July 17, 1981

SECY-81-424

ADJUDICATORY ISSUE
(Affirmation)

For: The Commissioners

From: Leonard Bickwit, Jr. General Counsel

Subject: REVIEW OF DIRECTOR'S DENIAL (IN THE MATTER OF COMMONWEALTH EDISON COMPANY)

Facility: Byron Nuclear Power Station, Units 1 and 2

Purpose: To advise the Commission of a Director's denial which, in our opinion,

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Review Time Expires: July 31, 1981, as extended.

Background: The Rockford League of Women Voters (League) is an intervenor in the Byron OL proceeding. On November 21, 1980, the League filed a petition under 10 CFR 2.206 requesting that the Director, NRR, (1) initiate proceedings to modify, suspend or revoke the construction permit issued to Commonwealth Edison for the Byron Station, and (2) order an immediate interim halt to all construction pending completion of such proceedings.

On December 22, 1980, the Director denied the League's request for interim relief. Based on a review by this office (SECY-81-56), the time for Commission review was extended to March 23, 1981 and the staff was requested to provide additional information on the adequacy of the applicant's QA/QC program at Byron. During this extended review period, the League submitted a supplemental affidavit by counsel responding to the Director's partial denial and in further support of its main

Information in this record was deleted in accordance with the Freedom of Information Act, exemptions 5
FOIA 92-436

CONTACT:
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request.[1/] In February 1981, the applicant filed an affidavit challenging the conclusions and factual basis of the League's petition. The applicant's affidavit generally analyzes the issues raised by the League in relation to the particular circumstances and design of the Byron Station and provides information on the financial reserves set aside by the applicant to implement possible design modifications. On March 9, 1981, the staff provided additional information on, and analysis of, the Byron QA/QC program, together with a summary of Region III action regarding construction at Byron. This additional information established that prior QA/QC problems were being resolved and did not warrant a suspension of construction. The Commission then permitted the Director's denial of interim relief to become final by allowing the time for Commission review to expire.

On May 7, 1981, the Director advised the League of his denial of their request that he initiate proceedings under 10 CFR 2.202 to modify, suspend or revoke the construction permit. The denial was based primarily on the Director's belief that there was no adequate basis for initiating a parallel enforcement proceeding to consider issues properly before the OL Licensing Board. [2/] On

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1/ In this supplemental, counsel did not provide any additional factual information but rather, reasserted the League's prior argument that, inter alia, OL proceedings do not, in fact, resolv all safety issues, that the Commission historically has considere the applicant's investment and cost factors in determining the need for or scope of necessary design modifications, and that the Applicant's financial condition has deteriorated to the point that there is no assurance that any required safety modifications required by Byron could be implemented.

May 15, 1981, the League filed a petition for review of the denial with the Seventh Circuit. SECY-81-341. The applicant filed a motion to intervene in the Seventh Circuit on May 29, 1981.

Discussion:

In its petition, the League requested a suspension of construction at Byron until all outstanding safety issues were resolved or the applicant developed an "acceptable and realistic plan" to resolve these issues and until the Director determined that the safe construction of Byron would not be compromised due to the applicant's financia condition or other reasons. The affidavits filed by the League in support of these requests advance essentially four justifications. [3/] First, it is argued that there is no adequate assurance that high-priority unresolved safety-related issues identified by NUREG-0410,-0510 and -0660 and applicable to Byron will be properly addressed and resolved prior to completion of construction. [4/] The League cites findings of the Kemeny Commission and the NRC Special Inquiry Group to support the assertion that OL proceedings are generally inadequate to resolve all safety issues and that the Commission is reluctant to apply new safety standards to previously licensed plants. It also challenges the methodology employed by the Commission in analyzing such issues. Second, the League contends that the actual construction of Byron has been and continues to be contrary to the requirements of its QA/QC program and applicable Regulatc Guides. In support of this argument, the League refers to the Kemeny and Inquiry Group concerns

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3/ The arguments of the League are set forth in an affidavit by the League's technical consultants, Richard B. Hubbard and Gregory C. Minor, attached to the petition.

4/ The petition discusses at length six sets of representative issu the unresolved nature of which is stated to justify a 2.202 proceeding. Those issues are: (1) system interaction (pp. 23-31); (2) steam generator tube integrity (pp.31-35), (3) equipmen environmental qualification (pp. 35-40), (4) Class 9 accidents (pp. 40-52), (5) conformance to current regulatory practices (pp. 53-64), and (6) open generic issues (pp. 64-66).

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over the general level of compliance with regulator requirements, the inadequacy of I&E enforcement, the "admission" of the Applicant in its FSAR that it was in actual compliance with only 23% of applicable Reg. Guides, and the past history of I&E enforcement action regarding Byron QA/QC problems. Third, the League alleges that the financial condition of the applicant has deteriorated to the point that there are no adequate assurances that Byron can be constructed in a safe manner that adequately implements appropriate safety design modifications. In support, it relies upon statemer made by the applicant to the State PUC regarding ongoing "cash constraints." Fourth, the League asserts that construction of Byron would render appropriate safety modifications technically and financially difficult and would adversely affect the Commission's resolution of unresolved safety issues to the detriment of the public's health and safety. In furtherance of this last argument, the League points to the increasing difficulty and cost of backfitting as construction proceeds, the growing investment in the facility, and Kemeny and Special Inquiry Group findings that economic considerations (i.e., "financial disincentives to safety") influence the safety-review process at the OL stage.

In denying the petition, the Director characterized the issues raised by the League as questions concerning detailed plant design usually resolved at the OL review stage. [5/] He then noted that the absence of detailed plant design information or the presence of unresolved safety issues does not warrant a suspension of construction since those issues are within the scope of the operating license review and hearing. The Director then concluded that continued construction, in and of itself, would not bias the future resolution of safety issues because an applicant's investment or

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the cost or difficulty associated with implementing necessary safety modifications at the OL review stage are not relevant considerations to the Commission in the OL review. For this proposition the Director cited PRDC v. International Union of Electrical, Radio and Machine Workers, 367 U.S. 396, 415 (1961); Porter County v. NRC, 606 F.2d 1363, 1369-70 (D.C. Cir. 1979); and Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-623, 12 NRC 670, 677-78 (1980). Finally, the Director analyzed each of the six sets of representative issues under the "extraordinary circumstances" test he had previously used in Public Service Company of Indiana (Marble Hill Nuclear Generating Station, Units 1 and 2), DD-79-21, 10 NRC 717, 720 (1979) to determine whether a basis existed for upsetting the Commission's two-stage licensing process by initiation of a 2.202 proceeding. Finding no such basis, the Director deferred to the jurisdiction of the OL Board, citing Consolidated Edison Company (Indian Point, Units 1 and 2), CLI-75-8, 2 NRC 173, 177 (1975).

6/ 70 of the League's admitted 114 contentions in the Byron OL proceeding are related to matters raised in the petition. On February 17, 1981 the Applicant filed a Petition for Reconsideration of the Board's Order admitting contentions raising unresolved safety issues and noncompliance with regulatory guides. The

(Continued on following page)

6/ (Continued from previous page)

Applicant challenges contentions 17, 40, 78, 87, 100, 122, 123, 124, 125 and 146 as untimely and contentions 20-49, 68, 69, 73, 74, 75, 77, 80, 86, 106, 66, 70, 72 and 105 as failing to comply with 10 CFR 2.714 and River Bend. In the main the Applicant challenges the admission of contentions related to the staff's analysis of safety issues as premature and not having any reasonable basis since the staff has yet to issue the SER in which its analysis is set forth.

7/ Among the contentions in the OL proceeding admitted is the following:

> 122. CE is being illegally permitted to continue the construction of Byron without having in place resolution of all unresolved safety and environmental problems. This in turn heavily sways, and illegally so, the cost benefit analysis and future safety modifications because CE is being permitted to construct before safety problems are resolved. This practice is contrary to the Act, NEPA, and the Regs., and will have an adverse effect on the public health and safety.

(Continued on following page)

8/ The financial qualifications of the applicant is the subject of Contentions 9, 114, 119, 125 and 126 admitted by the Board. Contention 125 is currently subject to the applicant's Petition for Reconsideration. See note 6, infra.

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Recommendation:

Leonard Bickwit, Jr.
General Counsel

Attachments:
1. Director's denial
2. Draft Memorandum and Order

Commissioners' comments should be provided directly to the Office of the Secretary by c.o.b. Thursday, July 30, 1981.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT July 24, 1981, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

This paper is tentatively scheduled for affirmation at an Open Meeting during the Week of August 3, 1981. Please refer to the appropriate Weekly Commission Schedule, when published, for a specific date and time.

DISTRIBUTION:
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Attachment 1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

MAY 7 1981

Docket Nos.: STN 50-454
and STN 50-455

Myron M. Cherry, Esq.
Cherry & Flynn
One IBM Plaza
Chicago, Illinois 60611

Dear Mr. Cherry:

This letter is in response to your petition on behalf of the Rockford League of Women Voters which requested that I take several actions with respect to Commonwealth Edison Company's Byron Station. The petition has been considered under the provisions of 10 CFR 2.206 of the Commission's regulations. For the reasons stated in the enclosed decision, the petition has been denied.

Copies of the decision will be placed in the Commission's public document room in Washington and in the local public document room for the Byron Station. A copy will also be filed with the Secretary for the Commission's review in accordance with 10 CFR 2.206(c).

I have also enclosed a copy of a notice that is being filed with the Office of the Federal Register for publication.

Sincerely,

Harold R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Enclosures:
1. Director's Decision Under 10 CFR §2.206
2. Federal Register Notice

cc: See next page

MAY - 1981

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION
HAROLD R. DENTON, DIRECTOR

In the Matter of	)	Docket Nos. STN 50-454
	)	STN 50-455
COMMONWEALTH EDISON COMPANY	)	
	)	(10 CFR 2.206)
(Byron Station, Units 1 and 2)	)	

DIRECTOR'S DECISION UNDER 10 CFR 2.206

By letter dated November 21, 1980, the Rockford League of Women Voters (the "League") transmitted a petition pursuant to 10 CFR §2.206(a) requesting that the Director of Nuclear Reactor Regulation initiate a proceeding pursuant to 10 CFR §2.202 to:

(a) Modify the construction permits issued to Commonwealth Edison Company for the Byron Nuclear Power Station, Unit 1 and 2, so that construction may not proceed without resolution of all outstanding safety problems presently applicable to the Byron Station;

(b) Suspend or revoke the authority earlier granted to Commonwealth Edison Company to construct the Byron Station until such time as Commonwealth Edison has formulated an acceptable and realistic plan for resolving all outstanding safety problems;

(c) Revoke the construction permits issued to Commonwealth Edison Company for the Byron Station, if the outstanding safety problems cannot be resolved prior to the completion of construction due to Edison's financial condition or for other reasons; and

(d) Pending full hearings and determinations on these requests, immediately halt further construction of the Byron Station.

By my letter of December 22, 1980 to the League[1/], I acknowledged receipt of the League's request of November 21, 1980 and denied request (d) for an immediate halt to further construction of the Byron Station. Pursuant to 10 CFR 2.206, this decision is my response to the League's remaining requests (a), (b) and (c). In developing this response, I have also considered a supplemental, though unsigned, affidavit which the League submitted by letter dated January 27, 1981.

Discussion

The construction permits for the Byron facility were issued by the Office of Nuclear Reactor Regulation on December 31, 1975. Consequently, the Byron facility is currently being constructed pursuant to valid construction permits. The League's petition raises principally questions concerning the adequacy of plant design.[2/] In the construction permit review, the staff primarily reviews design criteria and the plant's preliminary design. Information regarding the detailed design of the plant is not required for the issuance of a construction permit. Detailed design features of the plant are generally developed after issuance of the construction permit and are evaluated and approved during the course of the staff's review of the operating license application. In the interim, a licensee pursues

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1/ Notice of receipt of the petition was published in the Federal Register on December 31, 1980 (45 FR 86584). Counsel for Commonwealth Edison submitted comments on the petition in a letter of February 13, 1981.

2/ The Byron facility is currently undergoing an operating license review. Notice of receipt of application and availability of opportunity for a hearing was published in the Federal Register on December 15, 1978 (43 FR 58659). An operating license hearing will be held for the Byron facility and the League has been admitted as an intervenor in that proceeding.

construction work under a construction permit at its own risk pending approval of the final design of the plant. Investment made by a utility in constructing a facility is not a proper factor when considering the issuance of an operating license. PRDC v. International Union of Electrical, Radio and Machine Workers, 367 U.S. 396, 415 (1961). Prior to receiving an operating license, the applicant will be required to do anything necessary to ensure safe operation of the plant. The cost or difficulty associated with implementing actions needed to ensure safety are not relevant considerations to this agency. Public Service Company of New Hampshire, et al (Seabrook Station, Units 1 and 2), ALAB-623, 12 NRC 670, 677-78 (Dec. 9, 1980). The safety standards which an applicant must meet at the operating license stage are unconditional. Consequently, the League's concern that continued construction of the Byron facility might bias safety decisions at the operating license stage is not well founded given the NRC's responsibility and the unconditional safety standards that this agency applies. See Porter County Chapter of the Izaak Walton League, Inc. v. NRC, 606 F.2d 1363, 1369-70 (D.C. Cir. 1979).

Reactor licensing is a two-stage process, the first stage being the consideration of issuance of a construction permit and the second being the consideration of an operating license for a facility. This two-stage process has been sanctioned by the Supreme Court in the PRDC case, and the courts have recognized that the institution of proceedings prior to the operating license stage is not mandated whenever an unresolved safety question is raised after issuance of a construction permit. Porter County Chapter, supra, 606 F.2d at 1367, 1369. In the words of the Court of Appeals for the District of Columbia Circuit, "permitting continued

construction of the plant despite unresolved safety questions does not of itself pose any danger to the public health and safety". Id. at 1369. Thus, in the absence of extraordinary circumstances, I will not upset the Commission's usual two-stage licensing process by instituting a proceeding in response to a 10 CFR 2.206 petition to consider issues that are properly within the scope of the operating license review. Public Service Company of Indiana (Marble Hill Nuclear Generating Station, Units 1 & 2), DD-79-21, 10 NRC 717, 720 (1979). This approach is in accord with the basic principle established by the Commission that 10 CFR 2.206 is not to be used as a device to avoid a forum in which issues "more logically should be presented". Consolidated Edison Company (Indian Point, Units 1-3), CLI-75-8, 2 NRC 173, 177 (1975). The League has raised many of the same issues in its petition under 10 CFR 2.206 as it has posed as contentions before the Licensing Board. See LBP -80-30, 12 NRC 638 (Dec. 1980).

In this context, issues such as those raised by the League concerning detailed design features of the plant do not normally warrant suspension of construction, because such issues are resolved during the operating license review. As each of the remaining portions of the League's request which I am considering in this decision, namely subparagraphs (a), (b) and (c), essentially request consideratio now of questions which are more properly examined at the operating license stage, the petition may be denied on that ground alone. Nevertheless, I have examined each of the six safety areas which are addressed in the petition to determine if there are any exceptional circumstances which would warrant consideration of any agency action at this time.

Systems Interaction (Issue 1)

The League's concern is that the "systems interaction issue" may not receive adequate

consideration in connection with the Byron facility. The League in its petition identifies the systems interaction issue as dealing with related problems of accident and safety analysis. These include the lack of systems interaction analysis, the lack of multiple or "common-cause" failure analysis, and the tendency of the "single-failure criterion" to exclude a large number of potential accident causing events.

Sandia National Laboratories, under contract assistance to the NRC staff, began the first of an intended two-phase program in May 1978 to evaluate whether present review procedures and safety criteria ensure an acceptable level of redundancy and independence for systems required for plant safety. This study was organized to provide an independent investigation of safety functions, and systems required to perform these functions, in order to assess the adequacy of current review procedures. It was conducted by evaluating the potential for undesirable interactions between and among systems.

Phase I of the work was completed with the issuance of a report by Sandia National Laboratories, "Final Report - Phase I Systems Interaction Methodology Applications Program," NUREG/CR-1321, SAND 80-0384,(April 1980). The results of that report generally support continued use of NRC review procedures so long as system interaction assessments are not restricted to the safety systems identified in the Standard Review Plan.

A follow-on program for FY '81 and FY '82 was developed by the staff with technical support from Battelle and Brookhaven Laboratories to prepare interim regulatory guidance for systems interaction evaluation in Light Water Reactor (LWR) plants. It is further intended to test this guidance during FY '82 on several pilot LWR's, for purposes of identifying and evaluating significant systems interactions.

The results of this effort will be reflected in final regulatory guidance. Systems interactions that are determined to be adverse as a result of this effort will be evaluated for other plants not included in the pilot program.

In summary, the issue of systems interactions has been and is still under current study by the staff. Our contractor's findings indicate that with prudent consideration of interaction of systems identified as important to safety with non safety systems, the Standard Review Plan (SRP), which is being used to conduct the Byron review, ensures a substantive review of the safety aspects of systems interactions. To the extent continued investigations by the staff identify a need for modifications to the SRP or to the Byron facility, such modifications will be applied to Byron as needed and when identified.

Steam Generator Tube Integrity (Issue 2)

Another concern of the League is that technical issues related to the integrity of steam generator tubes may not receive adequate treatment in connection with the Byron facility. The technical issues center around whether or not the Westinghouse steam generator tubes have the capability to maintain their integrity during normal operation and postulated accident conditions. In addition, the League is concerned that requirements for increased steam generator tube inspections and repairs may result in significant increases in occupational exposures to workers.

Corrosion resulting in steam generator tube wall thinning has been observed in several Westinghouse and Combustion Engineering plants for a number of years. Major changes in the design of the secondary water treatment process essentially eliminated this form of degradation. Another major corrosion-related phenomenon has also been observed in a number of plants in recent years, resulting from a buildup of

support plate corrosion products in the annulus between the tubes and the support plates. This buildup eventually results in reduction of the cross sectional area of the openings in the tubes, called "denting", and deformation of the tube support plates. This phenomenon has led to other problems, including stress corrosion cracking, leaks at the tube/support plate intersections, and cracking of U-bend sections of tubes which were highly stressed because of support plate deformation. Task A-3 in NUREG-0410[3/] has been organized to provide resolution of the problem of tube degradation due to denting in Westinghouse steam generators.

The question of steam generator tube integrity is an issue which will be reviewed by my staff for Byron. In the recently licensed Sequoyah facility, which uses Westinghouse steam generators, the staff closely examined this very question. They determined that specific measures adopted there, such as changes to steam generator design features, providing for a secondary water chemistry control and monitoring program, adding condensate demineralization features and the careful selection of condenser tubing materials, would minimize the onset of steam generator tube problems.[4/] In addition, inservice inspection provisions and Technical Specifications requirements for actions to be taken in the event that steam generator tube leakage occurs during plant operation provided a sufficient basis for a conclusion that Sequoyah Units 1 and 2 could be safely operated prior to the ultimate resolution of the steam generator tube integrity issue.

3/ NUREG-0410 Appendix F, Task A-3 Westinghouse Steam Generator Tube Integrity.

4/ NUREG-0011 Supplement No. 1, SER Related to Operation of Sequoyah Nuclear Plant, Units 1 and 2, February 1980, pages C.9 and C.10.

Task A-3 is expected to result in improvements in our current requirements for inservice inspection of steam generator tubes. These improvements will include a better statistical basis for establishing inservice inspection program requirements and consideration of the cost/benefit of increased inspections.

The staff has not yet completed its review of the steam generator design for the Byron facility. However, they will review design and associated operating provisions, inservice inspection provisions and Technical Specifications requirements. As for Sequoyah, the staff will determine whether there is a sufficient basis for a conclusion that Byron Station Units 1 and 2 can be operated prior to the ultimate resolution of the generic issue.

In summary, the issue of steam generator tube integrity has been handled on a case-by-case basis in the operating license review and is still under study by the staff. Also, Westinghouse has introduced improvements in its steam generator designs. Some of these improvements have been incorporated in facilities for which operating licenses have been issued, and improvements introduced in the Byron steam generators will be reviewed. The petition on this issue raises no new concerns that are not already being pursued by the staff in Operating License reviews.

Equipment Qualification and Deterioration (Issue 3)

The League's concern here is whether there is sufficient assurance that safety-related equipment for the Byron facility will function in the manner intended when subjected to environmental service conditions under anticipated normal, abnormal and accident conditions. As a result of work completed under Task A-24, NUREG-0410,[5/] the

5/ NUREG-0410 Appendix F, Task A-24 Environmental Qualification of Safety Related Electrical Equipment.

staff has issued its proposed resolution of this issue for reactors under licensing review in its report, "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," NUREG-0588, dated December 1979. Also the Division of Operating Reactors issued "Guidelines for Evaluating Environmental Qualification of Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines) in November 1979. On May 23, 1980, the Commission issued a Memorandum and Order that is applicable to the Byron facility. In that Memorandum and Order the Commission stated its findings that the current NRC requirements in the environmental qualification area, including compliance with the staff's position on equipment qualification (NUREG-0588), provided reasonable assurance that the public health and safety would be adequately protected. Petition for Emergency and Remedial Action, CLI-80-21, 11 NRC 707 (1980). The Commission stated: "Furthermore, pursuant to Section 161(b) of the Atomic Energy Act and based on the record in this proceeding the Commission is ordering today that these two documents (NUREG-0588 and DOR Guidelines) form the requirements which licensees and applicants must meet in order to satisfy those aspects of 10 CFR 50, Appendix A, General Design Criteria (GDC)-4 which relate to environmental qualification of safety-related electrical equipment". This Memorandum and Order finalized the framework within which the issue will be reviewed. Given the absence of any new significant information on this issue in the petition, this issue is properly left for examination at the operating license review for the Byron facility.

Evaluation of Potential Accidents and Corrective Measures (Issue 4)

The League's concern here is that the consequences of serious accidents, including those labelled "Class 9", may not receive adequate treatment in connection with the operating license review of the Byron facility. Specifically, the League calls for the development of liquid pathway interdiction systems for the Byron

Station using models employed in a 1980 draft Sandia study.[6/] This request is made by the League based on their understanding that the Sandia authors calculate large doses "in the case of plants with hydrogeologic features similar to the Byron site (i.e., high groundwater table and permeable rock)".

The League contends that "the potential radiation dose is approximately 2 to 5×10^{7} person-rem (with uncertainties of an order of magnitude), which current studies translate into several thousand probable deaths from a major accident."

The draft Sandia report, January 1980, was developed as a step in a study performed by the NRC. As a draft report, it has been available for information but has not in any way been adopted by the staff or the Commission as representing a basis for regulatory decisions. Its availability for almost a year prior to issuance of the Summer DES did not result in the staff's reliance on it in the Summer analysis and the staff will not rely on it in its review of Byron. The staff will continue to review that draft report and subsequent reports by Sandia, as well as pertinent information from any other source, to determine whether the staff's approach in environmental reviews needs to be modified.

As I understand the League's petition, the League is asking that I initiate separate proceedings to consider Class 9 accidents, because the League does not believe that the environmental review for the Byron operating license will be subject to the Commission's new interim policy on consideration of severe accidents. A separate proceeding is unwarranted, since the Byron environmetnal review is indeed subject to the new policy.

6/ Sandia Study (Draft) for U.S.N.R.C., "Effect of Liquid Pathways on Consequences of Core Melt Accidents", January 1980.

In past NEPA reviews the staff's treatment of environmental consequences of postulated accidents has been guided by the Commission's proposed Annex to Appendix D of 10 CFR Part 50 (the "Annex") that was published for comment on December 1, 1971. Consideration of Accidents in Implementation of the National Environmental Policy Act of 1969, 36 FR 22851 (1971). The Commission issued a Statement of Interim Policy on June 13, 1980 in which it announced the withdrawal of the proposed Annex to Appendix D of 10 CFR Part 50 [7/]. It also announced its position that its Environmental Impact Statements shall include considerations of the site-specific environmental impacts attributable to accident sequences that lead to release of radioactive materials, including sequences that can result in inadequate cooling of the reactor fuel and to melting of the reactor core. In this regard, attention shall be given both to the probability of occurrence of such releases and to environmental consequences of such releases. Under the Commission's guidance, "releases refer to radiation and/or radioactive materials entering environmental exposure pathways, including air, water, and ground water." 45 FR at 40103 (emphasis added).

Although the environmental review for the operating license stage has not been started, the staff will follow the guidance of the interim policy statement of June 13, 1980. In accordance with the interim policy statement, the staff will undertake a more extensive analysis of severe accidents in the environmental review of the Byron operating licenses. Such analysis must include consideration of releases to air and liquid pathways, as the League requests. It should be noted that the League, as a party to the operating license proceeding, has raised contentions on Class 9 accidents before the Licensing Board. See LBP-80,

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7/ Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969, 45 Fed. Reg. 40101 (June 13, 1980).

12 NRC 683, 692 (1880).

With regard to the liquid pathway analysis for the Byron facility, it is expected that implementation of the new policy will result in the application of a method of analysis similar to that used for the Virgil C. Summer Nuclear Station.[8/] The approach in the Summer evaluation was one of determining whether or not the Summer site liquid pathway consequences would be unique when compared to land-based sites considered in the "Liquid Pathway Generic Study" (LPGS).[9/] This approach is conservati and provides bounding calculations. The LPGS was completed by the staff using realistic values of site parameters throughout, and the staff did not take into account mitigative measures. The actual method used in applying this approach to the Summer Plant consisted of a direct scaling of the LPGS population doses based on the relative values of key parameters characterizing the LPGS "small river" site and the Summer site. The individual and population doses for the liquid pathway in the LPGS ranged from a substantial fraction to a small fraction of those tha can arise from the airborne pathways. The staff conclusion was that the Summer liquid pathway contribution to the population dose had been demonstrated to be the same order of magnitude as that predicted for the LPGS river site, which represents a "typical" river site. The staff then noted that there would be ample time to take measures which could be taken to minimize the impact of the liquid pathwa Such measures might include slurry walls and well-point dewatering systems to isolate the radioactive contaminants at the source. These are conventional means for controlling and limiting groundwater movement used in civil engineering and earthwork construction.

8/ NUREG-0534 Supplement, Draft Environmental Statement related to the operation of Virgil C. Summer Nuclear Station, Unit No. 1, Docket No. 50-395, November 1980.

9/ NUREG-0440, Liquid Pathway Generic Study, February 1978.

In connection with its request for analysis of Class 9 accidents, the League expresses concern that systems interaction evaluation and modifications and an Interim Reliability Evaluation Program (IREP) are not being implemented for the Byron Station. As explained in the NRC Action Plan, the IREP is a pilot program which utilizes a few typical plants to determine whether changes need to be made in the review of each plant.[10/] There is no pressing reason why Byron should be selected in lieu of another plant as one of the typical plants for the pilot program.

The Commission has not mandated that the IREP be applied to plants like Byron which are under review for operating licenses. The Action Plan describes a gradual implementation of IREP and studies for operating reactors, but IREP is not part of the requirements for new operating licenses outlined in NUREG-0737, Clarification of TMI Action Plan Requirements. In this regard:

> "the Commission has concluded that the list of TMI-related requirements for new operating licenses found in NUREG-0737 can provide a basis for responding to the TMI-2 accident. The Commission has decided that current operating license applications should be measured by the NRC Staff against the regulations, as augmented by these requirements. In general, the remaining items of the Action Plan should be addressed through the normal process for development and adoption of new requirements rather than through immediate imposition on pending applicants." Further Commission Guidance for Power Reactor Operating Licenses - Revised Statement of Policy, 45 FR 85236, 85238 (Dec. 8, 1980).

In summary, the staff is reviewing the issue of potential accidents and potential need for liquid pathway interdiction, both in a generic sense and on a case specific basis for Byron. The staff will conduct its review of Byron in accordance

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10/ NRC Action Plan Developed as a Result of the TMI-2 Accident, NUREG-0660, Vol. 1, at pp. II.C.-2 to II.C.5 (May 1980).

with the Commission's Statement of Interim Policy of June 13, 1980. If new facts from the Sandia study, the systems interaction study, the IREP program or from other sources are shown to pose questions as to the validity of the current approach, an assessment will be made and, as appropriate, the review requirements modified and applied to Byron.

Conformance to Current Regulatory Practices (Issue 5)

The League's concern here is that the staff assessment of the Byron facility at the operating license review will consist of less than a complete review of plant design against all current Regulatory Guides and safety standards. Also, the League is concerned with construction quality assurance and control based upon its perception of the findings of the Office of Inspection and Enforcement's Inspection Reports.

In regard to compliance with Regulatory Guides, the League cites exceptions to Regulatory Guides taken by the applicant in the Byron Final Safety Analysis Report (FSAR) as demonstration of non-compliance with the identified Regulatory Guides. However, as Regulatory Guides are not regulations but merely one means of satisfying a regulatory requirement, conformance with Regulatory Guides is not a prerequisite to the issuance of any Commission license. The applicant, by submitting the FSAR with these exceptions, must demonstrate that the Commission's regulations will be met in the appropriate area by means other than exact conformance with the applicable Regulatory Guides. Such proposed alternative means of complying with the Commission's regulations must be determined to be acceptable prior to a decision on issuance of an operating licenses for the Byron facility. In no event will my staff recommend issuance of an operating license with respect to the Byron facility unless all safety requirements are satisfactorily met.

In summary, the staff routinely reviews exceptions to Regulatory Guide positions to determine that the applicable regulations of the Commission are met by other means.

A second League concern relative to conformance to current regulatory practices is a concern as to whether the Byron Quality Assurance/Quality Control (QA/QC) programs are satisfactorily carried out in practice. Issues related to the implementation of QA/QC programs have been reviewed by the Office of Inspection and Enforcement (I&E). That Office has conducted an assessment of the Byron QA/QC program relative to the concerns raised by the League. That assessment was provided in a memorandum to the Commissioners on March 9, 1981 in response to a request by the Commission following its review of my partial denial on December 22, 1980 of the League's petition. Copies of this memorandum were served on counsel for the League and Commonwealth Edison. A copy of that memorandum is attached to this denial.

In summary, the assessment by the Office of Inspection and Enforcement indicates that, from mid-1979 to date, the Byron QA/QC program generally has been effective and, in the staff's judgment, the information presented in the League's petition does not support the League's allegation that the Byron QA/QC program was not effective.

The Commission during its review under 10 CFR 2.206 of my partial denial had noted the subsequent issuance by the Director, Region III, of an Immediate Action Letter confirming suspension of work on electrical cable installation. The assessment by I&E was that the limited scope of that problem made limited

stop-work the most appropriate technique to achieve corrective action and that there was no necessity for a total suspension of work at the Byron site. When the memorandum was forwarded to the Commission in March, the licensee had already met its commitments under the Immediate Action Letter and that constraint had been lifted.

In summary, the I&E staff is monitoring the implementation of the Byron QA/QC program for construction and is taking enforcement action appropriate to problems that occur. I have no reason to believe that I&E will not continue to take actions appropriate to any future problems that may arise including suspension of construction, if warranted.

Open Generic Issues (Issue 6)

The League in its affidavit cites the foregoing five issues as "... example[s] of a large number of such issues, all of which the NRC has identified (sometimes repeatedly) and a sizable portion of which NRC has repeatedly termed high-priority matters."[11/] The League cites the November 1977 decision, Gulf States Utilities Co. (River Bend Station, Units 1 and 2, ALAB-444, 6 NRC 760, 774-75 (1977), by the NRC's Atomic Safety and Licensing Appeal Board as imposing an affirmative duty on the NRC staff to identify generic safety issues, and evaluate their impact on plant safety. Although not noted by the League, the Atomic Safety and Licensing Appeal Board in Virginia Electric Power Company (North Anna Nuclear Power Station Unit 1), ALAB-491, 8 NRC 245, 247-50 (1978) later specified that staff conclusions are required with respect to unresolved generic issues for issuance of an operating license. The staff routinely reviews each facility prior to the issuance of an operating license to evaluate

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11/ Petition, page 64.

the safety significance of unresolved safety issues with respect to that facility. These unresolved safety issues have already been determined generically to not pose imminent public health and safety concerns so as to prohibit continued operation or continuation of licensing actions. In accordance with ALAB-491, the staff provides further explanation of the basis for licensing a particular facility in the absence of the long term generic resolution of these issues. The staff's findings are presented in the Safety Evaluation Report (SER) for each facility. Such SER's have been developed for issuance of operating licenses to applicants for stations generally similar to Byron that use Westinghouse-designed nuclear reactors, e.g., North Anna Unit 2, Sequoyah Unit 1 and Salem Unit 2. The League presents no arguments that Byron would be substantially different from facilities already reviewed. Therefore, this issue is one which may be left for review at the operating license stage.

Finally, the League also expressed concerns about "institutional disincentives to safety including a concern that assertion by the NRC staff of safety concerns, particularly those that may be controversial, is most unlikely to advance one's career and is far more likely to result in stigmatization and 'career paralysis.'"[12/] The Commission recognizes the potential problems in this area and has taken strong action to formulate a policy to preclude such institutional disincentives from affecting the NRC staff.[13/] One of the prime objectives of that policy is to provide sanctions against employees who take retaliatory actions with respect to differing professional opinions within the NRC staff.

12/ Petition, pages 64-65.

13/ NRC Manual Chapter 4125 "Differing Professional Opinions."

Conclusion

I have determined for the reasons set forth above that there exists no adequate basis for instituting a proceeding pursuant to 10 CFR 2.202 to inquire why the Byron Station, Units 1 and 2, construction permits should not be:

(a) Modified so that construction may not proceed without resolution of all outstanding safety problems applicable to the Byron Station;

(b) Suspended or revoked until such time as Commonwealth Edison has formulated an acceptable and realistic plan for resolving all outstanding safety problems; and

(c) Revoked if the outstanding safety problems cannot be resolved prior to the completion of construction due to Edison's financial condition or for other reasons.

Accordingly, the November 21, 1980 request of the Rockford League of Women Voters is denied.

A copy of this decision will be filed with the Secretary of the Commission for its review in accordance with 10 CFR 2.206(c) of the Commission's regulations. In accordance with 10 CFR 2.206(c) of the Commission's Rules of Practice, this decision will constitute the final action of the Commission 25 days after the date of issuance, unless the Commission on its own motion institutes the review of this decision within that time.

Harold R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland
this 7th day of May, 1981.

[7590-01]

NUCLEAR REGULATORY COMMISSION

[Docket Nos. STN 50-454, STN 50-455]
Commonwealth Edison Co.
(Byron Station, Units 1 & 2)

Notice of Issuance of Director's Decision
Under 10 CFR 2.206 (DD-81-5)

By petition dated November 21, 1980, the Rockford League of Women Voters requested that the Director of Nuclear Reactor Regulation take several actions with respect to the Commonwealth Edison Company's Byron Station. Upon consideration of the petition, I have determined, in accordance with 10 CFR 2.206, to deny the petition.

Copies of the "Director's Decision Under 10 CFR 2.206" which fully discusses the reasons for this decision are available for inspection in the Commission's Public Document Room at 1717 H Street, N. W., Washington, D. C. 20555, and in the local public document room at the Bryon Public Library, Third and Washington Streets, Byron, Illinois 61010.

A copy of this decision will also be filed with the Secretary for the Commission's review in accordance with 10 CFR 2.206(c).

Dated at Bethesda, Maryland, this 7th day of May 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

Harold R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

[illegible] 1981

MEMORANDUM FOR: Chairman Hendrie
Commissioner Gilinsky
Commissioner Bradford
Commissioner Ahearne

FROM: William J. Dircks, Executive Director for Operations

SUBJECT: BYRON STATION UNITS 1 AND 2 QUALITY ASSURANCE PROGRAM (DECY 81-56)

On November 21, 1980, the Rockford League of Women Voters filed a request pursuant to 10 CFR 2.206 and 2.202 (petition) seeking that the Director, Office of NRR, take certain actions with respect to the Byron Nuclear Power Station. On December 22, 1980, the Director partially denied that portion of the petition seeking an immediate halt to construction. The Commission, during its review under 10 CFR 2.206 of this partial denial by the Director, determined that the Director had failed to set forth his evaluation of one of the claims in the petition. The claim not addressed was that the Quality Assurance/Quality Control (QA/QC) program at Byron is not being effectively implemented. The Commission also noted the recent issuance by the Director, Region III, of an Immediate Action Letter confirming suspension of work on electrical cable installation.

The Commission directed that the staff provide "its reasoned evaluation of the petitioner's allegations" on the effectiveness of the licensee's QA/QC program at Byron. Attached is an assessment by Region III of the status and effectiveness of the QA/QC program currently in effect at the Byron site. In summary, the assessment states that from mid-1979 to date, the Byron QA/QC program generally has been effective, and that the recent Immediate Action Letter represents a specific action with respect to a limited scope of work (electrical cable and cable support installation) by a single contractor. The limited scope of the problem makes limited stop-work the most appropriate incentive to achieve corrective action. In the opinion of the staff, there is no necessity for and no value to a total suspension of work at the Byron site. It should be noted that the licensee has already met its commitments under the Immediate Action Letter, and that constraint has now been lifted.

The staff has also examined the affidavit accompanying the League's petition which claimed that the Byron QA/QC program was not effective. Section 2 of the evaluation addresses the affidavit. In the staff's judgment, the information presented does not support the allegation made.

CONTACT: S.D. Blackwood, IE
49-28100

The [illegible] Concerns Contained in the League of Women Voter's [illegible] of November 21, 1980

a. The affidavit attached to the League's petition notes at p. 62 that IE inspectors expressed concern over "excessive rework" at Byron in [illegible]. It should be noted that extensive rework in itself is not a serious offense, as long as effective control of the rework is maintained by the licensee. Region III's concern was that extensive rework increases the difficulty of maintaining effective control of plant construction activities. The in-depth evaluation performed by [illegible] Nelson in response to the Region III inspection findings indicates that the extensive rework has not resulted in (or from) a breakdown in the site QA Program.

b. Unresolved items are referred to as "problem areas" at p. 62 of the affidavit. The staff does not necessarily consider them as such. Unresolved items are matters about which more information is required to determine whether they have possible safety implications or are acceptable. In the case of Byron, unresolved items have been reviewed by the staff and none of the items, either singularly or collectively, would warrant an order to stop all work at the Byron site.

c. The affidavit states at p. 62 that "inadequate welding has been a continuing problem" and refers to seven IE inspection reports during the August 1978 to June 1980 time period. Our review shows that three of the seven reports do not contain noncompliances related to welding, and that the other four reports contain a total of five noncompliance areas and one deviation which are welding-related. The five noncompliances involved procedure and record discrepancies, and the deviation involved an interpretation of ASME Code requirements regarding procedure qualification. No evidence of actual inadequate welding was noted. In view of the number and nature of the welding-related noncompliances cited, we do not consider that welding has been a significant problem at Byron.

d. The affidavit document refers at p. 62 to a May 1979 IE inspection report which cites as a "recurrent item" the inadequate protection of "important equipment...which has caused damage to equipment." Neither the noncompliance cited in May 1979, nor the previous non-compliance in April 1979 which made the second one a "recurrent item," involved actual damage to equipment, but rather the possibility of damage if the conditions were not corrected. Both non-compliances were closed out in subsequent IE inspection reports based on corrective actions taken by the licensee and the site contractors involved.

A later IE inspection at Byron in March 1980 (Reference 211 of the affidavit) did find installed mechanical snubber assemblies which had been damaged because of inadequate protection. The licensee at

[illegible] the damage matters, voluntarily stopped the [illegible] of safety-related snubber assemblies, and agreed to not [illegible] installation until the construction environment is such that the snubber assemblies can be adequately protected.

In view of the small number of noncompliances cited in this area, [illegible] licensee's positive and prompt corrective actions, the staff [illegible] that storage, cleaning and preservation of equipment [illegible] significant problem at Byron.

[illegible] the information provided in the affidavit accompanying the [illegible] motion, the staff is closely monitoring the [illegible] activities at the Byron site and continues to be of the view that [illegible] is not warranted.

Enclosure

EVALUATION OF BYRON NUCLEAR POWER STATION QA/QC PROGRAM

1. Past and Current Performance

a. The Licensee's Quality Assurance Program was assessed in a Region III mid-term QA inspection of Byron in late 1979. This involved a thorough evaluation of the QA Program in the areas of site quality assurance, including auditing, trending, surveillance activities, and the control of nonconformances; corporate quality assurance, including auditing, trending, and interfaces; design and design [illegible] control; procurement, including procedures, purchasing, and auditing of suppliers; and control of purchased materials, including procedures, receipt inspection, storage and maintenance; and surveillance of site contractors. That evaluation did not produce any evidence of a breakdown of the QA Program in the above areas.

b. The Licensee's overall regulatory performance was recently reviewed in the Systematic Assessment of Licensee Performance (SALP) appraisal (mid-1979 - mid-1980). The assessment included a review of the Byron QA/QC program implementation. While some deficiencies have been identified with QA/QC, the number and nature of these problems [illegible] viewed to be significant from a regulatory standpoint. In this regard, it should be noted that the number of noncompliances at Byron were fewer than at most construction projects within Region III. Furthermore, those deficiencies that have been identified were, for the most part, isolated deficiencies and not symptomatic of a broad problem.

c. In addition to the above, the Quality Assurance Program is continually assessed during the performance of the construction inspection program. Occasionally during such inspections, quality assurance problems in limited areas are found which are not indicative of an overall Quality Assurance Program breakdown, but are important enough to cause issuance of a stop work order in the area(s) involved. Although these cases are undesirable, they do not represent a breakdown in the overall Quality Assurance Program.

A recent example of such a case involved electrical work at Byron. Inspection indicated a problem with the QA/QC program in the electrical area. We concluded that it was necessary to stop work in this area, reexamine work performed to date, correct identified problems, and upgrade the QA/QC program for this work. We discussed our concerns with the licensee, Commonwealth Edison Company. The licensee agreed to suspend safety-related electrical work pending resolution of the problems. This agreement was confirmed by Region III's Immediate Action Letter.

Some examples of this kind may occur before construction at Byron is complete; appropriate action will be taken.

In summary, the various individual violations referred to in the affidavit represent relatively minor offenses against a QA/QC program which is basically sound. The situation addressed in the Immediate Action Letter dated January 13, 1981 does represent a breakdown in the QA/QC program for a single construction contractor and the associated inspection contractor. This can and should be addressed specifically without requiring suspension of unrelated work, and a halt to all construction at the site is not called for under the criteria set forth in the Interim Enforcement Policy (Section IV.C.2). Although the Immediate Action Letter constraint has now been lifted, further enforcement action is being considered by the staff consistent with the Interim Enforcement Policy, to emphasize to the licensee the need to take lasting corrective action.

(Signed) William J. Dircks

William J. Dircks
Executive Director for
Operations

Enclosure:
Evaluation of Byron Nuclear Power
Station QA/QC Program

cc: OGC
TFE
SECY
Commission Staff Officers
Director, Nuclear Reactor Regulation
Executive Legal Director
Public Document Room
Chief, Docketing & Service Branch (SECY)

Attachment 2