Illinois Power Company
Clinton Power Station
P.O. Box 678
Clinton, IL 61727
Tel 217 935-6226
Fax 217 935-4632

J. Stephen Perry
Senior Vice President

ILLINOIS POWER

U-602045
L30-92(09-25)-LP
8G.120

September 25, 1992

10CFR50.54(f)

Docket No. 50-461

Document Control Desk
Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Response to Generic Letter 92-04: Resolution of the Issues Related to Reactor Vessel Water Level in BWRs Pursuant to 10 CFR 50.54(f)

The attachment provides the results of the Illinois Power (IP) review of the subject Generic Letter (GL) and includes IP's response to the requested actions contained in the GL.

I hereby affirm that the information in the attachment is correct to the best of my knowledge.

Sincerely yours,

R Edwy ass

J. S. Perry
Senior Vice President

TBE/mfm

Attachment

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

100119

A001
1/0

Subject: Illinois Power Response to Generic Letter 92-04 [Subject/Title: Resolution of the Issues Related to Reactor Vessel Water Level Instrumentation in BWRs Pursuant to 10CFR50.54(f)]

References:
1) Letter, BWROG-92072, G. J. Beck (BWROG) to W. T. Russell (NRC), "Reactor Vessel Water Level Indication", August 12, 1992.

2) BWROG Report, "BWR Reactor Vessel Water Level Instrumentation," August 28, 1992

3) Letter, BWROG-92082, G. J. Beck (BWROG) to Document Control Desk (NRC), "Reactor Vessel Water Level Instrumentation," September 24, 1992

The following information constitutes the Illinois Power (Clinton Power Station) response to the specific requested actions in Generic Letter 92-04.

Requested Action 1

1. In light of potential errors resulting from the effects of noncondensible gas, each licensee should determine:

   a. The impact of potential level indication errors on automatic safety system response during all licensing basis transients and accidents;

   b. The impact of potential level indication errors on operators' short and long term actions during and after all licensing basis accidents and transients;

   c. The impact of potential level indication errors on operator actions prescribed in emergency operating procedures or other affected procedures not covered in (b).

1.a The BWR Owners' Group (BWROG) provided to the NRC and each of the member utilities a copy of the report (Reference 2) on BWR Reactor Vessel Water Level Instrumentation, Revision 1, August 28, 1992. This report addresses the safety impact of potential water level indication errors on automatic system response during all licensing basis transients and accidents. This analysis is contained in Section 6.0, Safety Analysis, of the report and is summarized in Section 2.2, Plant Responses to Postulated Accident Scenarios. It is Illinois Power's position that the information in the BWROG report is applicable to the design of Clinton Power Station (CPS). This conclusion is based on our review of the report and the evaluation made by General Electric as contained in Attachment 2 to the report. Illinois Power recognizes that there are differences between the designs of BWR plants and systems; however, our review of the report and the Attachment 2 conclusions reinforce Illinois Power's position that the basic plant responses to the design basis transients and accident events (for CPS) are sufficiently described and bounded by the

report to obviate the need for additional, plant-unique, detailed reanalysis. Further, this conclusion is reinforced by the fact that Clinton Power Station was licensed to more conservative analytical bases than those that are accepted today by the NRC.

1.b The BWROG report addresses in section 6.9, Operator Responses, the operator actions that could be anticipated in response to potential water level indication errors. With respect to short term actions, the report notes in Section 6.0 that the automatic safety actions will be performed as necessary. For longer term actions, CPS Operations personnel have been provided the information contained in the BWROG Emergency Procedures Committee (EPC) recommendation letter of August 19, 1992. This information has been specifically provided to the plant operators and has served to sensitize the operators on the observable phenomena for water level indication during depressurization events. The information provided in the EPC letter is consistent with the CPS philosophy of conservative operation as it recommends the use of the lowest reading from the reactor water level channel(s) when level indication disparities exist.

This conservative philosophy concerning water level indication disparities is reinforced in operator training. Included in operator training are those conditions where water level cannot be determined based on the available level indication. For this condition, the CPS Emergency Operating Procedures (EOP) provide adequate guidance to the operators to restore and maintain adequate core cooling.

1.c As stated in section 6.9 of the report and the 1.b response above, plant operators have adequate guidance information in the present EOPs. However, the EPC is continuing to review the potential need for any additional guidance relating to the Emergency Procedure Guidelines (EPG) to further address the potential water level indication errors. Such review will take into account the information from the BWROG program of analysis and testing established in response to the water-level indication issue. Any further recommended changes to the EOP procedures or additional guidance will be addressed upon completion of the review or as such changes are identified. This issue, as well as the BWROG analysis and testing program, is further discussed in the BWROG letter (Reference 3) to the NRC, dated September 24, 1992.

Requested Action 2

2. Based upon the result of (1) above, each licensee should notify the NRC of short term actions taken, such as:

   a. Periodic monitoring of level instrumentation system leakage; and,

   b. Implementation of procedures and operator training to assure that potential level errors will not result in improper operator actions.

2.a Existing information about the CPS-specific configuration of the cold leg water level instrumentation has been reviewed, and additional verification will take place during the next refueling outage. The available information has been provided to the BWROG to be factored into the BWROG testing and

analysis program described in the BWROG August 12, 1992 letter (Reference 1) to the NRC and in the BWROG September 24, 1992 letter (Reference 3) to the NRC. The significance of different characteristics of the configuration of cold leg water level instrumentation (including the effect of leakage) will not be fully understood until the BWROG program test information is available.

The BWROG intends to share information gained from sampling the reference leg water concentration of noncondensible gases. This information potentially will assist in the correlation of plant data to the information coming from the BWROG test program.

At CPS, several actions are being or will be taken. Channel checks of the reactor water level instrumentation in accordance with the surveillance requirements of the CPS Technical Specifications will continue to be performed as required. In addition, when the plant is shut down for the next refueling outage (currently scheduled to begin September 26, 1993), reactor water level indication will be closely observed and will be recorded and tracked with the General Electric Transient Analysis Recording System (GETARS) to see if the "notching" phenomenon observed at some plants occurs at CPS during depressurization. Reactor water level instrument calibration procedures are currently being revised to include steps to check for leakage or evidence of leakage from the reference legs. Additional actions or methods for monitoring leakage or reference leg/condensing chamber performance are being investigated.

2.b As discussed in the response to 1.b and 1.c, Illinois Power is training CPS operators on the information contained in the letter from the EPC. The response to 1.b and 1.c provides further discussion regarding procedures and operator training to assure that potential level errors will not result in improper operator actions.

Requested Action 3

3. Each licensee should provide its plans and schedule for corrective actions, including any proposed hardware modifications necessary to ensure the level instrumentation system design is of high functional reliability for long term operation. Since this instrumentation plays an important role in plant safety and is required for both normal and accident conditions, the staff recommends that each utility implement its longer term actions to assure a level instrumentation system of high functional reliability at the first opportunity but prior to starting up after the next refueling outage commencing 3 months after the date of this letter.

3. Illinois Power endorses the BWROG plan originally provided in the BWROG letter to the NRC, dated August 12, 1992 (Reference 1). Illinois Power also reaffirms support of the BWROG plan, including the analysis and testing program, by endorsing the BWROG letter dated September 24, 1992 (Reference 3). If the BWROG program indicates that a plant modification is necessary to assure that the level instrumentation is of high functional reliability, a schedule for implementing such a modification will be provided to the NRC at that time.