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June 12, 1984

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

Subject: Byron Generating Station Units 1 and 2
 Braidwood Generating Station Units 1 and 2
 FSAR Amendment 45
NRC Docket Nos. 50-454, 50-455, 50-456 & 50-457

Dear Mr. Denton:

The application for construction permits and operating licenses for Byron Generating Station Units 1 and 2 and Braidwood Generating Station Units 1 and 2, docketed on September 20, 1983, are hereby amended by submission of Amendment 45 pursuant to 10 CFR 50.34.

Amendment 45 to the Byron/Braidwood FSAR consists of new responses to Byron Questions 241.8 (Hydrologic and Geotechnical Engineering Branch) and 362.1 (Geosciences Branch), revised responses to Questions 010.31, 022.7, 022.25, 022.62, 022.74, 022.77, 022.78, 022.79, 022.82, 040.5, 040.9, 040.14, 040.94, 212.65, 212.104, 212.157, 241.3 (Braidwood), 251.4, 281.7, 331.15, 362.1 (Braidwood), 423.2, and 423.30, and voluntary text changes.

Attachment A to this letter is an itemized summary of changes contained in the amendment. Attachment B to this letter lists pages contained in Amendment 45 which were previously transmitted to the NRC for advance review. These attachments are provided at the request of the NRC staff as an aid to the identification of FSAR changes requiring further evaluation by the NRC.

Three signed original and fifty-seven copies of this amendment are submitted for NRC use.

Please direct any questions you may have regarding these matters to this office.

Very truly yours,

T. R. Tramm

T. R. Tramm
 Nuclear Licensing Administrator

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SUBSCRIBED AND SWORN to
 before me this 12th day
 of June, 1984

Rosalie A. Pienta

Notary Public

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ATTACHMENT A

SUMMARY OF CHANGES CONTAINED IN
B/B-FSAR AMENDMENT 45

<u>Page, Figure or Table Number</u>	<u>Description of Changes</u>
Page 2.5-71 (Byron)	Editorial.
Attachment 2.5J (Byron)	Dames and Moore report providing results of seismic crosshole survey (See also response to Q241.8).
Page 3.2-7	Manipulator crane now classified as Safety Category II.
Pages 3.7-30, -31, -31a, -32	Revisions reflect current seismic instrumentation design.
Page 3.7-36	Revision reflects close-out of Westinghouse commitment to change FSAR per response to Byron Integrated Design Inspection Finding.
Figure 3.8-38	Editorial.
Pages 3.9-98, -100	Revisions reflect results of Westinghouse audit conducted to evaluate conformance of Byron piping analysis design specification information with FSAR commitments.
Page 3.9-105	Valves 1CV8114 and 1CV8116 added to Table 3.9-16 (See also new Subsection 7.6.11).
Page 3.11-19	Changes made to clarify intent of Table 3.11-2.
Page 3.11-20b	Change made to indicate that maximum integrated exposures in Table 3.11-2 include a 10% exposure margin.
Page 4.4-10a	Editorial correction of design DNBR limits.
Page 5.2-2	Text reference and clarification added for Table 5.2-1a.

ATTACHMENT A (Cont'd)

<u>Page, Figure or Table Number</u>	<u>Description of Changes</u>
Page 5.2-23a	Revised to add reactor coolant pumps.
Page 5.4-26	Figure 5.4-4 has been deleted; see Figure 6.3-2.
Page 5.4-30, -65	RHR suction side relief valves discharge to recycle holdup tank, not PRT.
Figure 5.4-4	Figure has been deleted to avoid duplicate information; see Figure 6.3-2 for RHR P&ID.
Pages 6.2-25, -25a	Changes reflect containment leakage testing program.
Page 6.2-28	Editorial.
Page 6.2-29	Editorial (paragraph was out of place).
Page 6.2-35	Clarification of RCFC testing program.
Pages 6.2-41, -58, -59, -60, -61, -62	Changes reflect containment leakage testing program.
Page 6.2-175a	Maximum estimated opening time for valves 1SI8811A and B is 100 seconds (Also see revised responses to Q22.25, Q212.65, and Q212.104 and revised page 6.3-35).
Figure 6.2-28	Changes reflect containment leakage testing program.
Pages 6.3-5, -59	Changes reflect CVCS charging pump miniflow lines modification to prevent pump deadheading.
Page 6.3-35	Change reflects intent of Table 6.2-58 (See revised pages 6.2-175a, Q22.25, Q212.65, and Q212.104.)

ATTACHMENT A (Cont'd)

<u>Page, Figure or Table Number</u>	<u>Description of Changes</u>
Pages 6.5-2, -3, -3a, -7, -10, -14, -14a, -15, -16, -16a, 7.3-13, -15, and -15a	Changes reflect current VA system design.
Pages 7.3-24, -25	Changes reflect current VD system design.
Pages 7.3-27, -29, -30	Changes reflect current VE and VX system design.
Page 7.3-33	Change reflects RCFC design.
Pages 7.3-49, -49a, -50	Changes reflect current VA system design.
Pages 7.6-3, 7.6-6a	Changes reflect CVCS charging pump miniflow lines modification.
Page 7.6-7	Editorial.
Figures 7.6-4, 7.6-4a, 7.6-4b, 7.6-4c, 7.6-4d	Changes reflect CVCS charging pump miniflow lines modification.
Page 8.3-29a	Note m revised since it incorrectly discussed essential service cooling tower fans instead of RCFC's.
Page 8.3-30	Changes reflect current design of relay protection for 4 kV equip- ment.
Pages 9.1-33, -36, -37, -38, -39, -41	Changes reflect current fuel handling equipment design.
Page 9.2-19	Change reflects current design of component cooling system radiation monitoring.
Pages 9.2-47, -64, -65, -66, -67	Changes reflect current design of chilled water system.

ATTACHMENT A (Cont'd)

<u>Page, Figure or Table Number</u>	<u>Description of Changes</u>
Pages 9.3-4, -5	Revised transit time inside containment for high pressure reactor coolant samples.
Pages 9.3-24, -25, -26, -33, -34	Changes made to correct revisions made in Amendment 44 for boron thermal regeneration system.
Pages 9.4-9, -20, -29, -33, -69, -72, -98, -103, -112, -120, -121, -125, -131	Changes reflect current design of various HVAC systems.
Page 10.4-15	Changes reflect current design of Steam Generator blowdown system.
Pages 11.2-3, -33	Changes reflect current design of liquid radwaste system.
Page 11.3-11	Change reflects current design of waste gas compressors
Pages 11.4-36, -36a	Changes reflect current design of solid radwaste system; Table 11.4-3 has been expanded to include VRS product solidification system.
Page 12.3-15	Editorial.
Page 12.3-40	Change reflects current design of area radiation monitoring system.
Pages 13.1-2, -7, -9, -10, -10a, -13, -17	Changes reflect Applicant's current organizational structure.
Figure 13.2-2 (Braidwood)	Changes: 1) Time frame indicated for technical training of management personnel; 2) time period indicated for NRC license exam.
Pages 13A-i, -ii, -iii, -11a, -11b, -20a, -21a, -27a, -28	New or updated resumes for plant personnel.

ATTACHMENT A (Cont'd)

<u>Page, Figure or Table Number</u>	<u>Description of Changes</u>
Pages 13.A-17, -18	Plant personnel resumes deleted (to be replaced by other personnel resumes in a future amendment).
Pages 14.2-1, -2, -3, -5, -10, -16, -31, -35, -48, -49, -50, -50a, -51, -53, -70, -82, -85, -86	Changes reflect test program. For HVAC system tests, measurements of fan speeds have been eliminated.
Pages 15.0-27, -33, 15.2-19, -28, -29, -30, -31, -32, -33 and Figures 15.2-9 through 15.2-20	Revisions resulting from Westinghouse reanalyses of feedline break, loss of normal feedwater, and station blackout accidents.
Page 15.4-24	Revision of valves in CVCS to be locked closed during refueling operations.
Page 16.0-1	Technical Specifications have been removed from FSAR.
Page A1.31-1	Change indicates correct revision of R.G. 1.31 to which Applicant conforms.
Page A1.52-1	Corrected to give missing information on HVAC system.
Page A1.68-1	Revised to discuss exceptions taken to R.G. 1.68.
Page A1.68-2	Editorial.
Page A1.68.2-1	Editorial.
Page A1.88-1	Revised to indicate exception taken to R.G. 1.88.
Page B.9-3	Material specification deleted.
Page D.8-2	Text reference provided for ASME code.
Page D.23-2	Correction to applicable ASME code case.
Page E.30-1	Correction of model number for radioactive gas detector.

ATTACHMENT A (Cont'd)

<u>Page, Figure or Table Number</u>	<u>Description of Changes</u>
Page E.69-1	Change reflects current status of TMI item II.K.3.30.
Pages E.75-7, -9	Changes reflect current design of technical support center HVAC system design.
Page Q10.31-1	Change reflects current battery room HVAC design.
Pages Q22.7-2, -3, -4	Changes reflect containment leakage test program.
Pages Q22.25-1, -2, -4, -5	Revisions reflect revised estimated opening time of 100 seconds for valves 1SI8811A and B.
Pages 22.62-1, -2	Changes reflect current design of hydrogen monitoring system.
Pages Q22.74-1, Q22.77-1, Q22.78-1, Q22.79-1, and Q22.82-1	Changes reflect containment leakage test program.
Page Q40.5-4	Old response deleted; added reference to response to Q40.176.
Page Q40.9-1	Revised response reflects current design.
Page Q40.14-1, -2	Revised response to question on electrical penetration assemblies.
Page Q40.94-1, -2	Revised to clarify diesel generator room floor slab design.
Pages Q212.65-4, -5, -6, 212.104-1, -2	Revised to reflect estimated maximum opening time of 100 seconds for valves 1SI8811A and B.
Page Q212.157-1, -2, -3	Description of procedures for cold shutdown from outside the control room.

ATTACHMENT A (Cont'd)

<u>Page, Figure or Table Number</u>	<u>Description of Changes</u>
Question 241.8 (Byron)	Response to recent question on seismic analyses of the river screenhouse foundation.
Page Q241.3-1 (Braidwood)	Response revised to give additional information on backfill material.
Page Q251.4-1	WCAP reference given for material surveillance program for Byron Unit 2 reactor vessel.
Page Q281.7-3c	Reference given for shielding design of chemical analysis and grab sampling panels.
Page Q331.15-2	Changes reflect current design of hydrogen recombiners.
Question 362.1 (Byron)	Response to recent question on river screenhouse seismic design.
Pages Q362.1-1, -2, -3, -4, and Q362.1-26 through -39 (Braidwood)	Revisions reflect updated settlement plot information.
Pages Q423.2-1, -2	Clarification of qualifications for plant personnel.
Pages Q423.30-3, -4	Revised position regarding natural circulation testing.

ATTACHMENT B

PAGES CONTAINED IN FSAR AMENDMENT 45
TRANSMITTED PREVIOUSLY TO NRC STAFF FOR
ADVANCE REVIEW

<u>Pages</u>	<u>Transmittal Letter Date</u>	<u>Differences Between Advance Information And Amendment 45</u>
Q40.94-1	1-3-84	None
Q241.8-1 through Q241.8-17 (Byron)	4-18-84	None (Note that response to Q241.8 was also transmitted in letter dated 2-28-84, but page Q241.8-4 was missing, and Figure Q241.8-9 was later revised for 4-18-84 transmittal)
Q241.3-1 (Braidwood)	11-17-83	One sentence was added to end of response for Amendment 45.
Q362.1-1 through Q362.1-10 (Byron)	4-18-84	Title of second column of Table Q362.1-1 changed from "LAYER DEPTH" to "LAYER THICKNESS". Titles for Figures Q362.1-1 and Q362.1-3 shortened for Amendment 45.
Q423.2-1, -2	5-3-84	Minor editorial changes.