

High-Level Radioactive Waste Advisory Council
Minutes of the July 8, 2025 Meeting
In-Person at the Department of Mineral Resources in Bismarck and via Teams

Senator Dale Patten, Chairman, called the meeting to order at 10:04 a.m.

Chairman Patten welcomed everyone to the meeting.

Ed Murphy was asked to take the roll call.

Advisory Council attendees:

Representative Jon Nelson, District 14

Representative Dan Ruby, District 38

Senator Dale Patten, District 26

Senator Jeff Barta, District 43

Reice Haase, Dept. of Water Resources

Dave Glatt, Dept. of Environmental Quality

Ron Henke, NDDOT Director

Jana Hennessy, County Government Rep.

Mirek Petrovic, Agricultural Community Rep.

Ed Murphy, Geological Survey

Council members not in attendance: Chris Schilken (Department of Commerce), Jeb Williams (Department of Game and Fish), State Health Officer (seat vacant), Kenneth Vein (City Government Representative).

Additional people attending the meeting were: Featured Presenter Sean Schaub (Nuclear Industry Coordinator, Wyoming Energy Authority), Featured Presenter Dakota Kochie (Director of Government and External Relations, Nuclear Waste Management Organization), Bruce Kreft (Department of Game and Fish), Rich Garman (Director of Economic Development and Finance), David Stradinger (Department of Environmental Quality), Marina Gasser (Department of Mineral Resources), and Michael Whang (Department of Mineral Resources).

Following the roll call, Chairman Patten noted that a quorum was present. There was a brief introduction by each attendee acknowledging the new members on the Advisory Council.

The first order of business was to approve the November 8, 2024, meeting minutes. Chairman Patten asked for a motion to approve the November 2024 minutes. Representative Nelson made the motion, it was seconded by Ron Henke, and unanimously carried on a voice vote as written.

The second order of business was a presentation from Featured Speaker Sean Schaub, Nuclear Industry Coordinator, Wyoming Energy Authority (WEA). Sean Schaub opened with the mission of the WEA—to advocate, facilitate and advance Wyoming’s energy economy. The WEA began in 2020 by combining three existing offices together—infrastructure authority, pipeline authority, and state energy office—and is non-regulatory and also the point of contact for all energy related activities in the state. Several key points about Wyoming’s nuclear history are it is rooted in uranium production. Wyoming is the domestic leader in the production of uranium, mining over 250 million pounds to date. Wyoming has never had a commercial nuclear power reactor. However, today’s nuclear industry momentum is driven by firm, emissions-free baseload generation, increased electricity demands led by artificial intelligence and data center growth, and new forms of capital showing interest (e.g. major banks, World Bank, venture

capitalists). Two projects were shared to illustrate how WEA viewed industry momentum: TerraPower's sodium (sodium) project catalyzed nuclear interest in Wyoming, and BWX Technologies for small modular or micro nuclear reactors for trona (sodium carbonate, or baking soda) mines. TerraPower is a nuclear innovation company founded by Bill Gates. BWX Technologies Inc. is a company that supplies nuclear components and fuel internationally.

Chairman Patten thanked Sean Schaub for the presentation. Questions and comments followed.

The third order of business was a group discussion regarding recent legislation relating to an advanced nuclear power study, specifically HB 1025 Feasibility of Advanced Nuclear Power and SB 2159 relating to projects the State Energy Research Center (EERC) is permitted to pursue. SB 2159 essentially reauthorizes the EERC to conduct exploratory, transformational, and innovative research that advances future energy opportunities and benefits the state's economy and environment, lifting restrictions on researching nuclear energy applications. Mirek Petrovic voiced concerns over notification of any research the EERC conducts as well as temporary and long-term storage issues. Waste storage issues were also a concern of Representatives Dan Ruby and Jon Nelson. Chairman Patten reminded the Council that item four of SB 2159 requires approval by the Industrial Commission along with consultation with the High-Level Radioactive Waste Advisory Council and other groups noting there will be public engagement throughout the entire process. Ed Murphy commented that may require this council to meet more frequently.

The fourth order of business was a presentation by Dakota Kochie, Director of Government and External Relations, Nuclear Waste Management Organization (NWMO). The focus of Dakota Kochie's presentation was the NWMO's federal role and responsibility in Canada for the development of long-term management plans of its use of nuclear fuel. The NWMO was created in 2002 and annually reports to Canada's Parliament. The NWMO reports through their Minister of Natural Resources and the NWMO works with the U.S. Department of Energy, sharing best practices of radioactive waste. The situation in Canada differs from the U.S. in that the NWMO's primary job is to manage existing and future radioactive waste. Also in Canada, if you create the waste, you pay for the waste. According to Dakota Kochie, this differs from the U.S. where liability is placed on U.S. taxpayers (rate payers) and not the actual companies. Canada has benefitted from nuclear power for 70 years. Over those 70 years, Canada has accumulated approximately 3.5 million bundles of used fuel, enough used fuel bundles to fill nine hockey rinks from the surface of the ice to the top of the boards. Canada's plan for safe, long-term management of used nuclear fuel is to utilize a deep geological repository (DGR), where you would have a surface facility and three underground facilities (services area, placement rooms, and an excavated rock management area) that would span from 5 to 700 meters (16 to 2,296 feet). All the used fuel will be housed underground. The U.S. does have versions of repositories (e.g. The Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico). Kochie stated that Finland is in the lead of DGR pursuits and has a DGR already built and is awaiting regulatory approval to place the used fuel. Switzerland, France, and Canada are in second place in the pursuit of a DGR. In Canada, uranium is mined in Saskatchewan and processed in Ontario. The regulatory process for Canada's DGR project begins this year and is not expected to end before 2033 when construction is slated to begin. DGR operations are slated to begin in mid-2040s.

Chairman Patten thanked Dakota Kochie for the presentation and asked Dakota a question about the proximity of communities within the DGR site. Dakota said that the site is in a remote part of Ontario and

is not in a very populated area, but it is close to the well-traveled Trans-Canada Highway. Patten also asked if Canada distinguished between low-level, smaller reactor on-site waste and high-level waste. Dakota said the NWMO is responsible for intermediate and high-level waste and any other waste that results in the processing or production of radioactive waste. There is no reprocessing or recycling in Canada but any type of fuels that would come out of that would be the responsibility of the NMWO. Low-level waste (mop handles, papers that are in a reactor and in a nuclear facility, etc.) is the responsibility of the individual waste owners. Dakota said low-level waste can either be incinerated or stored for a number of years.

The next agenda item was a group discussion of interest expressed by industries with high energy needs. Rich Garmin (Commerce) noted the energy and reliability needs of crypto currency and data centers as well as their budget scales are very different. Garmin said they are getting five to eight calls per month on major data projects, and noted they are not the only ones getting those calls. Garmin said a lot of data companies are going directly to utility companies and larger communities like Grand Forks, Fargo, and Minot. Garmin also mentioned that the state can effectively produce energy, whether it's through natural gas, oil, or coal, and data centers are a big user of that energy, so we should collect energy here, convert it into electricity, and add value to the state instead of shipping the energy (e.g., natural gas, oil, coal) out. If there are plans to build new coal or nuclear plants, they would be long-term plans; however, the fastest energy to market is combined cycle. Other opportunities Garmin said there are smaller entities that they have talked to that are into edge computing (e.g., small processing facilities that might process agricultural data like drone data or crop data or hospital data). Instead of having edge computing data go to a major data center, can smaller processing centers handle those locally. From a geographical and climate standpoint, North Dakota provides a cool climate, reliable energy, and is business friendly. However, if we can't put all these things together, the big data companies are going to go with the next best thing because these big companies must build now. The biggest holdup for the state is providing those mega- and gigawatt resources that these big companies need right now. North Dakota has a lot of energy but data centers need electricity, so there is a recognized need to make electricity and lots of it. Garmin also mentioned the partnership of Talon Metals with Westmoreland Coal to process nickel and copper ore in Beulah and other opportunities for processing iron ore.

Chairman Patten led a discussion on future meeting dates and topics. October 22, 2025, was chosen as the next meeting date. Topics to include a refresher on radioactivity. Presentations to be solicited from the Nuclear Regulatory Commission as well as Ian Gilley, a nuclear engineer on a Commerce Fellowship and living in Sheyenne, ND.

Chairman Patten adjourned the meeting at 1:10 p.m.