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ILLINOIS POWER COMPANY



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U-10059

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

June 6, 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: Potential Deficiency 82-08  
10CFR50.55(e)  
Distribution Control for  
Instrument Data Sheets

Dear Mr. Keppler:

On September 2, 1982, Illinois Power notified Mr. R. Knop, NRC Region III, (Ref: IP memorandum Y-13906, 1605-L, dated September 2, 1982) of a potentially reportable deficiency concerning the lack of distribution control for instrument data sheets in use at Clinton Power Station (CPS). This initial notification was followed by three (3) interim reports (Ref: IP letter U-0560, D. P. Hall to J. G. Keppler, 1605-L, dated October 1, 1982, IP letter U-10012, D. P. Hall to J. G. Keppler, 1605-L, dated December 4, 1982, and IP letter U-10036, D. P. Hall to J. G. Keppler, 1605-L, dated March 21, 1983). Our investigation into this matter is complete, and this letter represents a final report.

#### STATEMENT OF POTENTIALLY REPORTABLE DEFICIENCY

As a result of an Illinois Power Quality Assurance Special Surveillance (Y-13104, 4138-L, dated September 3, 1982), it was determined that the method of controlling the distribution of instrument data sheets was inadequate. Subsequent investigation into this matter has determined that a significant deficiency that could have adversely affected the safe operation of CPS did not occur. On this basis, this matter is not considered reportable per 10CFR50.55(e). However, programmatic and hardware problems have been identified that require corrective action, and are described in this final report.

#### INVESTIGATION RESULTS/BACKGROUND

As a result of a Baldwin Associates (IP contractor) Quality Assurance Internal Audit (I-214) of instrumentation work, an audit finding was initiated that addressed a problem with certain temperature switches. These switches, although manufactured and purchased as safety-related under purchase specification K-2911, were receipt inspected as non-safety related and were being requisitioned for installation in safety related systems. This discrepancy was documented on Nonconformance Report (NCR) 6977.

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In resolving NCR 6977 it was established that the instrument data sheets originally issued by Sargent & Lundy (CPS Architect - Engineer) as part of the specification have not been kept current with subsequent revisions. Several cases were identified where revised instrument data sheets changed safety/seismic classifications of instruments. This problem was documented in a Baldwin Associates Corrective Action Request (CAR 094 dated June 4, 1982). An Illinois Power Quality Assurance Special Surveillance was performed in July, 1982 to evaluate the adequacy of document control for instrument data sheets. This surveillance found a lack of, or incorrect revisions of instrument data sheets in procurement specifications which could allow for errors in documentation and instrument requirements.

Investigation into the control of data sheets has found that instrument data sheets are issued by Sargent & Lundy (S&L) to the Baldwin Associates (BA) Document Control Center for insertion into instrument data sheet books. BA then distributes these sheets to individual bookholders using a transmittal letter; however the books were not treated as controlled copies. Additionally, it was found that the latest revision of instrument data sheets were not always incorporated into the purchase specifications. Only those revisions impacting the instrument vendor's scope were transmitted by Sargent & Lundy to the vendor. If no such impact existed, the data sheets were sent to individual book holders via the BA Document Control Center. The above conditions resulted in discrepancies between the data sheet revisions found in the purchase specification, and the instrument data sheet books distributed by the BA Document Control Center and held by individual book holders.

A review of the effects of using improperly controlled instrument data sheets is complete, and included the effects on procurement, receipt inspection, installation, and calibration of instruments under safety-related procurement specifications K-2801, K-2911, K-2928, and various bills of material contained in K-2882. The results of the review are as follows:

1. Nineteen (19) discrepancies were found between revisions of instrument data sheets transmitted by Sargent & Lundy to General Electric (CPS NSSS contractor) for procurement under K-2801 and data sheets that are filed in the BA Document Control Center. However, the difference in data sheet information was corrected through the standard design document review cycle in which S&L reviews documents released for manufacturing. It was determined that although the discrepancy existed, there was no adverse impact on the procurement and receipt inspection of the affected instruments and that the correct instruments were supplied to CPS. There are no outstanding instrument purchases at this time under K-2801.

2. Forty-nine (49) discrepancies were found between revisions of instrument data sheets furnished by Sargent & Lundy and used by Baldwin Associates for procurement of instruments under K-2882, (BA Phase II Piping, Misc. Equipment and Equipment Erection) bills of material 008, 009, 010, 023, and 024, and data sheets that are filed in the BA Document Control Center. These discrepancies occurred because instrument requirements were not revised when minor editorial changes were made. Each case was evaluated and found not to have an impact on the procurement and receipt inspection of the instruments.
3. No discrepancies were found between revisions of instrument data sheets furnished by Sargent & Lundy for procurement of instruments under K-2928 (Radiation Monitoring Equipment) and data sheets filed in the BA Document Control Center. All items procured by this specification were procured and receipt inspected to data sheets of revision "A", and no changes have been made to the data sheets since they were procured.
4. Thirty-two (32) discrepancies were found between revisions of instrument data sheets furnished by Sargent & Lundy for procurement of instruments under K-2911 (MCC Powers - HVAC Controls) and the latest revisions presently required for procurement. A review of the data sheets in question revealed that a total of forty-one (41)<sup>1</sup> instruments were affected:
  - a. thirty-three (33) non-nuclear safety related instruments were purchased to the incorrect data sheet revision and require rework or replacement. There is no interaction of these instruments with safety related functions.
  - b. eight (8) instruments (solenoid valves) were purchased to data sheets classified as non-1E. Those instruments were subsequently revised to 1E. The revisions were not identified during the procurement process and non-1E solenoids were supplied to CPS.

1 In Illinois Power's interim report of March 21, 1983 (letter U-10036), forty-three instruments were identified as affected by this discrepancy. Subsequent investigation has eliminated two (2) safety related instruments from this tabulation. These two (2) instruments were found to be procured as safety related class 1E.

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The root cause for the eight (8) instruments being procured to outdated data sheets was the method of transmitting data sheets from Sargent & Lundy to the HVAC Controls Contractor, MCC Powers Co. (K-2911 specification), by letter instead of controlled distribution methods. Corrective action is addressed later in this letter.

An evaluation was performed to determine the significance on plant safety, had the eight (8) incorrectly procured instruments gone undetected and placed into operation. This investigation evaluated various mechanical and electrical failure modes and resultant impact on plant safety and environment. This investigation concluded that plant and public safety would not have been affected by the failure of non-safety related solenoid valves used in class 1E circuits.

Investigation into the use of instrument data sheets for installation and inspection found that instrument data sheets are not used during installation by Baldwin Associates or MCC Powers Co. Therefore, the installation and supporting documentation have not been affected.

Investigation into instrument data sheets used for calibration found that Illinois Power Company's Startup organization calibrates CPS plant instruments. A review was performed of Startup's copy of the instrument data sheet book, and discrepancies were identified between this book and the master instrument data sheet book maintained in the Document Control Center. These discrepancies occurred as a result of uncontrolled distribution of instrument data sheets to the book holders. Each discrepancy was reviewed by IP Startup to determine the potential effect on the calibration of the instrument, and no impact was identified.

An investigation was also made to identify any other instrument related documents that lack distribution control. The investigation revealed that Instrument Set Point Logs are distributed in the same manner as instrument data sheets. These documents have not yet been used for instrument calibration activities at CPS, therefore no impact on plant hardware or documentation has occurred as a result of this problem. Similarly, Relay Setting Sheets were also not being issued and controlled properly. As these sheets have been used to set safety-related relays, an investigation into the use of these uncontrolled documents was performed. This investigation found that all relays previously set on safety related busses using uncontrolled setting sheets coincide with the correct settings specified on the now-controlled documents. Investigation into document control for instrument calibration data sheets issued by General Electric (G.E. Elementary Diagram Device Lists) found that the documents were being properly treated as "Controlled Copies" by the Baldwin Associates Document Control Center.



CORRECTIVE ACTION

The following actions have been taken to correct the problems identified above, and to prevent recurrence, as follows:

1. Instrument Data Sheet Books issued to individual bookholders have been collected and re-issued as "Controlled Copies".
2. Discrepancies between the master instrument data sheet book and those books held by the individual bookholders have been identified and noted in each book. These books are being corrected and brought up-to-date as Sargent & Lundy issues revised data sheets to Baldwin Associates for distribution. The index sheet for the individual instrument data sheet books has been corrected and distributed to the bookholders.
3. A computer information system for the instrument data sheets has been established by the Baldwin Associates Document Control Center.
4. The Instrument Setpoint Log sheets have been recalled and re-issued as "Controlled Copies".
5. Sargent & Lundy has revised their methods of issuing instrument data sheets. These methods include:
  - a. The issuance of revised data sheets by formal amendments or engineering change documents to active purchase specifications/bills of material.
  - b. After receipt inspection of the instruments (i.e. procurement specification no longer active) revised data sheets will continue to be transmitted by S&L to the Baldwin Associates Document Control Center for controlled distribution to bookholders.
  - c. For instruments provided and installed under contract K-2911, the specification instrument data sheets will be maintained current until system turnover, after which, revised data sheets will be transmitted by S&L to the Baldwin Associates Document Control Center for controlled distribution.
6. An Engineering Change Notice (ECN 3243) has been issued to incorporate into contract K-2911 the latest revisions of instrument data sheets. Additional ECNs will be issued as necessary to keep the specification current.

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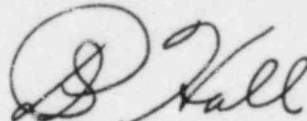
7. The Relay Setting Sheets have been recalled and re-issued as "Controlled Copies".
8. Baldwin Associates has written a Nonconformance Report (NCR 10020) to obtain disposition of the eight (8) instruments that were purchased incorrectly. These eight instruments will be repurchased in accordance with the latest revision of their associated data sheet.

SAFETY IMPLICATIONS/SIGNIFICANCE

This investigation revealed a deficiency in the implementation of the requirements of 10CFR50 Appendix B, Criterion VI, Document Control, with regards to the method by which instrument data sheets were issued for procurement and construction. This investigation also identified eight (8) safety related instruments that were purchased incorrectly as a result of inadequate distribution control of instrument data sheets. However, an evaluation of the eight incorrect instruments has shown that their use could not have affected adversely the safety of operations of CPS. As this condition resulted in no adverse safety implications, it is not considered reportable under the provisions of 10CFR50.55(e). However, actions are being taken to correct programmatic deficiencies and to prevent recurrence.

We trust that this final letter provides you sufficient information to perform an assessment of this issue and adequately describes our analysis and solutions.

Sincerely yours,



D. P. Hall  
Vice President

REC/lf

cc: NRC Resident Inspector  
Director, Office of I&E, Washington, DC 20555  
Illinois Department of Nuclear Safety  
Manager-Quality Assurance  
INFO Records Center

bcc: W. C. Gerstner, B-13  
J. H. MacKinnon, V-650  
W. Connell, V-905  
J. E. Findley, V-900  
J. D. Geier, F-33  
W. J. Harrington, V-500  
L. L. Idleman, A-10 (3 copies)  
T. F. Plunkett, T-31  
R. E. Campbell, V-905  
J. H. Greene, T-31  
J. E. Loomis, V-600  
D. K. Schopfer, V-750  
H. M. Sroka, S&L (Att: H. S. Taylor)  
J. S. Spencer, V-750  
G. E. Wuller, F-33  
CPS/DRC