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May 24, 1982

Marshall E. Miller, Esq., Chairman
Atomic Safety and Licensing Board
Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. A. Dixon Callihan
Union Carbide Corporation
P.O. Box Y
Oak Ridge, Tennessee 37830

Dr. Richard F. Cole
Atomic Safety and Licensing Board
Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: In the Matter of Commonwealth Edison Company
(Byron Stations, Units 1 and 2)
Docket Nos. 50-454 & 50-455

Dear Administrative Judges:

Recently, Commonwealth Edison Company has provided certain information to the NRC Staff which the Board may deem relevant to matters pending before it. Attachment A consists of a letter submitted pursuant to 10 CFR § 50.55(e) from T.R. Tramm, Nuclear Licensing Administrator, Commonwealth Edison Company to James G. Keppler, Regional Administrator for the NRC's Office of Inspection and Enforcement, Region III, and two related documents. In essence, these documents indicate that the manufacturer of the emergency diesel generators installed at Byron, Cooper Energy Services, discovered a defect in the diesel generator lube oil strainers,

which, had it not been detected, may have rendered the diesels inoperable. As Mr. Tramm's letter indicates, new baskets have been designed and tested, and will be installed in the Byron diesels. We are providing this information to the Board despite the fact that, in Edison's estimation, the basis on which DAARE/SAFE relies for the admission of proposed contention 12, i.e. the investigation concerning Hayward-Tyler pumps, pertains to the pumps installed at Byron which are intended to supply cooling water to the auxiliary feedwater pump diesels, and not the diesel generators.

Attachment B is a letter from T.R. Tramm to Harold Denton, Director of the NRC's Office of Nuclear Reactor Regulation, dated May 4, 1982. The letter provides information to the NRC regarding the premises and methodology being used in the turbine missile hazard analysis which is currently in progress. DAARE/SAFE has argued that this analysis provides a basis for the admission of its proposed Contention 11. As was stated in our responses to DAARE/SAFE's proposed contentions, we do not believe that the fact that the analysis is being performed of itself warrants the admission of Contention 11. However, given DAARE/SAFE's position and arguments we are providing a copy of Mr. Tramm's letter and its attachment to the Board.

Attachment C is a letter from L.O. Del George, Edison's Director of Nuclear Licensing to Harold Denton, requesting an amendment to the Byron construction permits. Specifically, the letter requests that the latest completion dates for construction be extended from June 1, 1982 to October 1, 1984 for Byron Unit 1 and from November 1, 1983 to April 1, 1986 for Byron Unit 2. Although the letter expressly indicates that the requested amendment does not reflect a change to the dates by which Edison currently expects to load fuel at Byron Units 1 and 2, the Board may believe that it contains information relevant to the scheduling of the Byron licensing proceedings.

As the dates for the commencement of evidentiary hearings approach, it obviously becomes increasingly difficult to await the completion of investigations and reviews prior to determining whether these investigations and reviews raise issues which may be deemed relevant and material to contested matters pending before the Board. Accordingly, in order to assure that the Board is provided with information which may have a bearing on these matters, we are proposing to submit to the Board all cover letters with all attachments for all correspondence hereinafter initiated with the NRC Staff dealing with operating license issues. When the information conveyed to the Staff is

extremely bulky, we propose to provide to the Board a copy of the cover letter with an explanation as to why the attached information is not being provided. Of course, if the Board believes that the information ommitted should be provided we will make it available on request.

Sincerely,

Alan P. Bielawski
One of the Attorneys for
Commonwealth Edison Company

APB:ldj
cc: Service List

Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

ATTACHMENT A

May 11, 1982

Mr. James G. Keppler, Regional Administrator
Directorate of Inspection and
Enforcement - Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
Diesel Generator Strainer Basket
Defect
NRC Docket Nos. 50-454, 50-455,
50-456 and 50-457

Reference (a): February 1, 1982, letter from
F. B. Stolba, Cooper Energy Services
and Enforcement, NRC

Dear Mr. Keppler:

On April 23, 1982, L. Bowen of Commonwealth Edison reported to J. Neisler of your office a defect in the Byron/Braidwood diesel generator lube oil strainers. This defect is reportable pursuant to 10 CFR 50.55(e). In accordance with a request from Region III, control numbers 82-01 and 82-02 are assigned to this report for Byron and Braidwood Stations, respectively.

Description of Deficiency

Cooper Energy Services has advised the NRC (reference (a)) and Commonwealth Edison that the emergency diesel generators at Byron and Braidwood each contain a defective strainer basket located in the lube oil strainers. After performance testing the mesh strainer basket liner was found to be torn loose at the top of the basket where the perforated sidewall and the liner were sandwiched between two flanges.

Safety Implications

Recent testing indicates that the strainer mesh disintegrates after it tears and could then pass through the engine bearings. If this were to occur, one or more engine bearings would probably fail and the unit would be incapable of performing.

Corrective Action

A new basket has been designed and tested. It will be installed in all eight Byron/Braidwood diesels prior to fuel load.

Please address further questions regarding this matter to this office.

Very truly yours,

T. R. Tramm

T. R. Tramm
Nuclear Licensing Administrator

lm

cc: Director of Inspection & Enforcement

4079N

COOPER ENERGY SERVICES
AJAX COOPER-BESSEMER PENN PUMP SUPERIOR

February 1, 1982

Office of Inspection and Enforcement
U.S. Nuclear Regulatory Commission
Washington, D .C. 20555

Attention: Director of Inspection and Enforcement

Gentlemen:

In accordance with 10CFR Part 21, this letter is notification of a deficiency that has been determined to exist in emergency standby diesel generator sets manufactured and supplied by Cooper Energy Services. The affected units are as follows:

Four sets at Pennsylvania Power and Light Company's Susquehanna Steam Electric Station at Berwick, Pa.

Four sets at Commonwealth Edison's Byron Station Units 1 and 2 in Byron, Illinois.

Four sets at Commonwealth Edison's Braidwood Station Units 1 and 2 in Braidwood, Illinois.

Six sets at Arizona Public Service's Palo Verde Nuclear Generating Station in Palo Verde, Arizona.

Two sets at Niagara- Mohawk's Nine Mile Point Nuclear Station, Unit 2, in Scriba, New York.

One set already shipped to Houston Light and Power's South Texas Project, Nuclear Power Plants 1 and 2. There are five additional units remaining to be shipped on this order.

The defect exists in the strainer basket located in the lube oil strainer manufactured by Zurn Industries, Inc. After performance testing at Cooper Energy Services, it was found that the mesh strainer basket liner was torn loose at the top of the basket where the perforated sidewall and the liner were sandwiched between two flanges. The tear propogates in an axial direction.

LINCOLN AVENUE GROVE CITY, PENNSYLVANIA 16127 412/458-8000

This problem was originally discovered in December of 1980, but based upon information available at that time, was deemed not reportable under the provisions of 10CFR Part 21, since a failure of this type would not prevent the generator unit from performing its designated function in a safe manner.

However, based upon recent testing conducted at our Grove City plant, it is now apparent that the strainer mesh disintegrates after it tears, and would then be capable of passing through the engine bearings. If this were to occur, a bearing failure would be probable and the unit would be incapable of performing.

The baskets in the four units at Pennsylvania Power and Light's Susquehanna Steam Electric Station have already been replaced with new baskets of an improved design manufactured for Zurn by Michigan Dynamics. These baskets were examined after performance of a 300 start test at the site, and no deterioration of the mesh was observed.

A new basket design, different from the Michigan Dynamics basket, has just been qualified by test in Grove City and will be provided as a replacement for units at the remaining locations listed above. Replacement of all remaining baskets should be completed within the next six months.

Sincerely,

F. B. Stolba
Vice President & General Manager, Reciprocating Products

cc: C. C. Bemiller
H. F. Curren
G. A. Dorton
H. T. Gardner
M. J. Helmich
T. W. Kearns
R. A. Miklos
R. O. Wells
Per Attached Copy Distribution

May 3, 1982

Subject: Byron and Braidwood Stations
10CFR50.55(e) Reportable Item
Diesel Generator Strainer Basket Defect

Mr. T.R. Tramm:

This constitutes the 30 day written report on the subject deficiency reported to Mr. J. Neisler of NRC Region III on April 23, 1982. The NLA is required to assign a number to this deficiency. This is intended to be a final report.

Cooper Energy Services informed the NRC Office of Inspection and Enforcement of a 10CFR Part 21 via letter dated February 1, 1982 from F.B. Stolba to the Director of Inspection and Enforcement (the letter is attached). The deficiency is a "defect in the strainer basket located in the lube oil strainer manufactured by Zurn Industries, Inc. After performance testing at Cooper Energy Services, it was found that the mesh strainer basket liner was torn loose at the top of the basket where the perforated sidewall and the liner were sandwiched between two flanges. The tear propogates in an axial direction".

A failure of this type could cause a bearing failure in the emergency diesel generator sets which would render the diesel incapable of performing its intended safety function.

The corrective action is to redesign and replace these strainer baskets. Cooper Energy Services has contracted for a newly designed basket, is qualifying it and is expected to ship replacement baskets to our units during the autumn of 1982.

If there are any questions, do not hesitate to call.

Leslie A. Bowen

/sb/1622b

Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

ATTACHMENT B

May 4, 1982

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
Turbine Missile Evaluation
NRC Docket Nos. 50-454, 50-455,
50-456 and 50-457

Dear Mr. Denton:

This is to provide information regarding the Byron/Braidwood turbine missle hazard analysis which is in progress. A report of this work will be provided by the end of August, 1982. NRC review of that report should close Outstanding Item 2 of the Byron SER.

Attachment A to this letter outlines the premises and methodology being used in the current turbine missle hazard analysis effort. Key points were reviewed with NRC personnel in a conference call on March 31, 1982. Please let us know at the earliest opportunity if the analysis plan is unacceptable. Questions should be addressed to this office.

One signed original fifteen copies of this letter are provided for your use.

Very truly yours,

T. R. Tramm

T. R. Tramm
Nuclear Licensing Administrator

lm

4033N

ATTACHMENT A

Byron/Braidwood Turbine Missile Hazard Analysis Plan

The following items summarize the assumptions and methodology to be used in the turbine missile hazard analysis:

1. Turbine missile generation probability and missile characteristics are provided by Westinghouse. These probability values are based on stress corrosion mode of turbine disc failure at rated speed and design overspeed as a function of turbine inspection interval. For destructive overspeed, probability values are based on ductile burst mode of turbine disc failure.

2. Plant damage probability is evaluated by a simulation process in which the consequence of turbine missiles impacting various plant equipment and initiating accident scenarios is studied. The following steps are involved in this analysis:

   a. The plant is modeled as cubicles which house essential equipment. In this model, actual reinforced concrete and structural steel barriers are considered for simulating the missile path.

   b. The passage of a missile through a cubicle barrier is assumed to cause failure of all equipment in that cubicle.

   c. Fault trees are developed which relate the failure of plant equipment to accident scenarios.

   d. Accident scenarios meet the requirements of Regulatory Guide 1.115 for turbine missile protection of essential systems.

3. Equipment redundancy, separation, and operator intervention is considered in the development of fault trees.

4. To determine if turbine missiles can penetrate cubicle barriers, the CEA-EDF formula will be used for reinforced concete and masonry wall barriers and the BRL formula will be used for steel barriers.

5. The overall probability of turbine missile damage is based on combining the turbine missile generation probability with the plant probability and will be presented at various turbine inspection intervals.

Commonwealth Edison
One First Nat' Plaza. Chicago. Illinois
Address Repl, .o: Post Office Box 767
Chicago. Illinois 60690

ATTACHMENT C

April 19, 1982

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Byron Station Units 1 and 2
Construction Permit Extension
NRC Docket Nos. 50-454 and 50-455

References (a): December 31, 1975 letter from
D. B. Vassallo to Byron Lee, Jr.

Dear Mr. Denton:

Pursuant to the provisions of 10 CFR 50.55(b), Commonwealth Edison hereby requests amendment of the Byron Station Construction Permits CPPR-130 and CPPR-131 issued by reference (a). For the reasons delineated below, we request that the "latest completion date" be revised from June 1, 1982 to October 1, 1984 for Byron Unit 1 and from November 1, 1983 to April 1, 1986 for Byron Unit 2. This amendment involves only a change to construction completion dates. In our opinion it does not involve a significant hazard consideration.

The need for an extension of time beyond the present construction permit completion dates is a result of an extended construction period, despite the fact that construction has continued without interruption since its inception. The longer period has resulted principally from the need to install larger quantities of material and equipment than originally contemplated as well as changes in NRC regulatory requirements, some of which resulted from the NRC's response to the Three Mile Island incident. The need for extension is also based upon improvements in the manner in which we are implementing NRC requirements. These changes have increased the amount of design work and installation labor required to complete the installation of each component, pipe, cable, and structural member. These additional measures have been and are being implemented at a pace consistent with the Company's need to spread financing requirements more evenly throughout the construction period in order to keep annual financing requirements within the Company's capabilities.

Although the requested revised completion dates extend beyond the dates by which Edison currently expects to load fuel at Byron Units 1 and 2, this letter does not represent a change to the current fuel load schedules. The revised completion dates reflect a conservative estimate of actual completion of the units. This has been done to avoid the necessity of having to request another construction completion date extension at some future time should any unanticipated delays in construction actually occur.

Attached is a proposed "Finding of No Significant Impact" prepared by Commonwealth Edison to address the environmental impact of the extension of these construction permits.

Three (3) signed originals and thirty-seven (37) copies of this submittal are provided for your review and approval.

Enclosed is a check in the amount of $1600, submitted in accordance with the fee schedule defined in 10 CFR 170.22.

Very truly yours,

L. O. DelGeorge

L. O. DelGeorge
Director of Nuclear Licensing

lm

SUBSCRIBED and SWORN to
before me this 20th day
of April, 1982

Rosalie A. Pereira
Notary Public

3412N

ENVIRONMENTAL IMPACT APPRAISAL
SUPPORTING THE REQUEST FOR EXTENSION OF
THE DATES FOR COMPLETION OF CONSTRUCTION OF BYRON
STATION, UNITS 1 AND 2. COMMONWEALTH EDISON. UNIT 1,
CPPR-130 - UNIT 2, CPPR-131, DOCKET NOS. 50-454, 50-455

1. Description or Proposed Action

The action requested is the issuance of an ORDER pertaining to Byron Station Units 1 and 2. The ORDER would extend the latest completion date of Unit 1 by 28 months and the latest completion date of Unit 2 by 28 months .

2. Summary Description of the Probable Impacts of the Proposed Action

The environmental impacts associated with construction of Byron have been previously addressed in the NRC staff's final environmental statement, construction permit stage (FES-CP) issued February, 1974, and determined by the Atomic Safety and Licensing Board in their partial initial decision-Environmental and Site Suitability Matters dated December 6, 1974.

The Atomic Safety and Licensing Board identified in the Initial Decision the following major effects due to construction:

A. Station related construction will disturb 300 acres of the site. Of this, 150 acres would serve as an improved habitat for small mammals, deer and birds, owing to the exclusion of farmers and hunters.

B. Construction activities of the intake and discharge structures will have a temporary effect upon the Rock River due to siltation caused by dredging.

C. Construction of the station and development on the 300 acre site will generate noise and dust.

D. Dewatering of the construction site will have an effect on groundwater.

E. Short-term traffic problems may occur due to construction activities.

F. Transmission line construction associated with station development will create minor impacts.

G. Impacts may occur to eight acres on the pipeline corridor due to construction which were tentatively identified to contain possible archeological artifacts. It was recommended that these areas be tested for archeological significance prior to pipeline corridor construction.

H. Area surface runoff from the construction site may have an impact upon streams of the area.

With respect to Item A, the extension of construction activities on the site would delay the return of the 150 acres not used for station facilities back to agriculture productiveness or restoration to a natural state.

Construction related effects identified in Items B and D noted above have already occurred, were monitored and the effects were found to be localized. Therefore, the construction permit extensions would not add impacts in these areas.

In relation to construction effect C noted above: major excavations and structures, the make-up and blowdown pipelines, and ancillary structures are completed and additional noise and dust would not be generated as a result of extending the construction permit. The granting of the required construction permit extension would extend noise and dust from other sources such as parking lots for construction workers and construction roads. These sources are, however, continually treated for dust control.

With respect to Item E, listed above, the construction work force has already reached a maximum and is now declining.

With respect to Item F, three transmission lines are to be constructed for Byron Station. The Byron East transmission line is partially completed (the 6.5 mile portion extending east from the station to the Nelson-Cherry Valley transmission line is complete and the remaining 15.3 miles to the Cherry Valley Transmission Substation is scheduled to be constructed in 1983). The Byron South transmission line is under construction and will be completed in 1982. The Byron Wempleton transmission line construction has started and will be completed in 1983. The extension of the construction schedule will delay the minor impacts of construction discussed in the Atomic Safety and Licensing Initial Decision. Less land will be committed due to the selection and use of single shaft structures for tangent and light angles (up to 13^{0}) rather than the wide based lattice steel towers specified in the original environmental report, thus reducing the impact on farming activities.

Item G recommended testing of the eight identified archeological sites on the pipeline corridor. Further investigations of the sites showed that three were of archeological importance. These sites have been, and will continue to be, protected from construction impacts. The remaining five were found to consist of only scattered surface finds and the archeological consultant and the State Historic Preservation officer determined that protection from construction impact was not required. An extension of the construction permit will not result in additional impacts to archeological resources.

With respect to Item H, area surface runoff due in part to construction is circulated through an oil separator to the wastewater collection basin where suspended solids settle out prior to discharge. A construction permit extension would extend the period that construction related runoff would be treated and released. Frequent discharges of water into the Woodland Creek have affected two landowners downstream from the plant. These effects have been mitigated by installation of culverts in the motocross raceway area and a bridge over the creek in a subdivision. The quantity of water from precipitation discharged is no longer a funtion of construction activities.

3. Conclusion and Basis for Finding of No Significant Impact

On the basis of the above, it is our opinion that there will be no significant impacts attributable to the requested action.

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