TENNESSEE VALLEY AUTHORITY

CHATTANOOGA. TENNESSEE 37401 25 102B Missionary Ridge Place

April 30, 1986

U.S. Nuclear Regulatory Commission, Region II Material Radiation Protection Section 101 Marietta Street, Suite 2900 Atlanta, Georgia 30323

Gentlemen:

REF: LETTER, CAROL CONNELL TO GARY R. MACDONALD, "REQUEST FOR ADDITIONAL INFORMATION CONCERNING A MATERIAL LICENSE APPLICATION," APRIL 1, 1986 (REFERENCE: 50959; 030-19093)

This refers to the referenced letter to clarify our March 25, 1986 application for the extension of license 41 41-08165-11. The following responses are to the numbered comments in your letter:

Response to Comment 1:

Ronald B. Maxwell is the Chief of TVA's Dosimetry and Offsite Support Staff. The Offsite Support Section (OSS) provides training, surveying, leak testing, emergency response, and similar services for this licensed activity. OSS currently consists of one manager, three professional health physicists, two health physics technicians, and one health physics technician trainee. This staff provides support for approximately two dozen NRC licensed activities throughout TVA, excluding nuclear plants. The professional health physicists have college degrees in health physics or related fields. Each health physicist has several years experience and has completed specialized courses in various aspects of health physics. Their resumes were attached to our March 25, 1986 letter. Our health physics technicians, who are trained within TVA, must pass TVA's Health Physics Technician Training Program taught at the Power Operations Training Center near Chattanooga, Tennessee. This training course lasts four months and is certified by INPO. Before a technician is allowed to perform surveys alone on this licensed activity, they must have at least two years experience. Technicians who may be hired from outside TVA are required to have equivalent training and experience. This training and experience is documented and retained in TVA's personnel files. Mr. Maxwell is listed in a similar manner on most of TVA's approximately two dozen material licenses. Mr. Maxwell and the Offsite Support Section have a combined experience of over 75 man-years in health physics.

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Response to Comment 2:

As explained above, members of TVA's Offsite Support Section provide training, perform radiological surveys and leak tests, emergency response and similar services that require extensive radiological expertise. Onsite individuals are responsible for day-to-day safety involving the sources. They perform routine maintenance on the gauges and would provide initial response in the event of an emergency.

Response to Comment 3:

The people (except R. B. Maxwell) listed under condition 12 of the license application and amendments are onsite individuals who are responsible on a daily basis for supervision of work concerning the sources and for assistance during a possible emergency. These people and the onsite instrument mechanics are the only workers who work on the nuclear gauges. These individuals receive training following the attached outline. The training lasts a minimum of two hours with time distributed approximately equally over the listed subjects. The training is provided by the individuals listed in our March 25, 1986 letter and are the same professionals described in response 1.

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Response to Comments 4 and 6:

The maintenance program on the nuclear gauges follows the manufacturer's written procedures, good work practices, and ALARA principles. On 3-year intervals the sources are leak tested, shutter operation is checked, and all labels are checked for clearness and legibility. Many of the gauges are in elevated locations. Labels that are accessible are checked during each 6-month source inventory. Plant personnel conduct source inventories. The Offsite Support Section leak tests the sources and will check shutter operation and labels every three years. Radiation detection instruments will be available at this time. The gauges are in locations where they are not exposed to high temperatures and corrosion.

Response to Comment 5:

A copy of the emergency response procedure is attached and is available on site. The Radiation Control Supervisor (RCS) mentioned in the emergency procedure is D. M. Ford, one of the supervisors currently listed under condition 12 of the license as amended in our October 29, 1981 letter. If we designate another individual as the RCS for these sources, he will be one of those listed under condition 12 of the application as amended.

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Response to Comment 7:

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When disposal of the sources becomes necessary, they will only be transferred to a licensee specifically authorized to possess this material.

If you have any questions or require additional information to process this renewal, please call G. R. MacDonald at FTS 858-5675 or 615-751-5675, 2S 98B Missionary Ridge Place, Chattanooga, Tennessee 37402-2801.

Sincerely,

J. B. Brellenthin, Supervisor Environmental Support

Enclosures

Radiological Safety Training Outline

- 1. Fundamental particles, the Nucleus, and electrons
- 2. Kinds of radiation, their ranges and interactions with matter
- 3. Radioactive decay
- 4. Sources of radiation
 - A. Natural
 - 1. Cosmic
 - 2. Earth earthen materials
 - 3. Food internal
 - B. Man-Made
- 5. Radiation dose units rad, millirad, rem, and roentgen
- 6. Biological effects of radiation
 - A. Genetic cancer
 - B. The dose effects relationship
 - C. Comparison with other risks
- 7. Dosimeters, TLD badge, and badge evaluation report used by TVA
- 8. ALARA concept
- 9. Prenatal indoctrination (Appendix to Regulatory Guide 8.13)
- 10. NRC regulations, the License, TVA regulations (<u>Radiation Protection</u> Plan, Procedures, etc.), the RSC/RCS and their responsibilities
- 11. Applications to the nuclear gauges used at Shawnee AFBC
 - A. Principles and fundamentals of radiation protection and good safety procedures related to the AFBC facility.
 - B. Routine procedures and emergency procedures.
 - C. Scope and extent of service operations.

Emergency Response Procedures

- The Radiation Control Supervisor is responsible for providing guidance to plant facility personnel and for obtaining necessary assistance (possibly including outside assistance) during radiological emergencies.
- 2 In case of a fire involving the nuclear gauges, the following precautions should be considered:
- 2.1 Evacuate all unnecessary personnel away from fire, smoke, ash, upwind if possible, and at a minimum distance of 20 feet.
- 2.2 Nuclear gauges are designed to be inherently safe and it is unlikely any firefighter would be significantly exposed to radiation while fighting fire near them. Under such circumstances no radiological restrictions should be placed on the firefighters during the process of fighting the fire.
- 2.3 Notify Radiological Health (RH) in Muscle Shoals at (205) 386-2991 during working hours, or during off hours, RH personnel home telephone numbers are as follows:

Elvin Kingery (205) 766-1084 Marty Jamieson (205) 767-1082 Allyn Van Patten (205) 729-8364 Jesse Coleman (205) 381-4059 Keith Rose (205) 764-8033

- 2.4 In the absence of instructions to the contrary from RH, do the following:
- 2.4.1 Barricade the accident area with a rope, preferably yellow and magenta radiation rope, and put radiation signs on the rope.
- 2.4.2 Keep all evacuated personnel away from nuclear gauges until RH personnel arrive to assess radiological hazards and provide additional guidance.
- 3 In case of any other emergency involving the source such as physical damage, loss or theft, contact RH as soon as possible at one of the phone numbers listed in 2.3 above.

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