Texas Radiation Advisory Board (TRAB) News Update

Pete and Karen Myers

TRAB's most recent meeting was held from 9:00 a.m. to 12:00 p.m. on Saturday, November 7, 2009, at the Department of State Health Services (DSHS) Moreton Building in Austin. During the TRAB meeting, the following committees reported:

- **Medical Committee**
  - Bob Emery, Vice President for Safety, Health, Environment, and Risk Management, UTHSC at Houston, gave a presentation entitled "Surge Capacity Volunteer Perspectives on a Field Training Exercise Specifically Designed to Emphasize Likely Roles During a Disaster Response." The article upon which the presentation was based is available in *Operational Radiation Safety*, the supplement to *Health Physics*, Vol. 97, No. 5, November 2009.
  - The committee members present heard comments received at public meetings on DSHS' proposed Laser Hair Removal Rule and provided their own comments on the proposed rule. The committee members present recommended the proposed rules be re-sent to several professional organizations to solicit their comments, even though DSHS previously had sent them the proposed rules so that comments could be provided during the public comment period that ends during March 2010.

- **Industrial, Uranium, and Waste Committee**
  - Mike Dunn, of the DSHS, provided a presentation about industrial uses of radioactive materials that have unique licensing issues.
  - Susan Jablonski, of the Texas Commission on Environmental Quality (TCEQ), provided a presentation about the status of licensing actions required by SB 1604 for waste disposal, reclamation, and mine licensing in Texas.
  - Alicia Diehl, of TCEQ, provided a presentation on Environmental Protection Agency (EPA) drinking water standards for radium-226 and how they are being implemented in Texas.

- **Interagency Information and Cooperation Committee**
  - The initial report from the Interagency Information Committee was discussed.
  - The committee members present heard reports from the agencies on the status of updating the Memorandum of Understanding between the agencies.

DSHS, TCEQ, and the Railroad Commission of Texas (RRC) program reports were provided to the TRAB. Selected items from each agency's program reports are included here:

DSHS Program Report to the TRAB

General Program Information: The National Radiation Protection Professionals Week is November 8–14, 2009. The week-long event to honor radiation protection professionals is set in November to celebrate the discovery of x-rays by Wilhelm Conrad Roentgen on November 8, 1895. Radiation protection professionals provide leadership in protecting the public from the hazards of radiation. The dedicated individuals at DSHS work diligently to ensure that radiation and radioactive materials are used safely and beneficially in thousands of different ways.

Radiation protection professionals are a vital safety net; they help to make sure that medical uses of radiation are safe, that industrial uses and products are safe, and that our homes and our country are safe. Their selfless professionalism ensures that people are able to safely enjoy the tremendous benefits of the uses of radiation in our society.

Mr. Richard Ratliff was the 2009 recipient of the Organization of Agreement States Hall of Fame Award.

Radiation Safety Licensing Branch

Radioactive Material Licensing Group:

- The Licensing Group sent a letter, along with Nuclear Regulatory Commission Informational Notice IN 2009-18, to licensees authorized to fix nuclear gauging devices. This informational notice stresses the importance of performing regular gauge shutter operational checks. It also serves as a reminder to report incidents involving shutter failures.
- The Licensing Group is planning for future changes to the way in which certain generally licensed devices are licensed. The exact impact is not known at this time, but we are confident that this change will bring an increase in licensing workload.
- The Licensing Group continues to prepare for the February 2010 Integrated Materials Performance Evaluation Program (IMPEP) Review.
- The Licensing Group currently has a medical and academic licensing program license reviewer position vacant.

Radiation Machine Source Group:

- The Laser Hair Removal Bill passed the 81st Legislature and became effective September 1, 2009. This bill requires the registration of facilities using laser and intense-pulsed light devices for hair removal under 25 Texas Administrative Code (TAC) §289.302. The bill also requires persons who perform laser hair removal procedures to apply for individual laser hair removal certificates. The department estimates 2,000 new facility registrations and 4,000 individuals who will require certification in the first year. Currently, the department is in the rulemaking process and anticipates adoption of these rules by mid-year 2010. Two of the five new positions for the laser hair program have successfully completed the audit process. The department anticipates posting and filling the positions by November 30, 2009.
- An environmental specialist position for the mammography certification program has been approved for a projected hiring date of January 2010. This position was part of the exceptional item request.

Radiation Policy, Standards, and Quality Assurance Group (PSQA):

- PSQA has filled the empty health physicist I position that has the responsibility for x-ray quality assurance review. A new health physicist I position is posted and this position will be responsible for the laser hair removal quality assurance review. Until inspections of laser hair removal facilities begin, this position will assist with rule development, updating the Web site, and further implementation of the program. This position is one of the positions allocated to the department as a result of HB 449.
- PSQA staff members continue to be heavily involved in the department's efforts to implement HB449 concerning laser hair removal. Three stakeholder meetings were held and approxi-

mately 75 people attended. Many comments have been received. A laser hair removal page has been added to the Web site and is intended to be the primary source of information for new developments with the laser hair removal program. Staff members are currently working on a frequently asked questions (FAQ) section for that page.

- Cindy Cardwell attended the annual Organization of Agreement State Meeting in Baton Rouge, LA. The meeting agenda contained a multitude of current topics specific to regulation of radioactive materials. Upcoming rulemaking projects were discussed, including new general license requirements, a new 10 CFR Part 37 dealing with all the security issues, and recommendations from the International Atomic Energy Agency (IAEA) for changes to the general radiation protection standards. Different programs' experiences with unusual regulatory situations and incidents were discussed.

Radiation Inspection Branch

Radioactive Materials (RAM) Inspections Group: An offer of employment has been made to an individual to fill the Beaumont regional RAM inspector position. This hiring effort should be complete by the time the TRAB meets in November. With the hiring of the Beaumont inspector, there will be two inspectors-in-training. One of those should be released as an independent inspector before the end of the year and will be responsible for performing inspections statewide rather than in a primary region. Nuclear Regulatory Commission inspection frequencies are being met for licensee inspections.

X-ray Inspections Group: The X-Ray Inspections Group has one vacancy for an x-ray inspector, based in Austin. Interviewing for this position will begin in the next few weeks. Presently, we still have one inspector-in-training. She should be signed off on the basic modalities by the end of November.

The Nationwide Evaluation of X-Ray Trends (NEXT) survey for cardiac interventional cases is continuing. Fifteen of the twenty-two surveys have been completed in Texas by the X-Ray Group. We hope to be finished in mid-January 2009.

The X-Ray Inspections Group continues to prepare for the start-up of inspections at laser hair removal facilities. Some initial laser training took place in October and additional training will be administered in November. This training will help us establish inspection protocols and forms to ensure that facilities are complying with the regulations.

In a state other than Texas, a recent safety investigation by the U.S. Food and Drug Administration (FDA) of radiation overexposures during brain perfusion CT imaging was conducted at one hospital. Over 200 patients at the particular facility received radiation doses that were approximately eight times the expected level and in some cases, this excessive dose resulted in hair loss and erythema. The overexposures were determined to be due to a patient protocol being improperly adjusted. Lisa Bruedigan, in her position as chair for the Conference of Radiation Control Program Directors (CRCPD) H-32 CT Committee, coordinated the comments from the committee and drafted the statement that the CRCPD board adopted, based on the committee's suggested protocol guidelines. The CRCPD's position statement may be found at http://www.crcpd.org/Positions_Resolutions/Healing_Arts/HA27.pdf.

Environmental Monitoring Group

Incident Investigation: On October 1, 2009, the agency was notified by a registrant that a patient had 13 fractions of a planned 25 fractions from a linear accelerator external beam radiation treatment delivered to the wrong breast before the error was caught. Prior to being referred for radiation treatment, the patient had undergone excisional biopsies from both breasts on the same day. However the pathology report erroneously stated that the right breast contained carcinoma, while the lesion in the left breast was benign. The left breast was malignant; yet, when the therapist read the mislabeled report and noted a recent scar on the right breast, the right breast was mistaken for the area requiring treatment, so that was the anatomy simulated. Next, because of the simulation and scar on the right breast, the dosimetrist was led to believe that the intent was to treat the right (benign) breast, so again the plan was developed for the wrong breast. Treatment began on September 15, 2009, and proceeded until the error was caught by the treating physician on October 1, 2009. By that time, the patient had received 13 fractions of 180 cGy for a total of 2,340 cGy to the right (benign) breast. The event was reported to the patient and referring physician. The registrant is reviewing its procedures to revise them in order to prevent similar future occurrences.

On September 21, 2009, a patient was undergoing intracavitary brachytherapy of the breast with an Ir-192 (9.6 Ci) source in a high dose rate after-loader (HDR) when the source failed to retract to the shielded position. The authorized physician user (APU) and licensed medical physicist (LMP) who were at the console immediately heard an audible alarm and then noticed that the retraction drum on the HDR was slipping. Several means were utilized to retract the source, including:

1. Pressing the stop button on the control panel
2. Pressing the stop button on the panel next to the entry door
3. Opening the treatment room door that is interlocked with the HDR
4. Manually retracting the source into the safe position by turning a hand wheel mounted on the side of the HDR (done by the LMP)

These efforts were unsuccessful in removing the stuck source from the catheter. The APU grabbed a 50cc syringe, withdrew the saline fluid from the applicator, and extracted the catheter, applicator, and source, placing the entire assembly inside the emergency shield adjacent to the machine. Total elapsed time was less than four minutes. The next day, the manufacturer's radiation safety officer and engineering staff developed a plan to recover the source. The APU's radiation dosimeter was immediately processed and was found to have received 720 millirem. The decision was made to halt treatment of the patient without consequences. The cause of the failure is still being investigated and did not result in enough exposure to the patient to meet medical event reporting criteria as described in 25 TAC §289.256.

Emergency Response: On September 3, 2009, five representatives from the radiation control program participated in a Department of Energy (DOE) -sponsored tabletop exercise at Baylor College of Medicine on Radiological Dispersal Device Exercises. The exercise scenario, provided by DOE, focused on the loss of a blood irradiator and potential consequences of its use in a terrorist attack.

At the Comanche Peak Nuclear Power Plant (CPNPP) a medical drill is scheduled for December 3, 2009, at Texas Health-Cleburne on new procedures being incorporated to their response plans. An eight-hour hospital training class is being suggested prior to the Federal Emergency Management Agency (FEMA) -evaluated drill for emergency response participants that will include some employees from Parkland Hospital. CPNPP and DSHS have committed to provide training for participants.

On July 16, 2009, at the South Texas Project (STP) State Operations Center, the DSHS met with GDEM—now Texas Division of Emergency Management (TDEM)—and STP to conduct orientation training for STP State Liaisons on state emergency response efforts, including DSHS Radiation Control Program (RCP) Emergency Response Team capabilities. STP began its Unit 1 Outage on October 1. (The reactor was shut down September 30, 2009). STP established a U.S. nuclear power industry record by operating a unit continuously between re-fuelings for a fifth consecutive time.

As of December 1, 2009, a new STP Emergency Operations Facility (EOF) will be activated. The new facility is located in Bay City. An alternate EOF is no longer required, since the Primary EOF is located outside of the 10-mile Emergency Planning Zone (EPZ). DSHS staff that would normally respond to the EOF in the event of an emergency will be touring the new facility on November 17. Also, the STP wants to change the current alert radios within the 10-mile EPZ with National Oceanic and Atmospheric Administration (NOAA) weather radios. With the new radios, STP can send out a list of codes that can be programmed into the NOAA weather radio to only allow alerts dealing with STP. STP submitted a Prompt Notification System (PNS) request to FEMA (through TDEM) and is still waiting on an approval. An STP siren upgrade is in the process to a battery back-up siren system. The goal is to have the brand new system in place by June 1, 2010.

The combined operating license Application for the Victoria County Station, according to our Exelon contacts, will be withdrawn or amended. DSHS has been told the company intends to pursue an Early Site Permit. None of this information has been added to the Nuclear Regulatory Commission (NRC) Web site, which tracks existing and anticipated new applications.

A new Pantex Reception Center in Amarillo is fully operational. The reception center, located at the Tri-State Fairgrounds is a part of Amarillo's emergency operations plan, supporting Pantex Plant. Radiological monitoring and decontamination for potentially contaminated evacuees utilizes two out of five existing mobile trailers in the Panhandle region. Three training sessions were completed for local firefighters, health department, and emergency management personnel who will staff the reception center in emergency exercises to maintain preparedness for an actual emergency.

<u>Mammography Inspections Group:</u>

- All mammography and remote inspection staff positions are filled.
- No mammography inspections are past due.
- 77 mammography inspections have been completed for FY10.
- In October, 535 due and past-due inspections were moved from the onsite due list to the remote inspection due list. The only remote inspections past due are those just moved from the onsite inspection due list. We anticipate performing approximately 200 inspections per month out of the Remote Program through June 2010.

- 136 remote inspections have been issued for FY10. 75 of those inspections are closed. The program is currently waiting on responses from the remaining 61 registrants.
- The remote inspectors primarily audit responses from registrants and never see the x-ray machines or facilities that are the subject of the inspections. In August, we began an initiative to train and certify both remote inspectors for x-ray inspections in an effort to improve their understanding of the machines and the testing procedures. Their initial training is almost complete.
- In April 2009, the agency received a complaint that a Dallas-Fort Worth area mammography facility had closed and their patients could no longer obtain their mammography records. After a short investigation, DSHS issued an emergency order to compel the owner to maintain the records and make them available to the former patients. The case was referred to the Attorney General following the owner's threat to destroy the records. With the assistance of the Attorney General's staff in Arlington, former patients began obtaining their previous mammograms from the owner last month.

TCEQ Program Report to the TRAB

Low-Level Radioactive Waste Disposal: On September 10, 2009, the executive director of the TCEQ signed the final license that authorizes the near-surface disposal of Class A, B, and C low-level radioactive waste from the Texas Compact, and federal facility-mixed, low-level radioactive waste from the federal government. Pre-construction licensed conditions will have to be completed and the executive director's written approval given before site construction can begin.

By-Product Material Disposal: On October 6, 2009, the executive director issued a letter addressed to Waste Control Specialists, LLC (WCS) notifying them that the Construction Certification review of the by-product waste disposal facility was complete, and emplacement of Fernald Canisters could begin. Prior to that, Amendment No. 3 had been signed on October 2, 2009, which authorized WCS to dispose of Fernald waste canisters only; waste emplacement in 3 tiers in the wastes cells instead of 2; and for re-design of red-bed bench within the disposal excavation to address seeping groundwater.

Uranium Mining: There are several pending uranium actions, including new applications for *in situ* mining. Technical review of the South Texas Mining Venture (STMV) *in situ* uranium application has been completed. After the application was completed review of the draft STMV license, the licensing package and executive director's preliminary recommendation for issuance will move to the chief clerk's office for noticing. A first Notice of Denial (NOD) letter for the Uranium Energy Corp (UEC)-Goliad *in situ* project went out on August 21, 2009. New radioactive materials and area permit applications from Signal Equities was received on October 29, 2009. Staff continue to monitor reclamation activities at Everest Exploration's Mt. Lucas sub-site and all of the Cogema sub-sites. Staff are working on groundwater and settlement issues at the three Title II impoundment sites.

Buried Waste: TCEQ continues to work on closing the historical buried radioactive waste sites that exist under TCEQ jurisdiction in Texas.

Memorandums of Understanding (MOUs): TCEQ's work with the Railroad Commission of Texas on possible amendment to the MOU between the two agencies is moving forward. The deputy executive director has approved the progression of work on drafting language to amend the MOU.

RRC Program Report

The staff is drafting amendments to the MOU between the RRC and the TCEQ concerning radioactive l materials. It includes identification of equipment used in exploration, production or disposal operations that contains or is contaminated with oil and gas Naturally Occurring Radioactive Materials (NORM) waste and the disposal of radioactive tracer materials. (Update since February– September 2009 Program Report: Meeting held November 5, 2009.)

Staff is also drafting a new MOU between the RRC and the DSHS. It implements and coordinates the requirements of the agencies in their licensing and permitting programs and clarifies each agency's jurisdiction over radioactive materials and radioactive NORM wastes associated with oil and gas production. (Update since February–September 2009 Program Report: Conference call on January 16, 2009.)

For the Surface Mining and Reclamation Division, Uranium Exploration regulations, the proposed repeal of existing rules and proposed adoption of several new rules, relating to Uranium Exploration and Surface Mining, under Title 16, Chapter 11, were published in the *Texas Register* on October 26, 2007. The comment period ended on November 26, 2007. The rules were automatically withdrawn in May 2008. Staff revised the draft proposed rules, which were posted on the Commission's Web site for informal comment. RRC held an informal meeting at RRC headquarters in Room 1-100 of the William B. Travis Building at 1701 N. Congress Ave., on Tuesday, December 9, 2008, at 1:30 p.m., to provide an opportunity to discuss and provide informal comments on the draft proposed rules. The rules were considered at conference on June 30, 2009. The Commission unanimously approved revisions to the rules and directed staff to go forward with the proposal. The rules will be brought back for further consideration at a later date. The proposed rules can be found at http://www.rrc.state.tx.us/rules/proposed.php

Low-Level Radioactive Waste Disposal Compact Commission Program Report

The Texas Low-Level Radioactive Waste Disposal Compact Commission ("Compact Commission") has received a $25,000 payment from the state of Vermont to compensate the Compact Commission for the state's *pro rata* share of the Compact Commission's expenses. Another payment of $25,000 is expected to be made in the coming weeks. Texas has been billed for its share of the Compact Commission's expenses, and has arranged to make an initial partial payment of $100,000 to cover travel expenses of the Compact Commission. Payment of Texas' remaining share of the expenses is being scheduled. Now that the Compact Commission has sufficient funds to transact business, the Compact Commission will resume work immediately.

A meeting of the Compact Commission is proposed for early December to take up and consider Export Petitions, and to promulgate rules for export and import of waste out of and in to the Texas Compact. A stakeholder meeting will be held in conjunction with the early December Compact Commissioner's meeting to gather input on these proposed rules. The exact date and time of the meeting will be announced by email and posted in the *Texas Register*.

Now that funding is secured, the Compact Commission will retain the services of an executive director and will implement a Web site for posting important information.

Questions about the operations of the Compact Commission should be directed to Margaret Henderson, Interim Executive Director, at 970-519-1588.

Roger Mulder, Director of the Pantex Program, State Energy Conservation Office, State Comptroller's Office, Report Summary for TRAB

Roger Mulder, serving as State's Liaison to the NRC, attended the NRC's State Liaison's meeting in Rockville, Maryland on August 18–20. There are currently two posted vacancies on the commission's five-member board and immediate past chairman, Dr. Dale Klein (also past chairman of TRAB), has signaled his intent to resign as soon as his replacement is confirmed. Dr. Klein will be returning to the University of Texas. The makeup of the new NRC will consist of three democrats and two republicans. Gregory Jazcko is the new chairman.

Much of the meeting focused on information flowing from NRC headquarters to the states. It was also noted that the NRC intends to continue its review of the Yucca Mountain license application, even though the current administration has signaled its intent to seek other options for the disposal of spent fuel and some DOE high-level waste from the tank farms at Hanford, Idaho National Lab, and the Savannah River site. Meanwhile, the DOE is sponsoring a blue ribbon panel to look at alternatives to Yucca Mountain. Some states have already sent in the names of suggested panelists.

The DOE continues to seek alternatives for disposing of waste from its cleanup program. DOE has listed WCS in Andrews County as a possible disposal site for mercury, low level waste (non-classified) and mixed waste, as well as a possible storage site for spent fuel. DOE is also seeking a disposal site for Greater than Class C waste. WCS has already stored and disposed of 11(e)(2) material from the Fernald Site in Ohio.

The Pantex Site has officially been declared a cleanup success story within DOE. Pantex is seeking a permit from the TCEQ that will establish a program to monitor the pump and treat program in the perched aquifer. The monitoring permit will also place new wells in the Ogallala Aquifer to enhance the current monitoring program.

The Waste Isolation Plant Program (WIPP) has been awarded stimulus funds to ramp up for additional transuranic shipments through Texas from the Oak Ridge Tennessee facility and the Savannah River Site facility in South Carolina. Those shipments travel through Texas en route to the WIPP facility near Carlsbad, New Mexico.