

Meeting of the Northwest Interstate Compact on
Low-Level Radioactive Waste Management
SeaTac Airport Holiday Inn
Seattle, WA 98188
May 25, 2011

Present:

Douglas Dasher, Alaska
Lynn Nakasone, Hawaii
Brian Monson, Idaho
Roy Kemp, Montana
Ken Niles, Oregon
Rusty Lundberg, Utah
Larry Goldstein, Washington
Carl Anderson, Wyoming
Mike Garner, Executive Director
Kristin Mitchell, Compact Counsel
Lynn Noah, Compact Staff

Mr. Larry Goldstein, Compact Chair, convened the meeting at 9:00 a.m. and welcomed attendees. Mr. Goldstein stated there is a change to the agenda and Mr. David Cronshaw from Waste Control Specialists has been moved to 9:30 to make an afternoon flight. Mr. Goldstein then recommended the committee consider holding an executive session to discuss the pending litigation following the end of the meeting. Mr. Ken Niles made a motion to enter into executive session which was seconded by Mr. Roy Kemp and unanimously passed by the committee members.

Party State Reports

Oregon Activities

Mr. Niles reported one of the disposal sites considered by the Draft Environmental Impact Statement for Greater Than Class C (GTCC) waste is the Hanford Reservation. The U.S. Department of Energy (USDOE) held public meetings in Pasco, Washington and Portland, Oregon last week. Approximately 190 people attended the Portland meeting and an overriding viewpoint expressed by attendees was that efforts at Hanford should focus on cleanup and not the disposal of new offsite waste.

Wyoming Activities

Mr. Carl Anderson stated in-situ uranium mining permits are being processed by the state. One of the issues the state is examining is the land application of formation waters, as part of the pump testing for in-situ uranium. The state is wrestling with approving the land application of those formation waters that are rich in radium. The state has been approving discharge of these formation waters if they meet certain criteria with respect to proximity to surface water and the potential to impact groundwater. Otherwise these waters have to be contained.

Idaho Activities

Mr. Brian Monson reported the State of Idaho hired a Radiation Health Physicist, Mr. Jim Kennedy, who has extensive experience. AREVA plans to construct a uranium enrichment facility near Idaho Falls and originally it was anticipated construction would begin this year. However, the company was informed by the U.S. Nuclear Regulatory Commission (NRC) there would be a delay in the license approval process. AREVA has a final meeting before the Atomic Safety Licensing Board in July. Idaho now anticipates construction will begin in 2012 and the state looks forward to the jobs this project will create.

Utah Activities

Mr. Rusty Lundberg reported Utah's Division of Radiation Control (UDRC) is working on filling vacancies within its x-ray and radioactive materials programs. In addition, the program will be implementing a reorganization resulting from its lean six-sigma evaluation that was conducted in conjunction with EnergySolutions. The reorganization will separate responsibilities associated with licensing/permitting and compliance/enforcement activities. Staffing is being expanded to meet the goals of the program reorganization.

Montana Activities

Mr. Roy Kemp stated there are currently no in-situ uranium mining activities in southern Montana. Montana is experiencing budget deficit issues similar to other states.

Hawaii Activities

Ms. Lynn Nakasone reported that Mr. Russell Takata retired and sends his regards to committee members and staff. Ms. Nakasone stated she is Hawaii's alternate representative and Mr. Jeff Eckerd, Acting Program Manager of the Hawaii Department of Health Radiation Program, is replacing Mr. Takata. Hawaii has nothing to report regarding low-level radioactive waste (LLRW) issues, but like other states is dealing with budget deficits.

Alaska Activities

Mr. Doug Dasher stated Alaska currently has no LLRW issues to report. The Fort Greeley reactor facility is still scheduled to be decommissioned, but it is uncertain when this will occur. The Alaska state budget is doing well as the budget is based on the price of a barrel of oil, and oil has gone from \$70 a barrel in 2009 to \$85 a barrel in 2010. It appears the legislature will continue to have sufficient funds, provided that oil prices remain elevated.

Washington Activities

Mr. Goldstein reported on a joint letter from Washington and Oregon regarding USDOE's Draft GTCC Environmental Impact Statement. Mr. Goldstein read the following quote from the joint letter.

While it is inconceivable to us that the US Department of Energy has spent billions of dollars to try to clean up the environmental damage at Hanford, yet ignore that work by proposing to dispose of additional highly radioactive waste on the site.

Waste Control Specialists

Mr. David Cronshaw, Vice President of Business Development, Waste Control Specialists (WCS), stated developing a LLRW disposal facility in the 21st century is a very complex process. The project has been plagued with delays and the company is still about a year away from opening its facility. WCS has approximately 15,000 acres located in west Texas and 1,300 acres are permitted

for waste management operations. The company has been in operation since 1997 and has focused on the treatment, storage, and disposal of hazardous and toxic waste. The facility also accepts NORM waste and is licensed to accept 11(e)2 byproduct material.

Mr. Cronshaw stated in December 2009 Andrews County issued the bonds supporting construction of the federal and compact disposal facilities. Construction started in January and is ahead of schedule. The compact facility has been deeded to the state of Texas, and the company will lease and operate the facility. The operation employed thirteen employees in 2010 and an additional ninety-five positions are planned for this year. The company's current license has a term of 15 years with two 10 year extension options. The compact facility is licensed to accept about 2.3 million cubic feet of waste containing 3.9 million curies of activity. The capacity of the federal facility is much larger. All waste accepted by the compact facility must be containerized. The compact facility will accept all classes of LLRW and will be able to receive irradiated hardware and sealed sources. Due to the design of the facility and the economics associated with operation of the facility, the company's focus is high activity waste.

Mr. Cronshaw reported the facility is currently storing waste. There are 16 reprocessed residue liners from Studsvik on site, with one more scheduled to be received. Storage is normally limited to one year, but the state has granted WCS a two year extension for storage of the Studsvik waste. The company has a take-back provision incorporated into contracts with generators storing waste. To date, Studsvik is the principal customer for stored wastes.

Mr. Cronshaw stated the Texas Low-Level Radioactive Waste Disposal Compact Commission (TLLRWDC) exerts strong influence on the WCS operation. The Compact Commission approved import and export rules in January 2011. The new Governor of Vermont appointed two new compact commissioners following his election. The rules for import and export were published in February, and WCS anticipates a license amendment will be required for the company to accept out-of-region waste.

Mr. Cronshaw reported the Texas legislature is in session, and there are a couple of bills that could have a strong influence on WCS and the Compact Commission. According to the import rules and pending legislation, it appears that import volumes and curies will be capped. Vermont approved the import and export of waste from the compact following assurance that twenty percent of the compact site capacity will be reserved for Vermont generators. Vermont wanted to ensure its investment of 25 million dollars will provide its generators with guaranteed disposal capacity.

WCS has examined historical waste generation rates and the company is confident there is ample space available for importation of out-of-region waste. WCS will submit a blanket petition for reasonable importation and anticipates it will recommend importation of about 50,000 cubic feet during the first year of operation. This is consistent with the current senate bill. Under the current import rules, generators may submit individual import petitions. Approval of petitions is anticipated to take between three and twelve months. Initially, revenue generated by the import fees would exclusively support the activities of the TLLRWDC, but it now appears additional fees may be imposed on imported waste.

Mr. Cronshaw stated an ongoing initiative will address the establishment of disposal fees. The Texas Commission on Environmental Quality (TCEQ) has authority to establish the maximum disposal rates at WCS. WCS provided information on its proposed disposal fees to TCEQ during

the past year. The company informed TCEQ that importation of out-of-region waste is necessary to support the economic viability of the compact facility. Without waste importation, disposal rates would be extremely high due to low disposal volumes and high fixed costs associated with disposal. TCEQ is going to evaluate this further prior to authorizing waste importation.

Mr. Cronshaw stated rates are structured on the recovery of invested capital. The company is allowed to recover operating expenses but is not allowed to earn a profit from operation of the compact facility. Once the capital investment in the facility is paid off, disposal rates will go down. The state receives ten percent of the disposal fees paid by generators, with five percent going to the state of Texas, and five percent going to Andrews County. This will apply to both compact and imported waste. There is the potential for additional fees.

Mr. Cronshaw reported the company has been focused on pending legislation. The Texas legislature meets biennially and the current session ends on May 30, 2011. Two bills have been drafted; one in the senate and one in the house. Senate Bill 1504 was approved by both the house and the senate. It now goes back to the senate for review and approval as a result of the changes made to the original bill. If approved, the bill will go to the Governor for approval.

Mr. Cronshaw stated the current senate bill clearly shows Texas has the political will to allow WCS to import out-of-region waste. One problem is the bill limits import petitions to generators only, which would not enable the company to submit a blanket import petition as originally planned. The company believes it will be very difficult for small generators to submit petitions, and anticipates the Compact Commission will receive hundreds of import petitions to process. There is an additional 20% surcharge on imported waste. A study of the appropriateness and effectiveness of this surcharge is required by December 1, 2016. The bill stipulates the company must receive a license amendment prior to accepting out-of-region waste. The company's original performance assessment only considered in-region waste. It also requires written certification from TCEQ that out-of-region waste meets the site's license requirements. It imposes limits of 50,000 cubic feet and 120,000 curies per year limit on out-of-region waste, with the exception of the first year which provides for the disposal of 220,000 curies. Waste importation is limited to 30% of licensed capacity and as such is slightly different than the 20% capacity guaranteed to Vermont. The bill states that 80% of the remaining capacity goes to Texas, so 80% of the 70% goes to Texas, and 20% of the remaining capacity or 14% goes to Vermont. If approved, it is uncertain how Vermont will react. The bill allows for disposal of waste prior to the completion of rate setting under interim rates established by the Executive Director of TCEQ. The bill includes significant requirements for other states to join the Texas Compact. The bill also requires TCEQ to complete a study evaluating a number of issues associated with the company's operating license and waste importation.

Mr. Cronshaw reported WCS is initially limited to truck deliveries for waste. The company is looking at an amendment that would provide for rail delivery of waste for the federal facility. All waste at the compact facility will be disposed in concrete overpacks and large components will be entombed in concrete. The State of Texas will take title to waste disposed at the compact facility. WCS is required by its license to have a generators' certification program. This involves verifying that generators using the facility have adequate waste management programs to ensure the generator is properly characterizing waste received by the compact facility. It is uncertain whether audits of these programs will be required. With utilities, WCS believes it can take advantage of NRC audits, but this has yet to be determined. For the most part, WCS personnel will not be opening or sampling waste containers.

Mr. Cronshaw stated the commercial goals of WCS include visiting customers to gain an understanding of their waste management issues, substantiating the site capacity requirements, and ensuring the company has adequate systems and programs in place to handle the generator's disposal needs. WCS already has some disposal contracts in place, and the company is working with utilities and other generators to get additional contracts in place prior to opening the facility. Mr. Cronshaw stated WCS's contracting approach is straightforward and contains standard terms and conditions in what is called an Environmental Services Agreement. Disposal pricing will be based on volume and activity. There will be volume discounts. There are also surcharges associated with waste disposal. For example, the facility is limited to 600 curies of carbon 14 and there is a surcharge for waste containing high activities of this radioisotope. The company is hopeful that generators lacking disposal access for Class B/C waste will soon have an option for direct disposal at WCS.

In response to a question from Mr. Lundberg, Mr. Cronshaw stated he was uncertain how the varying fees were impacted by the Commerce Clause. Mr. Garner pointed out that South Carolina had imposed a surcharge on out-of-region waste disposed at the Barnwell facility.

In response to a question from Mr. Dasher, Mr. Cronshaw stated waste accepted at the federal facility includes waste defined as a federal responsibility in the Low-Level Radioactive Waste Amendments Act and does not include Department of Defense waste.

In response to a question from Mr. Garner, Mr. Cronshaw stated the performance assessment evaluated a volume approximately double the current estimated capacity of 2.3 million cubic feet.

Mr. Cronshaw reported Maine was an original member of the Texas Compact, but dropped out following completion of decommissioning at Maine Yankee.

In response to a question from Ms. Denise Chancellor, Utah Assistant Attorney General, Mr. Cronshaw stated Texas does not take title to waste disposed in the federal facility. This will be a USDOE responsibility should they decide to dispose of waste at the facility. USDOE would be responsible for long-term care and custody at the federal facility.

In response to a question from Mr. Richard Grondin, Perma-Fix Northwest, Mr. Cronshaw stated the federal facility consists of two sections. One section is for un-containerized waste, and one is for containerized waste. The containerized section has a concrete liner.

Approval of the October 2010 Minutes

Mr. Goldstein stated he would like to receive a motion to approve the October 2010 meeting minutes. Mr. Niles made a motion that was seconded. The minutes were unanimously approved.

US Ecology – Activities Overview

Mr. Mike Ault, Facility Manager at US Ecology's Richland facility reported the facility received a total of 22,643 cubic feet of waste in 2010. This consisted of approximately 18,500 cubic feet of low-level waste, 4,000 cubic feet of NARM waste, and a small amount of exempt material. Both NARM and exempt volumes continue to decline as hazardous waste facilities such as US Ecology's Idaho facility are capable of accepting certain of these waste streams at a reduced cost. Through April 2011 the Richland facility has received about 7,000 cubic feet of LLRW, and about 700 cubic feet of NARM and exempt material.

The 2011 annual revenue requirement for operation of the Richland facility is \$5,359,248, and to date approximately \$2,000,000 has been collected. The company submitted a license renewal for operation of the Richland facility to the Washington State Department of Health (Health) in December 2010. The license is currently in timely renewal while Health reviews the license renewal application. No significant changes are anticipated.

Mr. Ault reported the MTCA remedial investigation has been completed and the company is finalizing the feasibility study. The Washington State Department of Ecology (Ecology) will finalize the cleanup action plan once the feasibility study identifies all alternatives, including the preferred alternatives.

In response to a question on anticipated volumes for the remainder of the year, Mr. Ault stated there might be unanticipated volume received from Dawn Mining Company. If this occurs, generators would receive refunds at the end of the year.

Utah – Activities Overview

Mr. Rusty Lundberg stated there are three legislative issues. First, last year in the general session of the legislature, a provision was enacted that changed funding support for UDRC from a volume-based fee to a flat or annual fee that will begin on July 1, 2012. The agency worked closely with EnergySolutions to identify the annual revenue required to support agency efforts. The agency believes having a set revenue amount to support program activities will provide more stability when compared to appropriations from a dedicated account into which volume based fees are deposited.

Mr. Lundberg reported the second item involves the scheduled sunset of the Radiation Control Act (Act) scheduled to occur on July 1, 2012. Reauthorization of the Act must occur in the 2012 general session. In preparation for reauthorization, the agency is scheduled to go before an interim committee to report on the value and benefits of the Act to the citizens of Utah. There are three major parts contained within the Act: 1) addresses the general provisions and overall authority for UDRC, including low-level radioactive waste and x-ray responsibilities; 2) authorizes Utah's participation in the Northwest Compact and; 3) relates to the Private Fuel Storage proposal to temporarily store high-level spent fuel in western Utah. The agency is quite certain these activities will be reauthorized.

Mr. Lundberg reported the last item is a provision enacted in 2005 that requires review and analysis of the adequacy of financial assurance for commercial low-level waste and hazardous waste disposal areas. To satisfy the provisions within the Act, an initial report was submitted to the legislature in 2006, but the legislature voted to reject the report. The report is required to be updated every five years and the next report is due on October 1, 2011. The agency is in the process of examining changes that have occurred, and will be updating the report.

Mr. Lundberg reported Utah's Radiation Control Board (Board), not the agency, has the statutory authority for rule making. Members of the Board are appointed by the Governor and require senate confirmation. A rule articulating when a special performance assessment is required was finalized and became effective on April 4, 2011. Concurrent with this action, changes to administrative procedures are in the final stage of evaluation. One of the biggest changes involves an Administrative Law Judge process as a preliminary review of an agency action should it be appealed, or if there is disagreement with the proposed action. This change is required to ensure

procedural requirements are clearly defined. It is anticipated this will go to Utah's five environmental boards by July.

Mr. Lundberg reported the agency will be reviewing EnergySolutions' performance assessment that would enable the company to accept large volumes of depleted uranium for disposal at its Clive facility. UDRC participated in a Lean Six Sigma review to identify ways to streamline its licensing and permitting processes. This process identified that improvements can be made to the agency's stakeholder/public participation process. To address this, the agency held two stakeholder workshops on EnergySolutions' depleted uranium performance assessment in November and a third in February. The purpose of these workshops was to inform stakeholders and the public of the nature, content, and purpose of the performance assessment. The agency received a lot of positive feedback on the workshops. It was very helpful to have EnergySolutions and its contractor participate in the workshops. The company was able to take certain comments and incorporate them into the performance assessment being developed. The performance assessment is due by June 1, 2011 and another workshop will be held after it is submitted.

EnergySolutions – Activity Overview

Mr. Dan Shrum, Sr. Vice President of Regulatory Affairs, stated safety is a core company value in the operation of its facilities. To assist with this, an outside survey and assessment of the safety culture at the Clive facility was conducted. Once completed, a safety action team was enacted. Peer observations are also used. The facility suffered its first lost time injury in well over five years. Prior to the injury, the facility had reached 3.5 million hours without a lost time injury. As of December 2010 the facility had 500,000 hours without an injury. The injury involved an employee who got their boot stuck on a two step ladder and fell backwards injuring their wrist. The company is always examining ways to improve its safety record.

Mr. Shrum reported the Clive facility is located on Section 32, which encompasses 640 acres, one square mile. USDOE's Vitro cell encompasses 100 to 105 acres of this area but is not considered to be part of EnergySolutions' facility. The company also owns section 29, another square mile, and half of section 5. The facility includes mixed waste treatment and disposal facilities as well as an 11(e)2 disposal area (uranium mill tailings). There is a Class A embankment which is dedicated to Class A waste which is located in a different area than the Class A North cell. A new rail car rollover facility and shredder have been added in recent years. The shredder has a 6000 horsepower electric motor that can reduce a car to four inch debris in about 6 seconds. The shredder has saved significant disposal capacity at the facility and is operated at night due to its high power consumption. The company has a fleet of super gondola rail cars that are larger than the typical railcar. The new rollover facility for the super gondolas includes wash and radiation stations.

Mr. Shrum reported EnergySolutions provides for bulk and containerized waste disposal. Containerized waste generally arrives in liners that are placed in concrete or steel caissons for disposal. Containerized waste packages are not opened when received at the facility. The facility can also accept large components. The facility performs mixed waste treatment, macro-encapsulation, and liquid solidification for low-level and mixed waste. The facility also manages and disposes of PCBs. The facility can characterize mixed waste and these wastes can now be disposed in either the mixed waste or Class A cells. The facility recently updated its Toxics Substances Control Act permit and can now shred PCB waste. Higher concentrations of PCB waste are run through the thermal desorption unit to remove organics from the mixed waste. The company had worked on a processing facility application, but rescinded its application last year.

Mr. Shrum reported the company conducted a study on the length of time that waste lifts within disposal cells can remain open. Following the study, the time was increased from 12 to 17 years to accommodate the filling of the lift. The groundwater at the facility is non-potable and only moves about one foot per year and the company has been allowed to reduce its sampling frequency.

Mr. Shrum stated in June 2010, a rule placed a moratorium on the facility's ability to accept significant volumes of depleted uranium for disposal. The rule requires a performance assessment to be completed and approved prior to accepting additional depleted uranium. Following approval of two extension requests, the new performance assessment will be submitted on June 1, 2011. The company learned a lot at the public workshops and is attempting to expedite the review by addressing these concerns within its performance assessment. The company anticipates UDRC's review of the performance assessment will take at least twelve months. In addition, there are likely to be discussions on the policy issues associated with depleted uranium disposal. Following receipt of 5,408 drums of depleted uranium from Savannah River, the drums were placed in a waste cell awaiting grouting. It was then determined the barrels would be removed from the cell and put in storage within a new building until the performance assessment is completed. The state and the U.S. Department of Energy (USDOE) were very helpful in expediting the removal of the drums.

Mr. Shrum reported the company entered into a joint venture with Studsvik called SempraSafe. The THOR process used by Studsvik takes resins containing various concentrations, and blends the resins resulting in a class A waste package. The Thor process takes a variety of resins and blends them together using a heat and a mineral former. This process drives off the liquids and organics contained within the resins. The resins are then super-charged with heat producing a reformed resin package that looks a little like black clay. The end product is homogenous and very easy to manage. The processed resins are then placed directly into a liner, which is disposed in the containerized waste facility. Studsvik has used its Thor process for over ten years and the Clive facility has received these packages during this period. The NRC is aware of this process, and although it is anticipated there will be additional changes in its Branch Technical Position (BTP) - Concentration Averaging and Encapsulation, it is not anticipated the agency will prohibit blending. The Board passed a performance assessment requirement for wastes that were not specifically considered in the development of 10 CFR Part 61. The company prepared an evaluation of the disposal of large volumes of blended resins at its facility. This was submitted to UDRC on February 14, 2011. UDRC has finished most of its review, and although the company believes it will have to address some interrogatories, it anticipates it will be able to continue forward with the project after doing so.

Mr. Shrum stated there are other licensing activities the company would like to make the committee aware of. The first is what is called the Class A South cell that involves attaching a Class A cell adjacent to the 11(e)2 disposal facility. The company rescinded this request due to the technical limitations and challenges faced with this approach. The company is instead pursuing plans to attach two cells, and use available capacity in this manner. At the request of the Governor, the company is also negotiating a long term stewardship with USDOE for a federal low-level waste disposal cell that would be attached to the 11(e)2 cell. The company has requested to incorporate a portion of the volume from its Class A South cell to expand its mixed waste facility. Once submitted, this will include a request for two new sumps in this area.

Mr. Shrum reported that following large volume years in 2005 and 2006 as a result of the Rocky Flats cleanup, the company has experienced significant reductions in annual disposal volumes. The company expected volumes to remain depressed, but 2010 volumes increased as a result of the American Recovery and Reinvestment Act monies received by USDOE. This allowed the company to assist USDOE with several cleanup projects. It is anticipated that volumes will now decline to levels comparable with 2007 through 2009, around 4 million cubic feet annually. As of August 2009 the licensed capacity is 49.5 million cubic feet. If current amendments are approved, the company will have about 131 million cubic feet of licensed capacity remaining. At 4 million cubic feet per year, there are 25 and 30 years of capacity remaining.

Mr. Garner stated one of the requirements to ensure the compact's exclusionary authority is being followed is to know the generator and state in which the waste is generated. Mr. Garner stated it is his understanding this information will be available for the Studsvik SempraSafe waste based on previous conversations with Mr. Shrum and Mr. Magette. For example if a Thor puck contains waste from ten generators this information will be provided to the compact. Mr. Shrum responded that is correct and that is the commitment we made to you and the compact.

In response to a question from Mr. Garner, Mr. Shrum indicated the annual low-level waste volume consists of about equal volumes of commercial and USDOE waste.

US Ecology and Washington Activities Overview

Mr. Goldstein reported issues remain with placing a cover on the filled trenches at US Ecology. The US Ecology Remedial Investigation started in January 2008 and the field work was completed in February 2010. Field work revealed nine compounds as contaminants of potential concern in the soil vapor sampling. Soil data revealed cleanup standards for protection of groundwater were exceeded for three constituents. Model Toxics Control Act (MTCA) standards for groundwater were exceeded for four constituents. A feasibility study will be developed to examine potential remedial action alternatives.

Mr. Goldstein reported there were eight potential remedial action alternatives that include the following examples.

1. Monitored natural attenuation with institutional controls
2. Monitored natural attenuation with pump and treat of the groundwater
3. Cap the closed trenches incorporating an evapotranspiration barrier
4. Excavation of the resin tank area if necessary, capping the pre-1985 trenches

The eight alternatives will be evaluated against criteria defined within MTCA. Examples of these criteria include:

1. Protection of human health and the environment
2. Compliance with ARAR's (Applicable or Relevant and Appropriate Requirements)
3. Short term effectiveness
4. Implement ability
5. Cost

Mr. Goldstein stated the agency will be evaluating the alternatives against these criteria, and will also conduct a disproportionate cost analysis. When completed, the Draft Final Remedial Investigation and Feasibility Study will be released for public review and comment. There is a great deal of interest in these activities and it is anticipated the agency will receive requests to

extend the review and comment period for these documents. Once completed, the agency will incorporate the public's comments and concerns into the Draft Cleanup Action Plan. This document will then go out for public review and comment. Mr. Goldstein estimated the earliest this would be completed is fall of 2011.

Mr. Goldstein stated at the meeting last October that the agency had been served with two lawsuits in May 2010. In the first suit the plaintiffs alleged the agency violated the terms of the Administrative Procedures Act by attempting to conduct an initial closure activity. The second suit alleged the agency violated many federal and state laws by attempting to proceed without first developing and publishing for public review a supplemental Environmental Impact Statement. The primary issue stated that new data generated through the investigation should be evaluated prior to beginning any activity to close the filled trenches. Other issues included the applicability of the Administrative Policy Act, federal law, and the Washington State Public Disclosure Act. In March 2011 the petitioners paid the agency about \$4,000 to produce the agency record. Ecology and Health recently moved for partial dismissal. There was also a motion to supplement the agency record and amend the petition that was filed in May 2010. Plaintiffs allege there is a lot of new information that was discovered during their review of the administrative record produced previously by the agencies. No hearing date has been set to resolve these substantial issues.

Mr. Goldstein stated Ecology received its fifth public disclosure request last week. The agency decided to not implement its Interim Remedial Action Plan in August and to postpone any construction for a variety of technical and legal issues, which may include an adjustment to the lease at some point in the future.

Overview of Removal and Disposition of Disused Sources Focus Group

Mr. John Zarling, Research & Design Engineer for the National Nuclear Security Administration (NNSA), stated his presentation will focus on the Off-Site Recovery Program (OSRP) and the Disused Sources Focus Group. Mr. Zarling stated he has been stationed in DC for the last two years supporting Ms. Abby Cuthbertson, Manager of the OSRP for NNSA. This program works with the Global Threat Reduction Initiative (GTRI), and consists of three pillars: 1) Convert; 2) Remove and; 3) Protect. Convert involves the conversion of high enriched uranium to low enriched uranium at reactors worldwide. Remove involves removing at-risk disused sources and fuel worldwide. Protect involves security upgrades in hospitals and other institutions throughout the US, using tools such as remote monitoring.

Mr. Zarling reported that as of April 2011, OSRP had recovered over 27,800 sources containing over 809,000 curies of material. OSRP primarily recovers cesium, strontium, cobalt, and the transuranic material including americium and plutonium 238 and 239. OSRP will assist with recovery of large radium sources containing more than 1.2 curies. The Conference of Radiation Control Program Directors (CRCPD) Source Collection and Recovery Program (SCATR) will recover disused radium sources containing less than 1.2 curies. The SCATR program works with state regulators and licensees on disused sources that have commercial disposal pathways. Many of the disused radium sources are sent to the Richland facility for disposal.

Mr. Zarling stated every year thousands of sources become disused and unwanted in the United States. The current backlog involves about 18,000 sources. Secured storage is a temporary measure; however, the longer sources remain disused and unwanted the greater the likelihood that the sources become unsecured or abandoned. One of the basic tenants of the program is the

registration of sources by generators at OSRP.LANL.gov. The sources being collected by OSRP have no commercial disposal pathway. These are typically high activity cobalt and cesium sources as well as actinide sources. If a disused source has a commercial disposal pathway, the SCATR program will pick it up and arrange for disposal at commercial disposal facilities.

Mr. Zarling stated the program works with NRC in prioritizing the most vulnerable sources as these sources need to be collected first. Sources at USDOE or Department of Defense sites are generally pretty secure. The availability of transportation containers for large, high activity sources is a huge issue for the program. There are very few containers available for transport of these sources and one of the few options is currently operating under an expired special permit from the DOT, but this option could be lost at any time. OSRP is working on developing two new type B containers, but this is a lengthy, expensive process. Mr. Zarling stated personnel from Los Alamos will go out and package transuranic sources. The group will contract with industry to go out and collect the large beta/gamma devices, irradiators, teletherapy heads, and large cesium sources.

Mr. Zarling reported in 2009/2010 the Disused Sources Focus Group discussed its issues with over forty participants from federal and state governments, compacts, and the private sector. The problem statement reads:

The lack of disposal pathways for radioactive sealed sources, which make up less than 1 percent of all low-level radioactive waste by volume and activity, poses a national security concern. During their service lives, these sources have numerous essential and beneficial medical, industrial, and research applications. However, due to their high activity and portability, some of these sources could be used either individually or in aggregate in radiological dispersal devices commonly referred to as "dirty bombs," resulting in economic impacts in the billions of dollars and significant social disruption. Every year, thousands of sources become disused and unwanted in the United States. While secure storage is a temporary measure, the longer sources remain disused or unwanted the chances increase that they will become unsecured or abandoned.

The problem statement was included in the 2010 Radiation Source, Protection and Security Task Force Report that was submitted to the president. This issue is of great concern to NRC, USDOE and other agencies.

Mr. Zarling reported as of April 2011 the OSRP database register contained 18,355 disused and unwanted sources. 16,601 sources on the register, 90.4%, contain less than one curie of material. Only 14 states have access to commercial disposal. Hopefully soon Texas and Vermont will also have access. The three member states of the Atlantic Compact have an activity limit of 10 curies for disposal of sources at the Barnwell facility. This leaves a lot of high activity sources with no disposal option. In states lacking disposal access, USDOE does take title to the recovered sources which are then disposed at a USDOE facility. With proper documentation, actinide sources have access to the Waste Isolation Pilot Plant (WIPP). OSRP looks forward to the development of a GTCC facility. The current system is not ideal; and affordable, reliable disposal pathways for all sources in all states would be preferred. This would allow the cost of disposal to be shouldered by the source owners, not taxpayers.

Mr. Zarling reported assuming 10 CFR 61.55 disposal limits; the Northwest Compact has 521 Class A, 12 Class B, and 16 GTCC sources on OSRP's register. Of the 16 GTCC sources, about ten of

these are located in Alaska. The majority of the GTCC sources located in Alaska are radioisotope thermoelectric generators (RTG). If Rocky Mountain Compact sources are included, there are 991 Class A, 22 Class B, 1 Class C, and 17 GTCC sources included in the OSRP register from the two interstate compacts.

Mr. Zarling stated the 10 CFR 61.55 regulations effectively limit current disposal at commercial facilities to 30 curies for Co-60 and Ca-137. If allowed to take advantage of the container and concrete into which a sealed source is placed the limit for Co-60 could be increased to 976 curies. The OSRP submitted this comment to the NRC regarding its Draft BTP on Concentration Averaging and Encapsulation. The program is asking NRC to allow for consideration of both the lead shielding and lead shielding encased in concrete. Appendix C of NRC's Draft BTP - Concentration Averaging and Encapsulation provides guidance for disposal of higher activity sealed sources. OSRP has recommended that NRC provide additional guidance in Appendix C to clarify what would be acceptable. GTRI is working with CRCPD to develop a pilot program within the NW Compact that would use Appendix C to dispose of cobalt and cesium sources containing more than 30 curies. The difficulty with this approach is for each source shipment a new submission identifying the appropriateness of the request is required.

Mr. Dasher stated he believed some of the RTG's had been removed from Alaska. Mr. Zarling stated he was not aware of this, but would check on the status of the RTG's.

Mr. Kemp reiterated his support for CRCPD's SCATR program, stating the SCATR program had assisted in the removal of a number of sources stored in one of the state buildings.

Review of National and Regional Issues

Mr. Garner reported at the request of the NNSA the Low-Level Radioactive Waste Forum formed a steering committee to evaluate the benefit of forming a working group examining the issue of disused sources. The steering committee met with representatives of NNSA, USDOE, NRC and others in January 2011. The two day meeting involved open and candid discussions. Subsequently at its March 2011 meeting, the LLWForum decided to form a working group to examine this issue. Mr. Zarling has provided the group with information on the current status of the OSRP and SCATR programs. The working group will also examine what can be done to minimize the issue of disused sources in the future. One of the areas are the front-end factors, specifically what can be done to ensure that an entity that receives a sealed source for use has the where-with-all to dispose of it once that sealed source is spent. Reuse and recycle opportunities will also be examined. The group will look to identify contributions that can be made by states and compacts lacking disposal access. This could include development of secured storage facilities in areas lacking disposal access. Although this is not high on NNSA's list of possible solutions, equity needs to be considered when considering alternatives. Disposal pathways will be a primary consideration. The working group is funded by a NNSA grant. Input will be sought from stakeholders to include NRC, CRCPD, source suppliers, and others. The working group will be active for a period of 12 to 18 months. A final report will be issued to NNSA and the LLWForum Board of Directors. This report will include an explanation of the issues and recommendations for a path forward.

Mr. Garner reported the Draft GTCC Environmental Impact Statement (EIS) was released on February 18, 2011. The Draft EIS looks at several disposal options: deep geological disposal, intermediate depth bore holes, enhanced near surface trenches, and above grade vaults. The document also lists possible locations for such a facility that includes Hanford. No preferred

alternative has been selected. The preferred alternative could be a combination of two or more alternatives and will be provided in the final EIS. A 120 day comment period on the Draft GTCC EIS began on February 25, 2011. USDOE held meetings earlier this month in Idaho, Oregon and Washington. Prior to making a final decision on the disposal method or location, USDOE must submit its report to Congress. USDOE will then await direction from Congress before proceeding.

Mr. Garner reported NRC Commissioners approved the staff's option to revise its current position on low-level radioactive waste blending. In NRC's opinion, this will make its position more risk-informed and performance based. The principal consideration is can the final blended form be safely disposed. There will also be changes or clarifications that will include development of a site specific intruder analysis and criteria for acceptable homogeneity and sampling. NRC will implement its position through a combination of unique waste streams rulemaking and an updated BTP – Concentration Averaging and Encapsulation. Staff will work with agreement states to determine the appropriate compatibility for the rule. The rule will provide a clear requirement for site specific analysis to ensure blended LLRW is safely disposed. Entities interested in large-scale blending are encouraged to wait until the revised BTP is published. Prior to completion, large-scale blending actions will be reviewed on a case by case basis.

Mr. Garner reported that Ms. Diane Hallisy, the Site Use Permit Administrator, retired in October 2010. Mr. Eric Schlorff is the new Site Use Permit Administrator. Responsibilities regarding administration of the Site Use Permit System are scheduled to be transferred to Health in July 2012 if authorized by the legislature. Site use permit fees are based on multiples of the base fee (1x, 2x, 5x, 10x, 35x and 100x for nuclear utilities.) The base fee is currently \$424, and was last increased in 2003. Site Use Permit revenue funds administration of the site use permit system, compact activities, and staff support to the compact.

Mr. Garner stated he was asked to give a presentation at EnergySolutions' Annual Customer Conference. The presentation focused on the rules and requirements of the Northwest Compact. Topics included the requirements for an arrangement, requirements of the Third Amended Resolution and Order, the Resolution Clarifying the Third Amended Resolution and Order, and the importance of the reporting requirements to exclusionary authority oversight.

Mr. Garner stated the NRC is going to re-examine its 10 CFR Part 61 waste regulations that were developed in the late 1970s and early 1980s. Over the last several years there have been a number of developments such as the emergence of LLRW streams that were not considered during the original development of the regulation. These include disposal of large quantities of depleted uranium, blended low-level radioactive waste, and incidental waste associated with commercial reprocessing of nuclear fuel. There is also extensive international operational experience in the management of low-level waste and intermediate level waste that did not exist at the time of the original Part 61 rulemaking. SECY-10-0165 identified five potential options for revision. These options include: 1) risk-inform the Part 61 waste classification framework; 2) a comprehensive revision; 3) an international alignment; 4) a site-specific waste acceptance criteria; and 5) maintain the status quo.

NRC plans to engage stakeholders prior to the rulemaking process to gather input. NRC's first meeting was held on March 4, 2011 and one or more additional meetings will be held later in 2011 or 2012. Staff will submit its recommendations for commission consideration toward the end of 2012. The NRC has a website for those interested in gaining additional information on this topic.

Mr. Leonard Slosky, Executive Director of the Rocky Mountain Compact, stated Mr. Garner served on the Forum's steering committee on disused sources. The Forum has submitted a grant application to NNSA, and if approved the Forum will ask Mr. Garner to serve on the Working Group. Mr. Slosky stated that NRC has an awful lot going on right now, and Mr. Lundberg is deeply involved in that. The Forum passed a resolution at its last meeting asking the NRC to devote more time to meeting with the states and compacts. This will allow states and compacts to provide more direct input into the NRC on the developing issues. It is likely there will be a session devoted to this following the October Forum meeting in Santa Fe, New Mexico.

Compact Counsel – Overview of Legal Issues

Ms. Kristin Mitchell stated the Tenth Circuit Court had not ruled on the compact's appeal prior to the committee's October 2010 meeting. The court then issued its ruling on November 9, 2010. The ruling affirmed the Northwest Interstate Compact has the authority contained within its statutes. To read a short quote from the opinion, "The Northwest Committee has compact authority to exclude importation of waste from Italy and any other waste generated outside the Northwest Compact region." This is the heart and soul of the case. It was a challenge to compact's authority over in-region and out-of-region waste streams. The ruling affirmed that Congress had given this authority to the interstate compacts.

Ms. Mitchell asked Mr. Garner if EnergySolutions was current on its reporting requirements. Mr. Garner stated the company has submitted all the reports from the onset of the lawsuit to present.

Ms. Mitchell stated it was a three count lawsuit involving three arguments. The summary judgment motion went up to through the Utah District Court to the Tenth Circuit Court of Appeals. This was the only count that involved statutory authority. Counsel had questions about what to do with counts two and three. Near the end of 2010 compact counsel approached EnergySolutions' counsel to see what their next steps were related to the other two counts of the lawsuit. Utah's District Court then set up a status conference. At the status conference the District Court will ask the parties where they stand and what is going to be done in relation to the remaining items of the lawsuit. As the plaintiff, EnergySolutions is in the driver's seat. The Rocky Mountain Compact, Northwest Compact and state of Utah are the defendants and are waiting to see what occurs at the status conference. Counts two and three involve preemption by NRC statute and regulations, and the Commerce Clause issue. Ms. Mitchell believes the Tenth Circuit Court of Appeals decision addressed these issues but is interested to hear what is brought up at the status conference.

Import/Export License Responses

Mr. Garner reported two import and export license applications were received since the last meeting. The first involved Oregon Specialty Metals (OSM), located in Pennsylvania. The company wanted to import waste from a Mississauga Metals and Alloys (MMA), its sister company located in Canada. This involved waste that was generated in the U.S. by Westinghouse and AREVA. The Westinghouse waste was generated in Missouri and South Carolina, and the AREVA waste was generated in Washington and Virginia. The waste had been shipped to MMA for processing. Following a fire at MMA, the company was directed by Canadian authorities to reduce its onsite inventory.

Mr. Garner stated a number of questions were asked of NRC regarding these waste streams including have the four waste streams remained segregated, or had the waste streams been

comingled? The response indicated the waste streams remained segregated, retaining their original identity. Once imported, all of this waste is going to be processed by Alaron, also located in Pennsylvania. Mr. Garner responded to the NRC that the Northwest Compact had no issue with this import/export license request, provided the waste originating at AREVA's Richland facility was disposed at the Richland disposal facility. The other three waste streams are eligible for disposal at EnergySolutions following processing at Alaron.

Mr. Garner reported the second import/export license request involved a request originally submitted by EnergySolutions' Bear Creek facility before the end of 2009. This requested a six-year extension for import and export of Canadian waste. The facility previously imported the Canadian waste and processed the waste in its incinerator. Following a change in its operating license authorized by the state of Tennessee, the resulting primary hearth ash was allowed to be attributed to the processor and was then shipped as Tennessee waste to the Clive facility. This waste stream contributed to the adoption of the Northwest Compact's Resolution Clarifying the Third Amended Resolution and Order.

Mr. Garner stated the court case was ongoing when the Bear Creek facility originally submitted its license extension request. Mr. Garner submitted a letter to NRC indicating the Northwest Compact does not currently have authority, but that could change based on the eventual ruling of the US Tenth Circuit Court of Appeals. The NRC decided to put the extension request in abeyance. In January 2011, following the US Tenth Circuit Court of Appeals decision, the NRC took the extension request out of abeyance and requested responses and comments from the states and compacts. About this same time, Mr. Tom Magette, Sr. Vice President of Nuclear Regulatory Strategy for EnergySolutions, contacted Mr. Garner indicating he wanted to develop a short document that captures the intent of the Resolution Clarifying the Third Amended Resolution and Order. Mr. Magette indicated the document would clearly address that all the primary hearth ash resulting from the incineration of the Canadian waste will be shipped back to the host country. Also, any containers used to ship the Canadian waste that were not reused or recycled will also be returned. Mr. Magette stated the document will also address residual wastes that can be attributed to the processor.

Mr. Garner reported Mr. Magette developed this document in conjunction with input from himself and Mr. Lundberg. Mr. Garner stated Mr. Lundberg's participation was important as he wanted to ensure the comments submitted on behalf of the Northwest Compact were consistent with the position taken by the State of Utah. Agreement was reached and the State of Utah was satisfied with the comments that would be submitted by the compact. Mr. Garner stated he then informed NRC that the Northwest Compact had no issue with the proposed license extensions.

Mr. Magette stated EnergySolutions would like to have the document apply to future import license requests. Mr. Garner stated that after consultation with the State of Utah it was applied to the current request but before it is applied to future requests he would like to receive the concurrence of the Northwest Compact Committee.

Committee Business

Mr. Goldstein introduced the topic of the document titled "Residual Low-Level Wastes from Incineration."

Mr. Lundberg reported residual waste consists of wastes that cannot be specifically attributed to an individual generator as can the primary hearth ash, or the containers in which waste is shipped to the Bear Creek facility. Following review and discussion of the document, Utah recognizes it conforms to the compact's current resolutions as well as Utah's interpretation of state policy. Even when dedicated campaigns are run through the incinerator there will be some residual wastes generated by the process. Mr. Lundberg stated he is comfortable the document properly describes primary and residual wastes and that it conforms to the court decision, the compact's resolutions, and State of Utah policy.

Mr. Garner then read the first paragraph of the document which states:

In processing foreign waste imported into the United States, it is EnergySolutions' practice to incinerate the waste in batches, or campaigns, and return the primary hearth ash to the host country. Containers in which foreign LLRW is shipped would also be returned to the host country unless reused or recycled as described later in this document. This is necessary in order to conform to the restrictions on the disposal of foreign-generated waste at the Clive facility imposed by the Northwest Interstate Compact (NWIC) as stated in NWIC's Resolution Clarifying the Third Amended Resolution and Order.

Therefore, the document directly addresses the return of the primary hearth ash and the potential return of containers to the foreign entity from which the waste was received.

Mr. Goldstein asked Mr. Magette for any additional comments. Mr. Magette stated he set out to make an explicit list, and if it is not on the list, then it is not going to be shipped to the Clive facility for disposal. The intent is to ensure that both the State of Utah and the compact know exactly what is included. It is a longer list than expected, and it states that residual wastes would include pumps, refractory brick, seals, etc. associated with the incinerator. These parts are replaced after multiple generators' waste streams are run through the incinerator, and contain residual contamination from all of the waste streams that were run through the incinerator during their use. It is virtually impossible to attribute these wastes to specific generators when these parts are replaced. This is exactly what the writers of 10 CFR 20 Appendix G had in mind when discussing residual wastes. They are wastes that cannot be attributed to an original generator. Hopefully, the committee will agree with this approach.

Mr. Magette fielded a question regarding "large campaigns." Mr. Magette explained that it is conceivable in "large campaigns" that even some of the items listed as residual waste could be attributed to an individual generator. For example, the company is actually contemplating dedicating an incinerator to Canadian waste for some period of time. Presumably if four or five pump seals are changed during the "large campaign" these would then be included with the hearth ash and returned to Canada. Mr. Magette stated the company will do this for "large campaigns" that may operate over an extended period of time.

Mr. Goldstein asked if there is a motion to allow the document titled Residual Low-Level Radioactive Wastes from Incineration (attached) to be used for future import applications. Mr. Kemp offered the first motion which was then seconded by Mr. Monson. The motion was passed unanimously.

Mr. Goldstein stated Mr. Garner has two other topics to discuss. Mr. Garner stated the first is the US Ecology sublease of the one hundred acres from the State of Washington for operation of the

Richland commercial disposal facility. Under the arrangement the sublease is increased every three years based on the change in the consumer price index. The annual sublease payment was increased this year from \$68,960 to \$71,655 dollars. All monies except the annual \$600 Prime Lease payment to USDOE are passed on to the Benton County Treasurer.

Mr. Garner stated the last issue deals with Northwest Compact generators that generate mixed low-level waste streams. In most cases these are mixed low-level waste streams with a characteristic hazard. The characteristic hazard could be treated and the waste could then be shipped to the Richland facility for disposal as LLRW. In the past this included two significant volume generators in the state of Oregon: Precision Castparts and Teledyne Wah Chang. These companies came to the committee and stated they no longer wanted to treat their low-level mixed waste stream for its characteristic hazard, and would instead send these mixed waste streams to EnergySolutions. The committee stated it had no issue with this practice. Mr. Garner reported receiving a similar request recently from Oregon State University. The university was seeking an exemption for scintillation cocktail fluids that appear to be a mixed low-level waste. The difference with the current request is the university plans to send the scintillation cocktail fluids out of compact to a facility (NSSI) in Houston, Texas. The five drums of waste, once processed, will result in about five cups of residual waste. If the waste stream is verified to be mixed waste, the university will be notified that an exemption is not required for mixed waste. The committee did not have an issue with this approach.

Public Comment

No public comment was received.

Next Committee Meeting

The committee then discussed the timing and location of its next meeting. It was determined the next meeting would be held in Wyoming next spring provided there were no travel restrictions in place for Washington State employees.

The meeting was adjourned and committee members entered into executive session.

Attachment

Residual Low-Level Radioactive Wastes from Incineration

In processing foreign waste imported into the United States, it is EnergySolutions practice to incinerate the waste in batches, or campaigns, and return the primary hearth ash to the host country. Containers in which foreign LLRW is shipped would also be returned to the host country unless reused or recycled as described later in this document. This is necessary in order to conform to the restrictions on the disposal of foreign-generated waste at the Clive facility imposed by the Northwest Interstate Compact (NWIC) as stated in NWIC's *Resolution Clarifying the Third Amended Resolution and Order*. Defined below are the wastes resulting from incineration that NWIC approves for disposal at the Clive facility.

Waste Attributable to Processor – Prior to initiating a dedicated campaign, extensive manual cleanout of the continuous-feed incinerator at EnergySolutions' Bear Creek facility must be conducted in order to minimize the likelihood of cross contamination from wastes burned in the previous incineration cycle. Cleanout efforts and some other facility activities generate small quantities of material over an extended time period. These materials contain radioactivity commingled as a result of working with wastes from multiple generators. As a result, radioactivity from some waste streams that are incinerated cannot be attributed to a single generator. A comprehensive list of waste streams that cannot be attributed to a single generator and may be attributed to EnergySolutions and are permitted for disposal at the Clive facility by the NWIC is contained in Table 1.

Empty Packaging – Empty packaging from inbound international shipments will be reused for return of customer ash or other material, reused within the EnergySolutions facility, or released for unrestricted use if not contaminated. Metal packaging also may be recycled into metal products for reuse within the nuclear industry.

Large Campaigns – It is possible that in some instances, portions of the wastes listed above may be attributed to and returned to the original generator. The attribution requirements in EnergySolutions' Tennessee Radioactive Materials licenses acknowledge that large incineration campaigns (typically >100,000 pounds) of a single generator's materials can render more of the residual wastes attributable to that generator. EnergySolutions will collect and return such waste when practical; however, all of the wastes described above are acceptable for disposal at EnergySolutions' Clive facility.

Regulatory Basis – Considerations related to attribution of waste generated through the waste preparation and incineration processes as described above are explicitly addressed in EnergySolutions' Tennessee Radioactive Materials Licenses and are derived from information and guidance contained in Schedule RHS 8-33 of Tennessee Regulation 1200-2-5. This rule is the Tennessee equivalent to NRC Regulation 10 CFR 20 Appendix G. Residual waste is defined by both regulators as:

'Residual Waste' means low-level radioactive waste resulting from processing or decontamination activities that cannot be easily separated into distinct batches attributable to specific waste generators. This waste is attributable to the processor or decontamination facility, as applicable.

Table 1. Waste Attributable to Processor

Item	Description
Mops and rags from process area, equipment, and sorting table decontamination	General material handling, waste inspection or sorting prior to incineration inevitably results in the need to periodically decontaminate the waste sorting table, the conveyor belts, rollers and floor areas.
Floor sweepings	Floor sweepings from contaminated process areas are generally collected in small quantities over an extended time.
Incinerator off-gas system wastes: boiler ash, fly ash, bag house bags, HEPA filters, scrubber salts	These systems cannot be effectively decontaminated for a campaign and have service lives that exceed the length of a dedicated campaign.
Replacement parts for the incinerator: thermocouples, flow meters, pH probes, gaskets, augers, and refractory linings	Parts that become contaminated over long periods of time and must be replaced upon failure
Reusable personal protective equipment: laundered cloth coveralls, hoods, rubber and cut-resistant gloves, respirators, and respirator filters	Most PPE is suitable for multiple uses until wear or slow buildup of contamination renders them waste
Health physics and laboratory wastes	Commingled swipes and process samples: scrubber brine, ash, and refractory
Maintenance and support equipment: reusable contaminated pumps, valves, hoses, hand tools, test and inspection hardware, jacks, hoists, and rebuilt spare parts	Long-life tools and components or support equipment are an integral part of equipment operation.

