

MINUTES
PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
LOW-LEVEL WASTE ADVISORY COMMITTEE (LLWAC) MEETING

October 2, 2015

Attendance

LLWAC Members and Alternates

Edward Black, PA State Association of Township Commissioners
Kevin Bohner, University of Pittsburgh
Richard Fox, PA State Senate
Harry Garman, PA Society of Professional Engineers
Ernest Hanna, PA Chamber of Business and Industry
Jeff Leavey, Pennsylvania State University
Jo Ellen Litz, County Commissioners Association of PA
Jonathan Lutz, PA House of Representatives
Carole Rubley, League of Women Voters of PA
Mark Ross, Exelon Corporation (Vice-Chairperson)
Jeff Schmidt, PA Chapter of Sierra Club
Paul Scott, PA House of Representatives
Katherine Shelly (Chairperson), PA Farm Bureau

Department of Environmental Protection (DEP) Staff

David Allard, Bureau of Radiation Protection (BRP)
Rich Janati, BRP
Ben Seiber, BRP
Cheryl Miller, BRP
Ron Yost, BRP
Laura Edinger, Policy Office
Abbey Cadden, Policy Office
Keith Salador, Regulatory Counsel

Member of the Public

Craig Benson

Committee Business

Election of Officers

The LLWAC members voted unanimously to re-elect Katherine Shelly as Chairperson and elected Mark Ross as the new Vice-Chairperson.

Approval of the Meeting Minutes

The LLWAC members voted unanimously to approve the minutes of the October 2, 2014, annual meeting.

Next Annual Meeting

The committee decided to hold its next meeting on October 7, 2016, with an alternate date of September 28, 2016.

Increasing Transparency in the Policy Development Process and Announcing eComment

The Policy Office provided a brief presentation on revisions to DEP's Policy for Development and Publication of Technical Guidance and the new eComment tool. The revised policy creates a biannual schedule for publishing policy initiatives along with several other minor edits. The revisions also require all programs to explain how they engaged their advisory committees in the development of technical guidance. Additionally, the Policy Office presented the eComment tool to the committee. eComment allows interested parties to view regulations, policies, technical guidance, general permits, and other proposals for which the department is currently soliciting comments. It allows users to access the full text of these documents, submit comments, and view comments from others. There were no questions or comments on this presentation.

Status of Commercial LLRW Disposal Facilities and Recent Developments

Mr. Janati provided an overview of the low-level radioactive waste (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.

There are currently four (4) 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 (ft³) to 9 million ft³. 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.

Mr. Janati presented a slide showing the projected decommissioning dates for the Pennsylvania nuclear power plants. He said four power plants are expected to decommission during 2033 through 2036, and five plants are expected to decommission during 2042 through 2047. He said decommissioning would result in the generation of large quantities of low-activity waste requiring disposal. Mr. Janati said the majority of PA power plants have not yet made a decision on a decommissioning method for their respective power plants and, as such, it would be premature at this time to predict the amount of waste and disposal capacity needed for the compact during a particular timeframe. He stated that as long as the Appalachian Compact generators have access to the existing disposal facilities in Utah and Texas, there will not be a need to restart the Pennsylvania LLRW disposal facility siting process in the foreseeable future.

Update on the Nuclear Regulatory Commission (NRC) Low-Level Waste Program Activities

Mr. Janati provided an update on the NRC Low-Level Waste Program (LLW) 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 was 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 has 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 of 2012 for comment, and the final revised BTP was issued in February of 2015. Mr. Janati said the key provisions of the revised BTP involves 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 underestimation 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 updated 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.

Information on LLRW Generation Information for the Appalachian Compact

Mr. Janati provided background information on the Department of Energy's national database, the Manifest Information Management System (MIMS). The MIMS contains information on LLRW disposal at the current commercial LLRW disposal facilities.

During calendar year 2014, the Appalachian Compact generated about 128,442 ft³ of LLRW. Pennsylvania disposed of about 56,040 ft³, most of which was generated by the utility and industrial sectors. Maryland disposed of about 72,334ft³ of waste, most of which was generated by government and utilities. Delaware and West Virginia generated about 43 ft³ and 25 ft³, respectively. Almost all Class A waste generated within the compact was shipped to the EnergySolutions disposal facility in Clive, Utah. Mr. Janati also provided information on the radioactivity (curie) of waste generated in the compact. Pennsylvania disposed of about 1,213 Ci of waste, and Maryland generated about 270 Ci of waste. Delaware and West Virginia generated about 0.01 Ci and .002 Ci, respectively.

Mr. Janati provided a brief discussion of waste generation trends in the compact for the period of 1995 through 2014. As of July 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. The total activity reported in 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. Janati 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.

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 & 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. The committee members asked several questions about radon in homes that were outside the scope of the presentation. Mr. Allard answered them and, in the interest of time, committed to being available after the meeting for any additional radon questions.

Public Comment

During the TENORM Study presentation but in the more general context of residential radon prevalence, a member of the public asked if DEP has any radon data from groundwater or well waters. Mr. Allard said yes, but only a small number of wells are being tested. He also stated that radon testing is voluntary. Some homeowners with well water do indeed have their well water tested for radon, usually after they discover that they have high indoor radon levels.

Adjournment

The meeting was adjourned at approximately 12:33 p.m.