

Official

FEB 21 1986

North Carolina Department of Human Services
ATTN: Mr. Dayne H. Brown, Chief
Radiation Protection Section
Division of Facility Services
Box 12200
Raleigh, NC 27605-2200

Gentlemen:

SUBJECT: ENVIRONMENTAL MONITORING CONTRACT

This letter is in reference to our visit of January 8-9, 1986, concerning the State of North Carolina's entering into a contract with the U. S. Nuclear Regulatory Commission to perform certain environmental monitoring activities around the McGuire, Harris and Brunswick Nuclear Power Plants.

Prior to developing a contract with the State, we are required to conduct an evaluation which we call an acceptance appraisal of the State's program in this area, this includes an assessment of facilities, equipment, program staffing and personnel qualifications. The purpose of this appraisal is to determine whether the State meets our acceptance criteria for an environmental monitoring contract. Our appraisal, the report of which is enclosed for your information, indicated your program meets our criteria.

We encourage your participation in this program and believe that it will be mutually beneficial. If you are interested in pursuing this matter, please contact M. William E. Cline of my staff (telephone: 404-331-2665).

Sincerely,

J. Philip Stohr, Director
Division of Radiation Safety
and Safeguards

Enclosure:
Acceptance Appraisal Report

bcc: Document Control Desk
State of North Carolina

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U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Acceptance Appraisal - State Contract

State: North Carolina

State Organizations Contacted:

Division of Facility Services, Radiation Protection Section

Division of Health Services, State Laboratory Public Health Section

Persons Contacted:

Mr. Dayne H. Brown, Chief, Radiation Protection Section
Dr. F. W. Fong, Head, Environmental Radiation Surveillance and Nuclear
Facilities Branch

Mr. Harry Newman, Environmental Engineer I, Environmental Radiation
Surveillance and Nuclear Facilities Branch

Ms. Shirley Bell, Supervisor, Radiation Surveillance Unit, Environmental
Sciences Branch

Appraisal at:

North Carolina Department of Human Resources

Division of Facility Services
Radiation Protection Section
Box 12200
Raleigh, NC 27605-2200

Appraisal Conducted:

January 8 and 9, 1986

Appraisal Staff:

W. E. Cline, Chief, Radiological Effluent and Chemistry Section,
EPRP Branch

S. S. Adamovitz, Radiation Specialist, REC Section, EPRP Branch

Appraisal Summary:

An appraisal of the capability of the State of North Carolina to perform NRC contract requirements for Environmental Monitoring was conducted. Information and data were gathered during meeting with State personnel and a visit of their laboratory. Details of the NRC Environmental Monitoring Contract requirements were discussed. Criteria, findings and evaluations are listed in Enclosure 1.

Based upon this evaluation, the State of North Carolina meets NRC criteria for an Environmental Monitoring Contract.

ENCLOSURE 1

Acceptance Appraisal State of North Carolina

Criteria

Organizational Structure:

Findings

The North Carolina Department of Human Resources, Division of Facility Services is divided into program sections, including the Radiation Protection Section, which carries out the radiological environmental monitoring program. Radiochemical analysis of environmental samples is performed by the Division of Health Services, State Laboratories Public Health Section. An organization chart is included as Table 1.

Current and proposed Budgets:

The current and proposed budgets appear adequate to cover routine expenses for replacement of counting and environmental monitoring equipment, laboratory supplies, travel, salaries and contingencies. Under the current budget the State has sufficient funds to operate the environmental monitoring program.

Management Support:

Management support of the radiological environmental program has been good and is expected to continue. Environmental sampling around the Brunswick, McGuire, and Harris Nuclear Facilities has already been initiated by the State and includes independent and split sampling with the licensee.

Staff:

The Radiation Protection Section is under the direction of Dayne Brown. Environmental monitoring is conducted by the Environmental Radiation Surveillance Branch of this Section. The Environmental Radiation Surveillance Branch is supervised by S. W. Fong, Ph.D and is staffed by a total of four, including one Environmental Engineer I, two Environmental Engineering Technician III's, and a Clerk Typist III. Radiochemical analysis of environmental samples is performed by the Division of Health Services, Radiation Surveillance Unit. This unit is under the direction of Shirley Bell and employs three chemists and one technician. Ms. S. Bell, an Analytical Chemist, provides day-to-day supervision and training of laboratory personnel in radiochemical analyses. In general, staffing in the environmental monitoring program and radiation laboratory is adequate to meet the increased workload that would be required by an NRC contract.

Training:

Staff members have attended courses conducted by private industry, the NRC, and other federal agencies including: Health Physics (Rockwell Corp.), Instrument Maintenance (Nuclear Data); Independent Measurements; Radiation Accident Assessment; Basic Radiological Health, and Laboratory QA/QC (EPA). Staff members have also attended seminars, short courses and classes offered by North Carolina State University and routinely participate in an ongoing in-house training program.

Internal Audits
and Quality
Control:

The Laboratory participates in the EPA Quality Assurance Crosscheck Program for all sample types and analyses except plutonium and tritium in urine. A review of these results for 1980 - 1985 indicated laboratory performance was acceptable. The laboratory has been evaluated by EPA and is certified under the Safe Drinking Water Act. Internal quality assurance is provided by: data comparison for split licensee/state environmental samples; analysis of spikes and blanks with each batch of samples, and routine performance checks for all instruments at regular intervals.

Facilities and
Equipment:

Although laboratory facilities are crowded and provide limited working area, they are adequate to meet contract requirements. Based on the responsibility and workload of the laboratory, additional space would be highly desirable.

Laboratory
Equipment:

The laboratory is adequately supplied with glassware, reagents, hot plates, pH meters, balances and other laboratory hardware to perform necessary chemical separations for analyses required by the Environmental Monitoring Contract. Sufficient funds are available and no problems are encountered in the purchase of necessary items for the laboratory.

Radiation
Measuring
Instrumentation:

The instrumentation is adequate to meet required sensitivities and perform analyses of environmental samples as specified in the NRC environmental monitoring program. Instrumentation includes: a Princeton Gamma-Tech Ge(Li) detector system (17.6%); a Princeton Gamma-Tech IG portable detector system (12%), a Harshaw 4x4 NaI detector, a Nuclear Data 6600 computer-based multichannel analyzer system, three low-background proportional alpha-beta counters manufactured by Tennelec and Eberline, a Searle-Analytic liquid scintillation counter, an Ortech alpha spectroscopy system and a

Panasonic TLD system with a Teledyne and an Eberline system as back-ups.

Calibration
Standard:

Mixed gamma standards are purchased from Amersham, New England Nuclear, and the National Bureau of Standards. Other isotopes are procured from EPA.

Field Equipment:

The State currently operates five low volume air samplers around each nuclear power plant within the state. The air samplers operate continuously for air particulate and iodine sample collection, and most are co-located with the licensee's.

Procedures:

Written procedures for laboratory analyses, regular environmental sampling and emergency sampling are available.

Summary and
Evaluation:

The State of North Carolina's Environmental Radiological Monitoring Program was reviewed and evaluated against the criteria established in NRC Manual Chapter 1415. Based upon this review and tour of their laboratory, the State of North Carolina meets NRC requirements and qualifies for an Environmental Monitoring Contract.

TABLE 1

North Carolina Department of
Human Resources

