The

Radioactive Exchange®

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

Volume 6 No. 20 **November 16, 1987**

SENATE APPROVES JOHNSTON HLW LEGISLATION FOR INCLUSION IN ENERGY & WATER APPROPRIATIONS BILL !

On the afternoon of Thursday, November 12, Senator Johnston succeeded in securing Senate adoption of his HLW legislation, S. 1668, as part of the Senate's Energy and Water Appropriations bill by an overwhelming margin of 63-30.

Prior to this action the Louisiana Senator defeated an amendment to adopt the Appropriations bill without the Nuclear Waste provisions by a vote of 55-30, and won a cloture vote killing the filibuster led by Senators Adams (D-WA) and Reid (D-NV) by a vote of 87-0. The "no-votes-in-favor" of allowing the filibuster to continue came about as a result of a voting procedure that provided for a separate vote on the Johnston HLW legislation. Reid and Adams announcement that they would support the cloture motion to cut off their own filibuster amused Johnston and he took the opportunity to say so.

The arguments and statements given by both sides during the five days of debate did not sway any votes. But, the disclosure of NRC and DOE documents, particularly NRC's, regarding DOE's ability to select a preferred site that is likely to be licensable, did raise significant doubts as to whether Johnston's deadline date of January 1, 1989 was credible or would it become, as has the initial deadline for the startup of the repository -- another target date which DOE would miss.

Johnston Again Wheels and Deals

Senator Johnston again successfully used his skills as a wheeler-dealer to acquiesce the opposition of some of his colleagues and gain their support for his bill. He won over Senator Sasser on the first day of the discussion by introducing an amendment that called for the establishment of an MRS Review Commission to "evaluate the need for a monitored retrievable storage (MRS) facility as part of the nation's waste management system." The three-member commission is directed to compare and evaluate the MRS to at-reactor storage and report to Congress with recommendations between January 1, and 20, 1989. (See **Johnston** in **the HLW Focus**)

Edward L. Helminski, Publisher *P.O. Box 9528, Washington, D.C. 20016* *202/362-9756*

BEATTY WILL REACH MAXIMUM CAPACITY BEFORE YEAR'S END

Though the volume of LLRW accepted for disposal at US Ecology Richland commercial burial facility is less than what it was at this time last year, the firm's Beatty facility will reach its maximum permitted 1987 capacity of 300,000+ cubic feet prior to the end of the year. As of September 30, Beatty had accepted 228,646.20 cubic feet of LLRW. In September alone, 26,094.70 cubic feet was delivered. The state estimates that October's volume will reach 38,499.75 cubic feet. This leaves an available volume, under the 300,000 cubic feet cap, of only 32,855 cubic feet. If the November rate of delivery parallels October's then the site will reach its capacity limit before the end of November and will have to close its doors for the remainder of the year.

US Ecology has not filed a request to keep the site open after the maximum capacity is reached. However, the approval of any such request is viewed by state officials as "very unlikely."

LLRW Volumes Below '86 Levels

According to Washington state figures, only 364,824 cubic feet of LLRW was accepted at the Richland burial facility through September 30, 1987. Of that amount, 51,560.20 cubic feet was delivered in September. The volume that was accepted in October is estimated to be 45,188.20 cubic feet.

The volume of LLRW disposed at Barnwell is significantly higher than that at Hanford. South Carolina officials report that 636,956.30 cubic feet was accepted for disposal at the Chem-Nuclear facility as of September 30. Of that amount 74,257.80 cubic feet was disposed in September. The estimate for the volume accepted in October is around 90,000 cubic feet, a significant increase over the amount delivered in September.

The lack of LLRW coming into Hanford is attributable to high tax assessed by the state on waste being buried at the facility.

LLRW Disposal Half of '85

If Hanford receives the same amount of waste in November and December that it received in October, the sites '87 total will only be around 500,400 cubic feet, -- down 160,000+ from '86. At Barnwell, if the site continues to receive the high volume it accepted in October -- 90,000 cubic feet -- for the rest of the year, the '87 total will be around 907,000 cubic feet, -- almost 100,000 cubic feet below its '86 total. **

SC GOV. CAMPBELL PROPOSES HIGHER FEE ON LLRW SENT TO BARNWELL

In his budget message to the state legislature, South Carolina Governor Carroll A. Campbell Jr. has recommended that the state increase its fee on LLRW delivered to the state's Barnwell disposal facility from the current level of $6.00 per cubic foot to "18 percent of the amount charged by Chem-Nuclear Systems."

The Governor explains that he is recommending assessing the increased fee in this manner rather than as a flat assessment "so that large increases in Chem-Nuclear charges would benefit the state as well." Though the Governor made no direct mention in his formal budget statement regarding Chem-Nuclear's increase in disposal fees to be charged to Southeast generators, it is quite evident that the Barnwell disposal operator's action sparked the move.

Over Fifty Percent Increase

According to the Governor's statement the 18% proposed assessment on Chem-Nuclear's gross receipts would amount to an increase of $3.81 per cubic foot for a total fee of $9.81 per cubic foot.

This level of increase is based upon a Chem-Nuclear disposal charge of $54.50 per cubic foot, which goes into effect for Southeast generators and out-of-region generators on January 1, 1988. The increased fee is estimated to add $3,238,500 to the states

general revenues, bringing the total amount of revenues raised by the fee to $8,338,500. **

UTILITY GROUP REGISTERS OPPOSITION TO CHEM-NUCLEAR SE RATE INCREASE

In a November 6 letter to Chem-Nuclear President Victor Barnhart, Steve Kraft, the Director of the Utility Waste Management Group (UWMG), writing on the group's behalf, requests that the Columbia, S.C. disposal operator reconsider imposing a disposal fee increase on Southeast generators. Mr. Kraft states that the "singling out of Southeast generators -- is contrary to the design of the Amendment Act."

He further emphasizes that "low-level waste generators in the Southeast region are "captive" customers for Chem-Nuclear by virtue of the export restrictions imposed by the Southeast Compact Commission. Since Southeast generators are not generally permitted to ship waste to the other operating disposal facilities, we believe that the rate increase is fundamentally unfair. Were it not for this restriction, we strongly suspect that the rate increase would not have been imposed."

In conclusion, the UWMG Director charges that Chem-Nuclear's action "may very well represent an abuse of its monopoly power and, as a result, create a situation inconsistent with anti-trust laws."

More Utility Opposition

In addition to the UWMG letter, President Barnhart is also in receipt of a letter from Florida Power and Light Group Vice President for Nuclear Energy, C.O. Woody. Mr. Woody voices his strong disagreement with Chem-Nuclear's decision saying that it is unfair to place the burden that Chem-Nuclear is experiencing because of the decreased volume of LLRW being delivered for disposal on SE compact generators. He charges that the selective price increase "will undermine the intent of LLWPAA," and is "totally inappropriate, and counter productive to the goals of the industry." **

US ECOLOGY SPARKS REVIEW OF POLICY ON DISPOSAL OF DOE LLRW

The Department of Energy's Nuclear Energy and Defense Programs Offices are currently reviewing the department's policy to dispose of DOE contractor LLRW only at DOE's LLRW disposal facilities. The review, which is expected to be completed by the end of this calendar year, came about as a result of a request from Tom Baer, President of US Ecology, to DOE Deputy Assistant Secretary for Nuclear Energy, James Vaughn.

In an August letter, Mr. Baer points out that in 1984 a manager at the DOE's Idaho National Laboratory brought up the possibility of entertaining a request from the Rocky Mountain Compact to dispose of Idaho LLRW at the Beatty facility. He also cites recent remarks made by a DOE official regarding the possibility that LLRW from the Supercollider could be disposed of at a commercial facility.

The US Ecology President does make it very clear that he is asking only for a review of the current policy and "is not suggesting that DOE LLRW should be disposed of in the commercial LLRW sites." He further qualifies his request by adding that his firm is only seeking to "have the opportunity to rescue such wastes if consistent with policies of the various Low Level Radioactive Waste Compacts."

Decrease in Commercial LLRW Cited

Baer argues that disposal of DOE-LLRW at the commercial sites will be in the best interest of the Department. He points that the volume of commercial LLRW is declining rapidly, and cites the experience of his firm's two commercial disposal facilities in dealing with DOE-LLRW. He reports that at "the end of 1986, US Ecology had disposed of approximately 9.9 million cubic feet of LLRW at their Richland site with approximately 72% of capacity remaining available for use," and 3.6 million cubic feet of LLRW at the Beatty site, "leaving approximately 75% of capacity available for use." **

CENTRAL MIDWEST SUGGESTS BAN ON IMPORT, EXPORT OF LLRW FOR TREATMENT

At their November 10 meeting, the Central Midwest Compact Commission, approved a "draft" Regional Management Plan including recommendations that would prohibit in-region LLRW processing centers from offering their services to out-of-region waste generators, and ban the export of LLRW to out-of-region processing centers, once the Compact's regional facility begins operation.

In concert with these proposals the Commission also approved, for inclusion in the draft Plan, recommendations that a regional LLRW treatment facility be located at the regional disposal facility, and that a super compactor be used at the regional treatment facility.

Comments on these recommendations as well as the entire plan are being solicited up until November 20.

French LLRW Tracking System Approved

In addition to the above recommendations, which are sure to attract comments from LLRW processing firms, the Commission also approved for inclusion in the "draft" Regional Plan, the following proposals:

-- Not to allow the building of a regional facility for storage of LLRW for the purposes of allowing time for decay.

-- The LLRW tracking system used by the French nuclear waste management agency, ANDRA, is to be adopted for use in the region.

-- A regional disposal fee should be formulated that would encourage volume reduction.

-- No limits are to placed on the export of LLRW until the regional facility begins operation.

-- The export of waste out of the region for disposal or processing after the regional facility opens is prohibited;

-- Reciprocal agreements should be established with other compacts that would allow the mutual shipment and disposal of LLRW in the case of an emergency. **

1987 RADWASTE REPORT CITES DATA ON "ORPHAN" WASTE, WIPP SHIPMENTS

The Department of Energy's just released 1987 Report "Integrated Data Base for 1987: Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics," includes a new special section on "miscellaneous, highly radioactive materials that may require geologic disposal," and tabular data projecting the annual amount of TRU waste to be shipped to the WIPP site.

The report revises spent fuel projections slightly downward from the previous edition (Rev.2), (See separate story on HLW in **the HLW Focus).** On the LLRW side, it reports LLRW delivered for disposal to the commercial burial sites. The report is a must for everyone's library, see citation in **Reports of Note.**

"Orphan" Waste Volumes Identified

The '87 report identifies inventories of a category of waste defined as "miscellaneous highly radioactive materials (MHRM)" -- material stored at DOE and commercial sites that could "possibly require geologic disposal."

Included in this category are: (1) intact spent fuel elements or solids from experimental testing for which no reprocessing is planned; (2) damaged, irradiated fuel elements; (3) TRU-type commercial wastes. The quantities of this waste are either reported in units of metric tons of heavy metal MTHM or kilograms. Stored inventories are listed for each DOE facility. A separate table provides data on TRU waste from commercial sources. According to the data provided, there was a total of 243.1 MTHM of reported MHRM in storage at the end of 1986. INEL accounted for 55.9% of this total; TMI 82%; and SRP 19%.

The stored volume of TRU waste from

commercial sources at the end of '86 is reported as 265 cubic meters, with 201 cubic meters coming from commercial nuclear reactors. It is estimated that the current nuclear reactors will add 14-25 cubic meters to this total on an annual basis.

WIPP TRU-Waste Input

In addition to reporting on the quantity of stored TRU-waste from DOE defense activities, the report projects an acceptance schedule for this waste at the Waste Isolation Pilot Project facility (WIPP) in New Mexico. At the end of its expected first year of operation, 1990, WIPP is projected as having an accumulated volume of 11,767 cubic feet of remote-and-contact handled TRU waste. The annual rate of acceptance is projected at around 6,600 cubic meters for each year until 2013. **

ANNOUNCEMENTS

NORTH CAROLINA LLRW MANAGEMENT AUTHORITY REQUESTS FOR PROPOSALS

All engineering contractors interested in asking for a request for proposal from the North Carolina Low-Level Radioactive Waste Management Authority for Low Level Radioactive Disposal Site Selection are required to contact the Authority by December 1, 1987. Contact: Dr. Eisenbud or James Wilson, 116 West Jones Street, Raleigh, NC 27603-8003. Telephone: (919) 733-0499. **

ILLINOIS DEPT. OF NUCLEAR SAFETY REQUEST FOR PROPOSALS

The Illinois Department of Nuclear Safety (IDNS) is seeking proposals from outside contractors to **"Design, Develop, and Close a Regional LLRW Disposal Facility."** The prime contractor firm, as opposed to subcontractors included in the proposal, must be capable of, and be the operator of the regional disposal facility. The selected contractor is to undertake a two phase scope of work. The costs incurred during the first phase involving the development of the facility, but not including its construction will be covered by IDNS. The costs incurred with the second phase which include the construction and operation of the facility is to be covered by revenues collected by the contractor-site operator.

The deadline for submission of the proposals will be set sometime in April. For copies or more information write: Eric Schwing IDNS, 1035 Outer Park Drive, Springfield, IL 62704. **

LLRW Volume Disposal Update

LLRW ACCEPTED FOR DISPOSAL AT BARNWELL, BEATTY AND HANFORD

Through SEPTEMBER 1987
(Volumes in Cubic Feet)

	SEPTEMBER	Year to Date
Northeast		
Connecticut	5,386.70	25,837.00
New Jersey	2,576.90	29,422.40
	7,963.60	55,259.40
Appalachian		
Pennsylvania	14,881.30	92,952.10
West Virginia	0.00	0.70
Maryland	277.50	16,914.90
Delaware	0.00	924.66
	15,158.80	110,792.36
Southeast		
Georgia	2,007.09	14,832.75
Florida	2,328.20	27,936.20
Tennessee**	18,375.80	121,902.60
Alabama	3,707.40	55,049.00
N. Carolina	5,978.10	59,321.60
S. Carolina	7,298.80	80,566.90
Mississippi	398.80	10,630.20
Virginia	4,075.10	47,495.25
	44,169.29	417,734.50
Central States		
Arkansas	2,167.30	12,713.20
Louisiana	1,276.50	15,750.70
Nebraska	606.00	14,364.40
Kansas	364.00	4,036.40
Oklahoma	10,861.20	52,331.90
	15,275.00	99,196.60
Central Midwest		
Illinois	20,176.90	143,792.50
Kentucky	0.00	175.70
	20,176.90	143,968.20
Midwest		
Wisconsin	0.00	3,737.70
Indiana	0.00	1,282.40
Iowa	1,513.90	14,989.20
Ohio	2,010.20	11,159.20
Michigan	3,973.30	24,100.10
Minnesota	218.80	11,151.56
Missouri	364.00	18,805.90
	8,080.20	85,226.06

	SEPTEMBER	Year to Date
Rocky Mountain		
Colorado	436.00	1,536.10
Nevada	15.00	15.00
New Mexico	0.00	990.00
Wyoming	0.00	0.00
	451.00	2,541.10
Western III		
South Dakota	0.00	0.00
Arizona	1,423.10	10,256.60
	1,423.10	10,256.60
Northwest		
Idaho	0.00	1.50
Washington	7,729.50	33,784.80
Oregon	12,247.50	57,995.50
Utah	52.50	1,372.50
Alaska	40.00	40.00
Hawaii	0.00	2,598.00
Montana	0.00	38.20
	20,069.50	95,830.50
Unaligned		
Rhode Island	28.10	786.20
Vermont	1,508.30	5,708.70
New Hampshire	797.50	1,210.00
Maine	0.00	2,749.70
New York	6,745.10	48,150.80
Massachusetts	4,961.60	36,259.70
Texas	475.00	49,661.50
North Dakota	0.00	2.90
California	5,215.00	66,873.70
Puerto Rico	0.00	0.00
D.C.	0.00	135.00
	19,730.60	211,538.20
TOTAL:	**152,497.99**	**1,232,343.52**

**The LLRW Volumes reported from Tennessee and possibly small volumes from a few other states may include waste delivered by generators in other states to a TN-based regional processing facility and then shipped to Hanford, WA for disposal. We are working with site operators to correct the figures.

IN APPALACHIA

The **Appalachian Compact,** already passed by the U.S. House of Representatives, will be "marked up" in the Senate Judiciary on November 19. There are no indications that it will be amended. It should be reported out for Senate floor action and adopted by the full chamber without objection.

IN THE CENTRAL MIDWEST

The **Illinois** Department of Nuclear Safety reports that of the seventeen counties that have **not said no** to being considered as the possible host for a regional LLRW facility, twelve have been identified as possibly having sufficiently favorable geological, environmental, and climatological characteristics to warrant further study. Two counties which had been actively seeking the site were found to have technical problems which eliminated them from further consideration.

IN TEXAS

Site characterization work at the **Texas LLRW Authority's** preferred site for the state's LLRW disposal site in Hudspeth County, 11 miles northeast of Fort Hancock, TX, remains stalled due to court challenges brought by the city of El Paso. Though the state legislature acted to clear up two of three El Paso legal challenges, the remaining issue, which contends that under current state law the Authority is prohibited from selecting a disposal site location 20 miles "up drainage" from a reservoir, continues to be the subject of litigation at the state district and Supreme Court level. The Authority is currently prohibited by a district court injunction from proceeding with any site work. A court date of December 7 has been set to hear arguments on the "up drainage issue."

State officials explained that the limitation on the location of a disposal site twenty miles "up drainage" from a reservoir refers only to reservoirs constructed by the U.S. Army Corp. of Engineers. The Hudspeth site does not fall in this category. The Authority staff appears confident that the court will find in their favor and dismiss this specific challenge. However, before any further site work can be started, the State Supreme Court must act on El Paso's appeal. Authority officials indicate that this litigative process will most likely prevent further site specific work until the Spring of '88.

Despite the inability to proceed with site characterization activities the Authority continues to progress in their overall effort. The Board has selected a disposal technology-- below ground modular concrete cannisters with below ground vaults. It is also expected to approve a contract with Rogers and Associates of Salt Lake City at their November 18 session, for the development of a preliminary site design based on the selected technology. The value of the contract is set at $182,000.

As a result of the State Legislature directing the Authority to look into joining into a compact with other states in an FY '88 appropriations bill, the staff has been discussing this possibility with various states and existing regional compacts. The legislature in directing the Authority to pursue this course of action did make it clear that the intent was to identify compact opportunities that could afford Texas the protection allowed under the Low Level Radioactive Waste Policy Amendments Act (LLRWPAA), that provides compacts the authority to prohibit the acceptance of out-of-region waste. The Authority is currently discussing compact opportunities with Puerto Rico. Several other states have also contacted the agency including Kansas, South Dakota, Vermont and New Hampshire.

On another front, the Authority has been contacted by a business group, from **Andrews County** in the Texas Panhandle, which is actively seeking to host the LLRW disposal site, and even exploring the possibility of seeking the HLW repository. This county has been hit with high unemployment because of the downturn in the oil and gas industry. The staff did meet with the group and explained that there appeared to be some technical problems

with the proposed site location, but their interest remained undaunted. They are currently having studies conducted at their own expense regarding the issues raised by the staff.

IN THE EPA

The EPA Office of Radiation Programs proposed LLRW standard including a Below Regulatory Concern Proposal has been sent forward for review by other offices within the Agency. The first phase of this internal review is expected to be completed by November 18. The proposal then is scheduled to be sent on to the next level of review within the Agency and also to the office of Management And Budget in December. According to reports received this far the proposed standard does not differ from what ORP staff has revealed in public forums over the past year.

IN THE INDUSTRY

International Technology Corporation (IT) has finalized an agreement with **Belgium Wastes Technology (BWT)** of Mol, Belgium, whereby IT will represent in the United States the combined experience and technology of the two organizations in the field of nuclear and mixed waste.

Belgium Wastes Technology is an organization set up by BELGONUCLEAIRE SA Brussels and the National Research Nuclear Center (SCK/CEN) of Belgium. BELGONUCLEAIRE engineers and supplies nuclear waste treatment installations while SCK/CEN focuses on research and the operation of nuclear waste treatment facilities.

International Technology Corporation has also announced that it has been selected by the state of **Arkansas, Department of Pollution Control and Ecology,** for the on-site incineration of dioxin-contaminated waste stored at the Vertac site in Jacksonville, Arkansas. The contract, initially slated at $9.7 million, will involve remediation and incineration of approximately 27,000 drums of dioxin-contaminated material, using IT's transportable Hybrid Thermal Treatment System (HTTS), modified to meet the specific requirements of the site. Engineering of this second HTTS has already begun, and fabrication is expected to take six months. On-site incineration of the material is scheduled to commence mid-1988.

Hydro Nuclear Services, Inc. is marketing a new Automated Laundry Frisker System (ALF) to detect radioactive particles, or "fleas," nestled in laundered protective clothing. ALF system was designed in response to a recognized industry need for enhanced protection of plant personnel from unanticipated exposure to radioactive particles.

Operated by one technician, the ALF system simultaneously monitors both sides of clothing items. Gas flow proportional detectors offer high sensitivity to both gamma and beta particles. Detection of a radioactive particle triggers an alarm, and indicator lights pinpoint the location for manual removal. In addition to detecting and locating "fleas," the system monitors general garment contamination levels and automatically adjusts for background radiation.

Housed in a polished stainless steel cabinet with a plastic laminate covering, the ALF system is mounted on lockable casters for mobility and requires little floor space. The 36-inch wide conveyer belt and the adjustable height of the upper detector provide flexibility in processing various-sized garments.

In the first commercial applications, ALF systems are operating at Virginia Electric and Power Company's North Anna Nuclear Power Station and Union Electric Company's Callaway Nuclear Power Station. For more information call (609) 722-5700.

ON THE MOVE

Don Diego Gonzalez, Ph.d has been named a Vice President at Roy F. Weston, Inc. Based in the Company's Albuquerque, NM office, Dr. Gonzalez is responsible for technical direction and marketing efforts for low-level radiological waste projects. **

(**Johnston** from pg. 1)
The Secretary of Energy is restrained from exercising his powers granted under other provisions of the legislation to proceed with the construction of a MRS facility until after the Commission completes its evaluation and submits its report. The Secretary may then proceed to construct a repository unless the Commission finds it unnecessary, and Congress acts within 30 legislative days following receipt of the report **to adopt a resolution disapproving authorization for the facility.**

After silencing Senator Sasser's opposition, the Energy Chairman went to strengthen support among Senators from second round states by supporting an amendment offered by Maine's Senators Mitchell and Cohen that stopped funding for research programs on granite formations, in other words DOE's Underground Research Laboratory. Johnston even accepted a Gramm (R-TX) amendment dealing with private land acquisition though he did not gain Gramm's support on the final vote.

Earlier Amendments Dropped

The Energy Chairman also attempted to gain support from Senators opposing the single site characterization scenario because it did not include continuing surface testing at the other two sites, and those desiring more technical oversight. He introduced a package of modifications on November 5, calling for the establishment of an National Academy of Sciences(NAS) Oversight Board, and maintaining surface testing at the two sites remaining after selection of the one preferred site. However, only the NAS panel modification made it into the final version. The surface testing provision was dropped when Senator Adams refused to agree **not** to amend it.

A Hecht Package Accepted

Apparently, at the request of his most avid supporter and co-sponsor on the Republican side of the aisle Senator McClure, Johnston accepted a package of amendments offered by Senator Chic Hecht that included one calling for the establishment of an Office of Subseabed Disposal -- a proposal Johnston opposed during his Energy Committee deliberations. The Hecht package also called for another subseabed study and addressing transport routes for spent fuel.

Final Votes Next Week

On Friday November 13, Senator Breaux may offer his motion to recommit the bill but from the looks of things tonight (as we put this edition to bed) it does not have much of a chance of approval. A final vote on the entire Appropriations bill is to occur on Tuesday or Wednesday (November 17 or 18).

NRC, DOE DOCUMENTS CITED IN OPPOSITION & SUPPORT OF PREFERRED SITE SELECTION

During the debate on the Senator Johnston-McClure-Energy Committee HLW legislation Senators Breaux and Simpson cited a DOE letter from Acting OCRWM Director Ed Kay to NRC Chairman Zech, and NRC staff and Commission statements that supported their contention that the selection of a preferred HLW repository site -- one that would be likely to be licensed -- cannot be confidently made by the date specified in the Johnston Bill -- January 1, 1989.

Senator Johnston countered these disclosures with a November 10 letter from NRC Chairman Zech, statements given during hearings on the Energy bill by the Chairman of the National Academy of Sciences (NAS) Radwaste Review Board, and other NRC staff documents.

Upon reading the various citations in the **Record**, one gets the impression that what the NRC was saying was a function of who they were saying it to.

In Opposition to the '89 Selection

Previous editions of the EXCHANGE reported on testimony given by the NRC Commissioners, and NRC staff documents that did not endorse Johnston's preferred site selection scenario unless a significant amount of surface characterization studies were completed. During the debate, Senator Breaux and Simpson revealed two other documents, one from DOE, and an earlier NRC staff report that cast doubt on DOE's ability to name a preferred site -- one that would have a good chance of being licensed.

As cited by Senator Simpson, and so inserted in the November 10 **Record**, Ed Kay, the Acting OCRWM Director wrote Chairman Zech on October 30, 1987 informing the Commission that DOE is currently "restudying the use of surface-based testing to facilitate some important early site evaluations" and expects to complete this study by the end of this calendar year. The results of this study, Kay states will provide necessary information for the programmatic decisions on site characterization test scheduling.

Simpson rightly points out that if DOE is just going to look at how to approach the surface-based testing issue at the end of this year how can a preferred site decision be made by January 1, 1989?

Breaux added to the citations of NRC documents casting doubt on the preferred site selection with the revelation of an early NRC staff analysis of Senator Johnston's initially proposed sequential site characterization bill, S.839. This analysis, done at the request of Commissioner Carr, and dated July 17, 1987, recommends that the Commissioners support the Johnston single at-depth site characterization scenario --

> "provided that it take effect after DOE has completed a program of surface-based site characterization activities and a comparative evaluation of at least three sites ... the recommended two-tiered site characterization option would enable NRC and DOE to concentrate their respective resources during the most resource-intensive phase of the program, which would permit higher technical quality of work at the site selected. [This] recommended option would retain the concept of conducting a rigorous comparative evaluation of at least three sites before making a major commitment to a single site. The advantage of two-tiered site characterization over the current program ... is that the recommended approach would enhance the degree of assurance that the site selected for the most resource-intensive characterization activities will meet NRC licensing requirements."

Johnston Counters With Citations

Senator Johnston countered the NRC references of Breaux and Simpson with citations form testimony delivered during his Energy hearings, a recent letter from Hugh Thompson, the Director of NRC's Waste Management staff, and a November 10 letter from NRC Chairman Zech. In this letter, Zech reiterates the views expressed in an October 2 letter to the Energy Chairman, that the Commission "does not oppose" legislation that would require the selection of a single preferred site for characterization from among the three current candidates sites, and states that the Commission has not taken a position on a date for selecting the preferred site.

Zech advises the Energy Chairman that, to avoid a delay in the scheduled opening of the HLW repository if the preferred site should be found to be unlicensable, "surface-based testing should continue at the two sites not selected for at depth site characterization."

Interestingly, on Thursday November 5, Johnston had "modified" the HLW legislation to include a provision that would require the Secretary to initiate a surface-based testing program at the two sites not selected for characterization but dropped this modification from the unanimous consent proposal that governed the debate in the final two days when Senator Adams would **not** agree to **not offer** amendments to the provision.

NRC REPORT FINDS BEST GEOPHYSICAL TECHNIQUE NOT USEFUL AT YUCCA MOUNTAIN

An NRC Report -- "Survey of Geophysical Techniques for Site Characterization in Basalt, Salt and Tuff" (NUREG-CR-4957) compiled by Weston Geophysical Corporation and cited during the congressional debate on the Johnston-McClure-Energy Committee HLW legislation, concludes that:

> "The seismic reflection method, which generally is considered to be the most incisive of the geophysical techniques, has to date provided only marginal information on structure at the depth of the proposed repository at the Hanford, Washington, site, and no useful results at all at the Yucca Mountain, Nevada site."

The Weston firm attributes the failure of the technique to provide useful information to the "geographically complexity beneath these sites" and the use of "inappropriate acquisition and processing parameters."

The report summarizes the usefulness of fifteen geophysical techniques for determining information at the three potential HLW repository sites in five broad categories of site characterization objectives: (1) Determination of faulted structures; (2) Determination of non-faulted structure [bedding, folding]; (3) Stratigraphic correlation between boreholes; (4) Determination of fracture patterns and permeability from the surface to the depth of the proposed repository horizon [PRH]; (5) Determination of engineering properties [velocities, elastic moduli, density] at the depth of the PRH. For each of the three sites the usefulness of the techniques in filling these goals is characterized as: useful [having been proven to satisfy one or more of the site characterization goals outlined above, or having the capacity to do so but is untried so far, should be a primary technique]; somewhat useful [limited in terms of information or resolution, but could be useful in conjuction with other methods]; or not useful [having either been shown not to work at a particular site or there is a reasonable certainty that the method will not provide the necessary information].

The report's conclusions, plus additional supporting data, coupled with other findings from other NRC and DOE documents that surfaced during the past week's Senate debate, cast very serious doubt on whether DOE could obtain sufficient technically acceptable information to select a "preferred" site -- one that is likely to be licensable by NRC by January 1, 1989.

Lack of Useful Techniques For Yucca Mtn.

The NUREG-Weston Geophysical Document is of particular significance because it reveals that geophysical data on the Nevada-Yucca Mountain site -- the site which everyone seems to agree that DOE has the most information on and would be the logical choice for the initial selection of a preferred site -- cannot be obtained by using the "most incisive" geophysical technique, seismic reflection. The report states that:

> "As far as geophysics is concerned, Yucca Mountain is unique among the 3 sites being presently considered for high-level nuclear waste isolation, in that seismic reflection has so far proved to be of limited use and other geophysical techniques, such as seismic refraction, electrical, and gravity methods, provide better information on the shallow structure at the repository reference location. The poor results obtained using seismic reflection appears to arise predominantly from absorptive nature and scattering exhibited by the rocks at the site."

Furthermore, the report finds that of the 15 separate geophysical techniques generally used for obtaining data to meet the geophysical characterization objectives -- only four were found "useful" at the Yucca Mountain site.

In contrast, at the Hanford site, five techniques were found useful, with seismic reflection judged useful in three categories and other methods useful in three other categories. At the Deaf Smith County site, not only was seismic reflection found as providing useful data in six of the seven categories, four other techniques were judged useful, resulting in the ability to obtain useful information to meet all the site characterization objectives.

According to the Weston Geophysical report, none of the fifteen evaluated geophysical techniques would provide useful data at the Yucca Mountain site in two categories -- and shallow, faulted structures, shallow non-faulted structures. At Hanford it was found that none of the evaluated techniques would provide useful information for deep faulted structures.

NRC staff is currently reviewing the consultant's report. **

SHARP SETS HOUSE ENERGY MARKUP ON HLW BILL WITH NO MRS

Congressman Phil Sharp (D-IN), Chairman of the House Energy and Power Subcommittee, has set Tuesday, November 17, for markup of pending HLW legislation. The markup date is much sooner than had been expected. The quicker schedule is a direct result of intense concern among House members about Senator Johnston's aggressive tactics to have that chamber adopt a bill without, in their view, sufficient environmental and technical protections.

New Markup Vehicle

The markup vehicle that will be introduced by Chairman Sharp for the Subcommittee's consideration is almost identical to the bill reported out of the Interior Committee but with one significant deletion and one addition.

Chairman Sharp has limited the purview of the Udall-Interior proposed Negotiator to seeking states interested in a HLW repository, not a Monitored Retrievable Storage facility. In addition, the Energy vehicle directs the proposed Waste Commission to make a specific recommendation on what point the HLW program should be restarted. The vehicle does maintain the automatic restart of the program unless Congress acts otherwise. **

SPENT FUEL PROJECTIONS DOWN SLIGHTLY, MRS SCHEDULE OUTLINED

The Department of Energy's 1987 report "Integrated Data Base For 1987: Spent Fuel and Radioactive Waste Inventories, Projections and Characteristics" revises slightly downward the projected generation of spent fuel, and projects an annual acceptance schedule for spent fuel at a Monitored Retrievable Storage facility (MRS) beginning in 1998.

According to the 1987 report (Rev.3), the projected generation of spent fuel in 2020 is 98.3 metric tons of heavy metal (MTHM) under what is termed the "upper reference" case (i.e. installed nuclear generating capacity increasing from approximately 85 GW(e) at the end of 1986 to approximately 109 GW(e) by 2000). The projection for that year under the same scenario reported in the '86 version of the report was 105.8 MTHM. For the earlier years, under this reference scenario, the '86 and '87 projections differed by a maximum .6 MTHM.

The '87 report bases projections on only two reference scenarios, the upper reference case referred to in the '86 report as the Mid Case scenario, and the "no new order" case. Future reports are expected to base projections only on a "no new orders" scenario.

MRS Fuel Acceptance Schedule

A table in the '87 report projects MRS startup in 1998 with the acceptance of 1,200 MTHM during that year. An identical amount of spent fuel is projected to be accepted for the next four years. In 2003, the projected startup date of the first

repository, the rate of acceptance is projected as increasing to 2000 MTHM, and then increasing to a steady state of 2,650 MTHM in 2004. This rate would be maintained through 2020. The first repository is projected as accepting 400 MTHM during its first year in operation, 2003, with the rate increasing to a steady input of 3,000 MTHM by 2008. **

DOE FORGES AHEAD WITH SUPER GORILLA CONTRACTOR SOLICITATION

At the November 5 bidders' conference on the DOE Office of Civilian Radioactive Waste Management (OCRWM), contract for "Systems Engineering, Development, and Management of the Nuclear Waste Management System," Ed Kay, OCRWM's Acting Director, made it clear that DOE intends to proceed with the solicitation though the final work statement will depend on the result of ongoing Congressional deliberations on revamping the HLW program.

The primary role of the selected contractor, as outlined in the "Super Gorilla" work statement, as now included in the RFP, is to integrate site characterization activities at the three proposed repository locations, Deaf Smith County, TX; Hanford, WA; and Yucca Mtn., NV. Pending legislation, if enacted into law, would eliminate full characterization at all three sites, requiring instead the characterization of one and possibly continuing "surface studies" at the other two. Such a change would significantly affect the managerial tasks of the Super Gorilla contractor, and the overall value of the contract.

DOE has set January 15 as the date for submission of proposals, with the final award to be made by May 1988. The designated contract Decision Officer is the OCRWM Director.

Few Proposals Expected

Though there were 80+ attendees at the bidders' conference, knowledgeable observers expect that no more than three proposals will be submitted. The majority view is that only two will be submitted, one from TRW and another from Bechtel. Most well-known firms that would serve as a subcontractor have already lined up with one or the other. **

Wrap Up (HLW)

IN THE CONGRESS

HLW LEGISLATION The Interior Committee Report on its adopted version of Mo Udall's HLW Bill has been filed. The report number is Rept. 100-425 and is available from the House Document Room (202) 225-3456 or can be obtained from the Radioactive Exchange Readers' Report Service for a copying and handling charge of $5.00.

PRICE-ANDERSON REAUTHORIZATION Though some organizations operating national laboratories are increasing their pressure on Congress to move on reauthorizing Price-Anderson, the debate on the HLW Bill in the Senate has preoccupied the Senate Environment Committee for the past weeks and therefore no movement toward compromise in that chamber on Reauthorization has been made. Meanwhile the pressure being exerted by some for reauthorization has been somewhat counteracted by other firms which have informed DOE that they are willing to negotiate contracts, and accept liability coverage for nuclear incidents as provided by the War Powers Act. EG&G and the Associated Universities are two entities who have recently informed DOE that they are willing to proceed in this manner regarding upcoming contract renewals.

On the other hand, E.I. duPont, citing that lack of Price-Anderson coverage was only partially responsible, has informed DOE that they will not renew their contract to operate the Savannah River Plant once their current contract expires on September 30, 1989. The firm's announcement closely followed the release of the National Academy of Science Report that cited safety short comings at the Plant and the need to take action to correct them. **

REPORTS OF NOTE (HLW)

Expected Waste Package Performance for Nuclear Waste Repositories in Three Salt Formations (BMI/ONWI-655); Office of Nuclear Waste Isolation, Batelle Memorial Institute, 505 King Avenue, Columbus, OH 43201-2693; Expected waste package lifetimes and radioactive releases from the package were predicted at seven sites in three geologic formations for both commercial high-level waste (CHLW) and spent nuclear fuel from pressurized-water reactors (SFPWR) using near-field conditions from preliminary analysis.

The analytical results were compared with the U.S. Nuclear Regulatory Commission (NRC) guidelines (10 CFR Part 60). The predicted expected lifetime for both CHLW and SFPWR waste packages exceeded 10,000 years at all seven repository sites. These conclusions are based expected uniform corrosion of packages with thick container of low-carbon steel and uniform distribution of the limited quantity of local brine that migrates thermally toward the waste package and becomes available to react with the steel in the waste container.

Comparisons of the maximum quantities of radionuclides that would be dissolved in all of the thermally migrating brine reaching the package with U.S. Environmental Protection Agency (EPA) standards (40 CFR 191) showed that any radionuclide discharge at failed packages would be limited to a small fraction of the EPA standard at the site boundary except for isotopes of highly soluble iodine, cesium, and perhaps sparingly soluble strontium.

The conclusion of this assessment of waste package performance under expected conditions is that all seven sites are within regulatory requirements. However, the domes, in spite of their higher temperatures, have a greater tolerance for error both in the analytical model and in the input data estimates than the bedded sites because of their expected lower water contents and because of their less corrosive low-magnesium in situ brines.

Spent Nuclear Fuel and High-Level Radioactive Waste Transportation Primer: Published by The Southern States Energy Board (SSEB); The primer includes a detailed description of the characteristics, shipping and routing of nuclear spent fuel and high-level waste. In addition, transportation aspects of the Nuclear Waste Policy Act of 1982 and federal agency authority and regulatory framework are also analyzed. The primer examines legal and liability issues, such as state/local inconsistency rulings by the U.S. Department of Transportation and the Price Anderson Act and includes an assessment of transportation and storage casks, transportation risks and costs, and emergency preparedness and response. While the primer addresses the subject of transportation of spent fuel and high-level waste on a national level, where applicable the focus is directed toward the 16 southern states that are members of the Southern States Energy Compact. Available from SSEB for $35.00 (includes postage and handling). Contact Ms. Nancy E. Kaiser, Manager, Information Services, Southern States Energy Board, 3091 Governors Lakes Drive, Suite 400, Norcross, Georgia 30071, (404) 242-7712.

Atlas of Routes For Commercial Spent Fuel Shipments In The South: Published by The Southern States Energy Board; The report is based upon the latest available routing information and computer models. The hypothetical routes identified in the report do not represent actual or selected routes for spent fuel transportation. The report includes detailed routing data for each of the South's 27 reactor sites and their expected mode of transport, highway or rail, to three repository locations and a monitored retrievable storage site. In addition, the corridor impacts from reactors outside the region are also assessed.

The report uses the HIGHWAY and INTERLINE computerized routing system operated by Oak Ridge National Laboratory. Both routing models generate detailed hypothetical routes consistent with current federal routing regulations and general commerce operations.

REPORTS OF NOTE (HLW) (con't)

Hypothetical routing maps and southern state route distance impacts are graphically illustrated in the report. Specific route descriptions, including highway and rail segments, travel time and the identification of highway and rail distances and route classifications, are also listed. Available from the Southern States Energy Board for $50.00 (includes postage and handling). Contact Ms Nancy E. Kaiser, Manager, Information Services, Southern States Energy Board, 3091 Governors Lakes Drive, Suite 400, Norcross, Georgia 30071, (404) 242-7712.

Integrated Data Base for 1987: Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics; (DOE/RW-0006, REV.3); Office of Nuclear Energy Mail Stop NE-12; Washington, D.C. 20545; Copies Available from NTIS, 5285 Port Royal Road, Springfield, VA 22161. The Integrated Data Base (IDB) Program has compiled current data on inventories and characteristics of commercial spent fuel and both commercial and U.S. government-owned radioactive wastes through December 31, 1987. These data are based on the most reliable information available from government sources, the open literature, technical reports, and direct contacts. The current projections of future waste and spent fuel to be generated through the year 2020 and characteristics of these materials are also presented. The information forecasted is consistent with the latest U.S. Department of Energy/Energy Information Administration (DOE/EIA) projections of U.S. commercial nuclear power growth and the expected defense-related and private industrial and institutional (I/I) activities.

The radioactive materials considered, on a chapter-by-chapter basis are: spent fuel, high-level waste, transuranic waste, low-level waste, commercial uranium mill tailings, remedial action waste, and decommissioning waste. For each category, current and projected inventories are given through the year 2020, and the radioactivity and thermal power are calculated based on reported or estimated isotopic compositions. In addition, characteristics and current inventories are reported for miscellaneous, highly radioactive materials that may require geologic disposal. **

REPORTS OF NOTE (LLRW)

Low Level Radioactive Waste Regulation: Science, Politics, and Fear; Michael E. Burns, Association of American Railroads, Editor, Lewis Publishers, Inc. 121 South Main Street, Post Office Drawer 519, Chelsea, Michigan 48118; This book includes a special chapter by Nobel Laureate in Medicine Rosalyn S. Yalow on Biological Effects of Low Level Radiation. It focuses on design of disposal facilities, siting considerations, public attitudes, and disposal technologies. Pre-publication copies are available for $23.40! Call 1-800-525-7894 or In Michigan, call collect: 313-475-8610.

Calendar

November

15-18 Atomic Industrial Forum Annual Conference; Los Angeles, CA; Contact: AIF (301) 654-9260.

15-19 Meeting: American Nuclear Society; Los Angeles, CA; Contact: ANS Meetings Dept. (312) 352-6611.

17 **Markup; House Energy and Power Subcommittee; Udall-Interior HLW Legislation; Contact: 202-226-2500.**

17-19 Meeting: OCRWM; Repository/Waste Package Coordinator Group; Washington, DC; Contact Mark Frei, (202) 586-9322.

20 Meeting: Midwest Compact Commission; Days Inn, 8800 Wickham Road, Romulus, MI 48174; Contact: Susan Olsson (612) 293-0126.

23 Hearing: Northeast Compact Commission; LLRW Regional Management Plan; State Capitol; West Bldg., Room W-52, Hartford CT; Contact: Denise Drace, (609) 799-1193.

24 Hearing: Northeast Compact Commission; LLRW Regional Management Plan; Holiday Inn Jetport, 1000 Spring Street, Elizabeth, NJ; Contact Denise Drace (609) 799-1193.

24 Host Selection Proceedings: Northeast Compact Commission; Holiday Inn Jetport, 1000 Spring Street, Elizabeth, NJ; Contact Denise Drace, (609) 799-1193.

November-December

30-5 Conference: International Waste Management Conference; Kowloon, Hong Kong, Westin Shangri-La Hotel; Spons: ASME/IAEA/AESJ/Canada Nuc. Soc./-ANS/Rep. China Nuc. oc./ENS; Contact: Larry Oyen, Sargent & Lundy, (312) 269-6750.

December

1-3 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. Las Vegas, NV; 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.

1-3 Meeting: OCRWM; Institutional Socioeconomic Coordinating Group; Las Vegas, NV; Contact Barry Gale (202) 586-1116.

4 Meeting: Rocky Mtn Compact Board; Mt. Charleston Inn Hotel, 2 Kyle Canyon Road, Mt. Charleston, Nevada; Contact: (303) 825-1912

8-9 Conference: IL Department of Nuclear Safety's Fourth Annual Low-Level Radioactive Waste Generators' Conference; Ambassador West Hotel,Chicago, IL; Contact: IL Department of Nuclear Safety, Office of Environmental Safe,, (217) 785-9958

13-17 Meeting: HPS Topical Meeting, Miami Beach, FL; Contact: R.J. Burk Jr., Health Physics Society, 8000 West Park Drive, Suite 400, McLean, VA 22102.

1988

January

15 DEADLINE: Proposal Submission; DOE-OCRWM; Super Gorilla Integrator Contract

February-March

1-5 **Short Course: BRC RADWASTE DISPOSAL; Spons: Depts. of Mechanical Engineering & Civil Engineering, University of Texas at Austin; Joe C. Thompson Conference Center; Fee: $695 Contact: (512) 471-3506.**

28-3 Meeting: Waste Management '88, Tucson, AZ; Contact: Mort Wacks, Dept. of Nuclear Engineering, University of Arizona, Tucson, AZ 85721.

May

3-6 Conference: International Conference On Incineration of Hazardous & LLRW; San Francisco, CA; Contact: Jim Tripodes (714) 856-6200

CONTRACT AWARD: OCRWM Super Gorilla Contract.

July

4-8 Meeting: HPS Meeting, Boston, MA; Contact: R.J. Burk Jr., Health Physics Society, 8000 West Park Drive, Suite 400, McLean, VA 22102.

(Changes from previous calendar in bold print)

***The Radioactive Exchange** is published by Exchange Publications. Twenty-two issues per year for $349 U.S. ($369 outside U.S.) Edward L. Helminski, Publisher. P.O. Box 9528, Washington, D.C. 20016; 202/362-9756.*