U-0757
L30-84(10-29)L
1A.120

ILLINOIS POWER COMPANY

CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

October 29, 1984

Docket No. 50-461

Mr. B. L. Siegel
NRC Clinton Licensing Project Manager
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Resolution of ASME Section III,
Subsection NF Boundary Jurisdiction

Dear Mr. Siegel:

Illinois Power (IP) is concerned about resolution of the code boundary jurisdiction between ASME Section III, Subsection NF, 1974 Edition, Summer 1974 Addenda and American Institute of Steel Construction (AISC) Standards as it was brought out in NRC IE Inspection Report Number 50-461/83-09, dated August 15, 1983.

IP responded to the Inspection Report in letter #U-10095 to Mr. J. G. Keppler, dated October 18, 1983 (attached). This letter presents IP's position which is similar to several other plants that were designed in the 1974 timeframe. IP received notification from NRC Region III, dated October 28, 1983, that this issue had been referred to the Office of Nuclear Reactor Regulation (NRR) for resolution.

Per request of Mr. Dave Terao, NRR Mechanica Engineering Branch (MEB), IP has been attempting to coordinate a meeting with the concerned parties (NRR-MEB, NRC-Region III, IP and S&L) to resolve this issue. NRR and Region III schedule conflicts have caused this meeting to be delayed several times. Efforts are currently underway to reschedule this meeting for November 20, 1984 in Chicago, Illinois. IP would greatly appreciate NRR and Region III support of this meeting in order to resolve this long-standing issue.

Sincerely yours,

F. A. Spangenberg

F. A. Spangenberg
Director - Nuclear Licensing
and Configuration
Nuclear Station Engienering

KAB/lm

Attachment

cc: Regional Administrator Region III, USNRC
NRC Resident Office
Illinois Department of Nuclear Safety

A001
1/1

Attachment

ILLINOIS POWER COMPANY

0981-L
U-10095

CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

October 18, 1983

Docket No. 50-461

Mr. James G. Keppler
Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Response to Notice of Violation dated August 15, 1983, NRC IE Inspection Report Number 50-461/83-09

Dear Mr. Keppler:

This letter is in response to your Notice of Violation dated August 15, 1983, Inspection Report Number 50-461/83-09. Illinois Power Company's response to the two items of noncompliance is as follows:

A. The Notice of Violation states in part:

"The Clinton Final Safety Analysis Report (FSAR), Table 3.2-4 states the applicable Code for Hangers, Snubbers, and Supports is ASME Section III, 1974 Edition, Summer 1974 Addenda. The Sargent & Lundy Design Specification for Component Supports (K2884), Paragraphs 112.1b and 301.8 state in summation that Component Supports for ASME Systems, as well as selected non-ASME Safety Related Systems, shall be designed and constructed in accordance with the requirements of ASME Section III Subsection NF. ASME Code Section III, Subsection NF, 1974 Edition, Articles NF-1110, b and c state in summation that Component Supports are those supports designed to transmit lateral or horizontal loads by weight or structural stability from the system piping to the load carrying building structure. ASME Code Section III, Subsection NF, 1974 Edition, Article NF 5000 Examination, states in summation that Nondestructive Examination (Inspection) of welds, etc., shall be performed in accordance with Section V and NF 5000.

"Contrary to the above, ASME Code Requirements were not translated to drawings, procedures, travelers or Quality Documentation. The licensee has classified, constructed, and installed thousands of large and small bore component support pipe hangers, to the American

Institute of Steel Construction (AISC) Standard rather than the applicable ASME Code as noted above. As a result, welding material traceability and complete inspection functions were not completed in accordance with the ASME Code."

I. Corrective Action Taken and the Results Achieved

Illinois Power Company has reviewed the pertinent design provisions, including the citations in the Notice of Violation, and believes that component support classification, construction, and inspection adequately comply with ASME requirements. Illinois Power Company offers additional references to improve the understanding of Clinton Power Station design of ASME piping supports.

FSAR Requirements

As stated in FSAR Section 3.2.5, "Table 3.2-4 presents ASME Code, Section III edition and addenda that apply to Quality Group A components" and is provided as a general and ready cross reference. Table 3.2-4 states that the applicable code for hangers, snubbers, and supports is ASME Section III, 1974 Edition through Summer 1974 Addenda. However, the more detailed requirements for piping supports (Balance of Plant) are contained in Section 3.9.3.4.2.1 which states:

> "Supports for ASME Class 1, 2, and 3 nuclear piping are designed in accordance with Subsection NF of ASME Section III 1974 including addenda through Summer 1974 with the exception of members classified as Supplementary Structural Steel." (emphasis added)

Specification Requirements

The quoted FSAR provisions are compatible with component support design. The Design Specification for Component Supports, K-2884, stated in summation that the component supports shall be designed and constructed in accordance with ASME Section III, subsection NF. However, to interpret this summation of specification K-2884, the definition of Component Supports must be included. The specification defines this term in Section 110.6:

> "Component Supports shall be construed to mean those metal supports which are designed to transmit loads from the pressure retaining barrier of the component to the load carrying building structure, whether concrete or structural steel." (emphasis added)

Design Drawing Requirements

Design drawings issued for construction implement the design provisions of FSAR Section 3.9.3.4.2.1 and K-2884 Section

112.1b. The assembly attached to the ASME pipe is classified ASME NF. These support drawings establish the boundary between the ASME NF portion and the AISC supplementary structural steel or structure. The ASME NF portion of the component support is classified, designed, constructed and inspected as safety-related in accordance with ASME Section III, 1974 Edition through Summer 1974 Addenda. The supplementary structural steel portion is classified, designed, constructed, and inspected as safety-related in accordance with the AISC standard.

Evaluation of the ASME Code application at locations in the structures, systems, and equipment indicates there is application latitude where it interfaces with other codes or standards. In the case of piping component supports, the design organization is face with selection of the point where the structure ends and the component support begins. Due to this latitude in application and the several alternatives available, the designer must establish an interface that satisfies ASME Code requirements. Since the selection of the structure/component support boundary is required for each support, a standard set of rules for establishing the boundary was developed. The rules developed for CPS provide a consistent design basis and satisfy ASME Code requirements. This position is supported by Subsections NCA-3220 (j) and NCA-3252 of ASME Code Section III and paragraph III-1-79-94 of the Section III Code Interpretation Book No. 5.

II. Corrective Action to be Taken to Avoid Further Noncompliance

Illinois Power's evaluation of this issue has shown that the design, construction, and inspection of component supports complies with ASME requirements. The FSAR and design documents apply the ASME Code Subsection NF-1110 definition of a component support, and the boundary between component support and structure established at CPS does not violate ASME Code requirements. However, Illinois Power's review of this issue shows that the CPS FSAR and the Design Specification, K-2884, are unclear with regard to the component support/structure boundary issue. The following corrective action shall be taken to correct and prevent misinterpretation regarding component support/structure boundary:

1. Table 3.2-4 will be revised to reference Section 3.9.3.4.2.1. This will clarify the Code applicability of component supports and supplementary structural steel.

2. Section 3.9.3.4.2.1 will be revised to clarify that supplementary structural steel is subject to the AISC standard.

3. Design Specification K-2884, Paragraph 112.1b will be revised to clarify the code applicability for component supports.

III. Date When Full Compliance Will Be Achieved

Illinois Power Company is in compliance as of this date.

* *

B. The Notice of Violation states in part:

"...corrective action was not taken by Illinois Power in regards to a known condition adverse to quality. Incomplete weld inspections and improper code applications on Component Support Pipe Hanger Drawings was not properly identified, documented, reported to management, and corrected in a timely manner."

I. Corrective Action Taken and the Results Achieved

The Notice of Violation contains two separate issues: incomplete weld inspection and improper code application. The alleged incomplete weld inspection was identified by Illinois Power Quality Assurance (IPQA) Surveillance Finding Y-10876-2, dated May 13, 1980. Improper code application was questioned by Baldwin Associates in Quality Assurance (QA) Audit Report I-229 of December 1982.

a. Finding Y-10876-2 was written against the installation of a particular ASME NF piping support and the associated supplementary structural steel. Installation travelers and design drawings used for construction indicate that welding was performed and inspected per design. In-process weld inspection was not required for work covered by AISC and, therefore, inspection during support fabrication was not performed. IPQA Surveillance Y-17515 dated September 22, 1983 has determined that no finding actually existed, and the surveillance has prescribed closure of Finding Y-10876-2.

The correct application of the ASME Code Section III, Subsection NF was questioned by surveillance finding Y-10876-2. Review of the applied inspection requirements indicated that this work was in accordance with the FSAR and design drawing requirements, subsequently, no further corrective action was felt necessary.

b. In December 1982 Baldwin Associates issued Audit Report I-229 identifying a construction code jurisdictional problem with two pipe hanger traveler packages. A

finding was issued and a concern was expressed to Illinois Power QA. The finding is being processed in accordance with established procedures. Illinois Power Company took the concern under review.

Illinois Power Company directed the Architect Engineer to further explain the proper code application. On January 14, 1983 the Architect Engineer's Field Project Manager issued a letter explaining the application of AISC and ASME codes. The concern from Audit I-229 was answered by this January 14, 1983 letter. No tracking of the concern was required and no further action was considered necessary.

II. Corrective Action to be Taken to Avoid Further Noncompliance

Investigation of surveillance finding Y-10876-2 found that the finding was not closed or being tracked as open in the existing surveillance finding tracking system. This finding was written shortly after the original surveillance finding system was established in early 1980. This early system did use tracking logs and left the responsibility of tracking open surveillance findings to the original surveyor. Due to this informal tracking system and a personnel change, this finding was not followed up and closed.

A surveillance is presently being performed to determine the extent of this problem. A search of past surveillances and findings written in the period February, 1980 through October, 1980 was performed and identified approximately eleven (11) findings that were not documented closed. IPQA is presently evaluating each of these findings for closure and the results will be documented in Surveillance Y-17566.

In October 1980, changes were made to the informal surveillance finding tracking system to assure adequate follow-up and closure of findings. This system now uses tracking logs with sequential numbers assigned to findings to assure proper tracking and closure of findings. These procedural enhancements are sufficient to prevent further noncompliance.

III. Date When Full Compliance Will Be Achieved

Illinois Power Company is in full compliance as of this date.

* *

I trust that our response is satisfactory to allow closure of the items of noncompliance identified in the Notice of Violation.

Sincerely yours,

D. P. Hall
Vice President

RDW/jf

cc: W. S. Little (Chief Engineering Branch 2, Region III)
Director, Office of I&E, Washington, D.C. 20555
NRC Resident Office
Illinois Department of Nuclear Safety

Attachment

ILLINOIS POWER COMPANY

0981-L
U-10095

CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

October 18, 1983

Docket No. 50-461

Mr. James G. Keppler
Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Subject: Response to Notice of Violation dated August 15, 1983, NRC IE Inspection Report Number 50-461/83-09

Dear Mr. Keppler:

This letter is in response to your Notice of Violation dated August 15, 1983, Inspection Report Number 50-461/83-09. Illinois Power Company's response to the two items of noncompliance is as follows:

A. The Notice of Violation states in part:

"The Clinton Final Safety Analysis Report (FSAR), Table 3.2-4 states the applicable Code for Hangers, Snubbers, and Supports is ASME Section III, 1974 Edition, Summer 1974 Addenda. The Sargent & Lundy Design Specification for Component Supports (K2884), Paragraphs 112.1b and 301.8 state in summation that Component Supports for ASME Systems, as well as selected non-ASME Safety Related Systems, shall be designed and constructed in accordance with the requirements of ASME Section III Subsection NF. ASME Code Section III, Subsection NF, 1974 Edition, Articles NF-1110, b and c state in summation that Component Supports are those supports designed to transmit lateral or horizontal loads by weight or structural stability from the system piping to the load carrying building structure. ASME Code Section III, Subsection NF, 1974 Edition, Article NF 5000 Examination, states in summation that Nondestructive Examination (Inspection) of welds, etc., shall be performed in accordance with Section V and NF 5000.

"Contrary to the above, ASME Code Requirements were not translated to drawings, procedures, travelers or Quality Documentation. The licensee has classified, constructed, and installed thousands of large and small bore component support pipe hangers, to the American

8311020327

Institute of Steel Construction (AISC) Standard rather than the applicable ASME Code as noted above. As a result, welding material traceability and complete inspection functions were not completed in accordance with the ASME Code."

I. Corrective Action Taken and the Results Achieved

Illinois Power Company has reviewed the pertinent design provisions, including the citations in the Notice of Violation, and believes that component support classification, construction, and inspection adequately comply with ASME requirements. Illinois Power Company offers additional references to improve the understanding of Clinton Power Station design of ASME piping supports.

FSAR Requirements

As stated in FSAR Section 3.2.5, "Table 3.2-4 presents ASME Code, Section III edition and addenda that apply to Quality Group A components" and is provided as a general and ready cross reference. Table 3.2-4 states that the applicable code for hangers, snubbers, and supports is ASME Section III, 1974 Edition through Summer 1974 Addenda. However, the more detailed requirements for piping supports (Balance of Plant) are contained in Section 3.9.3.4.2.1 which states:

> "Supports for ASME Class 1, 2, and 3 nuclear piping are designed in accordance with Subsection NF of ASME Section III 1974 including addenda through Summer 1974 with the exception of members classified as Supplementary Structural Steel." (emphasis added)

Specification Requirements

The quoted FSAR provisions are compatible with component support design. The Design Specification for Component Supports, K-2884, stated in summation that the component supports shall be designed and constructed in accordance with ASME Section III, subsection NF. However, to interpret this summation of specification K-2884, the definition of Component Supports must be included. The specification defines this term in Section 110.6:

> "Component Supports shall be construed to mean those metal supports which are designed to transmit loads from the pressure retaining barrier of the component to the load carrying building structure, whether concrete or structural steel." (emphasis added)

Design Drawing Requirements

Design drawings issued for construction implement the design provisions of FSAR Section 3.9.3.4.2.1 and K-2884 Section

112.1b. The assembly attached to the ASME pipe is classified ASME NF. These support drawings establish the boundary between the ASME NF portion and the AISC supplementary structural steel or structure. The ASME NF portion of the component support is classified, designed, constructed and inspected as safety-related in accordance with ASME Section III, 1974 Edition through Summer 1974 Addenda. The supplementary structural steel portion is classified, designed, constructed, and inspected as safety-related in accordance with the AISC standard.

Evaluation of the ASME Code application at locations in the structures, systems, and equipment indicates there is application latitude where it interfaces with other codes or standards. In the case of piping component supports, the design organization is faced with selection of the point where the structure ends and the component support begins. Due to this latitude in application and the several alternatives available, the designer must establish an interface that satisfies ASME Code requirements. Since the selection of the structure/component support boundary is required for each support, a standard set of rules for establishing the boundary was developed. The rules developed for CPS provide a consistent design basis and satisfy ASME Code requirements. This position is supported by Subsections NCA-3220 (j) and NCA-3252 of ASME Code Section III and paragraph III-1-79-94 of the Section III Code Interpretation Book No. 5.

II. Corrective Action to be Taken to Avoid Further Noncompliance

Illinois Power's evaluation of this issue has shown that the design, construction, and inspection of component supports complies with ASME requirements. The FSAR and design documents apply the ASME Code Subsection NF-1110 definition of a component support, and the boundary between component support and structure established at CPS does not violate ASME Code requirements. However, Illinois Power's review of this issue shows that the CPS FSAR and the Design Specification, K-2884, are unclear with regard to the component support/structure boundary issue. The following corrective action shall be taken to correct and prevent misinterpretation regarding component support/structure boundary:

1. Table 3.2-4 will be revised to reference Section 3.9.3.4.2.1. This will clarify the Code applicability of component supports and supplementary structural steel.

2. Section 3.9.3.4.2.1 will be revised to clarify that supplementary structural steel is subject to the AISC standard.

3. Design Specification K-2884, Paragraph 112.1b will be revised to clarify the code applicability for component supports.

III. Date When Full Compliance Will Be Achieved

Illinois Power Company is in compliance as of this date.

* *

B. The Notice of Violation states in part:

"...corrective action was not taken by Illinois Power in regards to a known condition adverse to quality. Incomplete weld inspections and improper code applications on Component Support Pipe Hanger Drawings was not properly identified, documented, reported to management, and corrected in a timely manner."

I. Corrective Action Taken and the Results Achieved

The Notice of Violation contains two separate issues: incomplete weld inspection and improper code application. The alleged incomplete weld inspection was identified by Illinois Power Quality Assurance (IPQA) Surveillance Finding Y-10876-2, dated May 13, 1980. Improper code application was questioned by Baldwin Associates in Quality Assurance (QA) Audit Report I-229 of December 1982.

a. Finding Y-10876-2 was written against the installation of a particular ASME NF piping support and the associated supplementary structural steel. Installation travelers and design drawings used for construction indicate that welding was performed and inspected per design. In-process weld inspection was not required for work covered by AISC and, therefore, inspection during support fabrication was not performed. IPQA Surveillance Y-17515 dated September 22, 1983 has determined that no finding actually existed, and the surveillance has prescribed closure of Finding Y-10876-2.

The correct application of the ASME Code Section III, Subsection NF was questioned by surveillance finding Y-10876-2. Review of the applied inspection requirements indicated that this work was in accordance with the FSAR and design drawing requirements, subsequently, no further corrective action was felt necessary.

b. In December 1982 Baldwin Associates issued Audit Report I-229 identifying a construction code jurisdictional problem with two pipe hanger traveler packages. A

finding was issued and a concern was expressed to Illinois Power QA. The finding is being processed in accordance with established procedures. Illinois Power Company took the concern under review.

Illinois Power Company directed the Architect Engineer to further explain the proper code application. On January 14, 1983 the Architect Engineer's Field Project Manager issued a letter explaining the application of AISC and ASME codes. The concern from Audit I-229 was answered by this January 14, 1983 letter. No tracking of the concern was required and no further action was considered necessary.

II. Corrective Action to be Taken to Avoid Further Noncompliance

Investigation of surveillance finding Y-10876-2 found that the finding was not closed or being tracked as open in the existing surveillance finding tracking system. This finding was written shortly after the original surveillance finding system was established in early 1980. This early system did use tracking logs and left the responsibility of tracking open surveillance findings to the original surveyor. Due to this informal tracking system and a personnel change, this finding was not followed up and closed.

A surveillance is presently being performed to determine the extent of this problem. A search of past surveillances and findings written in the period February, 1980 through October, 1980 was performed and identified approximately eleven (11) findings that were not documented closed. IPQA is presently evaluating each of these findings for closure and the results will be documented in Surveillance Y-17566.

In October 1980, changes were made to the informal surveillance finding tracking system to assure adequate follow-up and closure of findings. This system now uses tracking logs with sequential numbers assigned to findings to assure proper tracking and closure of findings. These procedural enhancements are sufficient to prevent further noncompliance.

III. Date When Full Compliance Will Be Achieved

Illinois Power Company is in full compliance as of this date.

* *

I trust that our response is satisfactory to allow closure of the items of noncompliance identified in the Notice of Violation.

Sincerely yours,

D. P. Hall
Vice President

RDW/jf

cc: W. S. Little (Chief Engineering Branch 2, Region III)
Director, Office of I&E, Washington, D.C. 20555
NRC Resident Office
Illinois Department of Nuclear Safety