**Present**

Earl Fordham, Executive Director/Chair, Washington and WA State Department of Health (WDOH) Deputy Director

Kristen Schwab, Alternate Executive Director, WDOH Waste Management Supervisor

Cheri Kennedy, Compact Admin

Caroline Moores, Idaho

Kaylie Holland, Alaska

Jeff Burright, Oregon

Doug Hansen, Utah

Carter Anderson, Montana

Brandi O’Brien, Wyoming

Daryn Yamada, Hawaii

Lilia Lopez, Compact Legal Counsel

**Presenters & Guests**

Mike Ault, General Manager, US Ecology

Theresa Howell, Washington Department of Ecology

Vern Rogers, Energy*Solutions*

Leonard Slosky, Executive Director, Rocky Mountain Compact

Dan Shrum, LLRW Forum

Eileen Kramer, WDOH Site Use Permit Administrator

Chris Shaw, Guest

**Opening**

Cheri Kennedy, NWIC Staff, began recording at 8:45. No travel reimbursement will be recorded this year.

Earl Fordham, Executive Direct and Compact Chair, convened the meeting at 9:00 am with introductions.

**Compact Business**

The committee unanimously approved the meeting minutes from June 19, 2019 held in Courtyard Portland Downtown/Convention Center, Portland, Oregon. Brian English motioned to approve the 2019 Meeting Minutes and Carter Anderson second the motion. No discussion was held.

**Party State Reports**

There was no comments, concerns or interests mentioned from committee state members or guests on LLRW issues.

**US Ecology Activities Overview**

Mike Ault, General Manager of US Ecology (USE) Richland, provided an overview on the USE Washington LLRW Site. Mike stated their goal is to be the premier provider of Comprehensive Environmental Services. Two (2) years ago, USE purchased the NRCG; which gave them a large footprint in Emergency Response. USE has Treatment, Recycling and Disposal activities, Industrial Services and Cleanup, Field Work activities and Emergency Response Services have come into effect within the last 3 years. As a company US Ecology has grown considerably. As a site, USE – Washington is Part 61 LLRW Facility and 1 of 4 in the United States that handles A/B/C waste. Located on 100 acres withing the Department of Energy (DOE) Hanford Reservation near Richland, WA and originally licensed in 1965. Once Compact law went into effect, it was accessible to the 11 Compact states including the Rocky Mountain Compact. US Ecology is rate-regulated by WA Utility and Transportation Commission. The types of waste accepted is Class A/B/C LLRW (10CFR 61.55), NARM Waste nationwide (includes Radium sources) and Exempt Waste nationwide. Active disposal trenches are Trench 19, Class A/B/C – Stable, Trench 18, Class A – Unstable and Trench 12, Class A – Unstable. The annual disposal volumes from 2013 to 2019 have varied in volume. In 2020 the volume was 15, 290.6 ft3. The Site has ample capacity to last through the life of the lease (2056). The 2021 disposal volumes to date are: LLRW, 8,036.49 ft3, NARM and Exempt, 0.00 ft3 totaling 8,036.49 ft3. The WDOH issued license expired 12/31/2018 with a renewal application submitted October 2018. License is currently in timely renewal with the State of Washington. WDOH is working on the renewal. US Ecology has an Environmental Monitoring program, Groundwater Sampling, Waste Receipt Process, incoming surveys and smears on vehicles and containers making sure all DOT requirements are met, flatbed box offloads, physical inspections for dose rate smears, some packages are opened and punched to make sure there’s no moisture. Mike explained the Class A/U waste placement, secondary containment, irradiated hardware handling and placement. The Lovelace Blood Irradiator was one of the 1st ones performed under the new NRC rules on concentration averaging and ability to show that certain disposals can go over their previous determined maximums.

**WA State Department of Ecology Overview**

Theresa Howell gave an overview on the Model Toxics Control Act (MTCA) Investigation update at US Ecology (USE). USE is the Commercial LLRW Disposal Facility in Benton County. It’s on approximate 100 acres of land leased to the State of Washington, subleased to USE and is located 23 miles Northwest (NW)of Richland, WA. The breakdown of responsibilities at USE is the commercial disposal facility operators, the regulators (DOH) who handle the operations and closure and Earl Fordham as the Executive Director and Chair of the NWIC. USE manages the lease for the state and oversees remediation of chemical contaminants under MTCA. Some of the disposal history on the site;

1965: site operations began,

1970: Chemical trench closed,

1980: cardboard packaging was no longer accepted, and metal boxes and metal drums were required,

1983: NRC adopts CFR Part 61 for regulating commercial LLRW sites,

1985: hazardous scintillation fluids were banned from disposal,

1986: oils and chelates required to be solidified,

1987: wooden boxes were prohibited,

1993: the preferred packaging type changed from drums to metal boxes,

1997: absorbed liquids required to be disposed in Engineered Concrete Barriers (ECBs),

1999: absorbed liquids banned from disposal; liquids were required to be solidified,

2001: the site was listed on the states hazardous site list and that’s when MTCA came into play.

The MTCA work began in the late 1990’s when hazardous (non-radioactive) chemicals were detected above state cleanup limits in groundwater and soil gas samples. US Ecology experienced unique site challenges for the MTCA investigation such as costly drilling due to site configuration, Yakama Nation wanted to have material in trenches characterized and hard-to-remove source material (NAPL). Some of the history from the regulatory perspective is the site had to meet NRC closure requirements based on modeling forecasts, WDOH required a cover be placed over the older closed trenches. In 2010, the Yakama Nation and Heart of America sued to stop the cover based on a position that delaying work until a MTCA decision was made would be more appropriate, and the 2004 SEPA EIS did not compare the cancer risk from MTCA-regulated constituents for placement of the cover. The 2015 legislature required that a consultant study already underway be subject to a proviso, and the state agreed to delay the cover pending determination of how health and cancer risks will be addressed via the MTCA process. In December 2017, Ecology issued a request for proposal to contractors, in support of the budge proviso. It was withdrawn at the request of the Yakama Nation. Study conclusions and Agency decisions and recommendations were part of the reason the Yakama Nation requested more active participation, and the state worked with them in 2017 to establish this participation. In 2020, the court dismissed the lawsuit, but Ecology and WDOH are still working collaboratively with Yakama Nation. Ecology let a contract in early 2021 for a contractor to complete a data gaps report, cost estimate, and update work plans with a goal of beginning field work for the MTCA investigation in late 2021. Ecology received the data gaps report in May 2021 and is working with Yakama Nation and the contractor to resolve comments. The next steps are: In summer 2021, complete ground penetrating radar (GPR) and electromagnetic surveys to better inform well placement, complete work plans and cost estimates to support additional RI field work and draft Cleanup Action Plan. The Data Gaps Report recommendations:

* for Soil Vapor Data Gaps, install soil vapor monitoring wells near where elevated VOCs were indicated in the past, possible soil vapor wells between trenches
* for Groundwater Data Gaps: install four more GW monitoring wells, coordinate with Hanford Site GW monitoring program for off-site monitoring
* for Soil Data Gaps: soil sample collecting during well drilling and likely run a SVE pilot test to fill remedial alternatives data gaps
* For the Remedy Selection a consultant will evaluate technologies in addition to those screened in the feasibility study (FS), recommended technologies can be included in revised FS; SVE treatability test will improve certainty of cleanup cost estimate which is approximate $58M

The investigation path forward is to perform non-invasive site characterization to improve cost estimate (GPR and electromagnetic techniques), resolve legal questions on waste disposed in trenches, write cost estimate and field implementation plans, drill wells and run SVE treatability test, collect additional data as needed, update FS, write EIS supplement in parallel and write cleanup action plan will go out to the public for comment. Earl asked how long will it take to complete the draft EIS study and cleanup action plan? Theresa said the schedule is about 3 years out but that really depends on how long the run the SVE treatability test. Most of the documentation can be written in conjunction with the SVE treatability test so the paperwork piece shouldn’t be long on the tail end of the investigation. Earl asked Theresa to expound on Yakama Nation and it was mentioned they have concerns on the disposal of materials, and they would like the land to be returned to its natural state as soon as possible. The unknowns in trenches have not gone over very well and they would like to investigate what is in the closed trenches.

**Utah Activities Overview**

Doug Hansen, appointed Director of the Division of Waste Management & Radiation Control in May 2021, went over the changes in the Utah program. He mentioned Rusty Lundberg retired in December of 2020 who had been the State appointed member for Utah and in April Ty Howard, who was the previous Director of Waste Management & Radiation Control, was promoted to Deputy Director of Environmental Quality. Doug stated his background is in underground storage tanks for 26 years so being appointed the NWIC attendee will be a wonderful adventure. Within the last 2 years, the State of Utah hasn’t had any legislation, however they’ve had a change in their Governor, so it’ll be interesting to see if they’ll be any change in policy that affects their program and so far they haven’t seen anything. Doug mentioned the ongoing activity at Clive include inspections of incoming shipments to verify the materials received is what they think they are as confirmation of proper placarding and manifest under their Generator Site Access Program. Under this Program, if the Generator accumulates enough violations using the point system, licensing to dispose at the facility may be suspended until they can demonstrate they’re able to comply with license requirements. There is the containerized waste program which deals with resin beads from Power Plant Water Treatment and continued Waste Management Operations and Site Monitoring Program which includes engineering, Health Physics inspections will include confirmation of appropriate training, placement of appropriate signage and observation condition. The Groundwater & Best Available Technology (BAT) inspection include ensuring the Groundwater monitoring is performed properly as well as inspection of onsite engineering controls for water management. Another update Phase 3, which is in the Southwest corner of the LLRW cell or Cosay Waste Cell is currently receiving final cover and in the process of performing the necessary inspections to verify compliance with the engineering requirements as the work progresses. A recent issue of conditionally approval for construction of a new rotary dump site. The work will be ongoing soon. Energy*Solution* submitted an application for LLRW cell in Section 5 which will accept exempt waste. The application is currently undergoing a completeness review and they anticipate issuing a letter outlining the results of the review within a couple weeks. Additionally, the Facilities Radioactive Materials License renewal is currently in progress as is License Amendment 26; which simply makes minor adjustments to the required absurdum amounts. Energy*Solutions* is interested in receiving depleted uranium and submitted a License Application for that on April 9, 2021. The state took a completeness review of the application and responded with a letter outlining the results of their review on May 13, 2021. Energy*Solutions* is currently incorporating the feedback they provided and expect to see the application resubmitted sometime in October of 2021. Along with this, there have been numerous meetings held discussing the issues that were pointed out in the letter and clarifying information so they can effectively and efficiently resubmit the application.

Performance Assessment was submitted as an appendix to the Federal Cell License Application. The state has reviewed the assessments and sent a recommendations letter on June 15, 2021. Portions of the Performance Assessment is under review, awaiting resubmittal with a revised License Application. At this point the land agreements between Energy*Solutions* and DOE is underway. Currently the division is in negotiations with the DOE on the MOA for long-term stewardship. Even though it’s been a two-year process, Doug feels they’re getting close to an agreement they can both be comfortable with. Monthly meetings occur to check in with DOE as attorneys continue to work behind the scenes. It’s been a long process and hopefully light at the end of the tunnel will be soon. As for 11e byproduct material, the volume they’ve been receiving as decreased to the point where the facility has requested a license amendment to reduce the size of the footprint. View of the amendment has been done and is close to being sent out for public comment. As for the groundwater permit, destructive testing of the Cover Test Cell has been completed lightning struck the test cell and destroyed all the monitoring equipment. Consequently, the result was to access the effectiveness of the cover, as destructive test was conducted, and the report of the test was submitted to the state and currently reviewing the document. The Groundwater Quality Discharge Permit renewal is in progress and the Deep aquifer evaluation continues. Earl Fordham asked, in the review of depleted uranium, is Energy*Solutions* still having a lot of response from the stakeholders”? Doug’s replied, “he expects they will when they go to public comment. Most of what’s happening is the initial review with continued interest and plenty of feedback.” Earl asked if there was an estimated time when they would be out for public comment. Doug’s response was “I don’t know because they expect the resubmittal to come late fall and then they will need to review that internally and then go out for public comments.”

**Rocky Mountain Compact Overview**

Leonard Slosky provided an update on the Rocky Mountain Compact. Rocky Mountain has a contract with the State of Washington NW Compact for use of our facility and long-term history cooperating closely with the NW Compact on many issues of mutual interest over the decade. Leonard stated the last year has been fairly routine for the Compact although they have been working most in a remote and hybrid mode but not a lot of eventful happenings. Leonard noted Colorado has been very active. The State Health Department propagated the first set of TENORM regulations and those have not yet gone into effect but have been propagated by CDPHE. This was a significant large stakeholder involvement undertaking. Colorado’s oil and gas regulatory agency also completely revamped the states regulatory structure on oil and gas due to a citizen initiative that rewrote the legislation. The Compact did participate in that rule making because the oil and gas regulations reference the Compacts regulations as another regulatory government applicable to oil and gas waste that are radioactive. Leonard was asked by Earl to give a summary of the Compact system and how it’s gotten to its current place. He stated the Compact is a very convoluted system to appreciate how it has developed. In 1962 is when the company that ultimately became US Ecology establish the first Commercial LLW Disposal Facility near Bating, Nevada. Over the next decade, a total of six Commercial Disposal Facilities came into operation across the United States. By the late 1970s, only three of the facilities remained operational. These were the Washington, Nevada and South Carolina facilities. In 1979, the Governors of these three states said they were not going to take it anymore. They felt that the closure of the number of the sites, they were placed unfair burden on the nations waste disposal sites.

In the case of Nevada, they generated essential no LLW but they were taking a significant amount of waste from across the nation, less than the other two sites. The Governors were unwilling to continue that system. They were also some problems with shipments with inappropriate conditions. It’s believed there’s documentation of one or two shipments arriving with liquid radioactive waste dripping out of the back of the truck. The three Governors announced they would either close temporally or reduce the volume they were willing to accept. This created a large national crisis as the power reactors, universities, many industries and many radioactive material users were dependent on these three sites. This is when Leonard first became involved as he was on the Governor of Colorado’s staff and the Universities of Colorado were demanding a place to put their waste. The Governor reached out to Leonard and requested him to handle.

Leonard having been in the executive branch for many years said the National Governors Association took the lead in negotiating a path forward. They formed a committee and came up with a report that recommended regional Compacts. Many didn’t know what a Compact was or that they were used a lot in the early years of this country. The sited states that had operational facilities were driving this as they held the cards. Everyone wanted access to their Site and demanded the system be changed. The sited states wanted Compacts as this was the only legal way the states collectively can regulate the interstate commerce of LLW. In December 1980, at the States request, Congress passed the LLRW Act of 1980. This was a short and not detailed piece of Legislation that encouraged the states to enter into Compacts. Many believed it authorized the states to enter into Compacts but that wasn’t legally true. States are authorized to Compact under a provision in the United States Constitution. It’s clearly set up the preferred pathway that Congress wanted to see the States come back with Compacts. The Compacts were intended to serve of Federal Authority without impinge on Federal Authority Interstate Commerce, Congress required the Compacts be submitted to Congress for consent. What this means is Congress had to enact each Compact into Federal Law.

The NW Compact was the first compact to be negotiated and was quickly followed by the Rocky Mountain Compact and the Southeast Compact. The three sited states were very motivated to move this forward. The NW Compact is the only compact that doesn’t have the authority explicitly to regulate the export of waste from its members states. All the other Compacts have that authority. Washington at this stage was very focuses on keeping waste out. To form a Compact, the states that want to become members must enact virtually identical legislations. It took two years for the Rocky Mountain Compact to be enacted by the initial states. By 1983, the sited states compacts were submitted to Congress. This submittal put Congress in a very difficult decision because if Congress consented to the sited states compacts, then most of the nation would have no place to dispose of their waste. Congress would not move forward and orphan most of the nations waste. This caused a series of negations to find a solution. There were a few members of Congress that played pivotal roles in trying to bring together the sited and unsited states. The solution ended up being a seven-year transition period and it was intended between the time Congress approved the compacts in the mid-80s and 1993 the unsited states would be able to develop new sites. That compromise became the LLRW Policy Amendments Act of 1985. It was passed by Congress on the last legislative day of 1985. Leonard was involved in this Act. Earl asked Jeff if Oregon is looking for metal recyclers and Jeff’s reply was Yes, the metal recyclers they’ve encountered have portal monitors already in place.

**WA State Updates**

Kristen Schwab provided an update on COVID impacts. As a regulatory agency, some things have changed for DOH due to COVID. WA State Department of Health (DOH) has been working from home since March 2020; which caused a successful change in how we do work. The implementation of weekly status meetings with US Ecology since March 2020. The intent of these meetings was to see if operations was being impacted by the COVID pandemic and to see if there was any additional support the site may need from DOH. Inspections are now a merger of onsite and remote where they were previously being done primarily onsite only. Kristen spoke about the regulatory updates from our office as they pertain to the US Ecology oversight. During our compliance inspection it was noted there was one deficiency where a terminated employee did not receive their last exposure report within 30 days. Since July 1, 2020, there was three site users suspended for liquid in drums and container degradation and three warning letters issued for manifest error and exposure rate error. All of the suspensions and warning letters have been resolved and the site users are currently authorized to use the site. Kristen concurred with Mike Ault on DOH’s continuance review of the 2018 US Ecology (USE) License renewal application. Kristen mentioned there has been staff re-transitions in their office as well as the transition from office to remote work that put them behind some workloads like the USE License renewal application but as Mike Ault noted, the facility is in timely renewal. It is ensured they are meeting all the conditions of the license and they’re operating in a safe manner. The hope is to issue the renewal early fall. Kaylie Holland from Alaska asked the question, “when the disposer was suspended and they are out of the State of Washington, do we let the state know the disposer has been suspended?” Kristen replied, “In our process, if it is an out of state, we do notify that regulatory agency early on, so they are aware of what’s occurring and we do engage them in the process.” “Also, depending on the severity, we may notify the NRC if it was a quote reportable violation. We do notify the Department of Transportation (DOT), the UTC in Washington State.” When you are suspended, you lose your privilege to ship to the Washington State dispose at the USE LLW site. To have your privileges reinstated, the violator must do a root cause and submit to the state then a point of origin inspection, which is through inspection of their whole disposal process i.e., how the package and classify the waste, how they label the waste and how they ship and manifest the waste. This inspection would be done onsite.

Due to COVID, these inspections have been done remotely, but have been very effective. Through the use of video, they’re able to see the things needing to be seen. This has allowed more partners at the table during the meeting as there’s no travel involved. The state, in which the violator is located, is also invited to the point of origin inspection. Jeff representing Oregon, asked “mentioned an issued back in the 80’s with TENORM where people was telling the legislator there was a lower limit of what USE would accept for materials containing TENORM”. “Is there such a thing where there’s not enough NORM concentration in a waste that USE would not accept?” Kristen replied by stating there’s no official limit of accepting waste with Earl following up on providing history background with completion on answering Jeff’s question. Mike Ault also replied with comment on this subject.

**Site Use Permit Overview**

Eileen Kramer plays an important role in our NWIC budget and issuing of Permits for disposal of waste in the State of Washington. Earl mentioned there is a tie to issuing Site Use Permits and the NWIC financial liability. Eileen stated the average fees paid between 2016 – 2020 was $204,400. The groups paying for these permits are Broker, Exempt, LLRW and NARM users. Fines to renew are common as most do not get there permits in during the permit season timeframe. The average number of permits issued per year is 342.

The types of categories of waste disposal are Academic (non-medical) for laboratory, other and research; Broker (permit fee) Fuel Cycle for nuclear power reactor, other (non-reactor) and reactor fuel production; Government (non-medical) for military, other, regulatory and research; Industrial for manufacturing, nuclear pharmacy, other, research and development and waste broker; Medical for hospital/clinic, laboratory, other and research. Eileen broke down who was paying for fees verses disposing of waste. The end result of this is Energy NW pays the highest fee and disposes of the most volume of waste. The military consistently pays the most fees and disposes of higher volumes of waste. Industry other is the next highest category for both fees and volume of waste. One of the things that is done in the permit program is the access database which debuted in 1992. DOH wants this system replaced by 2025. Getting the database updated will be a challenge based on several things. Access rode on the success of Windows. The success of the tool increased when it was included in Microsoft Office in 1995. The Microsoft Access file format isn’t compatible with any other system and as a demand for Access programming language skills lessens, fewer programmers bother to learn the system. This begins a cycle of decline where the lack of an available developer skills pool puts project managers off from using an environment to develop a new product. So, the shortage of programmers with data management skills creates a shortage of projects in that language and the lack of demand for those skills makes mastering that language a poor career move. Microsoft Access apps would have to be completely rewritten to work with Office 365. This would require DOH IT personnel at the average hourly rate of $45-$50 per hour to rewrite and would be a challenge to keep the conversation to a reasonable price. The IT policy and Planning Representative is looking into the most cost effective and efficient program to use. An upgrade was made in 2021in implementing Electronic Payment Option. This included Automated Clearing House (ACH) as credit card payment had a 3% service charge. Approximately 100 permits are usually paid by checks. With this change, 35 companies chose to use the electronic payment system and only 2 chose ACH. Earl asked if the money flow from Eileen’s perspective covering the expenses of the Compact. Earl added in 2020 there wasn’t a Compact meeting and this year was virtual. Eileen’s response was “currently yes”. Earl stated they speak quarterly on how things are going and look at the volumes Eileen tracks that are sent out monthly. They speak to the budget individuals to stay on top of how much is spent on certain timecodes. In theory, as long as the income exceeds expenses, the budget is in good shape. Earl asked Eileen if she had any thoughts on the trend and was replied with “it will remain steady as is with the $204,000 which is down from what it was but she doesn’t see it dropping which is good because the permit fees are in regulation and to change the fees would require rule making.

**Energy*Solutions* Activities Overview**

Vern Rogers, Director of Regulatory Affairs, Energy*Solutions*, stated their facility is located in Utah which is one of the member states of the Compact but their focus is to serve generators outside of the Compact so they consider themselves an informal or unofficial partner of the Compact and they appreciate what Earl’s management and leadership has brought to the Compact. In addition to Utah, they also operate the compact site in South Carolina Barnwell and they have a number of processing and treatment technology services that are offered at sites in Tennessee. They also have a dedicated fleet of railcars, tractor trailers and cask containers they make available to help service the industry across the country. Today’s focus is primarily on the Clive Utah Waste Disposal Facility which is currently the largest waste disposal facility in the world. Vern stated one of the main things focused on during a presentation is safety. Energy*Solutions* feels a corporate focus on both industrial and radiological safety is one of the ways they can help their generators feel comfortable they are safely managing their waste and they recognize the principal aspect of the company are those that go home safely to their families. Vern mentioned Energy*Solutions* received the VPP Star certification in 2017 for Industrial safety and will be reapplying for the certification in 2022. Energy*Solutions* has enjoyed several Industrial safety awards from the State of Utah and the National Safety Council. On a radiological perspective, the workers at Clive received an average dose of 39 mrem annual exposure. When compared to 620 mrem as an average background dose across the country or 5 rems in occupational limit from the federal levels, this quite low and appreciate the attention to ALARA for noticing this. This facility has been in operation for over 30 years of proven experience and disposing of radioactive waste. They manage bulk as well as containerized waste with unique licenses and permits. They have radioactive material licenses – LLRW & 11e(2), a RCRA Permit (treatment and disposal of mixed waste), TSCA Approvals (PCB waste streams), SNM Exemption (concentration based limits), and in the process of Exempted LLRW and Federal generated LLRW which are both pending. Clives waste acceptance capability allow them to manage Class A LLRW and NORM (soil, resin, filters, operational waste and large components), radioactive liquids (Two 10,000 gallon tanks to process real-time, processing up to 20,000 gallons per week), mixed waste (radioactive and RCRA hazardous), MW Treatment (stabilization, amalgamation, thermal desorption, spray wash, microencapsulation, solidification, lead shielding, lead acid batteries, solvent contaminated waste), PCB/radioactive waste, large component logistics, UCNI and export controlled waste and other hazardous substances (e.g., asbestos, beryllium). Clive operating capacity can operate and unload 60 railcars per day, unload 30 truck shipments per day, shred 1500 tons per day, place 50,000 ft3 per day and managing 20M gallons evaporation pond storage per day. Energy*Solutions* is in the process of expanding each of these to not only handle their current clients but some of the D&D jobs they’re in the process of ramping up for. Vern gave a breakdown of Clive’s disposal available capacity. Doug Hansen has been appointed Director. Vern mentioned one of the things the industry is worried about across the country by the licensing and generator side is their aging workforce. Unfortunately, the State of Utah has had a number of legacy regulators and inspectors retire. With Doug Hansen’s appointment and the assistance of Jalynn Knudsen, Assistant Director and Otis Willoughby, LLRW Section Manager have been able to hire pro-actively to backfill the positions vacated. The group has a good relationship with their regulators who are at their site every day which is looked at as a partnership and appreciate their support in keeping the workforce and environment safe. Two of the initiatives being looked at is the Federal Cell Facility (depleted uranium).

The State of Utah passed House Bill (HB) 220 which governs and sets up the process for getting approval for managing depleting uranium and Federal waste. There are three boxes that need to be checked. The first is a site-specific Performance Assessment (which was started back in 2010) which is a complex computer module that looks at what happens and projects the results on how the environment may change over 2 ½ million years from now. The second requirement that was added to the HB 220 is the designation of a Federal Cell Facility. Part of this is an application for radioactive material license that will be used for the Federal Facility. This has been drafted and shared informally with the state several times and addressed comments and polished it and currently awaiting completion of a performance assessment report that needs to be completed and submitted as part of the Federal application. This should go over to the State for their formal review starting in October 2021 and then the final requirement is with DOE to accept perpetual stewardship of the Facility. The Line Transfer Agreement has been signed with DOE and there’s a memorandum of agreement between the two on how they will relate and interact with this. It’s ongoing between DOE and the State of Utah.

The other initiative being looked at is the License Exempted Waste Cell. The attempt is to have waste received from their customers to Clive as Class A LLRW then make a determination based on instrumentation and license limits whether is it Class A Waste for their Class A West Disposal or Exempted Waste. Energy*Solutions* is proud of the D&D projects that have been completed. It’s been one of the major sources of waste coming into the Clive Facility. The D&D jobs have been completed at SEFOR, LaCROSSE and Zion. This project will span ten years.

Moving forward, on December 16, 2016, Energy*Solutions* selected to decommission San Onofre Nuclear Generating Station in California. One of the first parts of this project was the reactor pressure vessel that was removed from Unit 1 in 2002 and grouted into a special container. The reactor was 15’6” in diameter and 38’6” long, weighing 670 tons. The reactor was shipped via rail for 366 miles and then 400 miles via road which was a record sized shipment. The reactor pressure vessel is safely disposed in its final resting place at the Clive Facility in Utah. On October 15, 2019, Energy*Solutions* also won the three-mile Island Unit-2 Nuclear Power Plant contract to decommission Unit-2 at the Three Mile Island Nuclear Generating Station. On April 29, 2019, Energy*Solutions* announced it won the contract to decommission the Fort Calhoun Nuclear Generating Station. Finally, Energy*Solutions* was just awarded May 12, 2021, an agreement with Dominion Energy to acquire the Kewaunee Power Station located in Carlton, Wisconsin. With four D&D projects going on and each of them presenting their own challenges, Energy*Solutions* is in the process of expanding its workforce, the licensing capabilities, the turn-times and efficiencies of managing waste at the Clive Facility so they can continue their excellence, continue to do in a compliant and safe manner to make sure they’re doing it in a cost effective manner and anxious to serve the generators across the country.

**LLRW Forum Overview**

Dan Shrum provided a couple updates that they’ve been tracking in LLRW. In 2018, the NRC started a scoping study to evaluate concerns and issues around very low level radioactive waste (VLLRW). Last year, the NRC sent out an interpretive rule and wanted to get input on this rule oin 2001. They received lots of comments. The LLRW Forum commented on this issue stating it would be their preference as opposed to doing the interpretive rule, that VLLW would be introduced into CFR Part 61 as a waste classification just like Class A, B and C with minimal requirements of controlling the VLLW. The NRC offered to withdraw the interrupted rule based on some of the comments. Then beginning June 1st, the NRC issued their report on the scoping state of VLLW and their decision was they would take no further action and there’s a regulatory plan already developed for LLRW in general and the VLLW falls well within the plan. Dan mentioned if anyone would like a copy of the report to send him an email or contact Earl Fordham.

Dan reported the 2nd issue is 10CFR Part 61 and discussing this in 2008 at several meetings and the goal was the disposal of the uranium wasn’t fully contemplated in the development of CFR Part 61 and it’s been almost 13 years where CFR Part 61 has been in limbo. Dan mentioned they have been told by the NRC they are in the process of moving forward with issuing a final rule that will be sent out for public comment. One of the issues is the grandfather clause is being removed from CFR Part 61 and several states requested it remain in Part 61. The staff from NRC asked for additional information, from the commissioners. This information was provided allowing the NRC to finalize the final role for Part 61 which will include the disposal of depleted uranium along with long life isotopes.

The 3rd issue was Greater Than Class C (GTCC) waste, which is a complicated issue in a sense, that is was originally removed from the CFR Part 61 rule making and follow its own path. Within the past year, or so, the NRC said to put it back in the CFR Part 61 rule making which Dan stated he felt was better because when you modify GTCC Part 61 for long life isotopes you can include GTCC disposal. This was originally a request that was made by the State of Texas on whether an agreement state could regulate the disposal of GTCC. Most people thought it had to be regulated by the NRC who stated they could on a case-by-case basis, but they would evaluate the ability for a state to regulate GTCC so it’s back in the mix for CFR Part 61. Dan mentioned the State of Texas seemed supportive on the disposal of GTCC however recent announcement by the Governor and other individuals in the State of Texas maybe not so supportive of the disposal of GTCC at the WCS Site. Dan stated the rules have to be done first before the State of Texas will take any action whether or not they’ll license the WCS Facility for the disposal of GTCC waste. Dan updated on the Forum mentioning currently all 10 Compacts are members of the Forum which is good. The goal of the Forum is to hear input from the different Compacts on what issues they are dealing with. Dan mentioned over the years, in his position with the Forum, it’s interesting to see how each Compact handles issues, what they’re concerned about or not, and it’s nice to have this annual Compact meeting where the issues can be discussed. Also, the membership reaches out to agreement states that host these facilities and these states are also members, South Carolina, Utah, Texas and Washington. The State of Pennsylvania is a member because it could be a host state and the State of California is contemplating on rejoining because it was identified as the host state for the SW Compact. Dan stated the membership is good, the organization for the Forum is running positive financially, which is good and will remain that way moving forward.

The next Forum meeting is scheduled to be held in October 13-14, 2021 in Denver at the Magnolia Hotel. It will be a hybrid meeting which is of concern because we’re getting use to virtual meetings and we know what the old meetings were like when we all got together. Putting these two things together will be challenging. Keynote speaker will be Commissioner Wright from the NRC. Jeff Burright, Oregon, asked a question on the Greater than Class C. Jeff recalls, there was a staff recommendation to the Commissioners to fold it into the CFR Part 61 rule making and wanted to know if there actually be action to make that happen. Dan’s replied stating, “the NRC provided an update and the plan is to fold it in, so what happened first is it got folded out and then it was put back in.” Dan thinks this is the right decision but wonders if they will come out with a CFR Part 61 rule with the long lived isotopes and then give us another one with GTCC or hopefully they’ll put them together and get one of a more universal changes with long lived isotopes and GTCC. Jeff asked where this decision was made to roll the two back together as he wasn’t able to locate in Commission voting records or SECY paper reports. Dan remembers it occurring but doesn’t remember the date or location and stated it could have been a staff recommendation and he misunderstood as a decision. Dan made a note to check and get back.

**Oregon Activities Overview**

Jeff Burright, Radioactive Waste Remediation Specialist for Oregon presented the overview for SB 246 and Oregon’s Radwaste Program Overhaul. Jeff opened with a story of the last couple of years in Oregon that will lead to a complete overhaul of their radioactive waste disposal rules. He mentioned the notes from June 2019 provided by Ken Niles, then Oregon NWIC attendee, saying they were starting to get inquiries and how their disposal rules work and how they were due for an update of these rules but not sure how this will happen. Just a few months from then, the issue was brought to their doorstep. In September 2019, Jeff received a call from a citizen in North Dakota who was touring the oil fields and asked some guys “what do you do with your waste?” They answered, “it was sent to Oregon”. The individual receiving this information called Jeff asking for a list of landfills accepting this radioactive waste TENORM. Jeff stated he contacted the one hazardous waste landfill they had in the state with the name of the company provided by the citizen and there was no record as it was a mid-stream service company. Jeff called this company and they got back a couple days later saying they contract through a third-party transporter and send waste from the Bockin oil fields to a landfill in Oregon. Jeff then called the landfill in Oregon and they said they knew the customer and provided the data from the annual waste profiles and it exceeded their thresholds for the radioactive waste in Oregon. It took several months as well as contacting the other agencies in Oregon that might have jurisdiction. Jeff contacted agencies in other states. Jeff talked to Kentucky and Pennsylvania to get an idea on what they would do in a situation like this as Oregon hasn’t issued a notice of violation or penalty in the past for illegal disposal of radioactive waste. In February of 2020, a notice of violation was issued to the landfill. They were cited for lack of due diligence. Because of the structure of the enforcement rules, there was no penalty attached. The landfill was the only entity they felt they had jurisdiction to site. This received quite a response from the newspaper, legislative and communities, acknowledging the problem on their hands. In order to address this issue, a corrective action public process was implemented with a CWM developed risk assessment/corrective action plan. The plan was submitted in September of 2020, which began a 60-day public comment period. Oregon’s comment response document was 60 pages long where every single comment was addressed completely. A corrective action determination and conditions was then issued.

There were two alternatives evaluated: Alternative 1: In Place Closure, the landfill would continue piling new fill in the landfill, final burial depth = 100 ft average (18 ft to shallowest load), landfill cap/liner + dry climate prevents migration into environment, and groundwater monitoring until 30 years post-closure (~100 years from today) and Alternative 2: Exhume and redispose out of state, excavate and relocate 680,000 yd3 of hazardous, non-radioactive waste to access 3,244 yd3 of mixed TENORM and dispose out of state (assumed Idaho) via 322 truck shipments. When all was said and done, a consideration to public comments and response was done, evaluation of the technical analysis was done and found to be sound and leaving the waste in place was ultimately the path of least harm. Additional monitoring was required for groundwater and landfill and the installation of a drive-through radiation detecting portal monitor. Recent ODOE actions are: 1) completed Corrective Action Process for the 2020 violation in Spring 2021; 2) revised OAR 345 Division 29 rules governing enforcement and civil penalty which will significantly strengthen penalty deterrence for severe violations, incentivizes corrective action, establishes more opportunities for information gathering and analysis, lays groundworks for holding more entities responsible; 3) annual notice to landfills regarding Oregon radioactive waste regulations; 4) working with Oregon Health Authority to add conditions to radioactive material handling licenses regarding waste verification and disposal; and 5) actively reviewing Waste Management, Inc. waste profile for compliance.

The Senate Bill 246 was signed by the Governor in May 2021 to expand who may be held responsible for illegal radioactive waste disposal, to include not only a disposer, but anyone who arranges for or transports such waste for disposal, enable the Energy Facility Siting Council, with support from ODOE, to update and clarify the definition of radioactive waste subject to the disposal ban (OAR 345 Division 50), expand and clarify ODOE enforcement authority of radioactive waste disposal and add authority to recoup costs to the agency when a violation occurs. Oregon’s current disposal regulations: ORS 469.525 (1977) prohibited radioactive waste disposal facilities in Oregon and because virtually everything contains some radioactivity, the Energy Facility Siting Council promulgated OAR 345-050 to define exempt wastes, i.e., exempt quantities, exempt concentrations and pathway exemption for NORM/TENORM. Oregon’s new definition in SB 246 broadens the definition to allow them to conduct a rule making to define radioactive waste as that presents no significant danger to public health. Jeff explained how Exempt Norm is defined now. Exempt means the NORM does not quality as “radioactive waste” in Oregon and may be disposed anywhere (i.e., landfill not assumed). Jeff mentioned states all over are updating their rules related to TENORM and there’s been a concern with the older rules, they’re ahead of the pack by regulating NORM and TENORM when they did but now there’s fear they are falling behind and it may turn into an attractive disposal option if the rules aren’t adjusted. Oregon is currently working to implement a Rulemaking Advisory Committee. There will be many different interests invited to the table to help sort out the rules for the modern age. There’s new waste that wasn’t considered back in the 70’s and there’s changing doses standards but they’re aspects of the rule that are pretty firm. The line can’t be crossed to where regular landfill could be considered a radioactive landfill facility. In addition to the rules, a strengthening enforcement and prevention program must be overhauled. Thinking beyond standard-keeping: neighborhood beat as model of prevention, improving education and outreach, greater clarity on ODOE authority to require compliance or preventative measures, strengthened investigative powers to pursue potential violations, and need information to build a system map, prioritize potential vulnerabilities. Open for questions, Earl asked if Oregon had monetary finding authority in your regulation before they were revamped? Jeff’s reply was yes, they did but they never had to use them. Jeff stated the pre-existing rules had two different classifications and if you were a first-time offender, there was no monetary penalty associated. If you were not a first-time offender, therefore eligible for a penalty of $100 a day. Earl stated Washington doesn’t have that authority in the agency that handles radiation protection. Jeff stated that was because the Compact doesn’t regulate TENORM

**Alaska Activities Overview**

Kaylie Holland reported in January 2021, new regulations regarding low-level, naturally occurring radioactive material disposal went into effect in Alaska. The new regulation allows the disposal of waste containing only naturally occurring radiation with the radionuclide concentration of less than or equal to 5 picocuries per gram of radium-226 plus radiom-228. The radioactive material cannot be LLRW regulated by the NRC and subject to the NWIC. The material can only be disposed of in a Class 1 municipal solid waste landfill, drilling waste monofill, or industrial waste monofil that meets the design standards in 18 AAC 60.

This change was the result of an unintended consequence resulting from the regulations changes in 2015. Prior to the 2015 regulations change, there was a mechanism that allowed low concentration radioactive material to be disposed of via burial in soil. The 2015 regulations change removed this mechanism and as a result material with background levels or de minimis levels of naturally occurring radiation was not allowed for disposal in Alaska which was not the intent of the 2015 regulations change. This change was also contrary to statutory requirements which requires ADEC to adopt regulations establishing standards governing the discharge of LLRW to the air, water, land and subsurface of land of the state.

Work plans are being developed and initial sampling completed for the decommissioning of the Fort Greely Nuclear Power Plant. This project will see the radioactive waste disposed of out of the state and non-radioactive debris potentially disposed of in state.

**Hawaii Activities Overview**

Daryn Yamada introduced himself as replacement for Jeff Eckard. No update on activities were provided. Earl did mention we were planning on holding the meeting in his state soon.

**Idaho Activities Overview**

Caroline Moores replaced Brian English as the Idaho Compact attendee.

**Compact Updates**

Earl wants to close the loop on the greater than Class C rule making. There was a SECY paper 20-0098 that had been written and sent up to the commission. Earl thought the commission had acted on this, but Dan Shrum went back to a presentation they had at the recent LLW Forum where it said it was pending commission action. There isn’t a staff requirements memo (SRM) coming from the commission telling the staff what to do in this regard. This is a key part in the Part 61 rule making so the sited states are tapping their feet marking time figuring out what the Part 61 will do for them. Hopefully something later this fall will occur.

Earl stated he’s received from radioactive brokers about the country several requests to get a written approval to export waste from the NW interstate Compact. Recalling what Leonard stated in the history of the Compact, we are one of the few states and/or Compacts that do not have export authority or basic control of the exported waste out of our Compact. As such, Earl’s predecessor Mike Gardner said we need to ensure the economic liability of the Compact and the disposal site. In, conclusion, the brokers have been told they won’t be getting anything in writing allowing waste exportation from the NWIC which would be contrary to our policy to prevent export of waste from the NWIC states. On the flip side, if they dig far enough, the brokers will figure out the Compact doesn’t have export or probation authority, so a case is being built but not supported. In contrary to this, over the last couple of years, Earl stated he’s had three to four entities approach him to join in some form or another something similar to the Rocky Mountain Compact to the NWIC. Some were looking at (how we have a business arrangement with the Rocky Mountain Compact) a whole membership into the NWIC. This would need to be deferred over to Lilia, our legal counsel for direction as this has never been heard of being done previously. Back in the late 80’s, the Rocky Mountain Compact was looking to establish a relationship with the NWIC there was a dollar figure in the millions (back then) so with inflation/escalation what it might be now. There is a provision that if you generate less than 1000 cubic feet annually and contiguous with one of our states with the NWIC you would be eligible to petition. Discussions have questioned if this would be done on an individual generator basis or would this be more likely on a state basis? This question has fully never been answered but attorney opinion leans to the state would need to petition the NWIC.

In 2019, a radiator in Seattle, WA at the Harborview Medical Center in their Research and Training (RNT) Building was being removed from service and taken away. As part of the decommissioning service, the vendor who was handling this, ended up nicking the source capsule and spreading contamination extensively in the immediate area and throughout the building. There was some contamination that spread outside of the building. It’s been two years and cleanup has been moving forward with the source removed. At the end of April, the State of Washington signed a letter saying the Harborview Research & Training (R&T) Building was released from radiological controls. The R&T Building was cleaned up, not only to our standards, but for the University of Washington (UW) who had stricter standards. Under the decommissioning regulations in our state, the limit would have been some type of performance assessment that showed a dose less than 25 mrem/yr. UW took a harder stance and said on May 1st they didn’t have a contaminated building and when cleanup is done, they expect the building to be the same. Some of the equipment had to be refurbished or removed with new installed. Harborview is now in the rear-view mirror until IMPEP next May for the State of Washington. Earl went on to say that even though DOH was working extensively with the NRC on the status of the Harborview event, they will come in with a lot of questions for those on the team during the event and cleanup.

Everyone has had the opportunity to meet our new Executive Director of the LLW Forum, Dan Shrum. In 2019, our then Executive Director, Todd Lovinger decided to terminate his relationship with the LLW Forum; creating a need for a new Executive Director. Hiring a new Executive Director took some time and during the timeframe that Todd was gone, and before Dan was hired, another Compact colleague, Joe Klinger from the State of Illinois but now retired, was our interim Executive Director. We now have all ten Compacts and many of the states have restored their membership to the Forum as Washington has also. Earl is the past Chair and Kristen Schwab is the Chair elect for the Forum.

One of the questions we may want to think about is the explanation Jeff Burright, Oregon gave on his rule making could be a lighthouse for us or a death trap. As Leonard mentioned, we do not have export prohibition thus we cannot prevent people from shipping to other disposal sites, and even inside we have people shipping mixed waste to Energy *Solutions* which is a proper disposal for those vendors as US Ecology doesn’t take mixed waste. One of the questions we could discuss is, do we want to see about establishing export prohibition in the NWIC? Pending detailed analysis, this means each of the Compact states would need to get it passed by the legislative and signed by the Governor adding identical wording to the legislation already on the books. Earl asked every NWIC member to think about this and it could be something that could be done over the longer period.

Another issue Earl stated he would like to hear about is the NWIC website. It’s NWCompact.org. On this website you should find your name under members for those who have submitted Governor appointed letters and provided a copy to the Richland Office. Another thing to look at and take a moment to read is the NWIC is called the Third Amended Resolution in Order and the clarifying resolution on it. It’s listed on the left-hand side of the compact page. If there are questions, they can be discussed further or if you think it’s broad enough that we could put on next years NWIC meeting as an agenda item. Leonard posed the comment that if we expand the compact to include export authority, we will also have to seek congressional approval of the amended compact. Having states pass the amendment is only the first step.

**Update on Legal Issues**

Lilia Lopez serves as General Counsel for the Compact. Lilia touched on Theresa Howell’s discussion on the MTCA and referenced the old legal case against DOH and Department of Ecology brought by the Yakama Nation and Height of American Northwest, over the placement of the Phase one cover at the US Ecology site. Lilia commented it was mentioned the case began in 2010 and ended last year, which is correct, but to fill in the gap in terms of what was going on. There was a lot of activity in the case and the first two years it was active and there were attempts by the petitioners to join the agencies from moving forward or join the cover. Lilia stated she thinks the agencies thought to dismiss the case or dismiss some of the claims, but then as part of one or two of the filings, DOH did agree not to proceed with the phase one cover until the MTCA investigation was completed. Ecology agreed to something of the same as well turning the heat down on the case and at that point the parties started talking along the lines of settlement discussions, looking toward a third-party review consultant, which did happen. Department of Ecology mentioned the agencies continued to work together. Lilia stated there was no actual settlement of the case. The petitioners were not interested in dismissing the case either. Every so often, the WA State Superior Court of Yakama County, which is where the case was filed, would reach out and notify the parties they were going to dismiss it because the case was inactive and the petitioners would always write back and ask if the case would remain active. This went on annually for a few years. Anytime an attorney would change, that would put a re-up to the case and the court wouldn’t do anything. Finally, last July, the court sent out a notice of dismissal. The case has been dismissed without prejudice allowing the petitioners to file again if they saw fit.

**NRC Update**

Earl’s NRC update was centered on our waiting for the Commission to take action on the Part 61 report from staff (SECY 20-0098). There was also a brief discussion on the number of Commissioners and Commissioner Capoto’s term coming to an end. This might put a reference in to further information that was provided by Dan Shrum during his LLW Forum update.

**Round Table Discussions**

Majority decided the 2022 NWIC Compact would be held in Jackson Hole, WY. The month wasn’t confirmed however due to the Jackson Hole main airport shutdown until the end of June-July timeframe, it most likely won’t be until August or September.

**Public Comment**

There were no public comments.

**Closing**

Earl Fordham thanked the attendees and adjourned the meeting.