

DETAILS

1. Persons Contacted

- *R. Querio, Plant Superintendent, Byron Station
- *R. Ward, Assistant Plant Superintendent for Administration and Support Services
- J. Van Laere, Rad/Chem Supervisor
- *K. Weaver, Station Health Physicist
- B. Scott, Health Physicist
- *S. Barrett, Station Chemist
- D. Herrmann, Chemist
- *R. Flahive, Assistant Technical Staff Supervisor
- *R. Poche, Licensing Staff
- *W. Burkamper, Quality Assurance Supervisor
- *L. Johnson, Quality Assurance Engineer
- K. Lurkins, Chemistry Engineering Assistant
- D. Olsen, Chemistry Engineering Assistant

- *P. Brockman, NRC Resident Inspector

The inspector interviewed several other licensee personnel during the course of the inspection, including chemical and health physics personnel.

*Denotes those present at the plant exit on May 31, 1984.

2. Licensee Action on Previous Inspection Findings

- a. (Open) Open Item (50-454/83-14-02; 50-455/83-12-02): Resolution of anomalies and problems identified in the radiological environmental monitoring program (REMF). On April 25, 1984, the licensee submitted a report on a study concerning elevated gross beta concentrations of the cooling water discharged to the Rock River. This report indicated that naturally-occurring K-40 is the source of the elevated gross beta concentrations found in the water discharged from the sewage treatment plant. This water comes from deep wells onsite and is filtered and softened before entering the domestic (potable) water system. This closes out this part of the open item.

Regarding the second part of this open item, the inspector discussed with a licensee representative the revised formula for calculating the radioiodine concentration on charcoal adsorbers, provided by the licensee's contractor in his "Analytical Procedures Manual" (Revision 3, dated June 15, 1983). The licensee agreed to review this matter with the contractor and make any needed changes.

- b. (Closed) Open Item (50-454/83-14-03; 50-455/83-12-03): Development of procedures and a QA/QC program for radiochemistry sampling, counting, and analysis. The licensee revised his QA/QC procedure BAP-599-47 "Byron Station Chemistry Quality Control Program," to include radiochemistry. This procedure was approved by the Byron Onsite Review Board (BOSR) on February 1, 1984. Furthermore, BOSR approved the procedure BAP-599-51 "Byron Station Chemistry/

Radchemistry Performance Check Program" on the same date which includes QA/QC checks on the performance of the counting equipment to measure radioactivity.

- c. (Closed) Open Item (50-454/83-14-04; 50-455/83-12-04): Approval of procedures (Byron Program Descriptions (BPDs) and Byron Chemistry Descriptions (BCDs)) by BOSR. The inspector determined that these procedures have been revised and are listed as Byron Administrative Procedures (BAPs 599-1 through BAP 599-55) which have been approved by the licensee management. No problems were noted during review of these procedures.
- d. (Open) Open Item (50-454/83-46-02; 50-455/83-34-02): Licensee agreed to place four additional air samplers on or near the site by the end of 1983. On April 4, 1984, the licensee placed the four air samplers in the field. During a tour of these samplers, the inspector noted that three were operational and calibrated but the fourth one had no power connected to the air pump. This item remain open, pending operation of the fourth sampler.

3. Management Controls and Training

The inspector reviewed the management controls for implementation of the requirements of the preoperational REMP and determined that no changes to management controls as described in a previous inspection¹ have occurred. The licensee continues to utilize the services of Teledynes Isotopes, Inc., as contractor to conduct the sampling and analyses of environmental media.

The training program for Rad/Chem Technicians (RCTs) was also reviewed and includes on-the-job experience, supervisory observations and completion of a formal program to demonstrate proficiency in performing analytical measurements. Seven RCTs completed their training at the Braidwood Training Center and six new RCTs are currently being trained at the Center. At the present time, there are 22 RCTs which have completed their training and the RCT certification program as described in BCP-1930 CRT Certification Procedure. The staff also includes six chemists and two engineering assistants. The training program appears to be satisfactory.

No items of noncompliance or deviations were identified.

^{1/} Inspection Report Nos. 50-454/83-46; 50-455/83-34.

4. Implementation of the Radiological Environmental Monitoring Program (REMP)

The inspector reviewed the environmental monitoring reports covering CY 1983 and January - February 1984, prepared by the licensee's contractor, Teledynes Isotopes, Inc. No problems were noted in the results except for the elevated gross beta concentrations in the discharge of the cooling water to the Rock River. (See. Section 2.a.). All samples were collected and documented in the reports and the weekly collection data sheets accounted for all samples. These data sheets also included explanations for missing samples.

The licensee prepared REMP procedures BCS 12.1-1 through 12.1-13, 12.2-1, and 12.3-1 which include sampling of each environmental medium, land use census and participation in the EPA interlaboratory cross-check program to meet the technical specification requirements (T/S 3/4 12). All procedures have been approved by BOSR in March - May 1984. No problems were noted with them.

No items of noncompliance or deviations were identified.

5. The Licensee's Chemistry/Radiochemistry Program

The inspector reviewed the status of the chemistry/radiochemistry program implemented during rinsing and flushing tests. The licensee samples and analyzes according to the Byron Chemical Procedures. Review of data sheets and logs of surveillance forms indicated no problems regarding measurements for pH, conductivity and analysis of chloride, fluoride, sulfide, silica, turbidity, and total solids in samples from different component systems.

No technical weaknesses were noted during a tour of the hot and cold chemistry laboratory. Instrumentation had been calibrated according to the QC calibration schedule BCP 400-T-14. Reagents had labels with dates of preparation and expiration. No reagent was found with an expired date. In the counting room, the licensee performs daily background and performance checks on each counter and maintains control charts for each. The inspector noted that two out of three Ge (Li) detectors were out of service owing to amplifier and detector resolution problems. The licensee is planning to have the detectors repaired within the next several weeks. The licensee has another detector available for emergency purposes which can be used as a backup to the one presently in service.

The inspector reviewed the 1984 results of the QC program in which unknown nonradiological samples are provided the RCTs each six months and determined that the majority of RCTs obtained acceptable results. Those RCTs who do not obtain acceptable results the first time, are provided an additional unknown. Analyses are repeated until acceptable results are obtained.

The inspector reviewed records relating to several Quality Assurance Department audits of the chemistry group activities conducted during 1984 to date. No significant findings were identified and the three observations found were closed out in a timely manner.

No items of noncompliance or deviations were identified.

6. Exit Interview

The inspectors met with licensee representatives (Section 1) at the station on May 31, 1984 to discuss the scope and findings of the inspection. The licensee acknowledged the need to complete action on the remaining two open items so they can be closed out prior to issuance of the fuel load license.