

MINUTES

Meeting of the Northwest Interstate Compact on
Low-Level Radioactive Waste Management

May 8, 2008

Boise, Idaho

Present:

Doug Dasher, Alaska
Russell Takata, Hawaii
Brian Monson, Idaho
Roy Kemp, Montana
Ken Niles, Oregon
Bill Sinclair, Utah
Larry Goldstein, Washington
Carl Anderson, Wyoming
Mike Tribble, Compact Counsel
Lynn Noah, Compact Staff
Mike Garner, Executive Director

Compact Chair, Mr. Larry Goldstein, convened the meeting at 9:00 a.m. Following the removal of a duplication, the committee unanimously approved the minutes from the September 25, 2007 meeting.

Mr. Goldstein recommended a change to the agenda that would enable the committee to enter into executive session during the lunch hour to discuss its pending legal issues. The committee approved the motion.

Party State Reports

Mr. Doug Dasher reported parties are examining the value of reopening an old uranium mine in SE Alaska. Toshiba will submit an application to the U.S. Nuclear Regulatory Commission (NRC) for the proposed operation of four S reactors in Galena, Alaska.

Mr. Russell Takata reported on a depleted uranium issue associated with the Davy Crockett systems. The Department of Health is working with the U.S. Army on characterization and identifying the required remediation.

Mr. Goldstein reported the MTCA investigation of the US Ecology facility started 4 months ago. To date, it involves the collection of soil and groundwater samples. The period soliciting comments on the public participation plan closed on 4/14/08. No comments were submitted. It is projected the investigation will be completed in late 2009 or early 2010 and includes 8 quarters of ground water monitoring. Arguments for the appeal of the Cleanup Priority Act were made in December 2007 and a court decision is anticipated shortly.

Mr. Brian Monson reported that AREVA announced it had selected Idaho Falls, Idaho as the site for its new uranium enrichment plant. This is a private facility and construction is scheduled to begin in two to three years.

Mr. Carl Anderson reported renewed interest in in-situ mining of uranium in the state of Wyoming.

Mr. Bill Sinclair stated Utah activities are covered later in the agenda.

Mr. Ken Niles and Mr. Roy Kemp stated they had nothing to report for Oregon and Montana respectively.

US Ecology Activities Overview

Mr. O'Hare, Director of Environmental Affairs for American Ecology Corporation, reported US Ecology accepted 96,679 cubic feet of low-level waste and 6,374 cubic feet of NARM/Exempt waste for a total of 103,053 cubic feet of waste during 2007. Energy Northwest shipped 74,563 cubic feet of waste in 2007 as they cleaned out their on-site waste inventory during the year. The facility has received 2,926 cubic feet of low-level waste and 666 cubic feet of NARM/Exempt waste for a total of 3,592 cubic feet of waste in the first quarter of 2008.

The site operator's revenue requirement for 2007 was \$5,682,173. At the end of the year, the company rebated \$2,995,065 in over collected revenue to generators. US Ecology reduced its annual revenue requirement to \$5,136,871 for 2008.

State of Utah Activities Overview

Mr. Sinclair reported the 2008 Legislative general session was unusual as there was no radioactive waste legislation and no issues for the interim session committees.

Mr. Sinclair reported the Division of Radiation Control has been working on the renewal of EnergySolutions' low-level radioactive waste license for a number of years. This license must be renewed every 5 years. The state made the final decision to renew the license on January 25, 2008. Once the license is renewed and if not challenged by a stay, it takes effect.

Parties have an opportunity within 30 days of a licensing decision to appeal the decision to the Radiation Control Board (Board). This is an appellate body comprised of citizen members appointed by the Governor. Mr. Charles Judd, Cedar Mountain Environmental, submitted an appeal to the Board. The first phase of the appeal process is to determine if individuals or organizations appealing the licensing decision have standing. At the May 2, 2008 Board meeting, EnergySolutions made a motion to conduct limited discovery which was granted by the Board. It is anticipated Cedar Mountain Environmental will make a similar request at the next Board meeting. Typically, an appeal originates from organizations or individuals that represent the public interest, a key issue in granting standing. This case is different as a competitor is seeking standing. If standing is denied, the appeal is precluded and the license takes effect. If standing is granted, there is a hearing before the Board on the merits of the appeal.

Mr. Sinclair reported EnergySolutions has submitted a license amendment to the Division of Radiation Control to turn the unused portion of its 11e.(2) cell into a low-level waste cell. This was included in the agreement EnergySolutions made with Governor Huntsman on March 15, 2007. A major consideration for this issue is land ownership, as the U.S. Department of Energy (DOE) is responsible for perpetual care of 11e.(2) facilities. There have been discussions about how to divide the cell. If a barrier is placed between the 11e.(2) and the low-level waste cells, will DOE still take ownership of the 11e.(2) portion of the cell? The state has talked with the company about creating a separate cell as this is the cleanest way to address future ownership concerns.

Mr. Sinclair reported a number of old mines have reopened due to the increase in the price of uranium. The Blanding Mill is now processing ore, not alternative feed sources. The state received a request to reopen a mill near Ticaboo, Utah. There is a proposal for a new conventional uranium mill northwest of Green River that would process 1,200 tons of uranium ore per day.

Mr. Charles Judd asked Mr. Sinclair about the authority that allows the Governor to make agreements with private companies concerning the amount of waste they may accept and if it can be changed. Mr. Sinclair responded at the time of the agreement, there were discussions about proposed expansion at the EnergySolutions' facility. The Governor stated Utah should maintain the ability to control its destiny in regards to low-level waste. Because of legislative actions last year, the Governor was prepared to come to the Compact committee to discuss a capacity limit at the facility. As a result, the company agreed to enter into a written agreement with the Governor. Mr. Sinclair presumes this agreement is binding with the present administration only.

EnergySolutions Activities Overview

Mr. Tye Rogers, Vice President of Regulatory Affairs for EnergySolutions, reported the facility received 5.2 million cubic feet of low-level waste 2007. The waste received consisted of 2.8 million cubic feet of commercial and 2.4 million cubic feet of government low-level waste. Through the first quarter of 2008, the facility received 489,000 cubic feet of commercial and 254,000 cubic feet of government low-level waste for a total of 743,000 cubic feet. Projections of future annual volumes are five to six million cubic feet split equally between commercial and government sources. The higher annual volumes experienced in 2003 through 2006 will not be realized in the future as the large volume government cleanup projects have been completed.

The Low-Activity Radioactive Waste cell established in 1988 is now closed. The Class A low-level waste cell has about 19 million cubic feet of capacity remaining. EnergySolutions also has the Class A low-level waste North cell. It has decided to cap the filled portion of the 11e.(2) cell and convert the unused portion to low-level waste disposal. This will increase low-level waste disposal capacity by 99 million cubic feet. An amendment for this change was submitted to the state. The proposal calls for putting these two cells under one cover. A clay barrier would separate the 11e.(2) and low-level waste cells. Monitoring devices will be placed in the clay barrier to identify migration coming from either side of the cell. If the DOE has issues with this plan, the company will probably alter its plan and create two separate cells. The company held

discussions with DOE and is optimistic it will be able place one cover over the two cells. The company anticipates receiving authorization from the state to convert the 11e.(2) cell in the next year.

The Clive disposal facility presently has about 65 million cubic feet of disposal capacity and conversion of the 11e.(2) cell will add an additional 99 million cubic feet of capacity. From 2001 through 2003, the company did not use its disposal capacity that efficiently. The company then spent 60 million dollars to improve cell utilization. In 2004, disposal efficiency began to improve and now 100 cubic feet of low-level waste uses 74 cubic feet of disposal capacity. The new shredder is achieving a six-fold reduction in the volume of waste disposed. New cell compactors are achieving better compaction of the waste.

EnergySolutions looks at the remaining site capacity in two ways. The first is how much waste is received annually and how many years of capacity remain. The second method examines how much domestic waste requires eventual disposal. For these calculations the company assumes it will receive authorization to convert the remaining capacity in the 11e.(2) cell to low-level waste capacity giving it approximately 150 million cubic feet of available disposal capacity.

The company projects it will receive about 6 million cubic feet of low-level waste annually. Based on improved disposal efficiency this uses about 4.5 million cubic feet of disposal capacity. Under this method there are about 33 years of capacity remaining. There are 104 active reactors in the United States. If one assumes all of the low-level waste from the decommissioning of these reactors came to the Clive facility, it would be about 104 million cubic feet requiring 78 million cubic feet of disposal capacity. This leaves 72 million cubic feet of capacity, translating to 96 million cubic feet of waste at receipt. Based on the Government Accountability Office reports, this is more than is needed for commercial disposal. In addition, nine million cubic feet of capacity must be reserved for the decommissioning the facility.

Mr. Rogers stated Cedar Mountain Environmental's letter projects only 3-5 years of capacity remaining at the Clive facility. The letter does not take into account the 99 million cubic feet of disposal capacity remaining in the 11e.(2) cell. It does not take into account the improvements made in cell utilization during the past four years. The last page correctly states that 220 cubic yards is needed for the debris free zone, but this area can be comprised largely of non-debris waste rather than clean fill. The annual waste volume estimate used in the letter is much higher than the company anticipates seeing in the future.

Mr. Judd stated all information used to calculate available disposal capacity at EnergySolutions was taken from documents that EnergySolutions provided to the state. He stated it appears cell utilization is related to the annual volume of waste received, and as the annual volume declines the efficiency decreases. EnergySolutions' construction quality assurance manual suggests the debris free zone needs to consist of natural material, but maybe this has changed. Because authorization has not been received to convert the unused portion of the 11e.(2) cell it wasn't included in the calculations. To decommission the facility 9 million cubic feet of capacity is required. If twice the cell capacity is required due to the volume of debris, facility decommissioning could require 15-18 million cubic feet of cell capacity. He stated that although

these numbers differ from EnergySolutions he is comfortable with the numbers presented showing three to five years of capacity remain.

Summary of National Issues

Mr. Mike Garner reported Waste Control Specialists located in Andrews County, Texas, is anticipating the Texas Commission on Environmental Quality will issue a draft license for its proposed disposal facility within the next couple of months. An opportunity for public hearings will follow and this is limited to a one-year period. The company projects it will have an operating disposal facility by the last half of 2010. This facility will include two separate disposal operations. One will serve as a compact site, taking Class A, B, and C low-level wastes from Texas and Vermont. The other site will accept Class A-B-C low-level waste and mixed low-level waste from the DOE.

The Barnwell, South Carolina disposal facility is scheduled to close to out-of-region waste on July 1, 2008. Once this occurs, the goal is to run an operation generating sufficient revenue to cover the operating costs. The site operator's revenue requirement is tied to the annual volume of waste received for disposal. At 4,000 cubic feet of waste annually, the revenue requirement would be \$6 million. This increases to \$7 million with an annual volume of 11,000 cubic feet. Fiscal Year 09 is considered a transition year and the company projects receiving about 13,000 cubic feet of waste. This includes 5,000 cubic feet of in-region waste that generators agreed to delay sending for disposal until after July 1, 2008. This provides additional capacity for out-of-region waste under the FY08 volume cap.

From FY10 forward the Barnwell site will operate year round if annual waste volumes reach 11,000 cubic feet. If annual volumes fall to 4,000 cubic feet, the facility will operate 2-3 months during the year. Although it has the authority to restrict that export of waste for disposal, the Atlantic Compact will continue to allow its generators to ship Class A waste to the Clive, Utah facility. Approximately 1.2 million cubic feet of disposal capacity remains at the site. This is enough capacity for all Class B/C waste from Atlantic Compact reactors. In future years, the site operator will perform institutional control projects concurrently with its operational responsibilities.

EnergySolutions' Proposal to Import Italian Low-Level Radioactive Waste

Overview

Mr. Garner stated EnergySolutions' proposal involves the importation of 20,000 tons of low-level waste from Italy. The waste will be imported into the Duratek facility in Tennessee, where it will be processed. The metals will be recycled as shielding blocks. The company projects that about 1,600 tons ($\cong 80,000 \text{ ft}^3$) of waste will be shipped to the Clive facility for disposal. Following receipt of EnergySolutions Import License Application from the NRC, Mr. Garner requested the Northwest Compact be allowed to defer comments until after its May meeting. He stated the extension would allow him to receive guidance from the committee, as this is the first import license application calling for disposal of foreign waste in the region. His letter to NRC indicated he would respond within five working days following the committee meeting.

EnergySolutions Import Proposal

Mr. Val Christensen, Executive Vice President of EnergySolutions, stated EnergySolutions is a key player in the nuclear industry. State, national, and industry leaders view the Clive disposal facility as a national asset. The facility is highly regulated by state and federal officials. The company has invested tens of millions of dollars in infrastructure, equipment, technologies, and engineering to ensure the safe handling of low-level waste. There has not been a single incident in the life of the company that has created any health hazard to an individual or the environment. The company has not done a good job of educating the public on its operation. However, it seems the primary argument against the company's proposal to import waste from Italy is the "not in my backyard argument."

EnergySolutions consists of nine different companies brought together through various transactions to form a corporate supplier of a wide range of technical expertise and services for the global nuclear industry. The Clive facility is a private facility that existed prior to the formation of the NW Interstate Compact. It is not a regional compact facility and has always accepted out-of-region waste. The compact facility is located in Richland, Washington and is the only facility authorized to take waste from the eight member states.

The Third Amended Resolution and Order makes it clear that Utah, not the compact, has authority over the operation and licensing of the Clive facility. The company's relationship and dealings with the compact have always been positive. It is important to note NRC has issued nearly two dozen import licenses over the past ten years allowing the importation of waste to be processed, recycled, and ultimately disposed of at the Clive facility. Based on the records the company has examined, NRC has informed the compact of each one of these licenses. There is no evidence the compact opposed the issuance of any one of those licenses. Pursuant to those international import licenses, the Clive facility has received Class A waste from the UK, Taiwan, France, Germany, Canada, and Belgium. Only two of those licenses dealt with international materials that originated in the U.S.

The materials from Italy are scientifically indistinguishable from the materials the Clive facility has handled from domestic sources and international sources in the past. As was the case in almost all of the prior import licenses, the material would be imported to the Duratek facility in Tennessee, processed, recycled, and a small amount of residue would be shipped to the Clive facility for disposal. It is all Class A waste consistent with the company's license.

The difference in this case is the emotional protest of "not in my backyard". The states of Tennessee and Utah confirmed to NRC there are no health or safety issues as the material is consistent with the licenses and permits those states have granted. One legitimate public policy issue has been raised. There is concern that using disposal capacity for foreign wastes will jeopardize the ability of the Clive facility to accept future domestic wastes. In response to this concern, the company proposes to self-limit its receipt of foreign Class A waste to five percent of the disposal capacity remaining at the facility. The company has confirmed that ninety-five percent of the remaining capacity is more than enough capacity to handle all of the Class A waste that can be generated in this country by universities, hospitals, pharmaceutical companies, and nuclear power generators. It also provides sufficient capacity to handle the decommissioning of every nuclear power plant in the U.S. Despite predictions the committee

likely would vote to prohibit the importation of the Italian waste the company is hopeful the self-imposed limit represents a reasonable compromise.

Once the press reported Governor Huntsman was sending his representative to vote against the proposal, the company felt it had no choice but to submit the question of the compact's authority to block this international business proposal to the local federal court in the form of a Declaratory Judgment. The company seeks a declaration of the law, so that both parties can appropriately govern their behavior in the future.

Even though EnergySolutions has initiated this process, it is still hopeful that each member of the committee will carefully consider the proposal so there could be a win/win compromise. This addresses the long-term capacity issue while allowing the company to fulfill its role as an international player. In order to play on the global stage, the company needs to be in a position to provide its broad range of services to international waste that does not have a safe destination elsewhere. The hope is the committee will look beyond the "not in my backyard argument" and seriously consider our proposal despite Utah's Governor's direction to his representative.

Discussion

Mr. Kemp asked if the European wastes Mr. Christensen referenced being previously imported were wastes that were generated through use in the United States and were simply being returned. Mr. Christensen stated that was the case in one instance, and there may have been one other case. The majority of the cases involve international wastes.

Mr. Niles stated he would disagree that disposal capacity was the only policy issue in play here. There is a much larger issue involving the viability of low-level disposal in the US, and the ability of compacts and regions to dispose of the waste. What is the disposal capacity availability in Europe, and is there the opportunity for Italy to partner with another European country that has available disposal capacity? A review of documents from EnergySolutions indicates there are seven low-level waste repositories in Europe.

Mr. Christensen stated in this case there is no alternative pathway because so much of the waste needs to be processed and recycled. He stated he did not believe the European sites provide a feasible solution for the Italian waste. Mr. Rogers confirmed there are seven different disposal facilities in Europe. However, there are restrictions, like the compact system, on the waste these facilities may accept. Over 33% of the Italian waste is metal and the best solution is to recycle this material. The Duratek facility in Tennessee is one of the only facilities having the capability to melt the metal and put it to a beneficial use instead of using valuable disposal capacity.

Mr. Kemp asked in light of EnergySolutions wanting to be a global player has the company given any consideration to developing other sites around the world. Mr. Christensen stated there is nothing planned at this time. Mr. Rogers stated it may not be economical due to the low volume of waste involved. Mr. Kemp stated EnergySolutions could process the waste then return the remaining waste. Mr. Rogers agreed indicating that following processing a much smaller volume would be returned to Italy.

Mr. Sinclair stated that if he understands the proposal the company would appreciate the ability to receive foreign waste and it would cap the amount of foreign waste received at the Clive facility to five percent of the remaining capacity, or approximately 7.5 million cubic feet. Mr. Rogers indicated that is correct if one assumes the 11e.(2) amendment is approved. Mr. Sinclair asked if the committee granted EnergySolutions this authority, would the company drop its lawsuit? Mr. Christensen said the company would drop the lawsuit if this were to occur.

Public Comment on Import Proposal

Mr. Judd stated he was surprised to read that EnergySolutions had taken significant amounts of foreign waste in the past. In a Salt Lake City Tribune article in October 2005, Mr. Dane Finerfrock, Head of Utah's Division of Radiation Control, indicated the company told the state it won't take foreign waste. Is this a misstatement? Mr. Rogers stated the waste is not shipped as foreign waste to the Clive facility. It is shipped to the Duratek facility, incinerated, and the resulting ash becomes Duratek waste that is shipped to the Clive facility as Tennessee waste. Mr. Rogers indicated this would be the first time the company would be accepting waste manifested as foreign waste.

Mr. Anderson pointed out that when wastes coming from one place are filtered through a process and then being called something else, this nuance gets lost on the general public.

Mr. John Urgo, Outreach Director of the Healthy Environmental Alliance of Utah (HEAL), stated the organization has worked on nuclear and toxic waste issues in the state of Utah for about 10 years. This is the first time EnergySolutions has sought to dispose of large quantities of foreign waste at its Clive facility. This isn't simply processing and exporting the resulting waste back to the country of origin. This is not waste generated in the U.S. and shipped overseas for whatever purpose and allowing it to returned for disposal.

Mr. Urgo stated the company indicated this is done all the time. The import license application is IW023, making it only the 23rd request to import waste. This is the largest license ever requested, 20,000 tons, and the first including disposal of foreign waste in the U.S. This would constitute a major change in low-level radioactive waste policy in this country and internationally. Initially, the primary policy issue mentioned was sufficient capacity for domestic waste. Also, shouldn't foreign countries be responsible for wastes they generate? This proposal could open the door for future large-scale shipments of foreign waste into the U.S.

Mr. Urgo stated EnergySolutions is an important national resource and should be preserved for domestically generated waste. There is no analysis of how much foreign waste is out there and how it would impact available disposal capacity. Is this the policy shift the NW Compact wants to allow, opening our region to the disposal of foreign low-level waste? Providing access would be inconsistent with the position taken by the Governor of Utah, Utah's Radiation Control Board, thousands of citizens throughout the country who have commented on the issue, the Governor of Wyoming, and Congressmen from the states of Tennessee, Kentucky, and Utah. It is inconsistent with the Low-Level Radioactive Waste Policy Amendments Act and the rules of the compact, which did not anticipate the large-scale disposal of foreign low-level waste in our country.

Mr. Urgo stated there are problems with the 5% limit on foreign waste being proposed by EnergySolutions. One is the attribution issue. Once incinerated, the foreign waste is not segregated from other domestic wastes. How will the incinerator ash be accurately attributed and how will this be monitored? The EnergySolutions' lawsuit takes the position the compact has no authority over its facility. The importation of foreign waste into the region is the policy decision before the NW Compact. Options one and two seem like non-starters based on Governor Huntsman's position on this issue. Mr. Urgo stated his position is option three, which would deny access to this waste.

Additional Discussion

Mr. Judd asked if the self imposed five percent volume limit was based on the current license or does it include the anticipated conversion of the 11e.(2) cell? Mr. Rogers indicated it is based on the current licensed capacity, but if that changes the limit would be increased by five percent of the newly licensed capacity.

Mr. Christensen responded to a statement made by Mr. Urgo regarding the attribution of foreign waste and ensuring the five percent capacity limit is not exceeded. He stated there are ways of dealing with the attribution issue in regards to tracking the volume of foreign waste. The company knows what the algorithms are for conversion of certain types of waste into final processed waste form (incinerator ash) and what the residue is going to be.

Lunch Break – Committee enters into Executive Session

EnergySolutions' Proposal to Import Italian Low-Level Radioactive Waste (cont.)

Committee Discussion

Mr. Bill Sinclair stated that in front of each committee member is a resolution for their consideration. He believes it is very important for the compact committee to send a clear message about what is necessary regarding this foreign waste issue. This resolution would clarify the Third Amended Resolution and Order. This is not without precedent as clarifying resolutions have been adopted in the past.

Resolution Clarifying the Third Amended Resolution and Order

Whereas, the Compact Committee continues to support the Low-Level Radioactive Waste Policy Amendments Act, Public Law 99-240;

Whereas, no facility located in any party state may accept low-level radioactive waste generated outside the region comprised of the party states, prior to an arrangement being adopted by the Compact Committee in accordance with Articles IV and V of the Compact statute;

Whereas, the Compact Committee most recently approved on May 1, 2006, the Third Amended Resolution and Order that serves as an arrangement that provides certain access to the region to low-level radioactive wastes generated in unaffiliated states and compacts that meet the requirements of the Third Amended Resolution and Order for disposal at the EnergySolutions facility in Clive, Utah;

Whereas, the Third Amended Resolution and Order does not address foreign low-level radioactive wastes and the Compact Committee has never considered or reviewed the issue of adopting an arrangement that would provide low-level radioactive wastes generated in foreign countries access to the region for disposal at the EnergySolutions facility in Clive, Utah;

BE IT HEREBY RESOLVED AND ORDERED THAT:

The Third Amended Resolution and Order does not serve as an arrangement for disposal of low-level radioactive wastes generated in foreign countries, and such an arrangement, as required by Articles IV and V of the Compact statutes, would need to be adopted by the Compact Committee prior to foreign generated low-level radioactive wastes being provided access to the region for disposal at EnergySolutions facility in Clive, Utah.

Mr. Sinclair moved that the committee adopt the clarifying resolution. Mr. Niles seconded the motion and stated that although he supports the resolution he does have concerns, specifically, it does not address the issue of waste re-attribution. The committee unanimously approved adoption of the clarifying resolution.

Tennessee Attribution Issue

Overview

Mr. Garner reported that from 1993 to approximately 2006, Duratek Inc. attributed ash from the incineration of waste to the generator that shipped the waste to the company for processing. Following an amendment to its operating license authorized by the state of Tennessee in 2006, Duratek now claims the ash resulting from incineration of low-level waste as its own waste. The Northwest Compact's Third Amended Resolution and Order (R&O) serves as an arrangement under Articles IV and V under compact law. The R & O provides low-level waste in out-of-region states and compacts access to the region for disposal at the Clive facility. This waste must meet the requirements of the R & O as well as the state of Utah license conditions.

Mr. Garner stated the current R & O does not serve as an arrangement for foreign low-level waste. It is important the committee recognize there is a potential weak link in its exclusionary authority. Under the current method of attributing incinerator ash in Tennessee, there is no way to tell if it meets the requirements of the R & O. An example would be low-level waste generated by Monserco Limited in Canada. This waste is shipped from Canada to Duratek, a portion of this waste is incinerated and the ash becomes Duratek waste and is shipped to Utah as Tennessee waste. It is important for the committee to be aware of circumstances that make it difficult to enforce its policies.

There are other companies in Tennessee that attribute waste in a similar manner. The Perma-Fix facility DSSI thermally processes a small volume of waste and ships it to EnergySolutions for disposal as DSSI waste. Studsvik in Tennessee thermally processes resins and ships the resulting waste to Waste Control Specialists in Texas.

Mr. Garner reported the following options are available for dealing with the re-attribution of incinerator waste. The first option would allow the current practice where Duratek claims all incinerator ash as its waste to continue. This could provide access to waste that does not meet the conditions of the compact's R & O. This method creates an unlevel playing field for waste processors, slightly skews the volume date for the DOE's Manifest Information Management System (MIMS), and the waste would not meet the compact's definition of generator.

Mr. Mike Tribble, Compact Counsel, stated he doesn't know that it is fair to say that the compact is currently authorizing this attribution practice. Any domestic or foreign waste incinerated at the Duratek facility is attributed to Duratek. With this practice there is insufficient information to ensure the waste stream meets the requirements of the R & O.

Mr. Garner stated under the second option Duratek would continue as the generator of the incinerator ash, but each shipment would be accompanied by a list of the generators whose waste was incinerated. Mr. Rogers has indicated Duratek would be willing to provide a generator list for incinerator ash shipments. This provides the information necessary to ensure the incineration ash meets the requirements of the R & O. This method creates an unlevel playing field for waste processors, slightly skews the volume date for the MIMS, and the waste would not meet the compact's definition of generator.

The third option is to revert to the method of attribution used for incinerator ash from 1993 to 2006: During this period, Duratek attributed incinerator ash to the generators whose waste was incinerated. Although the attribution of incinerator ash is a difficult task, it was done this way for thirteen years. This provides the information necessary to ensure the incineration ash meets the requirements of the R & O. This method creates a level playing field for waste processors, does not skew the volume date for the MIMS, and the waste would meet the compact's definition of generator.

Mr. Garner stated he is not implying this attribution practice is only occurring in the state of Tennessee but it is the one that has come to his attention.

Duratek Presentation on Waste Attribution

Mr. Phil Gianutsos, Radiation Safety Officer at Duratek, Inc., stated he has worked on most of the attribution changes that have taken place since 2002. Attribution is the model used by radioactive waste processors to assign ownership of the radioactivity, i.e., who is the generator of the waste. The initial model was developed by the state of Tennessee along with representatives of the Southeast Compact. It was determined the ash coming out of the incinerator could be collected and assigned to the generators whose waste was incinerated. This model stayed in place until 2006 when Duratek received authorization under its Tennessee license to claim the ash as its own waste.

Mr. Gianutsos stated there are a couple of drivers for this change. The first is the uniform radioactive waste manifest procedure issued by NRC in March 1995. It requires containerized waste volumes to be attributed to generators on the manifest. One section in the Uniform Manifest federal register notice looked at incinerator ash as being an example of materials that should be assigned to the processor as a residual waste subject to the agreement of the host state

and compact. In spite of the 1995 federal register recommendations, the state of Tennessee and Scientific Ecology Group continued to use the old model.

This process continued until 2002/2003 when this attribution method became a health physics issue. Duratek examined the level of effort used to determine the activity and volumes in the ash containers. Also, in August 2005, the Washington State Department of Health cited Duratek, as materials from outside the NW Compact were in a waste container of incinerator ash shipped to the Richland facility. The violation resulted from materials that were slower in exiting the incinerator than the calculated average, highlighting some of the limitations in the mechanical aspects of operating a continuous feed incinerator.

The regulator of the processor needs to evaluate and approve attribution models based on the quality of the technical presentation. In addition, it takes agreement with the host compact before the waste is attributed to that compact. Processors within Tennessee are responsible for ensuring they have defensible attribution models.

Waste attribution is not clearly defined in every processors license throughout the country. The first consideration is the technical aspects of the waste. Incineration causes changes to the chemical, physical, and radiological characteristics of the waste. Also, can the individual generator's waste be separated from other generator's waste in an ALARA manner. Incinerator ash cannot be separated as it is all co-mingled. Another issue is cost. Compaction is the exact opposite. You take a fixed package and compress it to its maximum density. This is the generator's waste and is manifested as such.

The Duratek incinerator is a continuous feed system that has two augers pulling the ash out of the refractory chamber. The company calculates that incinerator ash exits the system about twenty-four hours after the waste enters the system. However, ash can build up along the augers and stay in the system longer than 24 hours until something disturbs it. This appears to be what happened with the NW Compact waste issue.

Mr. Gianutsos stated another issue involves assigning import masses and import generators. The company cannot simply look at what the input mass is because different materials behave in different ways. Duratek has proposed a potential method for doing so that establishes averages for the generalized waste forms on the incoming manifest. Resins get "x", woods get "y", liquids get zero. As an additional precedent, the U.S. Environmental Protection Agency looks at ash generated from the incineration of hazardous waste incineration as the processor's waste.

The biggest improvement resulting from the 2006 attribution change is the reduction of personnel exposure. Duratek will not put people in personal protective equipment and respiratory protection to try to estimate how much ash resulted from the augers pulling material out. This data is highly variable. If it were good data, Duratek could support it. There is a shipping issue as it dramatically simplifies manifesting. Previously, the manifest would consist of 200-250 pages of data, but with Duratek as the generator the manifest is reduced to five to six pages.

Duratek agreed to campaign NW Compact waste. The operators go into the incinerator and sweep out all the loose ash and are exposed to a 10-15 mrem/hr environment. They are in full air-fed suits and it is a very rigorous process. Duratek accrues NW Compact generator waste until it has about 200,000 lbs. This is a reasonable lower limit to campaign waste and assign it to a single generator or a single region.

Finally, Duratek would stress the Tennessee Division of Radiation Health controls the attribution model as well as the materials that are incinerated. The work on this started in 2002/2003 before there was any consideration of foreign materials. As a standard practice, all waste contracts have a return of waste clause in them. Items can be sent back to the original generator prior to or following processing. If Duratek is the generator then it is the responsible party.

The company has looked at other international attribution issues on the ADAMS website provided by NRC. A prime example is the recycling of uranium from Germany at a facility in Richland, Washington. The waste resulting from the uranium recycling process was re-attributed to the generator in the NW Compact. This attribution is not unique to Tennessee. Again, it is an issue of who has the authority to authorize the attribution. Duratek believes this authority lies with the entity that issues the operating license as it has direct control over the facility.

Discussion

Mr. Niles asked if there are incinerators of this type in Europe. Mr. Gianutsos reported there are; in fact the incinerator at Duratek was made by a company in Denmark. Mr. Niles then asked if cameras could be used to examine waste levels in the barrels receiving incinerator ash, thus reducing personnel exposure. Mr. Gianutsos said it is possible but the costs must be considered.

Mr. Niles stated he has an issue with the attribution practice in Tennessee as it creates an unlevel playing field for waste processors. Mr. Gianutsos stated it is a matter of how the processor designs its process. Some processes result in physical, chemical, and radiological changes and others don't. The way to make a uniform set of criteria that are applicable across the country is through mechanisms that all the compacts and states agree to.

Mr. Niles pointed out there is not a level field in terms of regions developing the abilities to deal with radioactive materials generated within their region. Certain regions have not lived up to their part of the bargain as they have not developed disposal capacity for wastes generated in their region.

Mr. Judd stated there is another concern for the state of Utah regarding the fees it collects on waste disposal. He described four scenarios involving 10,000 cubic feet of waste and different processing practices that would result in Utah receiving either \$100,000, \$50,000, \$6,000, or nothing in waste disposal fees. Utah needs to look at this, but it is important for the state to know how these waste are being generated and where the wastes originated

Mr Leonard Slosky, Executive Director of the Rocky Mountain Compact, stated the Rocky Mountain Compact is also very concerned about the waste attribution issue. The compact tracks its waste from the time it leaves the compact until the time it is processed or placed in the ground for disposal. Recently, the compact has had trouble tracking its waste. The compact takes this

very seriously due to its access agreement with the Northwest Compact to dispose of waste at the US Ecology facility in Richland. The compact wants to ensure when a package of waste is shipped to the Richland facility that it is Rocky Mountain Compact waste. It has become more difficult to track the waste and verify the origin of waste following processing. It is an issue even broader than the incineration issue. Although for most other processes it is easier to attribute waste, it appears there is a general perception around the country that attributing waste is not so important anymore. Everyone, except Northwest Compact generators, has access to EnergySolutions so it appears there has been deterioration in the diligence of attributing and tracking waste. With the closure of Barnwell facility to out-of-compact generators there is going to be even more incentive, financial and otherwise, for organizations to attempt to attribute waste in ways that may not be accurate.

Mr. Urgo stated that option one would clearly render moot the Clarifying Resolution. EnergySolutions could import foreign waste to Duratek, incinerate the waste, and then ship it as Tennessee waste to the Clive facility. Option three appears to be the best for tracking where the waste is generated.

Mr. Niles stated that lacking an arrangement for foreign waste there still is this weak link in terms of this attribution issue. He proposed an amendment that adds the following to the last paragraph of the clarifying resolution (amendment is in bold type).

BE IT HEREBY RESOLVED AND ORDERED THAT:

*The Third Amended Resolution and Order does not serve as an arrangement for disposal of low-level radioactive wastes generated in foreign countries – **including foreign generated waste that is characterized as domestic generated waste by another compact or unaffiliated state, and such an arrangement, as required by Articles IV and V of the Compact statutes, would need to be adopted by the Compact Committee prior to foreign generated low-level radioactive wastes being provided access to the region for disposal at EnergySolutions facility in Clive, Utah.***

Mr. Niles stated the remainder of clarifying resolution would remain as currently written. The amendment addresses the committee's authority on foreign waste and lacking an arrangement this clearly spells out the committee's position on this issue. That is the motion.

Mr. Tribble asked for clarification. Is the intent of the suggested amendment to directly address the current issue of reattribution in other states and compacts, as this reattribution issue has not been addressed previously by the committee, and there is no current arrangement allowing for the disposal of such wastes in the compact region? Mr. Niles indicated that is correct, adding he is not suggesting that any attempts be made to retrieve such wastes that may have been disposed at the Clive facility previously.

Mr. Sinclair seconded the motion and the committee unanimously approved the amendment.

Mr. Sinclair recommended that Mr. Garner draft a letter to the Southeast Compact describing this foreign waste issue. Specifically, would the Southeast Compact be willing to enter into conversations with the Northwest Compact committee to identify a resolution that benefits all

parties. Mr. Sinclair and Mr. Niles volunteered to participate with Mr. Garner on a workgroup addressing this issue.

Other Business

The committee determined it would hold its next meeting in October 2008, in Portland, Oregon.

Public Comment

Mr. Judd stated that some today characterized Cedar Mountain Environmental as a competitor of EnergySolutions. He views the company as a potential competitor. The company is working on licensing facilities both here in the U.S. and abroad. This is the basis for his interest in the disposal capacity remaining at the Clive facility and fees associated with waste disposal.

Mr. Urgo thanked the committee for its work, in particular its understanding of the important policy implications of EnergySolutions' proposal. It is alarming that as EnergySolutions has expanded its operations in this country and throughout the world, the level of policy oversight appears to have decreased. He encouraged the committee to maintain its roles in these important policy decisions.

