

JUN 17 1981

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

Mr. J. S. Abel
Director of Nuclear Licensing
Commonwealth Edison Company
Post Office Box 767
Chicago, Illinois 60690

Dear Mr. Abel:

Subject: Byron Environmental Review

Dist. Docket File SBajwa
LB#1 Rdg
DEisenhut
BJYoungblood
KKiper
MRushbrook
RTedesco
RVollmer
TMurley
RMattson
RHartfield, MPA
WJohnston
GELD
OIE (3)
GLaRoche
CBillups
JLehr
WRodak
CFerrell
PNicholson

bcc:
TERA
NRC/PDR
L/PDR
NSIC
TIC
ACRS (16)



As a result of our review of the Byron OL-ER and our recent site visit, we have identified the need for additional environmental information. This request for information is presented in the Enclosure and includes the areas of: Terrestrial Resources (290.0), Aquatic Resources (291.0), Socioeconomic (310.0), Utility Finance (320.0) as well as Miscellaneous information (100.0). Please use the designated question numbers in your response.

In order to maintain our review schedule for the Byron ER, we will need responses to the enclosed request by July 31, 1981. Further questions in the environmental review will be forthcoming in the next few weeks. If you desire any clarification or discussion of the enclosed request, please contact the backup Project Manager for Byron, Kenneth Kiper (301/492-7318).

Sincerely,

Original signed by
Robert L. Tedesco

Robert L. Tedesco, Assistant Director
for Licensing
Division of Licensing

Enclosure:
As stated

cc: See next page

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PDR ADOCK 05000454
C PDR

OFFICE	DL:LB#1	DL:LB#1	DL:RL			
SURNAME	KKiper/ys	BJYoungblood	RLTedesco			
DATE	6/12/81	6/15/81	6/14/81			

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FORMAL QUESTIONS FOR BYRON STATION ENVIRONMENTAL REVIEWMiscellaneous

100.0

100.1
(None)

In addition to responses to other specifically requested information, provide a summary and brief discussion in table form, by section, of differences between currently projected environmental effects of the nuclear power station (including those that would degrade and those that would enhance environmental conditions) and the effects discussed in the environmental report submitted at the construction stage.

290.0

Terrestrial Resources290.1
(2.2)

Have a State of Illinois endangered species specialist or plant systematist confirm the identification of Geum rivale (Purple Avens) as this species is on the Illinois State endangered species list.

290.2
(3.9.5)

Provide details of proposed grounding procedures for non-electric fences and other metallic objects beneath the Byron transmission lines using the 5.0 milliamperes vertical clearance criterion of the National Electric Safety Code, 1977 edition.

Terrestrial Resources - Noise290.3
(2.7)

At the site visit, Commonwealth Edison Company representatives indicated that the Byron site boundary has changed from that shown in the ER-OL, due, at least in part, to cooling tower noise attenuation. Indicate clearly on

a map of suitable scale the present site boundaries and the relationship of these boundaries to plant operational noise sources and nearby offsite noise sensitive land uses (e.g., residences, churches, cemeteries, schools, parks). Indicate how the identified noise sensitive land uses were considered in determining the new site boundaries.

290.4
(5.6) Indicate how often and how long the mechanical draft cooling towers on-site are expected to operate during normal plant operation. Indicate whether their operation has been considered in the offsite noise impact analysis. If not, indicate the effect that operation of these towers would have on offsite noise levels.

290.5
(5.6) Indicate the specific assumptions used for estimating excess noise attenuation due to atmospheric absorption, directivity, shielding and ground effects in the operational noise level predictions for Byron Station.

290.6
(5.6) Update the ER-OL with respect to the "noise control procedures" being investigated to reduce noise at offsite locations due to relief valve operation. Indicate and discuss any other procedures or equipment modifications to reduce offsite noise levels during Byron Station operation.

290.7
(6.2.2) Update the ER-OL with respect to Commonwealth Edison Company's proposed confirmatory monitoring (if any) of offsite noise levels during Byron Station operation.

290.8
(3.9.1) If the final routing of the rights-of-way for the Byron Station have been determined, provide the widths and length of each segment.

- 291.0 Aquatic Resources
- 291.1
(2.2.1.10) Provide a "best estimate" of biomass of fish harvested annually for human consumption via the recreational fishery on the Rock River in the vicinity of the Byron site.
- 291.2
(2.4) Indicate whether the distances specified for upstream sewage discharge facilities are river miles or air (i.e., direct distance) miles from Byron Station.
- 291.3
(3.6.1) At the site visit, Commonwealth Edison Company representatives indicated that alternate biocides were being "seriously considered" for use at Byron Station (i.e., instead of using chlorine as a biocide). Update the discussion of biocide usage at Byron Station from that presented in the ER-OL, addressing the alternative biocides considered, specifics of their use (i.e., type, dosage, application frequency and duration, discharge composition and concentration) and the environmental impact of their use and discharge.
- 291.4
(3.6.1) Indicate the control point for maintenance of the 0.1 mg/l free available chlorine in the circulating water system during chlorination.
- 291.5
(3.6.1) Indicate the expected frequency and duration of addition of chlorine (or other biocide) to the circulating water system. Estimate the overall

total residual chlorine concentration and duration (i.e., period of detectable residual presence after biocide addition to the circulating water system begins).

- 291.6
(3.6.1) Indicate whether the specified chlorine concentration at the service water outlet is free available or total residual chlorine.
- 291.7
(4.1.4) Provide a copy of the annual reports on the "Construction and Preoperational Monitoring Program" for the study periods: 1977-78, 1978-79, and 1979-80.
- 291.8
(4.1.4) Provide a copy of the 1974, 1975 and 1976 Dames and Moore reports on investigation and treatment of buried toxic materials on the Byron Station site.
- 291.9
(4.1.4) Discuss the results of monitoring/treatment of this area or the disposal of wastes conducted since September 1977. Indicate the status of the cleanup as it relates to the requirements of applicable State or Federal pollution control regulations (copies of correspondence addressing the cleanup are acceptable).
- 291.10
(12.0) Provide update of Table 12.0-2 on Environmental Approvals and Consultations.

- 291.11
(12.0) Provide a copy of the application submitted to the Illinois Environmental Protection Agency for an NPDES permit for the Byron Station. If a new application per se has not been submitted because of an existing NPDES permit for the facility, provide a copy of any correspondence between Commonwealth Edison Company and the State relative to the NPDES permit, its expected effective date and any likely changes in conditions, effluent limitations or special requirements.
- 291.12
(12.0) Provide a copy of the Clean Water Act Section 316(b) demonstration report for Byron, a copy of correspondence from Illinois EPA documenting approval of intake design, and a copy of the approved (or proposed) operational study for intake monitoring.
- 291.13
(None) Provide a discussion of the scope and results of any investigations conducted by Commonwealth Edison (either alone or as a part of an industry group study) into possible health hazards associated with the Byron Station cooling towers.
- 291.14
(None) Provide update of information regarding other studies performed by Commonwealth Edison and other agencies on the Rock River aquatic resources.

310.0 Socioeconomic

- 310.1 Update the projected population using the 1980 preliminary census counts. In addition, update the population centers listed in Section 2.1.2 of the OL-ER that are within a 50 mile radius of BNPP and the urban and rural percentage estimates. Furthermore, update the transient population estimates found in Section 2.1.2.3 of the OL-ER.
- 310.2 The applicant should identify any changes in land use plans within a 10 mile radius of the plant that may effect the pattern of population growth.
- 310.3 Identify any place where traffic congestion or problems of interference with patterns of local traffic might be anticipated due to plant operation or maintenance.
- 310.4 Please provide an update on specific placement of transmission line corridors and the documentation of any communication between the applicant and the State Historical Preservation Officer (SHPO) concerning impact of these transmission corridors on cultural resources.
- 310.4 Provide the updated of dollar estimates in 1981 dollars of Chapter 8, ER-OL that is entitled, "Economic and Social Effects of Station Operation".
- 310.6 Provide yearly dollar estimates (1981 dollars) of purchases of local goods and services for operation and maintenance as all two units come on line. Where will these purchased be made?
- 310.7 Provide and update of the number of operation and contract workers, as found in Table 6.3-1. In addition, estimate percent of station operating staff to be hired locally.

320.0 Utility Finance

- 320.1. Identify the latest scheduled commercial operating dates for Byron 1 and Byron 2.
- 320.2. Where applicable, all tables in Chapter 1 should be revised to show actual values for relevant variables for the years 1978, 1979, and 1980 and should be extended to provide estimated values for the five-year period following the date of initial operation for Byron 2.
- 320.3. For the year 1980 provide (a) a breakdown of electric energy generated by fuel type (coal, nuclear, etc.) and (b) the average production cost (fuel and O&M) by fuel type. Identify any availability problems you anticipate in the foreseeable future with respect to any of the fuels on which you currently depend.
- 320.4. Quantify, if possible, the expected effect of Byron 1 & 2 on base load consumption of coal and oil.
- 320.5. Provide the most recent estimates of the capital cost for Byron 1 & 2, separating the cost by unit. Indicate the proportion of the estimated capital costs which has been spent.
- 320.6. For the first year of commercial operation for each unit provide estimates of the total generating costs and of each component of the costs (fixed charges, fuel, O & M, other) both in mills/kwh and in dollars.
- 320.7. Provide new estimates, if any, of decommissioning and dismantling costs.
- 320.8. Provide the following:

A production cost analysis which shows the difference in system production costs associated with the availability vs. unavailability of the proposed nuclear addition. Note, the resulting cost differential should be limited solely to the variable or incremental costs associated with generating electricity from the proposed nuclear addition and the sources of replacement energy. If, in your analysis, other factors influence the cost differential, explain in detail.

 - a. The analysis should provide results on an annual basis covering the period from initial operation of the first unit through five full years of operation of the last unit.

- b. The analysis should assume electrical energy demand grows at (1) the system's latest official forecasted growth rate, and (2) zero growth from latest actual annual energy demand.
- c. All underlying assumptions should be explicitly identified and explained.
- d. For each year (and for each growth rate scenario) the following results should be clearly stated: (1) system production costs with the proposed nuclear addition available as scheduled; (2) system production costs without the proposed nuclear addition available; (3) the capacity factor assumed for the nuclear addition; (4) the average fuel cost and variable O & M for the nuclear addition and the sources of replacement energy (by fuel type) - both expressed in mills per kWh; and (5) the proportion of replacement energy assumed to be provided by coal, oil, gas, etc.