



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

FEB 09 1993

Mr. Robert Hallisey  
Commonwealth of Massachusetts  
Department of Public Health  
Radiation Control Program  
305 South Street  
Jamaica Plain, Massachusetts 02130

Dear Mr. Hallisey:

Subject: NRC Contract No. NRC-28-83-606

On October 14, 1992, Ms. L. Peluso and I met with you and representatives of your staff in order to review your performance under the provisions of the subject contract. Enclosed for your information and records is a copy of the subject contract appraisal.

If you have any questions, please feel free to contact me at (215) 337-5214.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Kottan", is written over a horizontal line.

James Kottan  
Laboratory Specialist

Enclosure: As Stated

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Memo For: *AMS for* M. Miller, Chief, Effluents Radiation Protection Section  
From: J. Kottan, Laboratory Specialist  
Subject: Commonwealth of Massachusetts Contract Appraisal

On October 14, 1992, I met with representatives from the Massachusetts Department of Public Health, Radiation Control Program to review activities conducted under NRC Contract Number NRC-28-83-606. This contract provides for a cooperative program for measuring concentrations of radioactivity and radiation levels in the environment around the following selected NRC-licensed facilities within the Commonwealth: Yankee Rowe Atomic Power Station and Pilgrim Nuclear Power Station. Attendance at this meeting is presented in Attachment 1.

The following areas were discussed and reviewed.

#### **Organization**

Radiological environmental monitoring activities required by the NRC contract were conducted by the Department of Public Health, Radiation Control Program. The analysis of samples was also performed by Radiation Control Program personnel.

#### **Staffing**

The Radiation Control Program had two professional level staff who were primarily responsible for radiological environmental monitoring programs and the NRC contract. Both of the professional staff individuals had M.S. degrees and approximately 10 years of professional experience each. Although the current level of staffing was down from previous years, the Commonwealth has been able to maintain the NRC contract program. The Commonwealth has attracted and retained qualified personnel in support of the NRC contract.

#### **Management Support**

The Commonwealth of Massachusetts appeared to provide adequate management support for its radiation programs. Although the Radiation Control Program budget was flat over the previous several years, the Commonwealth has been able to maintain the radiological environmental monitoring program and, in fact, procure new equipment and maintain adequate supply inventories.

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### **Training**

Radiation Control Program personnel have, in the past, attended federally sponsored training in the areas of health physics, emergency planning, and radiochemistry. Although there are budget limitations, Radiation Control Program personnel have attended the annual meeting of the New England Radiation Health Committee, attended professional society meetings, and communicated with both industry and government laboratories regarding analytical methods.

### **Policies and Standards**

The Radiation Control Program, in addition to the NRC contract, performed analyses for the Environmental Protection Agency (EPA) Drinking Water Program, performed analyses for other Commonwealth Agencies, and maintained a radiation monitoring network around the Pilgrim facility. The Commonwealth appeared committed to maintaining the capability for radiological environmental monitoring sampling and analysis.

### **Communications**

In addition to the report to the NRC required by the contract, other communications between the Radiation Control Program and the NRC have been good. The Radiation Control Program did not publish a formal report of environmental radiation data which was generated as a result of the NRC contract. However, Radiation Control Program personnel stated that the data, as well as any other radiological environmental monitoring data would be made available to any individual requesting this data.

### **Facilities and Equipment**

The laboratory facilities consisted of several rooms off a common corridor. One room was used as a counting room, the other room as a laboratory with adjacent rooms used for offices. The laboratory was adequately equipped. Reagents, chemicals, and glassware were in adequate supply. Nuclear instrumentation included Ge and NaI gamma spectrometry systems, a liquid scintillation counter, and a low background gas flow proportional counter. The Radiation Control Program had made significant improvements in its counting capability including interfacing the NaI detector into an MCA, obtaining NaI-MCA software, the ongoing purchase of a new Ge gamma spectrometry system, the formalization of operating procedures, and the implementation of a results review procedure. These improvements were indicative of the Radiation Control Program's commitment to maintain the capability for radiological environmental sample analysis.

### **Quality Assurance**

The Radiation Control Program assured the quality of its data through a number of mechanisms including: samples analysis tracking forms and logs, the use of traceable standards, instrument control checks, and participation in the EPA interlaboratory crosscheck program. A review of

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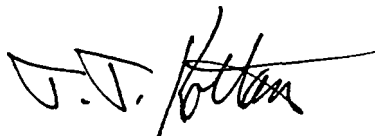
recent EPA crosscheck data indicated generally acceptable performance, although some of the gamma isotopic results appeared to be erratic. These erratic results may be due to the low concentration of radionuclides present in some of the crosscheck samples. The Radiation Control Program was in the process of procuring a new gamma spectrometry system, including a detector, which will alleviate these problems.

### **Performance**

The Radiation Control Program has been meeting the sampling, analysis, and reporting requirements of the NRC contract. The 1991 report submitted by the Radiation Control Program was thorough and complete. The Radiation Control Program has been responsive to NRC concerns and continues to upgrade its counting instrumentation even though the budget remained constrained.

### **Summary and Recommendations**

The Commonwealth of Massachusetts is meeting the sampling and analysis requirements of the NRC contract. The recent report submitted by the Commonwealth was thorough and complete. The Commonwealth continues to be responsive to NRC concerns, particularly with regard to upgrading the marginally adequate Ge detector for the gamma spectrometry system. The NRC will follow Commonwealth actions in this area. I recommend that this contract be continued.



J. J. Kottan  
Laboratory Specialist

Attachment: As Stated

**Attachment 1**

Attendance at the NRC - Commonwealth of Massachusetts meeting on October 14, 1992.

**Commonwealth of Massachusetts - Radiation Control Program**

R. Hallisey, Director  
T. O'Connell, Radiation Scientist  
T. Coulombe, Radiochemist

**U.S. Nuclear Regulatory Commission - Region I**

L. Peluso, Radiation Specialist  
J. Kottan, Laboratory Specialist