
The

Radioactive Exchange®

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

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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

approximately 800 acres of land in Canton and has filed an application with the State of Ohio Environmental Protection Agency for a permit to operate a landfill on the 800 acre site.

In November, 1985 Envirocare acquired the Niagara Falls, New York based **Environmental Services Associates** and its four subsidiary waste treatment companies and in 1986 took over the Kansas City, Kansas, based **Environmental International Inc.**, operator of the nation's only EPA permitted facility capable of detoxifying PCB transformers.

LN Technologies Corporation has been awarded two contracts in recent months. One contract is for the chemical decontamination of the Reactor Recirculation and RWCU Systems at the Millstone-1 Nuclear Power Station. The LOMI process was selected for the application. LOMI was used for similar decontamination projects at Quad Cities and Dresden in 1986. Decontamination Factors (DFs) obtained at these Commonwealth Edison plants ranged between 5 and 10. The project is scheduled to begin in June.

The second **LN Technologies** contract was awarded by **EPRI** for the field test of a process for the volume reduction of ion exchange resin by oxidation. The contract, which is expected to extend over a 1-1/2 year period, involves taking the resin oxidation process from its current laboratory scale to a commercial size demonstration with radioactive resin.

In addition, the **Louisiana Power and Light Waterford** plant just completed installation of the **LN Technologies** sluicable Transportable Filtration/Ion Exchange system. The system allows for resin sluice in, resin sluice out, sample selection from each

vessel and vessel sequence changes without disconnecting hose connections or stopping system operation.

International Energy Associates Limited (IEAL), a subsidiary of ERC International of Fairfax, Virginia, has been awarded a contract with **Pacific Northwest Laboratories (PNL)** to provide analysis of regulatory requirements for nuclear waste management and disposal in the major nuclear power countries. PNL provides support to the U.S. Department of Energy on nuclear waste management issues, including international support activities.

Under this contract, IEAL will provide detailed analysis of technical criteria for waste disposal established by national regulatory authorities in each of nine countries and the rationale for the criteria, including radiation exposure limits, repository and performance criteria, monitoring requirements, and waste retrievability objectives. Furthermore, IEAL will describe regulatory approaches in each country, the organizations in each country for regulation of nuclear activities, strategies employed for the management of spent nuclear fuel and nuclear waste, and sources of funding for these activities.

ON THE MOVE

Robert E. Tiller has been appointed deputy manager of the Department of Energy's Idaho Operations Office in Idaho Falls by Energy Secretary John S. Herrington. His appointment is effective July 1, 1987. Tiller is replacing **Nick C. Aquilina** whom Herrington recently appointed manager of the department's Nevada Operations Office in Las Vegas. Tiller had been director of the Office of Special Programs at the Idaho Operations Office.

the HLW Focus

of the Radioactive Exchange®

(MRS from pg. 1)

Recommendations for Further Work

After detailing the specific areas where DOE's proposal was found lacking, the GAO recommends that the Secretary of Energy:

- Obtain utility-specific information on (1) the need for and benefits of an MRS, (2) whether the alternatives for improving the waste management system without an MRS identified by DOE are viable, realistic, and useful and (3) whether utilities have identified other potentially viable alternatives for the management of nuclear wastes that may be more beneficial than either the MRS or the alternatives identified by DOE.
- Develop an optimized no-MRS system and present the Congress with the benefits of both systems. This analysis should include the final results of DOE's PRDA and other ongoing studies.
- Determine the cost of each program element which has been identified but not yet quantified.

Utility Survey Results Cited

The report again raises the results of a 1985 GAO study of utilities which revealed that utility support for the MRS was varied. The survey results released in a 1986 "Fact Sheet" (and so reported in the EXCHANGE), found that "most utilities...could arrange for functions such as rod consolidation, waste packaging and centralized transportation which would be performed at an MRS", and that almost all utilities responding

"could provide for their own spent fuel storage needs until 1998."

The survey also found that utilities are unwilling to pay the costs for an MRS "if (1) they have already incurred substantial investment for on-site storage or (2) their spent fuel would not be shipped to an MRS." These two points were most recently emphasized by some utilities in their submitted comments on the proposed Mission Plan Amendment (See EXCHANGE, Vol. 6, No. 7).

Non-MRS System Improvements Ignored

The GAO charges that DOE has evaluated other waste management technologies which might improve a no-MRS system but did not include these analyses in the final MRS proposal. The analyses, carried out under the Department's Program Research and Development Announcement (PRDA) initiated in 1984, included efforts investigating the use of universal cannisters, rectangular cannisters, a portable dry-consolidation facility, and storage cask concepts.

At least one of the storage cask concept projects involving Westinghouse, TVA and Florida Power and Light, demonstrated that a universal self-shielded cask had significant advantages and found little evidence to support an MRS-based system. Support for the project was not continued by DOE, nor were the results covered in the MRS proposal.

The GAO faults the DOE for not trying to "determine the extent to which utilities are willing or able to implement potential MRS alternatives" that have been studied. **

DOE CHARGES GAO MRS REPORT "UNFAIRLY ONE SIDED"

In what is perhaps the most extensive and "heated" response to a GAO HLW program report to date, DOE officials wrote Dexter Peach, GAO Assistant Comptroller General for the Resources, Community and Economic Development charging that "much of the [MRS] report is unfairly one-sided, key information is omitted and the Department's position on a variety of topics is mischaracterized." In separate communications Lawrence F. Davenport, DOE Assistant Secretary for Management and Administration, and Elizabeth Smedly, DOE's controller, provided GAO extensive critiques of the MRS report -- a total of 21 highly critical pages.

GAO "Incomplete" Charge Challenged

Responding to GAO's charge that the MRS proposal is incomplete the DOE states that, "In fact, the analysis GAO considered to be incomplete, i.e., the need and feasibility study, is not even required by the NWPA to be a part of the proposal. Further, the NWPA does not even require an affirmative finding of need on the part of the Department as a prerequisite for submitting the proposal."

As to producing more information on an "optimized" no-MRS system, DOE asserts that "further optimization of alternative no-MRS system options will not produce any new data or insights of importance to the real issues involved.... [T]he only alternative to performing packaging functions at either the repository or the MRS is to perform these functions at the reactor site. ...[T]hese alternatives were quantitatively considered ...in the proposal and it was shown that each activity would add significantly to reactor burden."

Furthermore, Assistant Secretary Davenport charges that "the real policy issue raised by GAO's conclusions is whether Congress wants the reactor operators to focus their efforts for the next 20 to 30 years on safe, reliable, and efficient generation of electricity -- or whether Congress wants the reactor operators to assume new

responsibilities for a range of high-level waste management activities that must inevitably divert some energy and attention from reactor operation."

[**Aside:** This is an interesting assertion since reactor operators have been, and continue to be, responsible for managing and maintaining spent fuel pools and Congress in the NWPA specifically directs utilities to make every effort to use onsite storage prior to asking for federal storage capacity prior to the repository being in operation.]

Point-by-Point Rebuttal

The DOE's response takes on GAO point-by-point and then chides the watchdog agency for criticizing DOE for not coming up with an optimized waste management system without an MRS, yet not defining just what such a system would be.

DOE directly attacks GAO's assertion that costs for the MRS have not currently been characterized, charging that the agency reports reflect "incorrectly misinterpreted MRS costs" and reflect a "misunderstanding" of same. The GAO staff is accused of not understanding the benefits MRS would bring to the system.

In the 12 page point-by-point critique submitted by DOE's Controllers office, GAO's charge that the MRS proposal as submitted to Congress is substantially different is openly challenged. Yet, DOE has openly admitted that the integrated approach proposed is substantially different than initially proposed in the Act.
**

2nd ROUND REPOSITORY STATES SET GUIDELINES FOR NEW HLW LEGISLATION

At the recent hearing held by the Senate Energy and Natural Resources Committee on Senator Johnston's bill to provide financial incentives to induce states to accept a HLW repository, a delegation of Congressmen from the second round states -- Sens. Humphrey, Cohen and Mitchell -- revealed a seven-point statement of principles to guide new legislative initiatives to amend

the Nuclear Waste Policy Act. The principles include a call to remove the 70,000 metric ton cap on the first repository.

The delegation endorsed Senator Johnston's intent that "states or tribes which host a nuclear waste disposal facility should be financially compensated" (Sen. Humphrey's statement), but cautioned that the primary siting criteria must be the "long term effect on public health and safety."

2nd Round Site Procedures

The seven principles to guide new legislation adopted by the Congressional delegations and the Governors from those states being considered for a second HLW repository are as follows:

- (1) The primary purpose of the nuclear waste disposal program is to ensure public health and safety. Any site chosen for a nuclear repository must at a minimum meet health and safety criteria currently contained in the Nuclear Waste Policy Act and in the DOE and NRC siting guidelines and the EPA radiation protection standards. However, these siting guidelines should be improved to provide a more rigorous screening of potential sites.
- (2) An independent body, including members proposed by the National Academy of Sciences and affected states and Indian Tribes, should review DOE's selection of sites.
- (3) The arbitrary 70,000 metric ton cap should be lifted and work towards a second site should be indefinitely suspended.
- (4) Adoption of a realistic timetable for permanent disposal of high level waste should be encouraged.
- (5) State and Indian Tribes should be provided with sufficient time and funding to review and provide comments on DOE recommendations and assessments. Current regulations do not provide sufficient time or funding.
- (6) A state or Indian Tribe that hosts a

federal high level nuclear waste facility should be provided with a significant level of compensation from the Nuclear Waste Fund. A state or Indian Tribe also should receive some level of compensation during site characterization.

- (7) A state or Indian Tribe should maintain its right to judicial review under the Nuclear Waste Policy Act. **

JOHNSTON HLW SITE "BUY-OUT" BILL RECEIVES CURIOUS STATEMENTS OF SUPPORT

At his recent Energy and Natural Resources hearing on his HLW site and MRS buy-out bill, Senator Johnston was widely complimented by his Senate colleagues for his foresight in recognizing the need to provide a financial compensation package for states and local governments selected to host an MRS or HLW repository. However, support for his specific bill -- S. 839 -- was not that enthusiastic.

New England Senators Mitchell, Cohen and Humphrey criticized it because of the requirement that financial incentive agreements be signed with both an MRS host and a HLW repository state prior to the second round program being cancelled. They then revealed a set of seven principles that must, in their view, be the basis of any new nuclear waste policy amendments (See story this issue). Senator Humphrey of New Hampshire said the bill was a good idea, that he thought of introducing a similar measure, but withheld a blanket endorsement until improvements were made.

Tennessee Senator Sasser applauded Johnston for introducing the bill remarking that "It should have been done in the first place" to actively seek willing hosts for the MRS. He pointed out that DOE has taken "precisely the opposite approach" attempting to force the MRS on an unwilling state -- Tennessee." Sasser then sought Johnston's support for suspending proceedings with the DOE MRS "proposal until S. 839 was acted upon favorably."

House and Senate members from Nevada and Texas reiterated their objections to providing financial incentives to lure a

state into hosting the repository, recommending instead that such incentives be provided only upon completion of the scientific and technical site selection process.

All informed the Louisiana Senator that states would be unwilling to sign up for the incentives packages under the conditions that they waive their legal rights. Johnston pointed out that the language in the bill did not mean that states would be waiving their rights to due process under the law. It would only mean that they would be prohibited from using DOE funds to finance litigation.

Johnston Emphasizes Technology Safe

Senator Johnston continually pointed out that the current site selection process has put the high level waste program in the hands of lawyers. In his view his bill places the scientists and technical experts back in control of site selection, not the courts and lawyers. Throughout the hearing he repeatedly emphasized that the

disposal technology was safe and that the real problem was political. Nevada's representatives disagreed, but Johnston persisted in stating that the disposal technology was not in question.

Curious Support From Nevadans

Congresswoman Barbara Vukanovich and Congressman Bilbray of Nevada called the bill premature and strongly objected to the provisions that, in their view, would take away the states' right of due process under the law. However, Mr. Bilbray then stated that he would support the measure if the language could be changed to allow for judicial review of the final site selection.

Newly elected Nevada Senator Reid offered a curious statement in support of the measure. He expressed a desire for its quick passage because he was confident Nevadans would not accept the financial offer, and it offered the best chance for getting another state to step forward and take the HLW repository "off Nevada's back." **

CALL FOR PAPERS

Waste Management '88, February 28 - March 3, 1988, Tucson, Arizona. General Chairman: Roy G. Post; Technical Program Chairman: Morton E. Wacks. The topics selected for WM '88 include research, development and operational experience in both high- and low-level nuclear waste storage and disposal. Papers concerning national and international agreements and regulations governing these topics as well as the impact of these activities on the environment are also solicited. Interested contributors to the meeting are invited to submit extended summaries (in triplicate) of the contributions to the Technical Program Chairman, Morton E. Wacks (602-621-6160), Department of Nuclear and Energy Engineering, University of Arizona, Tucson, Arizona 85721, by Sept. 18, 1987.

Topics Are: Status of International Nuclear Waste Geologic Research Facilities and Activities; Public Attitudes and Policy Issues in Nuclear Waste Management; Social and Economic Issues in Nuclear Waste Management; Legal Liability and Institutional Issues in Nuclear Waste Management; Quality Assurance and Quality Control in Nuclear Waste Management; Performance Assessment for Nuclear Waste Disposal; Environmental Surveillance and Impacts in Nuclear Waste Disposal; Federal/State/Indian Tribe Issues on Nuclear Waste Storage and Disposal; Transportation of Nuclear Waste (Technical and Non-Technical Issues); Industry Concerns in Nuclear Waste Management; Implementation of the Low-Level Radioactive Waste Policy Act Amendments of 1985 (PL99-240); Regulation and Licensing of LLW; Mixed Chemical/Radioactive Waste Management; Remedial Action Progress; Monitored Retrievable Storage - Status and Technical Issues; Defense HLW and TRU Storage and Disposal (Including WIPP); Implementation Status of the NWA of 1982 (PL97-425); High-Level Waste Disposal Technology; Modeling and Risk Assessment in HLW Storage and Disposal; and, Beneficial Uses of Radioactive Waste. **

STATE OF WASHINGTON NUCLEAR WASTE BOARD

SELECTION OF AN OUTSIDE CONTRACTOR TO PROVIDE TECHNICAL ASSISTANCE

The State of Washington Office of Nuclear Waste Management conducts programs in public information, policy studies and geotechnical science and engineering. The technical programs are of two types: review of USDOE and other documents and reports for accuracy and consistency with statute and regulations, and independent research in such areas as geology, geophysics, geochemistry and radiation health physics. In-house efforts are supplemented by contracts with other state agencies and private sector firms for performance of specific tasks. The range of these tasks is very broad, interdisciplinary and difficult to predict, in that it is often necessary to react to new developments, usually within a limited timeframe with an inflexible deadline. Another characteristic of the technical work is the requirement for superior documentation and communication, both for creation of a record to be used in future licensing proceedings and for imparting the significance of scientific findings to nontechnical audiences including the Board, government officials and the concerned public.

The Board is seeking a contractor (or contractor team) to assist the Board and the Office over an extended period of time with various difficult technical reviews and the performance of a number of tasks and projects all related to the siting and development of a high-level radioactive waste repository at the Hanford Reservation. The selected contractor will be required to interact frequently with the Office and the Board. The Board meets at least monthly in Lacey or at other locations throughout the state. The Office is located in Lacey. During the pending Site Characterization period there will be frequent technical meetings in Richland.

The successful contractor (or contractor team) will be selected through a formal three-phase process. **Phase One:** The process begins with submission by all interested contractors of a concise Statement of Qualifications (SQ). From the SQs submitted a panel appointed by the Office, with Board participation and concurrence, will develop a Short List and notify all participants. Those contractors selected for the Short List will be invited to submit a formal proposal. **Phase Two:** Firms on the Short List will be given a Request for Proposal (RFP) which includes some background material on the Board, the Office, state procurement procedures and USDOE programs which are active or anticipated in Federal FY 87. **Phase Three:** The final step will be contract negotiations to establish conformance with both state and USDOE requirements.

For further information please call or write as soon as possible to: Mr. Gary Rothwell, Contract Administrator, Office of Nuclear Waste Management, Department of Ecology, MS PV-11, Olympia, WA 98504; (206) 459-6670. **

Calendar

May	June/July
20 Scheduled Markup: Price-Anderson Reauthorization, HR 1414; House Energy and Power; (May be postponed because of delay in issuance of Interior Committee Report; Contact: Sue Sheriden, (202) 226-2500.	28-1 Meeting: "The Critical Path" (A DOE Low-Level Waste Management technical assistance project on disposal technology selection); Copley Plaza Hotel, Boston, MA; Registration Fee: \$125.00; Contact: Julie Conner (208) 526-0648.
20 Scheduled Markup: DOE-Contractor Coverage Price-Anderson Reauthorization; Senate Energy and Natural resources; Contact: M. L. Wagner (202) 224-7570.	REGIONAL SITE OPERATOR SELECTIONS: Central States Compact Commission to Select Regional Site Operator.
June	July
2 Hearing: Senate Environment Committee Nuclear Regulation Subcommittee; Oversight HLW Repository Program; State officials and other outside witnesses; Contact: Dan Berkovitz (202) 224-4039.	22-24 Short Course: Packaging and Transportation of Radioactive Waste Material; emphasizes "hands on" skills in dealing with regulatory compliance, techniques and procedures and disposal facility requirements. Richland, Washington; Fee: \$525.00 (includes a tour of a LLRW disposal facility); Contact: Peggy Thompson, US Ecology Nuclear, 9200 Shelbyville Road, Suite 300, Louisville, KY 40222; (800) 626-5334.
8(tent) Hearing: Senate Environmental Committee Nuclear Regulation Subcommittee; DOE-MRS proposal; Contact: Dan Berkovitz (202) 224-4039	August
8 Annual Meeting: Central States Compact Commission, Room 157 State Capitol Building, 14th & K Streets, Lincoln, Nebraska; Contact: Kathy Smith (404) 261-7114.	1 Proposed Effective Dates: Required Certification that LLRW shipped to Hanford is non-RCRA regulated; Contact: Elaine Carlin (206) 459-6228.
16-19 THE THIRD ANNUAL RADIOACTIVE EXCHANGE DECISIONMAKERS' FORUM -- LOW-LEVEL RADIOACTIVE WASTE MANAGEMENT: FACING THE NEW REALITIES -- Site Development; Long Term Liability; Economics; Public Acceptance. Grand Traverse Village, Valleyview Conference Center, Traverse City, Michigan. Registration: Exchange Subscribers: Prior to May 1 - \$595.00; After May 1 - \$635.00. Non-Subscribers: Prior to May 1 - \$650.00; After May 1 - \$690.00. Contact: (202) 362-9756.	23-27 International Conference on Nuclear Fuel Re-processing and Waste Management; Paris, France; Spons: ANS/ENS; Contact: L. McClure (206) 526-3083.
20 Public Meeting: Washington State Dept. of Ecology; Financial Liability Insurance/Assurance Requirements for Hanford LLRW site users: Lacey City Hall, 420 College Street, Lacey, WA; 9:00 a.m. - 12 noon; Contact: Carole Richmond (206) 459-6228.	24-27 MEETING: Ninth Annual DOE Low-Level Radioactive Waste Management Conference; Denver, Colorado; Contact: Marjorie Clearwater, EG&G Idaho, P.O. Box 1625, Idaho Falls, ID 83415 (208) 526-9197.
20-21 Meeting: Annual Meeting Southeast Compact Commission, Social Room, Oak Ridge Civic Center, Oak Ridge, Tennessee; Contact: Kathryn Visocki (919) 781-7152.	September
30 HOST STATE DESIGNATION: The Midwest Compact Commission is to designate a host state if none of the four candidate states volunteer.	27-30 Conference: The Second International Conference on New Frontiers for Hazardous Waste Management; Westin William Penn Hotel, Pittsburgh, Pennsylvania; Sponsor: NUS Corporation Contact: Debra Wroblewski (412) 788-1080). NUS Corporation, Park West Two, Cliff Mine Road, Pittsburg, PA 15275.
Late Release EPA Draft Proposed LLRW Standard.	October
	14-16 Conference: DOE Oak Ridge Model Conference, Oak Ridge, Tenn; Subjects: Waste Management, Environmental Protection, and Health and Safety. Contact: Lance J. Mezga (615) 574-7259.
	November
	15-18 Atomic Industrial Forum Annual Conference; Los Angeles, CA; Contact: AIF (301) 654-9260.

DON'T FORGET TO REGISTER!

THE THIRD ANNUAL DECISIONMAKERS' FORUM
Low-Level Radioactive Waste Management:
Facing the New Realities.
Traverse City, Michigan
June 16-19, 1987

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