

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/90030(DRSS)

Docket No. 50-255

License No. DPR-20

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Facility Name: Palisades Nuclear Generating Plant

Inspection At: Palisades Site, Covert, MI

Inspection Conducted: October 16-17, 1990 (Onsite)
Telephone discussions held on
October 19 and November 2, 1990

M. J. Schumacher
for
Inspector: J. E. House

11-6-90
Date

B. L. Hamrick
Assisted By: B. L. Hamrick

11-6-90
Date

M. C. Schumacher
Approved By: M. C. Schumacher, Chief
Radiological Controls and
Chemistry Section

11-6-90
Date

Inspection Summary

Inspection on October 16-17, 1990 (Report No. 50-255/90030(DRSS))

Areas Inspected: Special, announced inspection of circumstances surrounding licensee identified record falsification and followup actions taken.

Results: Licensee's investigation of the self identified falsification was adequate. The incident appeared to be confined to the one technician and involved only that technician's proficiency test samples. The licensee has initiated corrective actions in the technician testing program to reduce the possibility of a recurrence of this incident and to place increased emphasis on the importance of the laboratory quality assurance program. No violations or deviations were identified.

DETAILS

1. Persons Contacted

- ^{1,3}B. Baker, Chemistry Supervisor, CPCo
- E. Dehn, Senior Technician, CPCo
- W. Edwards, Laboratory Technician, CPCo
- ¹I. Gallagher, Laboratory Technician, CPCo
- ¹D. D. Hice, Chemistry Superintendent, CPCo
- ¹J. Kuemm, Licensing Administrator, CPCo
- ^{1,3}R. M. Rice, Operations Manager, CPCo
- ^{1,2,3}S. Rosel, Laboratory Technician, CPCo
- ^{1,2,3}M. Sullivan, Laboratory Performance Supervisor, CPCo
- ¹M. Theisen, Senior Laboratory Technician, CPCo
- ¹D. Vandewalle, Licensing and Safety Director, CPCo

The inspectors also interviewed other licensee personnel in the course of the inspection.

¹Denotes those present at the plant exit interview on October 17, 1990.

²Denotes those present during telephone discussions October 19, 1990.

³Denotes those present during telephone discussions November 2, 1990.

2. Event Summary

On October 9, 1990, the licensee reported to the NRC Resident Inspector that a chemistry technician had falsified his data for the chemistry technician testing program. The individual in question admitted that he had submitted data for proficiency samples that was not the result of his own analyses. The inspectors went on site October 16-17, 1990, to review and confirm the facts surrounding this incident.

3. Summary of Interviews with Chemistry Supervisors

a. Quality Assurance Program

The licensee conducts a testing program to check chemistry technician proficiency in analyzing non-radiological chemistry samples. This is a volunteer program not mandated by the NRC. Four times per year the licensee receives vendor supplied (NWT) quality control sample material which is used for the inter- and intra-laboratory cross check programs. The Chemistry Quality Assurance (QA) Supervisor or his designee prepares 50-100 ml aliquots of each unknown labelled with the technician's initials and places them in the laboratory for the technicians to pick up. Individual technicians receive several unknowns. Technicians are expected to analyze these unknowns and report the results on a "form 40" which is submitted to the Chemistry QA Supervisor for review. Each technician receives unknowns of the same concentration, a fact that is known to the technicians. The actual concentrations are known only to the chemistry supervisory staff.

Chemistry supervisors stated that they neither encourage nor discourage discussion concerning the results of the Quality Assurance analyses. They stated that there is usually some casual discussion of results among the technicians.

The technicians' results are reviewed by the Chemistry QA Supervisor using INPO acceptance criteria. Data not meeting the acceptance criteria is flagged to allow the technician to recheck the instrumentation and rerun the sample. If the second run produces results outside the acceptance criteria, the sample is run a third time under supervision. Should it be determined that the errant data is a result of the technician's analytic technique, the technician is referred for retraining.

b. Data Falsification

In June/July, 1990, the Chemistry QA Supervisor was delivering mail to a chemistry technician's file drawer when he saw several full sample bottles in the drawer. (All chemistry technicians have a personal file drawer (unlocked) in a file cabinet in the laboratory, where they often keep their data.) The full bottles were samples for which the supervisor knew the technician had submitted results. The Chemistry QA Supervisor contacted other managers including the Chemistry Supervisor and the Chemistry Superintendent to discuss his suspicion that this technician may have submitted data for analyses which he had not run. It was decided that when the next quarter's (Sept/Oct) Quality Assurance samples were distributed, the technician in question would receive deionized water in place of some of the NWT sample material.

During the Sept/Oct distribution of sample material, chemistry management substituted deionized water for two of the technician's eight samples, C890A (Chloride, Fluoride, Sulfate and Silica) intended for use on the Ion Chromatograph (IC) and C890C (Iron and Copper) intended for use on the Atomic Absorption Spectrophotometer (AAS). The Chemistry QA Supervisor stated that he chose these two samples because he believed they were the ones the technician would be "least likely to run" since the instrumentation required is more complicated and/or the procedures are more time consuming. The other technicians all received the vendor supplied sample material.

The suspect technician's results for the sample intended for IC analysis were similar to but not exactly the same as those reported by the other technicians. The inspectors reviewed his results as well as those submitted by the other technicians for the Sept/Oct analyses. He reported less than 5 ppb for chloride and fluoride as did all but one of the other technicians and he reported 15.7 for sulfate which was consistent with the values reported (14.5-16.5) by the others. For the second vial containing deionized water intended for AAS analyses, he reported 5.2 ppb (copper) and 34 (iron) which were within the ranges (copper 5.0-6.2 ppb and iron 31.2-35 ppb) reported by the other technicians.

Chemistry management stated that, when confronted, the technician in question admitted to reporting someone else's data as his own for those samples containing deionized water and that he obtained the data from discussions with other technicians. Chemistry management expressed doubts about this because the technician worked alone on the evening shift (3:30 pm to midnight) and normally had only 30 minutes at the beginning of his shift and again at the end of his shift to interact with other laboratory technicians; they stated that he may have obtained the data he submitted from other technicians' personal file drawers.

The chemistry supervisors each stated that there was no indication that other technicians had falsified quality assurance sample records, and that there was no indication that the technician in question nor any other technician had ever participated in falsification of plant sample records. The inspectors reviewed selected plant records including analysis of boron in Safety Injection Tanks; isotopic analyses of plant water systems and logbook entries versus multichannel analyzer printout. No inconsistencies were evident and in the boron analyses, the suspect technician had performed repeat analyses on samples that were close to but still inside administrative limits, which is a conservative and time consuming practice, and not required under the circumstances.

4. Summary of Interviews with Chemistry Laboratory Technicians

The inspectors interviewed six chemistry lab technicians, including the technician implicated in the data falsification. Most, but not all, indicated that the test results were casually discussed as a matter of general interest. These discussions were also said to be useful in identifying and understanding sources of error. Four technicians said there is some casual discussion of the results before, during and/or after the analyses; one denied ever discussing the results and one acknowledged discussing them after they had been submitted to management. Three technicians said they had discussed quality assurance results with the technician in question but did not recall specific occasions or details. They stated they had seen no indication that the technician in question was not running his own samples and submitting his own data but acknowledged that material in the technicians' file drawers were accessible to anyone. The interviewees stated they had never "dry labbed" data and claimed to have no knowledge of any other instances of data falsification involving either quality assurance samples or plant samples.

When questioned about time constraints on performing the quality assurance sample analyses, all the technicians felt that the time provided (three to four weeks) was adequate; they indicated there could be some trouble finding the instruments free during the day shift, but not on the evening shift (which the technician in question had been working for approximately one year). The technicians also agreed that in terms of workload, the evening shift was significantly easier than the day shift.

The technicians interviewed were unanimous in their opinion that present laboratory managers have placed increased emphasis on the importance of the overall laboratory quality assurance program and that this has had a positive impact on laboratory personnel.

5. Summary of the Interview with the Technician Involved in the Data Falsification

When the inspectors spoke to this technician he stated that he had run all the June/July 1990 analyses and submitted data during that quarter from his own analyses. He stated that the reason that his sample bottles were full after he had submitted his results was that he had used residual materials from other technicians' unknowns to run his analyses.

This technician stated that in the September/October test period, a technician from the day shift asked him to "take care of his (the other technician's) instrument, the Ion Chromatograph (IC,) and get the print-outs." This is a common occurrence during shift overlap. He said that in doing this he had the opportunity to look over the other technician's data and realized the other technician's numbers were much different than his own, so "rather than deal with it" he used the other technician's numbers. He later said, during this interview, that he saw at least one set of IC data (from a second technician) before running his own sample, but that he did run his own unknowns (fluoride, chloride and sulfate) on the ion chromatograph. However, he realized that he wasn't getting the right numbers and thought that the instrument wasn't working right. He stated he was "not that familiar with the instrument - not enough to troubleshoot it", and decided to use an average of the data belonging to the technicians whose data he had seen.

With regard to the analysis run on the AAS, this technician stated that he overheard a conversation between two technicians that indicated that the instrument was working well and that one of these technicians was analyzing a proficiency sample. After they left, he retrieved the instrument printout and reported this data as his own.

The technician claimed to have run all the required proficiency samples for June/July, 1990 and for all quarters prior to that, and submitted the results of his own analyses. He claims to have run all of his own samples for the Sept/Oct, 1990 proficiency analyses except for the metals (iron and copper) which should have been run on the AAS. He claimed to have submitted data from his own analyses for all but the chloride, fluoride and sulfate analyses which he claimed to have run on the IC and the metals analyses which he admitted not running. He stated that he ran the sample for the silica analysis and submitted his own data; however this sample was actually deionized water and should have produced results notably different from the results he submitted. His submitted results were similar to the results submitted by the other technicians who analyzed the vendor supplied sample material.

6. Corrective Actions

The licensee suspended the technician involved without pay for thirty days which is the most severe disciplinary action available to the licensee short of dismissal. Upon returning to work, he will be assigned to the closely supervised day shift for a period of time and then placed on regular shift rotation rather than being allowed to return to permanent afternoon shift. Licensee representatives stated the individual's capability of performing the required analyses would be verified when he returned to duty.

Licensee representatives stated that they were also implementing a number of corrective actions for the technician testing program including preparation of in-house unknowns of varying concentration which would avoid data sharing, and requiring technicians to include original instrument printout where available. Licensee representatives stated that they were still reviewing the incident and further corrective measures were being considered. One item being evaluated was the possible need for additional training for the technician.

7. Exit Interview

The scope and findings of the inspection were reviewed with licensee representatives (Section 1) at the conclusion of the inspection on October 17, 1990, and in telephone discussions held October 19 and November 2, 1990. The inspectors discussed circumstances surrounding the falsification incident, disciplinary action taken and licensee corrective actions. The inspectors emphasized the seriousness of this occurrence with regard to its impact on confidence in the integrity of laboratory data and indicated that a written response addressing the concerns of the inspection would be requested. During the November 2, 1990, telephone discussion, licensee representatives were informed that the matter would be discussed during the November 15, 1990 enforcement conference in Region III.

During the exit interview, the inspectors discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. Licensee representatives did not identify any such documents or processes as proprietary.