MINUTES

APPALACHIAN STATES LOW-LEVEL
RADIOACTIVE WASTE COMMISSION ANNUAL MEETING

November 6, 2015

CALL TO ORDER

In the absence of the chair and the vice-chair, Dave Allard was voted unanimously as chairman pro tem and called the meeting to order at 10:10 a.m.

INTRODUCTION AND ROLL CALL

Mr. Janati conducted the roll call, and the members introduced themselves. The attendees are listed below:

Members and Alternates

- Dave Allard, Alternate Member from Pennsylvania
- Frieda Fisher-Tyler, Alternate from Delaware
- Jason Frame, Member from West Virginia
- Edward Hammerberg, Alternate from Maryland
- Matthew Higgins, Alternate from Delaware
- Richard Roman, Alternate from Pennsylvania
- Martin Raniowski, Alternate Member, Pennsylvania (Via Telephone)
- Matthew Smith, Alternate Member, West Virginia
- Mary Beth Tung, Member from Maryland

Commission Staff

- Rich Janati, Administrator, PA DEP
- Timothy Anderson, Esquire, Pepper Hamilton
- Michelle Skjoldal, Esquire, Pepper Hamilton

Others Present

- Dave Ralicki, PA DEP
- James Barnhart, PA DEP
- Ben Seiber, PA DEP
- Cheryl Miller Laatsch, PA DEP

ADOPTION OR MODIFICATION OF THE AGENDA

There were no modifications to the proposed meeting agenda.

APPROVAL OF THE MINUTES OF THE PREVIOUS MEETING

Mr. Allard asked if any member had modifications, changes or clarifications with regard to the minutes of the November 5, 2014, annual meeting. Mr. Hammerberg said the reported amount of waste by activity for Delaware appears to be in error. There were no other comments, and the Commission approved the minutes. After the meeting was adjourned, Mr. Janati confirmed that the activity content reported for Delaware in 2014 is correct and, as such, the minutes stand approved as presented.

REPORT OF THE CHAIRMAN AND EXECUTIVE DIRECTOR

Treasurer's Report

Mr. Janati discussed the Treasurer's Report, which is a statement of revenues and expenditures for the Commission's Operating Fund during fiscal year (FY) 2014-2015. This fund is being invested by the Pennsylvania Treasury Department under the INVEST Program. Interest from the Operating Fund during this FY was $96. Actual expenses for this period totaled $26,325, which is lower than the budgeted amount by $3,375; however, the Commission's expenditures exceeded its revenues by $26,229. Mr. Janati said at the current rate of expenditures, the balance in the Operating Fund would last about seven to eight years. He said the Commission has not been collecting fees from the party states since 1998, when the siting process for a low-level radioactive waste (LLRW) disposal facility in Pennsylvania was suspended. Mr. Janati stated the Commission could exercise that option if the need arises.

Ms. Tung and Ms. Fisher inquired about the Commission's fee schedule for the party states. Mr. Janati explained that the Appalachian Compact Act (Act 1985-120) has established a formula for collection of fees from the party state that is based on the budget of the Commission. He said the fees for party states of MD, DE, and WV cannot exceed $100,000. At the request of Ms. Fisher, Mr. Janati committed to providing additional information regarding the party state fees.

Review of Independent Auditor's Report for FY 2014-15

Mr. Janati discussed the Independent Auditor's Report for FY 2014-2015. The audit was conducted by Greenawalt and Company in accordance with the Government Auditing Standards and included a review of the Commission's internal control structure, laws, and regulations. The audit concluded that there were no findings or items of non-compliance.

Mr. Janati said the balance sheet reflects the Commission's assets, consisting of "cash" and "investments." The checking account maintained by Citizens Bank reflects a cash balance of $21,325 as of June 30, 2015. The Commission's total net assets were $2,872,771 as of June 30, 2015. The balance sheet also reflects an amount of $171,086 as appropriated funds, including $10,000 for legal services and $161,086 for fiscal stabilization.

Mr. Janati explained that the surcharge fund is the money the Commission received from the Department of Energy (DOE) as part of incentives paid to regions and states to meet federally set milestones in the development of the regional LLRW disposal facilities. Mr. Anderson said the Commission met the first three milestones; the fourth one was litigated with the DOE about whether we met the milestone, and it was eventually settled. Mr. Janati said the money received from the DOE is being retained in a restricted fund with the INVEST Program. As of June 30, 2015, this fund had a balance of $2,680,360 and earned an interest amount of $5,658 during FY 2014-15. The audit report noted that the Commission was not involved in any litigation that could adversely affect its financial position.

The Commission voted to accept both the Treasurer's Report as well as the Independent Auditor's Report for FY 2014-15 as presented.

Status of Commercial LLRW Disposal Facilities and Recent Developments

Mr. Janati provided an overview of the LLRW disposal facility siting process in Pennsylvania, licensing requirements for land disposal of LLRW, classification of LLRW, federal and state laws pertaining to LLRW management and disposal, and the formation of LLRW regional compacts. He also provided an update on the status of commercial LLRW disposal facilities and recent developments involving these facilities.

Mr. Janati said there are currently four commercial LLRW disposal facilities in the United States. These facilities are Barnwell in South Carolina, the EnergySolutions facility in Utah, Richland in Washington, and the Waste Control Specialists (WCS) facility in Texas.

1. The Barnwell facility accepts all classes of LLRW from the three members of the Atlantic Compact (Connecticut, New Jersey and South Carolina). As of July 1, 2008, this facility no longer accepts LLRW from outside the Atlantic Compact. The current projected closure date for this facility is 2038.

2. The EnergySolutions Clive facility accepts Class A waste from all states except those in the Northwest and Rocky Mountain Compacts. This facility is not a regional facility and is regulated by the state of Utah. The current projected closure date for this facility is 2050.

3. The Richland facility is a regional facility and accepts all classes of LLRW, but only from the member states of the Northwest and Rocky Mountain Compacts. This facility continues to accept radium sources from the Appalachian Compact and other states and compacts. The current closure date for this facility is 2056.

4. The WCS facility is a regional facility for the Texas Compact (Texas and Vermont) and accepts all classes of LLRW from both commercial and federal facilities. In April 2012, the Texas Commission on Environmental Quality (TCEQ) authorized WCS to accept waste and begin disposal activities. Additionally, the Texas Compact Commission has established rules for the importation and exportation of LLRW into and out of the Texas region. Mr. Janati stated that Texas has recently approved several changes to the original license for the WCS facility, including removal of the annual limit on the volume of imported waste, an increase

in the radioactivity limit for the imported waste from 120,000 curies (Ci) to 275,000 Ci, and an increase in the total capacity of the commercial facility from 2.3 million cubic feet (ft^3) to 9 million ft^3. Additionally, disposal of large quantities of depleted uranium and Greater-Than-Class C waste is being considered by the WCS. The current projected closure date for this facility is 2045.

Information on LLRW Generation Information for the Appalachian Compact

Mr. Barnhart provided background information on the Department of Energy's (DOE) national database, the Manifest Information Management System (MIMS). He explained that the MIMS contains information on LLRW disposal at the existing commercial LLRW disposal facilities. He said for calendar year 2014, the MIMS database also includes waste that was disposed of at the WCS facility in Texas (in addition to the other three commercial disposal facilities).

During calendar year 2014, the Appalachian Compact generated about 128,442 ft^3 of LLRW. Pennsylvania disposed of about 56,040 ft^3, most of which was generated by the utility and industrial sectors. Maryland disposed of about 72,334ft^3, most of which was generated by government and utilities. The majority of government waste from Maryland is from the U.S. Department of Agriculture's Beltsville Agricultural Research Center. Mr. Hammerberg said the waste originated from the sites that operated during1940's through 1980's, and it is now being removed from this facility as part of cleanup activities. Delaware and West Virginia generated about 43 ft^3 and 25 ft^3, respectively. Almost all Class A waste generated within the compact was shipped to the EnergySolutions disposal facility in Clive, Utah. Mr. Barnhart also provided information on the activity of waste (curie) generated in the compact. The compact generated a total of about 1,473 Ci of waste. Pennsylvania disposed of about 1,213 Ci, and Maryland generated about 260 Ci. Delaware and West Virginia generated about 0.01 Ci and .002 Ci, respectively.

Mr. Barnhart provided a brief discussion of waste generation trends in the compact for the period of 1995 through 2014. He said historically, the nuclear power plants in the compact have been generating over 95% of the activity. He said as of July of 2008, the Barnwell disposal facility in South Carolina no longer accepts waste from outside the Atlantic Compact. This resulted in the storage of Class B and C wastes, mainly by the nuclear utilities in the Appalachian Compact. He said the total activity reported on the MIMS from 2009 through 2013 represents only Class A waste that was shipped to the Clive facility in Utah. In 2014, the reported activity also includes Class B waste that was disposed of at the WCS facility in Texas.

Mr. Barnhart presented a chart showing that, in 2014, 98.7% of the compact's LLRW by volume was disposed of at the Clive facility, and only 1.3% by volume was disposed of at the WCS facility. In comparison, 65.7% of the compact's LLRW by activity was disposed of at the WCS facility, and 34.3% by activity was disposed of at the Clive facility.

As it relates to the large amount of waste (by volume) generated by Maryland relative to the amount of waste from Pennsylvania, Mr. Anderson said the Commission looked into this matter previously for another federal facility in Maryland and adopted a resolution stating that Maryland is not expected to start developing a LLRW site. He said he will look into this further

considering the appropriate three-year period (including calendar year 2014) and will follow up at the next annual meeting with a resolution if needed.

UNFINISHED BUSINESS

Update on the NRC Low-Level Waste Program Activities

Mr. Janati provided an update on the NRC Low-Level Waste (LLW) Program Activities as follows:

10 CFR Part 61 Proposed Rule - Mr. Janati said this rule would impact LLRW disposal facilities that are regulated by the NRC and Agreement States. He stated that if there are no plans for the development of a LLRW disposal facility, Agreement States such as Pennsylvania would not be required to meet the NRC criteria for a compatible LLRW disposal program.

Mr. Janati noted that in the Staff Memorandum (SRM-SECY-13-0075) published on February 20, 2014, the Commission approved publication of the proposed rule and the draft guidance for public comment subject to several changes. These changes involve a period of performance, intruder assessment, Agreement State compatibility, defense-in-depth, and outreach.

The proposed rule and the draft guidance on conducting technical analyses were published in the Federal Register on March 26, 2015. The current NRC proposed schedule calls for the publication of the final rule by July of 2016 with an effective date of July 2017. Agreement States will have three years, by July 2020, to develop compatible regulations. Mr. Janati said he is a member of the LLW Forum Working Group on the 10 CFR Part 61 rulemaking. The working group submitted extensive comments to the NRC on the proposed rulemaking and will continue to monitor the NRC's activities in this area.

Revised Branch Technical Position (BTP) on Concentration Averaging - Mr. Janati explained that BTP provides guidance on complying with 10 CFR 61.55 (a) (8), “Determination of Concentrations in Waste as it applies to classification of waste for disposal. The draft revised BTP was published in June 2012 for comment, and the final revised BTP was issued in February 2015. Mr. Janati said the key provisions of the revised BTP involve improved readability, more realistic radiation exposure scenarios for sealed sources, blending of waste, and alternate approaches. He said the revised BTP has the potential to allow disposal of more LLRW, while maintaining public health and safety.

Regulatory Issue Summary (RIS) 2015-02 for Reporting of Phantom 4 Isotopes - Mr. Janati said the NRC issued this RIS to inform the licensees of the option to use indirect methods (the use of scaling factors, material accountability or computer codes) to determine the activity of tritium (H-3), carbon (C-14), technetium (Tc-99), and iodine-129 (I-129) reported on the uniform waste manifest when these radionuclides are present at a concentration less than the lower limit of detection (LLD). The RIS allows the current method of reporting LLD-based activity values on the uniform manifest, but it encourages the use of improved analytical methods to achieve a lower detection limit. The RIS also cautions that overestimation of disposal site inventory could

lead to premature loss of disposal capacity, while under-estimation of inventory could lead to public health and safety concerns.

NRC LLW Programmatic Assessment - Mr. Janati said on March 13, 2015, the NRC published a Request for Comment in the *Federal Register* to receive comments from various stakeholders on the draft Strategic Assessment Results. He said the last time NRC conducted a strategic assessment of the LLW Program was in 2007. NRC used the LLW strategic objective that was developed for 2007, including a list of 20 items, as a starting point and prepared an update list of 14 tasks (7 high priority tasks, 4 medium priority tasks, and 3 low priority tasks) based on the current LLW emerging issues and comments received from the stakeholders. The comment period expired on April 13, 2015. The next step is for the NRC staff to issue an information paper to the Commission with the staff's recommendations.

Election of Officers

The Commission members voted unanimously to elect Mary Beth Tung, Deputy Secretary for Operations, Maryland Department of the Environment, as the chair and Jason Frame, Chief, West Virginia Radiological Health Program, as the vice-chair of the Commission.

Mr. Janati reminded the Commission members that Ms. Tung was recently appointed by the former chair of the Commission, Barry Schoch, to represent the Appalachian Compact on the Low-Level Radioactive Waste Forum.

Adoption of FY 2015-16 Proposed Budget

Mr. Janati presented the proposed budget for FY 2016-17. He said the proposed budget is very similar to the approved budget for FY 2015-16 except that it reflects an increase of $100 for the audit and an increase of $100 for the annual meeting expenses. The Commission voted unanimously to approve the proposed budget of $30,200 for FY 2016-2017.

2016 Annual Meeting

The Commission decided to hold its next annual meeting on October 28, 2016, with an alternate date of November 4, 2016. The meeting will be held at the Hilton Hotel in Harrisburg, PA.

Update on PA DEP Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) Study Report

Mr. Allard presented an overview of the PA DEP Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM) Study Report. TENORM in solid waste is sometimes generated in oil and gas well development operations, but it is not LLRW. The solid waste radiation monitoring program put in place 15 years ago set the current regulatory framework addressing TENORM. Radon is a constituent of concern as it is part of the uranium decay chain and was addressed in the study as it related to concentration in natural gas and around facilities. Mr. Allard provided a summary of the study scope, site categories, schedule, sample types and analysis, sample and measurement data, and potential public/worker radiation

doses resulting from maximum exposure scenario calculation. Currently, no one is known to be exceeding the 100 millirem (mrem) per year public dose limit. An evaluation of TENORM waste disposal modeling and further studies of some wastewater treatment plants and pipeline cleaning operations are ongoing. This study and subsequent work will aid in formulating a TENORM in solid waste regulatory framework based on science. In addition to the Pennsylvania study, there are other state and national organizations working to address the fragmented approach in addressing the TENORM issue.

PUBLIC COMMENT

There were no members of the public in attendance.

ADJOURNMENT

Mr. Allard adjourned the meeting at approximately 12:46 p.m.