-2.

^{28/} Id., pp. 9-10.

^{29/} Id., pp. 9-10.

^{30/} Id., p. 10.

Licensee's Quality Assurance Program at the Big Rock Point Plant through the conduct of audits, surveillances and the review of documents associated with the implementations of the program.^{31/}

36. Quality assurance ("QA") entails the planned and systematic activities necessary to provide adequate confidence that a structure, system or component will perform satisfactorily in service. The Big Rock Point Plant has implemented a QA program based on 10 CFR Part 50 Appendix B and American National Standards ANSI N 18.7 1976, titled "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants."^{32/}

37. Implementation of QA program is monitored by an in-house QA Department which acts independently of the plant management staff and free from cost and schedule considerations of plant operation.^{33/} The QA Department does not report to anyone at the plant site. Reporting of deficiencies and adverse trends by the QA Department to Licensee's management occurs at the vice-presidential level of Nuclear operations. This separation assures the on-site QA Department can function effectively without pressure from the plant management.^{34/}

38. Implementation of the QA program is verified through a system of checks that include audits, surveillances,

^{31/} Raciborski Testimony, p. 2.

^{32/} Raciborski Testimony, pp. 2-3.

^{33/} Id., p. 3.

^{34/} Id., p. 9.

inspections, document reviews and identification documentation, follow-up, and resolution of deficiencies and non-conformances. Quality assurance personnel have the authority to stop work if in their opinion it is not being safely carried out.^{35/}

39. The QA program at the Big Rock Point Plant incorporates a deviation reporting and corrective actions system which documents evaluates, and resolves deficiencies such as violations of administrative controls. This formalized reporting system utilizes a graded approach based on the seriousness of the event ranging from events reportable to the NRC to minor equipment malfunctions, personnel errors, or documentation anomalies.^{36/} The reporting forms or "Corrective Action Documents" not only identify and describe an incident but evaluate its significance, causes, and corrective actions. The Corrective Action Document calls for involvement of the witness, the supervisor, management and the QA Department.^{37/}

40. A computer system is utilized to compile the Corrective Action Documents and generate reports which inform management and all personnel involved with the Corrective Action Documents of the status of documents. A computer system is also used to identify and correct adverse trends.^{38/}

^{35/} Id., pp. 3-4.

^{36/} Raciborski Testimony; p. 4-5.

^{37/} Id., p. 8.

^{38/} Id., pp. 8-9.

41. A review of the entire Corrective Action and Deviation Reporting System identified twenty-three administrative control violations associated with or around the fuel pool or reactor building crane in over nineteen years of operation. These violations included many minor violations such as failure to sign off a written procedure; some were of a potentially serious nature such as moving fuel without procedure.^{39/}

42. With the exception of a September 1, 1981 occurrence, the 23 administrative control discrepancies were discovered, documented, and corrected by use of the corrective action system.^{40/}

43. The September 1, 1981 occurrence is approaching final resolution through the corrective action system. That occurrence involved movement of fuel assemblies without procedure. A new set of procedures has been developed and training of personnel in the new procedures has been completed. Mr. Raciborski believes the corrective action taken in response to the September 1, 1981 occurrence adequately addresses the cause of the problem and will prevent a future similar occurrence. Mr. Donnelly also believes the corrective actions adequately address the September 1, 1981 occurrence.^{41/}

44. Patrick M. Donnelly is a Shift Supervisor at the Big Rock Point Plant and has worked at the Big Rock Point

^{39/} Raciborski Testimony, p. 10.

^{40/} Id., pp. 10-11.

^{41/} Id., pp. 10-11, Donnelly Testimony, pp. 8-12 as updated at Tr. 2577.

Plant since 1969. Mr. Donnelly believes implementation of administrative controls at the Big Rock Point Plant is adequate and they have not been "frequently" violated. Mr. Donnelly believes the cask handling administrative controls can be effectively implemented and in fact, two of the administrative controls considered in this contention have already been in effect since 1974 and have never been violated.^{42/}

45. In over nineteen years of operation, Big Rock Point Plant has only once exceeded release rates listed in 10 CFR Part 20, Appendix A, Table II. In that same time period, Big Rock Point Plant had only three incidents of occupational exposure in excess of Federal limits. The Plant has not had a "lost time" injury since August, 1977. Big Rock Point Plant currently holds the world record for continuous operation of a boiling water reactor.^{43/}

46. Mr. Donnelly attributes the excellent record of the Big Rock Point Plant to the high morale and high level of experience on the staff, many of which have been at the site since the construction stages nearly twenty years ago, and the relatively simple design of the Big Rock Point Plant makes it easy to operate. A notable advantage of the Big Rock Point Plant is the ability to enter the containment during power operation which allows observation of potential problems.^{44/}

^{42/} Donnelly Testimony, pp. 1-3, 4, 13-14.

^{43/} Donnelly Testimony, pp. 4-5.

^{44/} Id., pp. 6-7.

47. Violations of administrative controls have been resolved by the corrective action system or immediate action by plant supervisory personnel.^{45/}

48. Licensee works with personnel at the Big Rock Point Plant to bring them current with new administrative controls. Personnel who fail to comply with new procedures are moved to different positions where they will not affect the operation of the plant.^{46/}

49. The Institute of Nuclear Power Operation ("INPO") conducted an evaluation of the Big Rock Point Plant in May, 1981. In relation to administrative controls, INPO commented: "The administrative system is comprehensive and supports the safe operation of the plant."^{47/}

50. In a more recent INPO audit, the Big Rock Point Plant was commended for its corrective action system in that it provides extensive follow-up.^{48/}

51. Richard L. Emch, NRC Project Manager for the Big Rock Point Plant concluded that the Licensee's administrative controls are adequate to prevent a cask drop in the spent fuel pool.^{49/}

II. CONCLUSIONS OF LAW

1. Local officials and school officials are adequately educated in the problems of radiation exposure to

^{45/} Donnelly Testimony, pp. 7-8.

^{46/} Tr. 2588-2590.

^{47/} Donnelly Testimony, p. 5.

^{48/} Tr. 2591.

^{49/} Paulson Testimony, p. 4, as adopted by Richard Emch, Tr. 2594-95.

provide reasonable assurance that they can and will be able to take adequate protective measures in the event of a radiological emergency.

2. Primary responsibility for evacuation of residents within the Emergency Planning Zone, including those residents without vehicles who may need assistance, resides with and is effectively performed by State and local officials including the Sheriff of Charlevoix County; and consequently, there is no reason to require Licensee to provide assistance.

3. As part of their responsibility for evacuation of residents, officials of Emmet and Charlevoix Counties maintain a current list of invalids so that assistance and transportation service can be provided in time of emergency.

4. In compliance with 10 CFR §50.47 (b) (2), Licensee's emergency plan relies on identified people and assures adequate staffing to provide initial facility accident response and adequate coordination with offsite support and response activities.

5. The administrative controls listed on page 4-9 of Licensee's Application are adequate to reasonably assure that the handling of casks in the area of spent fuel pool will not compromise the health and safety of the public and Licensee's employees. Licensee's Quality Assurance Program meets the standards of 10 CFR §50.36 and provides reasonable assurance that the administrative controls for cask handling can and will be effectively implemented.

Respectfully submitted,

Joseph Gallo /VGC

Joseph Gallo

Philip P. Steptoe /VGC

Philip P. Steptoe

Victor G. Copeland

Victor G. Copeland

Three of the attorneys for
Consumers Power Company

ISHAM, LINCOLN & BEALE
One First National Plaza
Suite 5200
Chicago, Illinois 60602
(312) 558-7500

DATED: July 30, 1982