UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

A. IE Inspection Report No. 050-305/75-02

Transmittal Date : February 20, 1975

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B. IE Inquiry Report No. _____

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(Licensee & Docket No. (or License No.)

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

FEB 2 0 1975

Wisconsin Public Service Corporation
ATTN: Mr. E. W. James, Senior Vice President
Power Generation and Engineering
P.O. Box 1200
Green Bay, Wisconsin 54305

Docket No. 50-305

Gentlemen:

This refers to the inspection conducted by Messrs. Jorgensen and Januska of this office on January 30, 1975, of activities at the Kewaunee Nuclear Power Plant authorized by NRC Operating License No. DPR-43 and to the discussion of our findings with Mr. Luoma and others of your staff at the conclusion of the inspection.

A copy of our report of this inspection is enclosed and identifies the areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with plant personnel, and observations by the inspectors.

No items of noncompliance with NRC requirements were identified within the scope of this inspection.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC's Public Document Room. If this report contains any information that you or your contractors believe to be proprietary, it is necessary that you make a written application to this office, within twenty days of your receipt of this letter, to withhold such information from public disclosure. Any such application must include a full statement of the reasons for which it is claimed that the information is proprietary, and should be prepared so the proprietary information identified in the application is contained in a separate part of the document. Unless we receive an application to withhold information or are otherwise contacted within the specified time period, the written material identified in this paragraph will be placed in tha Public Document Room.

FEB 2 0 1975

No reply to this letter is necessary; however, should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

Gaston Fiorelli, Chief,
Reactor Operations Branch

Enclosure:
IE Inspection Report No.
050-305/75-02

bcc: IE Chief, FS&EB
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U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Independent Measurements Inspection

IE Inspection Report No. 050-305/75-02

Licensee: Wisconsin Public Service Corporation
P.O. Box 1200
Green Bay, Wisconsin 54305

Kewaunee Nuclear Plant
Kewaunee, Wisconsin

License No. DPR-43
Category: C

Type of Licensee: PWR (W)

Type of Inspection: Routine, Announced - Independent Measurements

Date of Inspection: January 30, 1975

Dates of Previous Inspection: January 14-16, 1975 (REP)

Principal Inspector: B. L. Jorgensen — 2/14/75 (Date)

Accompanying Inspector: A. G. Januska — 2/18/75 (Date)

Other Accompanying Personnel: L. McDonnell
Wisconsin Department of Health

Reviewed By: J. A. Pagliaro, Senior Environmental Scientist
Environmental and Special Projects Section — 2/18/75 (Date)

SUMMARY OF FINDINGS

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Matters

No previously identified enforcement items within the scope of this inspection.

Unusual Occurrences

None within the scope of this inspection.

Other Significant Findings

A. Current Findings

The licensee's performance on analysis of effluent samples and sample standards pertinent to this inspection has resulted in 69% agreements or possible agreements and 31% disagreements with the results of the NRC reference laboratory. Details of discussions with the licensee concerning discrepancies are contained in Paragraph 4.

B. Status of Previously Reported Unresolved Items

No previously reported unresolved items within the scope of this inspection.

Management Interview

A management interview was conducted with Messrs. Luoma, Richmond, Jarvela and Larsen at the conclusion of the inspection on January 30, 1975. The following items were discussed with the licensee representatives:

A. The inspectors discussed the scope of this inspection and the scope and intent of the Independent Measurements program. (Paragraph 2)

B. The inspectors discussed the criteria used for comparing analytical laboratory results and provided the licensee representatives with copies of these criteria. (Attachment 1)

C. The inspectors discussed the results of comparisons pertinent to this inspection. (Paragraph 3)

D. The inspectors noted that disagreements in the initial off-gas sample analysis comparison may indicate potential licensee over-reporting of Xe-133 releases. (Paragraph 4.a)

E. The inspectors stated that results to date on analysis of charcoal cartridges indicate a continuing licensee problem with this analysis, probably leading to over-reporting of gaseous releases of this nuclide by the licensee. The licensee concurred with this assessment and agreed to perform a re-calibration of the equipment used with a sample standard prepared by the reference laboratory and to be provided by the inspectors. (Paragraph 4.b)

REPORT DETAILS

1. Persons Contacted

C. Luoma, Plant Superintendent
J. Richmond, Technical Supervisor
G. Jarvela, Health Physics Supervisor
J. Larsen, Radiochemistry Supervisor
C. Long, Radiation Protection
W. Flint, Radiochemical Laboratory

2. General

The licensee is required to measure the quantities and concentrations of radioactive material in effluents from his facility to assure that they are within the limits specified in his license and NRC Regulations. This inspection consisted of a test of the licensee's measurements of radioactivity in actual samples of his effluents, and in test standards which approximate samples of actual radioactive effluents.

The test consists of comparing the licensee's measurements with those of the NRC's reference laboratory. The two laboratories make measurements on the same samples, or on duplicates or splits of the same samples. The measurements made by the NRC's laboratory are referenced to the National Bureau of Standards radioactivity measurements system by laboratory intercomparisons.

3. Analytical Results

This inspection showed some of the licensee's measurements on these samples are acceptable under the test criteria used by the Office of Inspection and Enforcement for comparing measurements results (see the Attachment). However, some of the licensee's measurements are not acceptable under the test criteria. The types of samples tested and the results of measurements were:

a. Type of Sample: Liquid Waste (September 1974)
(Results in units of uCi/ml)

ACCEPTABLE

Radionuclide	NRC Reference Measurement	Licensee's Measurement
Gross Beta	1.29 $\pm$ 0.03 E-05	1.32 E-05
H - 3	7.05 $\pm$ 0.02 E-03	6.70 E-03
Co - 58	4.9 $\pm$ 0.1 E-05	4.90 E-05
Co - 60	5.2 $\pm$ 0.2 E-06	3.85 E-06
Mn - 54	2.7 $\pm$ 0.2 E-06	3.48 E-06

NOT ACCEPTABLE: None

b. Type of Sample: Gaseous Waste (September 1974)
(Results in units of uCi/ml)

ACCEPTABLE: None

NOT ACCEPTABLE

Radionuclide	NRC Reference Measurement	Licensee's Measurement
Xe - 133	7.6 ± 0.3 E-03	1.87 E-02

c. Type of Sample: Charcoal Adsorber (September 1974)
(Results in units of uCi/sample)

ACCEPTABLE: None

NOT ACCEPTABLE

Radionuclide	NRC Reference Measurement	Licensee's Measurement
I - 131	8.6 ± 0.2 E-03	7.21 E-02

d. Type of Sample: Particulate Filter Standard (April 1974)
(Results in units of dpm/sample)

ACCEPTABLE

Radionuclide	NRC Reference Measurement	Licensee's Measurement
Sr - 89	4.65 ± 0.05 E+03	5.11 E+03
Ce - 144	1.61 ± 0.09 E+04	1.52 E+04
Cs - 137	6.31 ± 0.09 E+03	5.26 E+03
Co - 60	1.16 ± 0.02 E+04	1.07 E+04

NOT ACCEPTABLE: None

e. Type of Sample: Charcoal Adsorber Standard (April 1974)
(September 1974)
(Results in units of dpm/sample)

ACCEPTABLE: None

NOT ACCEPTABLE

Radionuclide	NRC Reference Measurement	Licensee's Measurement
I - 131	8.15 ± 0.01 E+04	4.2 E+05
*Ba - 133	3.29 ± 0.09 E+04	2.24 E+05

*Second sample (September 1974)

4. Samples Not Meeting Acceptance Criteria

a. Xe - 133 in Gaseous Waste

The licensee's result for Xe - 133 in a sample of gaseous waste split in September, 1974 was a factor of about 2.5 times larger than the result of the NRC reference laboratory. This is the initial comparison of this type of sample under the independent measurements program for the Kewaunee plant. If the difference represents a continuing factor in plant analysis, the licensee may have overreported releases of this nuclide by a factor of this magnitude near the time of this sampling. The inspectors noted that the result reported by the State agreed with that of the licensee and not with that of the reference laboratory. This comparison will be examined further at a subsequent inspection.

b. Charcoal Cartridge Analysis

Camparison of results for two charcoal standard samples prepared by the reference laboratory and one actual sample from the plant all yielded "disagreements". In each case the licensee result is conservative, ranging from a factor of 5.15 to a factor of 8.83 larger than the result reported by the reference laboratory. These data indicate that the licensee is probably overreporting releases of I - 131 in gaseous effluents by a factor of 5 to 8.

The licensee stated that the equipment used in this analysis was calibrated using a spiked sample prepared by a contractor laboratory. The licensee stated further that this spiked sample was prepared in the presence of a licensee representative, who witnessed the preparation. The licensee was not able to provide information concerning why the calibration has not yielded acceptable results.

The licensee agreed to perform a recalibration using a spiked sample standard prepared by the NRC reference laboratory. The inspectors will provide the licensee with one calibration standard and one unknown sample standard. The licensee agreed to report results of the "live" plant cartridge taken at the last sampling, and of the unknown sample standard to be provided, based on the new calibration. These results will be examined during a subsequent inspection.

Attachment

ATTACHMENT 1

CRITERIA FOR COMPARING ANALYTICAL MEASUREMENTS

This attachment provides criteria for comparing results of capability tests and verification measurements. The criteria are based on an empirical relationship which combines prior experience and the accuracy needs of this program.

In these criteria, the judgement limits are variable in relation to the comparison of the NRC Reference Laboratory's value to its associated uncertainty. As that ratio, referred to in this program as "Resolution", increases the acceptability of a licensee's measurement should be more selective. Conversely, poorer agreement must be considered acceptable as the resolution decreases.

RESOLUTION	RATIO = LICENSEE VALUE/NRC REFERENCE VALUE		
	Agreement	Possible Agreement A	Possible Agreement B
3	0.4 - 2.5	0.3 - 3.0	No Comparison
4 - 7	0.5 - 2.0	0.4 - 2.5	0.3 - 3.0
8 - 15	0.6 - 1.66	0.5 - 2.0	0.4 - 2.5
16 - 50	0.75 - 1.33	0.6 - 1.66	0.5 - 2.0
51 - 200	0.80 - 1.25	0.75 - 1.33	0.6 - 1.66
200	0.85 - 1.18	0.80 - 1.25	0.75 - 1.33

"A" criteria are applied to the following analyses:

Gamma Spectrometry where principal gamma energy used for identification is greater than 250 Kev.

Tritium analyses of liquid samples.

"B" criteria are applied to the following analyses:

Gamma spectrometry where principal gamma energy used for identification is less than 250 Kev.

89Sr and 90Sr Determinations.

Gross Beta where samples are counted on the same date using the same reference nuclide.

WISCONSIN PUBLIC SERVICE CORPORATION

P.O. Box 1200, Green Bay, Wisconsin 54305

March 14, 1975

U. S. Nuclear Regulatory Commission
Directorate of Regulatory Operations
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Attention: Mr. Gaston Fiorelli, Chief
Operations Branch

Gentlemen:

Reference: Docket 50-305
Operating License DPR-43
Letter from Mr. G. Fiorelli to
Mr. E. W. James dated February 21, 1975

This response is submitted in answer to two apparent violations of NRC Regulations indicated and identified in IE Inspection Report No. 050-305/75-01.

The activities that appear to be in violation of NRC Regulations as identified below are in reference to Appendix B, Technical Specifications, Sections 2.2.2 and 5.2.f. The items are identified per Enforcement Action Item.

Enforcement Action Item A:

Contrary to Section 2.2.2 of the Appendix B Technical Specifications, total solids released from the waste neutralizing tank exceeded 125 tons for the year 1974.

Response

This violation of Environmental Technical Specification was reported to the AEC by written report number ETSR 74-4 dated January 3, 1975. As noted by the inspection report details, a request to change the annual total solids release limit from 125 tons to 325 tons was submitted to the division of Reactor Licensing on October 3, 1974, and to date, remains unapproved. Attachment A to my letter of October 3, 1974, to Mr. E. Case provides the justification for the required change and points out that since secondary water chemistry control has been shifted from coordinated phosphate control to all volatile treatment (AVT), phosphates are no longer released to the lake. Higher plant makeup water requirements, primarily due to the increased steam generator blowdown rates associated with AVT,

50-305

result in a higher annual solids released than was originally estimated. Since the existing limit is unrealistically low, the only solution to this problem, utilizing current plant design, short of shutting down the plant for several months last year was to request a change to the Technical Specifications.

The need to discharge additional solids into the lake in the form of neutralized salt solutions is directly related to the referenced change to AVT of the steam generator feedwater. This change was in the interest of environmental protection and for improved and safer operation of the steam generator. It must be noted that this requested increase in permissible total discharge of solids to the lake is not of radioactive material.

Enforcement Action Item B.1:

Contrary to Section 5.2.f of the Appendix B Technical Specifications, license failure to record hourly condenser discharge temperatures on two occasions on May 14, 1974, was not reported in the December 21, 1973 - June 30, 1974 Semi-Annual Operating Report.

Response

The violation of Environmental Technical Specifications, Section 3.1.1 of May 14, 1974, was reported to the AEC by written report number ETSR 74-1 dated May 20, 1974. This violation was not, however, included in the January 1, 1974 - June 30, 1974 Semi-Annual Operating Report. The omission was an oversight due primarily to the fact that this was our first Semi-Annual Report. Provisions have since been made to include a listing of all reportable incidents in the Semi-Annual Report (as can be seen in the July 1, 1974 - December 31, 1974 Semi-Annual Operating Report). This inclusion of any such violations in the Summary of Operations section of future operating reports will preclude similar omissions in subsequent reports.

The second paragraph of Section 3b. of the Report Details appears to be in error in that it states: "The licensee further stated that an audit of plant procedures for analysis of non-radiological chemical effluents had been conducted by the Nuclear Safety Review and Audit Committee on November 7 and 8, 1974." More correctly, the audit referred to in the Report Details was a special audit of the Health Physics and radiological effluent monitoring programs performed for the Nuclear Safety Review and Audit Committee by the Corporate Quality Assurance Group with assistance of an independent consultant.

This requested Tech Spec change has a direct bearing on proper and safe operation of our plant, and we are of the opinion that the more than

162 day period for Commission processing of this requested change is not justifiable. We have no means to expedite this change to the existing specification, nor can we safely comply with the existing specification other than by shutting down the Kewaunee Nuclear Power Plant. This course of action will have no technical justification.

Sincerely,

E. W. James
Senior Vice President
Power Generation & Engineering

EWJ:sna

cc - Dr. D. F. Knuth
Mr. Dwane Boyd

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

A. IE Inspection Report No. 050-305/75-01

Transmittal Date : February 21, 1975

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B. IE Inquiry Report No. _____

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

FEB 21 1975

Wisconsin Public Service Corporation
ATTN: Mr. E. W. James
Senior Vice President
Power Generation and
Engineering
P. O. Box 1200
Green Bay, Wisconsin 54305

Docket No. 50-305

Gentlemen:

This refers to the inspection conducted by Messrs. Jorgensen and Greger of this office on January 14-16, 1975, of activities at the Kewaunee Nuclear Power Plant authorized by NRC Operating License No. DPR-43 and to the discussion of our findings with Mr. Luoma and others of your staff at the conclusion of the inspection.

A copy of our report of this inspection is enclosed and identifies the areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, interviews with plant personnel, and observations by the inspectors.

During this inspection, it was found that certain of your activities appear to be in noncompliance with NRC requirements. The items and reference to the pertinent requirements are listed under Enforcement Action in the Summary of Findings Section of the enclosed inspection report. One additional deficiency identified through your internal audit program, for which corrective action was initiated, is set out in the Report Details Section of the enclosed inspection report. No additional information is needed for this item at this time.

This notice is sent to you pursuant to the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Section 2.201 requires you to submit to this office within twenty days of your receipt of this notice, a written statement or explanation in reply, including: (1) corrective steps which have been taken by you, and the results achieved; (2) corrective steps which will be taken to avoid further items of noncompliance; and (3) the date when full compliance will be achieved.

Prior to the conclusion of the inspection, the inspectors determined that corrective action had been taken with respect to item B.2 and that measures have been taken to assure that a similar, future noncompliance will be avoided. Consequently, no reply for this item is required and we have no further questions regarding this matter at this time.

In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this notice, the enclosed inspection report, and your response to this notice will be placed in the NRC's Public Document Room. If this report contains any information that you or your contractors believe to be proprietary, it is necessary that you make a written application to this office, within twenty days of your receipt of this notice, to withhold such information from public disclosure. Any such application must include a full statement of the reasons for which it is claimed that the information is proprietary, and should be prepared so the proprietary information identified in the application is contained in a separate part of the document. Uuless we receive an application to withhold information or are otherwise contacted within the specified time period, the written material identified in this paragraph will be placed in the Public Document Room.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely yours,

Gaston Fiorelli, Chief
Reactor Operations Branch

Enclosure:
IE Inspection Report
No. 050-305/75-01

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U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Environmental Monitoring Program Inspection

IE Inspection Report No. 050-305/75-01

Licensee: Wisconsin Public Service Corporation
P. O. Box 1200
Green Bay, Wisconsin 54305

Kewaunee Nuclear Power Plant
Kewaunee, Wisconsin

License No. DPR-43
Category: C

Type of Licensee: PWR (w) 560 Mwe

Type of Inspection: Routine, Unannounced (Environmental)

Dates of Inspection: January 14 through 16, 1975

Dates of Previous Inspection: September 25, October 2, 8, 11, 17, 22, 24 and November 4, 13, and 15, 1974 (Operations)

Principal Inspector: B. L. Jorgensen — 2/13/75 (Date)

Accompanying Inspectors: L. R. Greger — 2/14/75 (Date)

Other Accompanying Personnel: None

Reviewed By: J. A. Pagliaro — 2/19/75 (Date)
Senior Environmental Scientist
Environmental and Special Projects
Section

SUMMARY OF FINDINGS

Enforcement Action

A. The following item of noncompliance is considered to be an Infraction:

Contrary to Section 2.2.2 of the Appendix B Technical Specifications, total solids released from the waste neutralizer tank exceeded 125 tons for the year 1974. This infraction was identified by the licensee. (Paragraph 5.a)

B. The following items of noncompliance are considered to be Deficiencies:

1. Contrary to Section 5.2.f of the Appendix B Technical Specifications, licensee failure to record hourly condenser discharge temperatures on two occasions on May 14, 1974, was not reported in the December 21, 1973 - June 30, 1974 Semi-Annual Operating Report. This deficiency was identified by the inspectors. (Paragraph 5.b)

2. Contrary to Section 4.1.1.b.1 of the Appendix B Technical Specifications, plant personnel did not identify the number, size, and weight of the fish collected in the circulating water trash basket on a daily basis from November 12, 1974 to December 9, 1974. This deficiency was identified by the licensee. (Paragraph 5.g)

Licensee Action on Previously Identified Enforcement Items

One item of noncompliance with Section 4.1.1.b.1 of the Appendix B Technical Specifications was reported in a previous inspection report[1/] transmitted December 11, 1974. The licensee commenced operating in compliance with this Technical Specification requirement on December 9, 1974. The inspectors have no further questions concerning this item; the item is closed.

Unusual Occurrences: None within the scope of this inspection.

Other Significant Findings

A. Current Findings

This inspection included examinations of the licensee's non-radiological effluent and radiological and non-radiological environmental monitoring programs. One unresolved item pertaining to the limits of accuracy of the thermocouples used in monitoring condenser intake and discharge temperatures was identified. (Paragraph 4.a)

1/ RO Inspection Report No. 050-305/74-15.

B. Status of Previously Reported Unresolved Items

The item reported as being unresolved as a result of the July 24-25, 1973 inspection of Environmental Monitoring and Emergency Planning[2/] was resolved during this inspection. Bottom organisms are apparently not available in sufficient quantity to allow gamma spectral analyses. (Paragraph 5.d)

Management Interview

A management interview was conducted with Messrs. Luoma, Jarvela and Larsen at the conclusion of the inspection on January 16, 1975. The following items were discussed with the licensee representatives.

A. The inspectors discussed the scope of this inspection and stated that the activities of the contractor laboratory utilized by the licensee for collection and analyses functions had not been examined. The licensee was informed that they have the responsibility for assuring that the contractor produces complete, representative and accurate results. The licensee stated that examination of the contractor laboratory is included in the audit program. (Paragraph 2)

B. The items of noncompliance were discussed with the licensee representatives. (Paragraphs 5.a, 5.b, and 5.g)

C. The inspectors noted that the actual limits of accuracy of the intake and discharge circulating water thermocouples were not available. The licensee stated that the actual accuracy limits would be determined. (Paragraph 4.a)

D. The inspectors stated that the procedures for determining delta T and rate of change of delta T were cumbersome. The licensee agreed to review these procedures for their adequacy in meeting licensee requirements. (Paragraph 5.b)

E. The inspectors discussed their observation that the backup condenser discharge temperature indicators did not appear representative of the average discharge water temperatures. The licensee stated that the matter would be investigated and the more conservative delta T indication from the backup system would be utilized, if required. (Paragraph 4.a)

F. The inspectors noted that Technical Specification limitations on pH and total solids are applicable only to wastes discharged from the neutralizer tanks. The licensee was informed by the inspectors that the matter would be forwarded to the Division of Reactor Licensing for consideration. (Paragraph 5.a)

2/ RO Inspection Report No. 050-305/73-16.

G. The inspectors noted that the charcoal traps used in environmental air sampling may be subject to air channeling in their present horizontal position. The licensee stated that the traps would be remounted vertically. (Paragraph 4.b)

H. The licensee stated that resolution of the disparity in reported ambient gamma exposures between the TLD and ionization chamber systems would be pursued with the contractor laboratory. (Paragraph 5.c)

REPORT DETAILS

1. Persons Contacted

C. Luoma, Plant Superintendent
J. Richmond, Technical Supervisor
W. Truttman, Plant Operations Supervisor
D. MacSwain, Maintenance Supervisor
G. Jarvela, Health Physics Supervisor
J. Larsen, Radiochemistry Supervisor
M. Reinhart, Senior Radiation Technician
T. Meinz, Staff Chemical Engineer (WPS)
E. Newman, Aquatic Biologist (WPS)
L. Heubner, Industrial Bio-Test Laboratories
L. Eberhard, Industrial Bio-Test Laboratories

2. General

The inspection consisted of an examination of the licensee's non-radiological effluent monitoring program and radiological and non-radiological environmental monitoring programs, including sampling techniques and procedures, sample collection equipment and locations, selected analytical techniques, and program results. Management control aspects including organizational structure, delegation of responsibilities and authorities, and administrative control were also examined. The licensee's Technical Specifications were used as the primary inspection criteria. An examination of the licensee's contractor personnel, equipment and procedures was not included in this inspection. These items will be examined during a subsequent inspection.

The division of responsibilities for conduct of the radiological and non-radiological portions of the environmental monitoring programs remains as described in a previous inspection report.[3/] In addition, Kewaunee personnel are responsible for conduct of the non-radiological effluent monitoring program, the meteorological program, and the fish impingement program.

3. Procedural Controls

The licensee's administrative and procedural controls for implementation of the effluent and environmental monitoring programs, to assure compliance with the Technical Specifications, were examined. This examination included a review of the assignment of responsibilities

3/ Ibid

and authorities for conduct of required activities within the licensee's organizational structure, and a review of licensee procedures to assure completion of requirements, identification and correction of deficiencies, and reporting of results.

a. Assignment of Responsibilities

At the time of this inspection, the responsibility for ensuring compliance with Appendix B Technical Specifications, Section 5.2.f, had not been delegated. (See Paragraph 5.b) With this exception, the licensee's assignments of responsibilities were found to be comprehensive and well understood by responsible licensee personnel.

b. Sample Collection and Analytical Procedures

The licensee possessed procedures for the sample collections and analyses performed by licensee personnel and the contractor laboratory. The activities carried out by licensee personnel had been subjected to a formal, documented review and approved by the appropriate staff. The licensee stated that the contractor procedures had been informally reviewed for completeness and adequacy. A formal audit of the contractor laboratory organization, facilities, techniques and programs to assure quality in radiological and non-radiological analyses was conducted by the Nuclear Safety Review and Audit Committee in January, 1974. The results of this audit were examined by the inspectors.

The licensee stated that an audit of the temperature monitoring program had been carried out by the Plant Operations Review Committee subsequent to the licensee's failure in May, 1974 to manually record two required hourly temperature readings. (See Paragraph 5.b) The licensee further stated that an audit of plant procedures for analysis of non-radiological chemical effluents had been conducted by the Nuclear Safety Review and Audit Committee on November 7 and 8, 1974. The inspectors did not examine the reports of the audits on temperature and chemical effluent monitoring procedures. These items will be examined further during a subsequent inspection.

c. De-icing Operation

The licensee's procedures for operation in the de-icing mode were examined. The licensee had not operated the de-icing system prior to this inspection.

d. Chemical Additions

The licensee possessed procedures for control, recording, and inventory of chemicals added to the secondary and condenser cooling water systems which were examined by the inspectors. This examination included a review of the licensee's procedures for chlorination. The licensee had not chlorinated prior to this inspection.

e. Action Levels Immediate Contractor Reporting

The licensee stated, during a previous inspection,[4/] their intention to establish laboratory reporting action levels. Such levels have been established for radiological environmental analyses and were examined by the inspectors. The licensee stated that the action levels are empirically based on experience with the pre-operational radiological monitoring program.

4. Analytical Capabilities

The licensee's methodology and control of the sample collection, preparation, analysis, and reporting functions were examined. This examination included a review of selected procedures for sample collection and analysis, instrument calibration and maintenance, and documentation of results. The installation and operability of selected monitoring stations were also examined.

a. Condenser Circulating Water Temperature Monitoring

Calibration checks of thermocouples recording circulating water intake and discharge temperatures were examined. The licensee stated that the initial accuracy of the thermocouples had been assumed by the licensee to meet the manufacturers specification of $\pm$ 1.5°F. Calibration checks were then used to provide information on the continuing capability to meet this specification. The NRC inspectors noted that this assumed accuracy of $\pm$ 1.5°F on both intake and discharge monitors results in an overall uncertainty greater than 1.5°F in the condenser delta T measurements. The licensee agreed to ascertain the actual accuracies of the thermocouples. This item will be resolved during a subsequent inspection.

4/ Ibid

The inspectors also examined the backup circulating water temperature monitoring system. The licensee possessed calibration data on the intake resistance temperature detectors (RTD's) used to provide the control room strip-chart readout of forebay temperatures. The backup discharge temperatures are read locally, if necessary, at the condenser discharge water boxes. The inspectors noted that these backup thermocouples are not located to the same depth in the discharge flow as the primary thermocouples. According to an analysis of the cross-sectional temperature variation in the water boxes performed by the licensee, the backup system readings may not be representative of the average discharge temperatures (i.e., indicate temperatures higher than actual average temperatures). The licensee agreed to utilize the more restrictive, secondary readout for demonstrating compliance with Technical Specification limits on delta T and rate of change of delta T in those instances when the primary thermocouples are inoperable. The licensee further stated that consideration would be given to relocating the backup thermocouples to improve the representativeness of temperature indication. The licensee stated that if the primary thermocouples are functional during times of computer unavailability, a local readout of the primary thermocouples is manually obtained by use of a resistance bridge and the backup system is not relied upon.

b. Environmental Air Sampling

Two environmental air sampling stations were examined during this inspection. It was noted that the charcoal traps for I-131 monitoring at both stations were mounted such that the air flow through the charcoal was in a horizontal direction. This allows the possibility of air channeling past the adsorber material. The licensee stated that all of the charcoal traps would be remounted to eliminate the channeling possibility, even though a rigid charcoal packing procedure has been used in an attempt to prevent air channeling.

One of the stations examined was not equipped with a vacuum guage. The licensee stated that the two stations which are equipped with diaphragm pumps rather than piston pumps do not have vacuum guages. The licensee was not able to provide information on the contractors method of correcting the flow meter for filter loading at these stations. This item will be examined further during a subsequent inspection.

c. Chemical Effluent Monitoring and Inventory

The licensee possessed calibration data for the instrumentation used in analysis of phosphate and solids concentrations in effluents. The balances used in determining suspended or dissolved solids concentrations were last calibrated in March, 1974 and the conductivity meter for dissolved solids evaluations undergoes a three point calibration check weekly. The inspectors examined the calibration curve for the spectrophotometer used in phosphates analysis. The licensee stated that a standard solution of the concentration range expected in each effluent sample is run prior to the sample analysis to establish the continuing validity of the calibration curve. The licensee also stated that the pH instrumentation is buffered prior to each use.

5. Implementation of the Monitoring Program

The results of the licensee's non-radiological effluent monitoring and radiological and non-radiological environmental monitoring programs for the final three quarters of 1973 and the first half of 1974 were selectively examined.

a. Chemical Effluent Monitoring and Inventory

No unusual results or trends were identified in the examination of selected chemical effluent monitoring and inventory records. No omissions of required analyses or inventory records were found. Review of the plant discharge record sheets did reveal, however, the existence of discharge sources which are not monitored for solid concentrations or pH. Only discharges from the waste neutralizer tank are addressed with limiting conditions for these parameters in the Technical Specifications. The inspectors informed the licensee that this information would be forwarded to the Divison of Reactor Licensing for their review.

The inspectors reviewed the circumstances of the January 3, 1975 report by the licensee that the quantity of total solids discharged by the station in 1974 had exceeded the technical specifications limit of 125 tons. The licensee stated that increases in regeneration were required by the change to all volatile treatment (AVT) for steam generator chemistry control beginning October 11, 1974 because of the greater blowdown requirement with AVT. A request for a change in annual total solids limits to 325 tons was submitted October 4, 1974, to the Division of Reactor Licensing. The licensee proposes to retain the present concentration limit of 2.0 mg/l. This change had not been approved by the Division of Reactor of Licensing at the time of this inspection. The licensee is in noncompliance with Section 2.2.2 of the Appendix B Technical Specifications. The total quantity of solids discharged in 1974 was determined to be 322,895 pounds.

b. Condenser Circulating Water Temperatures

The hourly computer log and trend sheets on which temperatures are reported were selectively examined. The inspectors noted that there is no circulating water delta T alarm nor is the delta T value directly recorded on the hourly log or trend sheets. (The four discharge and single intake temperatures are recorded.) The licensee stated that the present system and methodology for determining delta T and rate of change of delta T would be re-evaluated.

The inspectors examined the noncompliance item reported by the licensee in a letter dated May 20, 1974 in which the licensee reported that he had failed to obtain backup condenser intake and discharge temperatures on May 14, 1974, while the computer was out of service. The licensee's failure to monitor these temperatures at 3 p.m., and at 7 p.m., on May 14, 1974 was in noncompliance with Section 3.1.1 of the Environmental Technical Specifications (Appendix B). Corrective actions taken by the licensee to prevent recurrence were reviewed. The inspectors have no further questions concerning this item.

The Environmental Technical Specifications (Appendix B), Section 5.2.f require that all items of noncompliance with Appendix B requirements be reported in the routine Semi-Annual Operating Reports. The licensee had not reported the above item in the Semi-Annual Operating Report covering the period in which the deficiency occurred. The licensee is therefore, in noncompliance with Section 5.2.f. Discussions with a corporate representative of the licensee indicated that responsibility for assuring that the reporting requirement be met had not been formally delegated.

c. Radiological Environmental Monitoring

The inspectors found that normalized ambient gamma exposures as recorded by collocated systems of thermoluminescent dosimeters and ionization chambers differed by a rather constant relationship with the ionization chamber results approximately 70% greater. The licensee stated that the contract laboratory would be contacted in an effort to determine the reason for the disparity. No other unusual results or trends were identified in the data review. The inspectors did note one instance in which five consecutive results for one air sampling station were not available due to inoperability of the sampler. The licensee stated that the sampler in question had been rendered inoperable for several consecutive weeks by school children tampering with the sampling station equipment. The station

was finally relocated about 75 yards to make it much less accessible to such tampering. The licensee was informed that effort should be directed to limiting missed samplings due to sampler malfunctions to a single sampling interval. The licensee stated that a complete air sampling station is maintained for replacement of defective equipment, and a supply of parts is maintained for equipment repair.

d. Lake Bottom Organisms

The question of availability of sufficient quantities of lake bottom organisms to allow gamma analysis was discussed with corporate personnel responsible for administration of the contracted portion of the radiological environmental monitoring. The licensee's Technical Specifications contain an exemption from the requirement to perform this analysis if sufficient sample quantities are not available. The licensee representatives stated that the organisms continue to be unavailable in sufficient quantities. The contract laboratory personnel stated that bottom organisms have been available only in milligram quantities, while gram quantities are normally required for routine gamma analyses. The quantities available were stated to vary on the order of a factor of two throughout the year. The inspectors also discussed the method of collection, the area sampled, and the time consumed in taking the samples. The contractor personnel stated that a sample of a few milligrams size had been counted for a three day period on one occasion but specific nuclides were not identified. The inspectors have no further questions concerning this item at this time.

e. FSAR Revision

The inspectors noted that the Kewaunee FSAR had not been amended so as to bring it into agreement with the Technical Specifications concerning the environmental monitoring requirements. The licensee had stated during a previous inspection[5/] in July of 1973 that such an amendment would be requested. The licensee stated at the time of the present inspection that the appropriate corporate personnel had been notified and that the amendment would be forwarded to the Division of Reactor Licensing with the next submittal. This item will be examined further during a subsequent inspection.

5/ RO Inspection Report No. 050-305/73-16.

f. Non-Radiological Environmental Monitoring

Examination of summary data concerning offsite non-radiological environmental monitoring did not reveal any unusual results or trends. No omissions of required samplings or analyses were identified.

g. Fish Impingement Monitoring

The inspectors examined the status of the plant fish impingement monitoring program with respect to the environmental technical specifications deficiency reported by the licensee in a letter dated November 15, 1974. Section 4.1.1.b.1 of the Appendix B, Technical Specifications requires daily collection and recording of number, size and weight of all fish captured in the circulating water trash basket. Prior to November 11, 1974, the licensee had inspected the basket on a shift basis but quantified the fish only when the basket contents exceeded a predetermined level. A notice of violation was issued to the licensee concerning this item of noncompliance subsequent to a previous inspection.6/

Due to an apparent misunderstanding, the licensee continued quantifying the fish basket contents as needed, or a minimum of twice weekly, between November 12 and December 9, 1974. The licensee commenced daily fish counts on December 9, 1974 subsequent to further discussions with Division of Reactor Licensing personnel.

The licensee was therefore, in noncompliance with the Environmental Technical Specifications (Appendix B) Section 4.1.1.b.1 between November 12 and December 9, 1974.

6/ RO Inspection Report No. 050-305/74-15.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

APR 7 1975

Wisconsin Public Service Corporation
ATTN: Mr. E. W. James
Senior Vice President
Power Generation and
Engineering
P. O. Box 1200
Green Bay, Wisconsin 54305

Docket No. 50-305

Gentlemen:

This acknowledges your letter dated March 14, 1975, informing us of the steps you have taken with respect to the items of noncompliance which we brought to your attention in our letter dated February 21, 1975. We have no further questions or comments at this time regarding Item B.1. Your letter states that you have filed an application for an appropriate amendment to achieve compliance with Enforcement Action Item A. It should be understood that no licensed activity is in accord with NRC regulatory requirements until it is specifically authorized in an NRC licensee. We will examine these matters during a subsequent inspection and plan to discuss them further with you during the meeting scheduled for April 9, 1975.

Sincerely yours,

James G. Keppler
Regional Director

bcc w/ltr dtd 3/14/75:
IE Chief, FS&EB
IE:HQ (4)
Licensing (4)
Central Files
IE Files
PDR
Local PDR
NSIC
TIC
OGC, Beth, P-506A

WISCONSIN PUBLIC SERVICE CORPORATION

P.O. Box 1200, Green Bay, Wisconsin 54305

March 14, 1975

U. S. Nuclear Regulatory Commission
Directorate of Regulatory Operations
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Attention: Mr. Gaston Fiorelli, Chief
Operations Branch

Gentlemen:

Reference: Docket 50-305
Operating License DPR-43
Letter from Mr. G. Fiorelli to
Mr. E. W. James dated February 21, 1975

This response is submitted in answer to two apparent violations of NRC Regulations indicated and identified in IE Inspection Report No. 050-305/75-01.

The activities that appear to be in violation of NRC Regulations as identified below are in reference to Appendix B, Technical Specifications, Sections 2.2.2 and 5.2.f. The items are identified per Enforcement Action Item.

Enforcement Action Item A:

Contrary to Section 2.2.2 of the Appendix B Technical Specifications, total solids released from the waste neutralizing tank exceeded 125 tons for the year 1974.

Response

This violation of Environmental Technical Specification was reported to the AEC by written report number ETSR 74-4 dated January 3, 1975. As noted by the inspection report details, a request to change the annual total solids release limit from 125 tons to 325 tons was submitted to the division of Reactor Licensing on October 3, 1974, and to date, remains unapproved. Attachment A to my letter of October 3, 1974, to Mr. E. Case provides the justification for the required change and points out that since secondary water chemistry control has been shifted from coordinated phosphate control to all volatile treatment (AVT), phosphates are no longer released to the lake. Higher plant makeup water requirements, primarily due to the increased steam generator blowdown rates associated with AVT,

result in a higher annual solids released than was originally estimated. Since the existing limit is unrealistically low, the only solution to this problem, utilizing current plant design, short of shutting down the plant for several months last year was to request a change to the Technical Specifications.

The need to discharge additional solids into the lake in the form of neutralized salt solutions is directly related to the referenced change to AVT of the steam generator feedwater. This change was in the interest of environmental protection and for improved and safer operation of the steam generator. It must be noted that this requested increase in permissible total discharge of solids to the lake is not of radioactive material.

Enforcement Action Item B.1:

Contrary to Section 5.2.f of the Appendix B Technical Specifications, license failure to record hourly condenser discharge temperatures on two occasions on May 14, 1974, was not reported in the December 21, 1973 - June 30, 1974 Semi-Annual Operating Report.

Response

The violation of Environmental Technical Specifications, Section 3.1.1 of May 14, 1974, was reported to the AEC by written report number ETSR 74-1 dated May 20, 1974. This violation was not, however, included in the January 1, 1974 - June 30, 1974 Semi-Annual Operating Report. The omission was an oversight due primarily to the fact that this was our first Semi-Annual Report. Provisions have since been made to include a listing of all reportable incidents in the Semi-Annual Report (as can be seen in the July 1, 1974 - December 31, 1974 Semi-Annual Operating Report). This inclusion of any such violations in the Summary of Operations section of future operating reports will preclude similar omissions in subsequent reports.

The second paragraph of Section 3b. of the Report Details appears to be in error in that it states: "The licensee further stated that an audit of plant procedures for analysis of non-radiological chemical effluents had been conducted by the Nuclear Safety Review and Audit Committee on November 7 and 8, 1974." More correctly, the audit referred to in the Report Details was a special audit of the Health Physics and radiological effluent monitoring programs performed for the Nuclear Safety Review and Audit Committee by the Corporate Quality Assurance Group with assistance of an independent consultant.

This requested Tech Spec change has a direct bearing on proper and safe operation of our plant, and we are of the opinion that the more than

162 day period for Commission processing of this requested change is not justifiable. We have no means to expedite this change to the existing specification, nor can we safely comply with the existing specification other than by shutting down the Kewaunee Nuclear Power Plant. This course of action will have no technical justification.

Sincerely,

E. W. James
Senior Vice President
Power Generation & Engineering

EWJ:sna

cc - Dr. D. F. Knuth
Mr. Dwane Boyd