
The

Radioactive Exchange®

To promote the exchange of views and information on radioactive waste management

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Volume 6 No. 9

May 19, 1987

GAO CONCLUDES DOE MRS PROPOSAL INCOMPLETE AND UNSUPPORTABLE

The long awaited (and yet to be released) GAO report entitled " Nuclear Waste: DOE's Proposal for a Monitored Retrievable Storage Facility is Incomplete," concludes that DOE's MRS proposal is not **"Sufficiently comprehensive for the Congress to make an informed decision on the cost of, need for, or consequences of integrating an MRS into the waste management system, or whether the benefits attributed to the MRS can be better achieved by other means."**

The Congressional watchdog agency further states that DOE has "not presented sufficient data to compare a waste management system with and without an MRS and that "more detailed information should be available regarding [MRS] costs and the consequences of not having an MRS."

Unless more information is provided than DOE had currently made available, the GAO does not believe "sufficient evidence is available to support a decision to include an MRS--at additional cost to electricity consumers--in the nation's nuclear waste disposal program." (See **MRS in the HLW Focus**)

MIDWEST TO SELECT HOST FOR REGIONAL DISPOSAL SITE JUNE 30

At their May meeting, the Midwest Compact Commission approved a motion to select the host state for the regional burial facility on June 30. The four possible candidate states are Ohio, Michigan, Wisconsin and Minnesota. As of May 18 no state was volunteering to host the regional burial facility even though negotiations with local communities and possible site developers are underway in a couple of the states. ******

SEG TO INSTALL INCINERATOR, LLRW SUPERCOMPACTOR IN FULL SWING

Bud Arrowsmith, President of Scientific Ecology Group (SEG), in an exclusive interview with The Exchange reported that SEG expects to start construction on a DAW incinerator at his firm's Tennessee LLRW processing center by the end of this year. He reports that in approximately seven months of operation, the facility has supercompacted 70,000 cubic feet of LLRW. (See **Press Conference** inside) ******

WASHINGTON TO RELEASE MIXED WASTE RESTRICTIONS FOR HANFORD IN JUNE

In early June the Washington State Department of Ecology is scheduled to release final certification requirements and a "guidance document" directed toward prohibiting the acceptance of LLRW waste contaminated with RCRA-regulated waste at the Hanford commercial burial facility. As reported in the last edition of the EXCHANGE (Vol. 6, No. 8), effective August 1, 1987 each shipment of LLRW to the Hanford site must be accompanied by signed certification that it contains no RCRA regulated waste. The certification is to be signed by either an executive officer of the company shipping the waste or a "formally delegated company or agency representative." [Editor's Note: In the previous story it was reported that only an executive officer's signature would be accepted.]

State Guidance Follows Federal

According to WA Department of Ecology officials the state's guidance document on the RCRA certification requirement is based on the federal guidance jointly released by EPA and NRC earlier this year. There is "no major difference" between the two the Exchange was told. But, in addition, the state guidance will incorporate restrictions as contained in the State's own Dangerous Waste Statutes.

Though the federal guidance avoided suggesting or identifying possible laboratories capable of analyzing waste packages for the presence of RCRA regulated material (i.e., either listed waste or non-listed waste exhibiting properties similar to listed waste) the state guidance does identify six laboratories with this capability.

US Ecology officials, however, had reported to the EXCHANGE that only one of the six had the proper capability (See EXCHANGE, Vol. 6, No. 8). The discrepancy appears to be due to the fact five of the six laboratories have radioactivity thresholds above which they will not accept a package for a analysis. Apparently US Ecology, in their survey requesting whether the six could perform a RCRA analysis, did so by

presenting a sample waste package that was above the threshold limit for five of the six labs.

Enforcement Procedures

Department of Ecology officials report that the shipments received at the Hanford facility will be randomly inspected for compliance with the RCRA certification requirement. Barrels will be opened randomly and, depending on the judgment of state inspectors, analyzed for the presence of RCRA-related materials. If a shipment is found to be out-of-compliance civil penalties will be imposed through the state's RCRA enforcement program. The penalties are set according to the degree of hazard presented by the RCRA materials contained in the shipment. **

SC GOVERNOR CAMPBELL TELLS STATES BARNWELL NOT AVAILABLE

In a letter to state officials attending the Quarterly Meeting of the Low-Level Radioactive Waste Forum, Governor Carroll Campbell cautioned that South Carolina has no intention of continuing to allow Barnwell to accept the entire nation's waste. He emphasized that South Carolina state law and the SE Compact, which prohibits Barnwell from being a regional facility after 1992, "enjoy wide support among citizens and state officials. [He] support[s] these policies, see[s] no significant movement away from them, and foresee[s] no change to the laws upon which these policies are based." The Governor warned that "Any suggestion that South Carolina inevitably will amend its laws to allow continued operation of the disposal facility is speculation and should not be used as the basis for any state's plans to fulfill its disposal responsibilities." **

LLRW AUTHORITY, BURIAL SITING BILL INTRODUCED IN NORTH CAROLINA

A bill to create an independent LLRW Management Authority with the responsibility to select, develop, maintain and provide perpetual care and maintenance for a LLRW disposal facility has been

introduced in the North Carolina Senate and Assembly. The proposed Authority is patterned after the independent Texas LLRW agency.

The Authority's governing board is to be comprised of 15 members: seven appointed by the Governor, six by the General Assembly, and two by the local government having jurisdiction over the area where the disposal site would be located.

Sets Negotiation, Arbitration Process

The bill sets out a site selection process including unique procedures allowing for negotiation and arbitration between the Authority and potential host communities. Local laws in conflict with the SE compact that would prohibit the development of a LLRW burial facility are preempted.

Though the bill provides no "up front" financial incentives to lure a volunteer host community, it does provide for payments to the general funds of the local host government once the site is in operation. As proposed the host local government would receive an annual payment of 2.5 percent of the income of the disposal facility or \$150,000, whichever is greater.

Disposal Technology Not Addressed

The bill does not address a specific disposal technology or ban shallow land burial (SLB). A companion bill now under consideration does however propose to ban SLB.

The new bill is expected to be acted upon by the Senate Environment Committee at their next session on Thursday, May 21. It has also been referred to the Assembly Air and Water Committee. At least one House must pass the bill prior to May 28 for the measure to remain on the legislative calendar for this session. A copy of the bill can be obtained from the North Carolina Waste Management Board or through the Radioactive Exchange Readers' Report Service for a nominal handling and copying charge of \$6.00.

Environmentalists Oppose Measure

The states major environmental groups are opposing the legislation even though it includes a fairly comprehensive processes to directly involve local government. Apparently, they are opposed to going forth with a siting bill when the issue of whether the state remains in the Southeast Compact remains unresolved. **

TEXAS ADOPTS BRC STANDARDS FOR LLRW ALLOWING LANDFILL DISPOSAL

The Texas Department of Health has adopted a Below Regulatory Concern (BRC) rule to allow LLRW with a half-life of less than 300 days to be disposed of in municipal landfills. The rule, originally proposed by the Texas Low-Level Radioactive Waste Disposal Authority and sponsored by a consortium of Texas universities and the oil field industry, became effective May 8, 1987.

The disposal method was approved by the Texas Board of Health on April 4, 1987 after a year-long review of a report from the Low-Level Waste Authority that showed the landfill disposal method would not result in an individual dose exceeding 1 mrem per year. This is the level being proposed by the federal Environmental Protection Agency (EPA) as the dose level below which there are insignificant health risks and consequently no regulatory concern (See "In the EPA" in *Wrap Up LLRW*).

Technical analyses in support of the rulemaking were conducted by Dr. Vern Rogers of Rogers and Associates Engineering Corporation of Salt Lake City, Utah, with technical assistance from Dr. Nolan Hertel of the University of Texas and Ms. Christine Pollard of the Authority. The work was funded by the University of Texas System, Texas A&M University, Halliburton Corporation, and the Texas Hospital Association.

Rule Saves University Funds

Under the rule the University of Texas and Texas A&M System alone will save an estimated \$500,000 in disposal costs.

Press Conference

SUCCEEDING AS A LLRW PROCESSING FACILITY --- SEG'S BUD ARROWSMITH

The following interview with Bud Arrowsmith the President of Scientific Ecology Group (SEG) was conducted by the Exchange at the recent LLRW Incineration Conference held in St. Charles, Illinois. SEG began operating a "regional" LLRW processing facility including a 5000 ton supercompactor in Oak Ridge Tennessee in October 1986.

Bud, you announced at the recent Incineration Conference that you are now proceeding toward installing an incinerator at your Oak Ridge facility. Why are you taking this step now? From all reports your business is proceeding very nicely with just the supercompactor.

Well first off... Yes, our processing business with the supercompactor is proceeding nicely. Our reason for going ahead with the incinerator is dictated by several factors, the most important being that incineration has the ability of offering utilities producing a large volume of DAW a volume reduction ratio of 100 to one, thereby allowing them to conserve their limited disposal allocation. The best the supercompactor can do is something on the order of 10 to one.

One other important factor that went into our decision to proceed is that we feel we have developed a good working relationship with the State of Tennessee and the local community on our plans for the incinerator. We have kept the public well informed.

Our intent is to submit a license to the State of Tennessee and EPA in the Atlanta Region for an incinerator by this fall. It is our hope that by the end of this year we will have approval to begin construction.

What type of equipment are you considering? What will be its capacity?

We intend to install an incinerator with a nominal 600 lb. per hour capacity. We will license it for DAW and exclude any waste streams with a high concentration of PVC and also any material contaminated with carbon-14, tritium or iodine.

Are you considering using an American built incinerator?

At this point we have not selected an incinerator. In the next two months I will be looking at the incinerators in Europe, as well as in this country, to evaluate their designs and we'll make a selection and do the licensing based on that.

Bud, SEG was recently awarded a major contract by Westinghouse, as operator of the DOE Fernald facility in Ohio, for processing waste from that facility. How large is the contract and what specific waste is being processed?

The Fernald contract is a general task order contract covering turnkey waste processing services. We just received our first task order under this contract which is to process radioactive waste at the site starting with approximately 100,000 cubic feet of wood pallets and other wood material used on that site over the last 20 years. We are doing the work on a cost plus, fixed fee basis.

Where will this waste be disposed of?

The waste will be removed from the Fernald site by SEG, escorted to Oak Ridge, processed in the Oak Ridge facility and then transported to the Nevada test site for final disposal. We are responsible for the waste from the time it leaves the Fernald site until it is delivered back to the government facility at the Nevada Test Site.

The unique part of this processing scheme for the wood pallets is that we have done test work which shows that using our 10 million pound compactor we can take wood pallets and compact them back into blocks

of wood -- with almost the density of wood itself. The volume reduction is six or seven to one.

What other wastes will be processed under this contract?

The second phase of the Westinghouse contract is to process waste called "baled drums." These are empty drums that are no longer serviceable and have been put into a metal baler. The baler forms a cube which is approximately 2 feet on a side and weighs 200 pounds. We are to take these cubes, transport them to Oak Ridge, crush them with the 10 million pound compactor, and then load them into shipping boxes and, again, bury them at the Nevada Test Site.

How small do the cubes get?

They flatten from a two foot height to about two inches high.

If you process all of the wood pallets and baled drums at Fernald, what is your current estimate of the waste involved?

The volume of the wood pallets and the "waste drum" cubes on site at Fernald right now are about 200,000 cubic feet.

And this is all on a cost plus fee basis. If you do it all, then what will be the estimated cost to Westinghouse?

Well, if we were to compact all of the materials that are known to be on-site in these two categories, the cost would be in the range of \$1 to \$2 million.

I understand that this is not the only federal government related contract your company has been awarded over the past couple of months.

That's true. Over the past few months we have been awarded several new contracts. The latest one is to process waste from the Y-12 weapons plant located in Oak Ridge.

What kind of waste?

It is all the paper, trash and plastic generated in the normal operating scheme of

things. The Y-12 facility is a waste generator that produces something on the order of 50,000 - 100,000 cubic feet of waste per year. The contract we were awarded is essentially to cover the cost of a pilot project to demonstrate that SEG can reduce the volume of the waste with the primary objective of extending the life of their current on-site burial ground. The waste will be processed in our facility and transported back to DOE. DOE will bury it at the Y-12 burial site.

The important part of our work here is extending the lifetime of the on-site burial facility. Under current disposal practices the burial site has an operating lifetime of two or three years. Our efforts will be to reduce the waste in order to conserve the burial space, hence, lengthening its operating life. We will achieve a VR ratio of three to one for the waste form they are sending to us.

And the value of this work? How many cubic feet are involved?

At this point this is just a demonstration. Once the demonstration has been done we will have to negotiate a contract to provide the service.

We are estimating the amount of material from this facility to be somewhere in the range of 50,000 to 100,000 cubic feet per year. The demonstration involves a few hundred cubic feet.

Are you the only contractor that is involved in the Y-12 demonstration?

To my knowledge this contract was competitively bid but we were the only company who could competitively respond. This is basically because DOE produces bales of waste and most current vendors can only compact drums. It is not practical for them to pick up bales and put them into a drum for compacting.

Our plans are to take the bales and slip them into our 4ft. x 4ft. boxes and compact the boxes. The advantage of having a 5000 ton supercompactor is that we can deal with large objects like that.

Bud, for only operating about six months or so, It seems you are pulling in a lot of business.

That is true. We started operating last October and in the period between October and the end of this month (April) we will have processed 70,000 cubic feet of waste.

What percentage is DOE waste, what percentage is commercial?

Essentially 90-95 percent is commercial waste. We are processing waste from industrial generators such as fuel fabrication plants, from the commercial power plant industry, which you would expect, and surprisingly, we have gotten heavily into processing medical waste. We are now processing waste for several of the major brokers in the country.

How much effort is devoted to tracking the waste to meet the requirements of the new regional compact system?

Well, We have an automated tracking system that enables us to keep track of the origin of each container of waste that is delivered and processed. What has been surprising to us is the requirements by the burial grounds for the waste tracking. We have 7 people in waste tracking and 15 people doing the waste processing. It was surprising to us that it would take as much manpower to track the waste as it does.

In addition to the tracking requirement, you will now have to certify that any waste delivered to Hanford is free of RCRA regulated material. Are you capable of performing the necessary analysis?

Our plant was built with the understanding that mixed waste would be a major problem. We basically are offering a service to generators where we will inspect their waste, remove materials which are suspected to be on the RCRA-CERCLA list, and

notify the generator that we have located such materials. Then, depending on the generator's wishes, we will arrange to have this waste analyzed -- at an extra charge -- and arrange for its disposal. Or, in some cases we will return the material to the generator.

Right now we're removing lead in waste streams going to the burial sites. In the last two months we've removed five tons of lead shipped as waste. We take the lead, decontaminate it using proprietary processes, and then ship the remnants of the process for disposal. The lead itself is either sold as a non-radioactive material or, in some cases, sold back to the power plants to be used as shielding.

Are you concerned about the long-term strength of the waste processing business given the decrease in waste volumes from generators? What in your view has happened to cause this decrease?

First, generators are minimizing the generation of waste and big facilities like ours are now having an impact. For example in this particular month we will process 30,000 cubic feet and out of that quantity the burial site will see less than 10,000 cubic feet. So we will have removed, in a single month, 20,000 cubic feet of waste from the waste stream. When you annualize that you are looking at a quarter of a million feet cubic feet out of the waste stream.

That eliminates one disposal site.

It could, yes. There are a variety of things that are impacting on waste. Some utilities, for example, are managing their allocation on a yearly basis and some utilities are holding waste for shipment in next year's allocation even though the law allows them to dump it all in a single year if they wanted to. **

Readers' Exchange

BELOW REGULATORY CONCERN OF CONCERN TO SOME

Gretchen D. Monti
Monti Communications, Inc.

In the **Readers' Exchange of the April 19th** issue of The Radioactive Exchange, Donald J. Silverman expressed frustration that there has been little progress in implementing the LLRWPA mandate to have the NRC develop standards and procedures for the expeditious processing of requests for exempting wastes that are below regulatory concern from disposal in radioactive waste facilities.

I have a very different sense of frustration, which I expressed in a speech at the Incineration of Low Level and Mixed Wastes Conference in St. Charles, IL, on April 21. It appears that the call for action on BRC petitions is a reaction to the more costly requirements of better waste management, which individuals and public interest groups demand if more disposal sites are to be developed.

I believe that waste generators are going to be under increased suspicion that the bottom line is all they care about--at the expense of protection of health and the environment--unless they can adequately explain to the public why it is safe to eliminate certain waste streams from the Atomic Energy Act's regulatory system.

Ignoring this concern will only hurt the generators who need new disposal capacity and the States and Compacts that must see that this capacity is provided.

In addition to damaging perceptions of generator intent, there are other considerations that make me question how successful the BRC movement will be. The NRC policy statement of August 29, 1986, has some valid criteria by which petitions are to be judged but --

- o What will the impact of more demand on the limited supply of non-radioactive waste treatment and disposal facilities (especially those that take RCRA hazardous waste?) If the alternative is incineration at a commercial facility, the generators should plan to stand at the end of a long line with a large check in hand.
- o Has anyone noticed that it is very difficult to site even sanitary landfills these days? What will happen when it is known that radioactive wastes with, perhaps half lives as much as 300 days, are allowed in these landfills which have the weakest design standards.?

And finally, my biggest criticism regarding the move to exempt some waste streams from LLRW facilities is that it discourages source reduction. It provides an easy out that in many cases may be less costly than materials substitution, or is easier to carry out than requiring employees to change their work habits. Source reduction is important. I believe that a community is more likely to accept a disposal site if the residents are convinced that those who produce the waste are doing everything possible to minimize the risk a community must run.

★★

Wrap Up (LLRW)

IN APPALACHIA

The **Appalachian Compact** has still not been introduced in Congress and Pennsylvania Governor Casey has yet to forward his recommendations on a LLRW disposal siting bill to the state legislature.

IN THE SOUTHEAST

Generators and brokers using **Chem--Nuclear's Barnwell** disposal facility have been informed that **South Carolina** has prohibited the acceptance of lead contaminated waste at the burial facility. Lead is a RCRA-listed material therefore under federal EPA regulations lead contaminated waste can only be disposed of in a RCRA permitted burial facility.

Duke Power has arranged for a municipality owned water treatment plant in Oconee County to take 4,000 cubic feet of slightly radioactive sludge and 350,000 gallons of slightly radioactive water. Two other sites, a North Charleston Sewage Treatment Plant and a landfill in Dorchester County, were considered as disposal sites after Duke failed to find a place that would accept the wastes in western South Carolina.

Duke representatives went to the Oconee County Council in March with a revised proposal for waste treatment, and the council approved the plan on a 3-2 vote. The sludge will be taken to the country landfill after treatment and treated wastewater will be discharged into Cone-ross Creek.

IN THE CENTRAL STATES

In the previous edition of the Exchange it was reported that the Central States Compact Commisison at an April 24 emergency meeting adopted policy positions that were instrumental in keeping Kansas in the Central States Compact. The paragraph explaining what these changes were was inadvertently omitted. The changes are as follows: The Commissioners agreed to support a policy to rotate the host state, setting a time and/or waste volume limit which, when met, would trigger the end of

operation of the current host burial facility; the current reference to potential burial sites in the Phase II site exclusionary study would be deleted; and potential contractors would be advised that an independent analysis to identify potential burial sites must be undertaken with local input from the potential host community.

Kansas Commissioners are expected to introduce specific motions on host state rotation at the upcoming Annual Meeting to be held on June 8th in Lincoln, NE.

IN THE CENTRAL MIDWEST

On May 4 Chem-Nuclear was notified by the Nuclear Regulatory Commission that a license amendment to allow their Channahon, IL, facility to process Dry Active Waste (DAW) was approved. Chem-Nuclear officials report that the supercompacter installed at the Channahon site is currently being "checked out". Litigation attempting to stop operation of the supercompacter is still being pursued by local officials, but as of this publication date no injunction has been issued that would prohibit the start-up of the waste processing supercompacting service.

IN THE NORTHWEST

Washington State's Department of Ecology public meeting on the proposed generator/-broker/transporter liability regulations will take place on May 20 as scheduled (See EXCHANGE, Vol. 6, No. 7). According to Elaine Carlin many comments on the preliminary draft have already been received. A. T. Kearney, a management consultant firm based in Virginia has been hired to complete Phase I of the liability study being undertaken by the Department.

The objective of the Phase I study is to develop a basis for criteria which will then be used to develop liability coverage requirements to cover site closure and perpetual care. This phase of the study is scheduled for completion by June 30.

IN THE CONGRESS

On May 14 the House Interior Committee reported out the Western Compact (AZ-SD) as proposed by the two states.

IN THE EPA

BRC LLRW The Environmental Protection Agency's Office of Radiation Programs (ORP) is running into opposition on a proposed 25 mrem overall exposure standard for LLRW. The opposition comes from the agency's Office of Drinking Water (ODW). The disagreement centers on ORP's proposal to set a 25 mrem exposure level for the agency's category of low yield potable groundwater sources -- groundwater that is not used as a source for large communities or is expected not to be used as such. Proposed ORP standards for potable groundwater serving as a source of drinking water for large communities, or could be expected to be used as such a source, is 4 mrem, the standard set by the ODW. **The proposed overall 25 mrem exposure standard is intended to cover the disposal sites.**

ORP will also likely propose a **Below Regulatory Concern** standard of 1 mrem. At recent meetings EPA officials have revealed that a range of BRC standards from 1-4 mrem were under study.

The proposed draft of ORPs LLRW standard is scheduled for release next month (June) and from all reports it looks like the Office will meet that date.

IN THE INDUSTRY

Chem-Nuclear has been awarded a two-year contract for continuation of radwaste processing transportation and disposal at Commonwealth Edison's Dresden Station Units 2 and 3. The award follows the successful completion of a two-year project for similar services at Dresden Unit 1. At approximately the same time as the Dresden award, Chem-Nuclear was also awarded a two-year waste processing, transportation and disposal contract for Commonwealth Edison's Zion Station. Services for the Zion and Dresden Stations include waste processing utilizing Chem-

Nuclear's NRC accepted cement solidification and dewatering processes, and transportation including Chem-Nuclear's high activity NRC Licensed Type A 14-190 cask.

International Technology Corporation (IT) has been awarded a contract by the U.S. Army Corps of Engineers to manage the remediation and detoxification of contaminated soils at the Cornhusker Army Ammunition Plant near Grand Island, Nebraska and the Louisiana Army Ammunition Plant near Shreveport, Louisiana, using a modular incineration system developed by IT.

The contract, estimated at more than \$20 million including options, is the first awarded by the U.S. Army to decontaminate soils from its ammunition facilities. The equipment selected for use on the project is IT's Hybrid Thermal Treatment System (HTTS). The HTTS is the largest transportable incinerator available in the market today and is capable of bringing on-site incineration prices to levels comparable with those for off-site treatment and disposal.

At the Cornhusker and Louisiana sites, the HTTS is expected to burn 142,000 tons of contaminated materials. IT has received authorization to proceed immediately with the Cornhusker phase of the project.

Envirosure Management Corp., a hazardous and nonhazardous waste management firm headquartered in Buffalo, New York, has acquired two companies within the past few months, which means they have acquired four companies in less than two years. The two companies are **Environmental Resources Management Inc.**, located in Yerrington, Nevada, and **Land Planning Associates, Inc.**, located in Canton, Ohio.

Environmental Resources Management holds a permit from Nevada to operate a PCB transfer, bulking and storage facility and the acquisition is considered important by Envirosure because it provides the company with a strategic base of operation in the western part of the United States. Land Planning Associates, Inc. has acquired

