The

Radioactive Exchange®

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

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PROPOSED RULE BASING HLW FEE ON NET ELECTRICITY GENERATED ISSUED

In the November 7 **Federal Register,** the DOE Office of Civilian Radioactive Waste Management (OCRWM) issued a proposed rule to base the 1 mill per kilowatt hour fee to cover the cost of the HLW program on the net electricity generated by a utility as opposed to the gross generation rate included in the final rule issued in April 1983.

The issuance of the new rule is in accordance with the decision handed down by the U.S. Court of Appeals of the District of Columbia on December 16, 1985 in the suit filed by the Wisconsin Electric Power Co. challenging DOE's decision to base the fee assessment on the gross generation of nuclear generated electricity. (See **Fee** in **the HLW Focus**)

CALIFORNIA HEALTH AGENCY REAFFIRMS SUPPORT FOR US ECOLOGY

The California Department of Health Services (DHS) recently issued a document strongly reaffirming support for US Ecology as the license designee for the State's proposed LLRW disposal facility. The DHS report, signed by Dr. Kenneth W. Kizer, Director of the Department, concludes that the "firm is fully qualified in all categories to serve as license designee..." and "has shown a consistent concern for the integrity of its operations and has maintained satisfactory relationships with the Federal and state regulatory agencies." The DHS also reports that US Ecology is willing to use enhanced disposal technology if directed to do so. (See **US Ecology** pg. 2)

SEE NEW FEATURE -- LLRW VOLUME DISPOSAL UPDATE...
providing a state-by-state, region-by-region breakdown of the LLRW accepted for disposal at the burial site.

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(**US Ecology** from pg. 1)

Past Practices Found Responsible

In response to questions raised regarding operations of the firm's disposal facilities at Beatty NV and Hanford WA, the report states that US Ecology is "the oldest and most experienced firm in the Field of low-level radioactive waste management..." and has "successfully operated [these] facilities...without the migration of nuclides in air or water to the degree that it would present a health concern." It is pointed out that the "only fine imposed on the company during its 75 site-years of operation was in the amount of $10,000 and involved employee misconduct."

A recent report issued by Nevada's Department of Human Resources, stating that US Ecology has "demonstrated a consistent concern for the integrity of their operation and that the State found no significant violations of applicable regulations in recent years," is cited in support of these conclusions.

Sheffield, Maxey Flats Operations

US Ecology's operation of the now closed burial site at Maxey Flats, Ky., and current litigation over the closure of the Sheffield, IL disposal facility is addressed.

On the operation of Maxey Flats, the CA Department of Health Services concludes that on the basis of discussions with officials from Kentucky, US Ecology operated "the site [Maxey Flats] in accord with what were then considered good practices." Furthermore, it notes that both the "State and US Ecology acknowledged responsibility for the conditions and worked cooperatively to implement remedial measures."

With regard to the current litigation involving US Ecology and the Sheffield IL site, the report explains that the suit was filed by the State when US Ecology attempted to return the site to the control of the state, after the facility had reached its licensed capacity. The State contends this was in violation of the terms of US Ecology's lease. However, the report points out that US Ecology's 1974 operating license "did not contain procedures for site closure and was not required to by the Nuclear Regulatory Commission or the State of Illinois."

Use of Enhanced Burial Technology

The terms under which US Ecology accepted license designee status are based on their proposal to site a shallow-land burial facility meeting NRC's Part 61 regulations. During the past legislative session various attempts have been made to require the use of engineered disposal at the proposed facility. Engineered disposal has also been raised in several other public forums. In response to this concern the Department of Health Services reports that no determination has been made on the use of engineered structures, then adds that US Ecology is "technically qualified to meet any such requirement and has expressed a willingness to employ enhanced technology if directed to do so by the Department." **

SE COMPACT STATE WITHDRAWAL RESTRICTIONS, SANCTIONS PROPOSED

The Southeast Compact's Ad Hoc Committee on Sanctions has developed an approach for consideration by the entire Compact Board to prevent party states from withdrawing from the Compact to avoid being the host of a future regional LLRW disposal site (See EXCHANGE, Vol. 5, No. 17). At a November 10 meeting the Committee agreed to suggest language that could be incorporated into an amended compact or possibly drafted into a contract that would be signed by all participating states.

The suggested language which would amend the withdrawal provisions of the current compact is as follows:

> "Any party state may withdraw from the compact by enacting a law repealing the compact, except that no **withdrawal may become effective during the period beginning six years after the opening of the second and subsequent regional facilities and ending with the beginning of the opening of the next regional disposal facility."**

Sanctions Proposed

In order to put some teeth behind the withdrawal restrictions, the Ad-Hoc Sanctions Committee is also suggesting that the Compact Commission be empowered to impose sanctions. Suggested sanctions include requiring the withdrawing state to pay compensatory and punitive damages, forfeit any performance bonds (if such bonds are established as a requirement for compact participation), and giving the Compact Commission the authority to seek injunctive relief.

The Compact Board is to consider these proposals at their Nov. 20-21 meeting in St. Petersburg, Florida. **

CORRECTION: REPORTED TESTIMONY GIVEN AT B&W INCINERATOR HEARING

The EXCHANGE article "Update: NRC Hearing on B&W Processing Center..." (Vol.5, No. 17) incorrectly reported that B&W's proposed incinerator "should result in a destruction and removal efficiency of at least **9.99** percent of any hazardous compound such as dioxins." The **correct statement** made by Mr. Jack Lauber, Associate Air Pollution Control Engineer for the New York State Department of Environmental Conservation, is that the B&W "high efficiency incinerator and multistage air cleaning system should result in a destruction and removal efficiency of at least **99.99** percent of any hazardous compound such as dioxins." **

REPORTS OF NOTE (LLRW)

Radioactive Contamination of Manufactured Products; Joel O. Lubenau and Donald A. Nussbaumer, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Since 1983 seven instances have occurred of accidental radioactive contamination of steel either manufactured in or imported into the United States. Five of the contamination events went unrecognized by the mill operators and were discovered by others through radiation monitoring conducted for other unrelated purposes. Impacts have included costs to mill operators in the United States for decontaminating their steel plants which have ranged from $50,000 to more than $2,200,000. The states, the U. S. Nuclear Regulatory Commission and the private sector have taken steps to further assess the scope of the problem and to improve responses when such incidents occur. The article is a good summary of actions taken by NRC and the states and the program put in place to respond to such instances in the future. The article appeared in **Health Physics**, Vol. 51, No. 4 (October), pp. 409-425, 1986.

Public Involvement: The Critical Path in Siting Controversial Facilities; Proceedings of the Nuclear Energy Low-Level Waste Management Program Conference held April 2-4, 1986, Sheraton Hotel, New Orleans, LA. The purpose of the conference was to exchange information on public participation efforts and discuss various mechanisms and techniques for effectively involving the public in decision-making processes. The conference addressed four major topics: lessons from past experiences; mechanisms and techniques for public involvement, conflict resolution, and working constructively with the media. A series of presentations on each topic was followed by questions and discussion among presenters and conference participants.

IN APPALACHIA

The **Pennsylvania Department of Environmental Resources** has initiated a series of public meetings on the proposed state LLRW disposal facility siting bill, draft area site screening criteria and the staff developed proposed criteria to determine a disposal technology. The meetings are to be held on the following dates in the specified locations: **Nov. 17** - Harrisburg; **Nov. 20** - King of Prussia; **Nov. 24** - Williamsport; **Dec. 3** - Meadville; **Dec. 9** - Monroeville. Department staff reports that a siting bill will probably be introduced this month but no action is expected until the next legislative session.

As a result of the recent elections the Governorship is now in the hands of the state Democratic Party. Democratic Governor-elect Casey defeated Republican former Lieutenant Governor Scranton by a margin of about ten percent. The change in administration is not expected to significantly alter Pennsylvania's direction with regard to the Appalachian Compact and proceeding to host a regional LLRW disposal facility. The Compact, as adopted by the State, was the result of a bipartisan effort within the legislature. The siting bill, however, has yet to be acted upon.

During the campaign Governor-elect Casey did allude to convening a series of statewide hearings before making any final decision on LLRW disposal.

IN TEXAS

The **Texas LLRW Disposal Authority** is scheduled to meet on November 21 to formally select "two or more" possible locations for the state's LLRW disposal facility. Intensive studies are already underway at three sites which are all located in Hudspeth County (See EXCHANGE, Vol. 5, No. 14). The Board is expected to select two of three recommended locations.

The change in Administration in the state, from Democratic to Republican, with the election of former Governor Clements over current Governor Mark White, is not expected to affect the Authority's program. The newly elected Governor will, however, be able to replace two of the six members of the Authority's Board in February 1987.

IN THE ROCKY MOUNTAIN WEST

The State of Colorado and Union Carbide Corporation have agreed on a $40 million plan to clean up the uranium mill tailings pile at the Urarvan uranium mill site in Southwestern Colorado.

The agreement, if approved by Federal district Judge Jim A. Carrigan, would establish a 15 year reclamation effort. According to the agreed upon terms Union Carbide is to lay a clay cap and 10 feet of soil over the tailings; dispose of over 100 thousand tons of highly soluble crystals in clay pods; and, evaporate over 30 million gallons of radioactively contaminated water contained in ponds along the Colorado River, removing the remaining radioactive solid residue to a safer site.

Union Carbide has agreed to purchase a surety bond to guarantee performance of the work. The state has retained its rights to go back to Court to enforce the terms of the Agreement. Once the site is reclaimed ownership of 200 acres will be transferred to the Nature Conservancy.

IN THE INDUSTRY

Westinghouse Hittman Nuclear, Inc., reports that the Nuclear Regulatory Commission has approved an equipment Topical Report for the firm's Portland cement-based LLRW dewatering and solidification system. A mobile version of this system is now ready to provide on-site processing. NRC approval of the equipment topical covers the mobile version.

According to Westinghouse's Director of Marketing, Dave Zigelman, the new radwaste processing system "allows for solidification of up to 40 percent more resin waste in a given container compared to previous methods. The new system is designed for truck transport to commercial nuclear power plants for on-site processing. For more information contact Mr. Zigelman at (301) 964-5000.

DOE's Y-12 Plant awarded a contract to the

DOE's Y-12 Plant awarded a contract to the **Quadrex Recycle Center** for the removal and decontamination of 75 fork lifts and 35 heavy machine tools. According to information available Quadrex has removed all the equipment from the Y-12 site and is decontaminating it at their Oak Ridge Recycle Center.

Commonwealth Edison's Dresden Plant management is now reviewing proposals from several waste processing firms competing for a firm price contract award to remove and dispose of 75 SEA-LAND containers holding a wide range of radioactively contaminated material.

The Quadrex Recycle Center reports that **Florida Power and Light** has just agreed to a two year blanket service contract under which the Oak Ridge Firm will remove radioactive "decontaminable" materials from all of the utility's facilities. Under the contract the utility will issue work orders for specific tasks. The first job task has been issued and will probably end up being about $400,000 worth of work.

International Technology Corporation (IT) has commenced construction of an expansion to the Company's Radiological Sciences laboratory in Oak Ridge, Tennessee. The expansion, expected to be completed by mid-1987, will provide sample preparation, counting areas and additional mixed-waste analysis capabilities together with enhanced computerized sample tracking facilities.

Officials at **Aerojet** report that they are continuing with a development and testing program for their mobile incinerator system. No further official information is available.

ON THE MOVE

Paul C. Williams, formerly Vice President Nuclear Sales of Stock Equipment Co., has formed PAUL WILLIAMS & ASSOCIATES (PWA), 3364 E. Smith Rd., Medina, Ohio 44256. Phone: (216) 723-0915. The company specializes in the sale of equipment and services to the electric power and low level radioactive waste industries. Management and low level waste consulting services will also be offered. PWA is the exclusive representative in the USA for Stock Equipment company's "Quick Dry" System for dewatering resin and filter sludge, and the Stock-Fontijne 1500 Ton Compaction Press System.

LLRW ACCEPTED FOR DISPOSAL AT BARNWELL, BEATTY AND HANFORD

As Reported October 1, 1986

	September	Year to Date
Northeast		
Connecticut	3,201.52	42,555.44
New Jersey	3,732.63	28,441.34
	6,934.15	70,996.78
Appalachian		
Pennsylvania	16,823.41	143,402.34
West Virginia	0.00	0.00
Maryland	960.50	9,701.08
Delaware	45.00	817.11
	17,828.91	153,920.53
Southeast		
Georgia	5,334.40	37,854.80
Florida	1,354.00	23,616.50
Tennessee	4,578.10	47,775.85
Alabama	7,662.10	38,489.50
N. Carolina	7,610.00	59,773.31
S. Carolina	9,905.50	85,226.90
Mississippi	1,210.00	10,577.50
Virginia	4,555.00	55,264.13
	42,209.10	358,578.49
Central States		
Arkansas	0.00	4,473.80
Louisiana	1,806.00	15,102.10
Nebraska	691.00	16,372.00
Kansas	0.00	1,911.50
Oklahoma	6,600.00	37,920.00
	9,097.00	75,779.40
Central Midwest		
Illinois	18,879.13	158,907.55
Kentucky	1,081.10	2,144.61
	19,960.23	161,052.16
Midwest		
Wisconsin	437.02	4,063.12
Indiana	0.00	0.00
Iowa	564.10	7,160.60
Ohio	1,032.50	13,329.90
Michigan	4,282.00	31,115.41
Minnesota	2,033.39	20,029.99
Missouri	3,334.00	9,167.50
	11,683.01	84,866.52

	September	Year to Date
Rocky Mountain		
Colorado	0.00	1,072.60
Nevada	0.00	0.00
New Mexico	0.00	0.00
Wyoming	0.00	0.00
	0.00	1,072.60
Western III		
South Dakota	0.00	0.00
Arizona	0.00	2,240.50
	0.00	2,240.50
Northwest		
Idaho	0.00	0.00
Washington	2,880.51	39,990.58
Oregon	15,916.50	73,877.01
Utah	0.00	2,745.00
Alaska	0.00	0.00
Hawaii	0.00	2,028.84
Montana	0.00	561.00
	18,797.01	119,202.43
Unaligned		
Rhode Island	60.67	156.75
Vermont	158.00	10,307.50
New Hampshire	760.50	760.50
Maine	170.00	4,964.00
New York	5,702.15	89,499.46
Massachusetts	3,939.40	49,998.17
Texas	0.00	424.80
North Dakota	0.00	0.00
California	6,744.95	69,373.46
D.C.	0.00	112.50
	17,535.67	225,597.14
TOTALS:	**144,045.08**	**1,253,306.55**

INCINERATION OF LOW-LEVEL RADIOACTIVE WASTE AT IDAHO NATIONAL LABORATORY

A brief summary on the operating LLRW facility at Idaho National Laboratory compiled from reports authored by H. A. Bohrer and R. L. Gillins of Idaho National Engineering Laboratory and from presentations made at the Eighth Annual DOE-LLRW Forum.

The Waste Experimental Reduction Facility (WERF) at the Idaho National Engineering Laboratory (INEL) is a waste processing facility that has been established to: (a) reduce the volume of low-level beta/gamma contaminated waste requiring disposal; and (b) develop waste processing technology by providing a facility where full-size processes and equipment can be tried, modified as necessary, and proven for contaminated waste processing during production-scale operations.

At WERF, capabilities have been developed to:

- Size-reduce contaminated metal at a rate of several hundred tons per year.
- Melt contaminated metal and cast it into ingots for disposal.
- Incinerate contaminated combustible material.

In developing this incineration system, the principal design considerations were:

- To use proven commercially available system components
- To design the system to handle the large volume of waste, not necessarily the most difficult waste
- To minimize personnel exposure and adverse environmental impact.

In the interest of economy, off-the-shelf equipment or equipment already adequately proven by others was used where possible.

Since the incinerator started operation at the end of FY-84 it has functioned well, with an overall volume reduction ratio of approximately 140 to 1. To date, no detectable contamination has spread from the incinerator combustion chambers, and no detectable radiation has been released as a result of incinerator operations.

The system has performed as designed and only minor modifications to subsystem components have been required. Some problems have been encountered with failure of baghouse fabric filters, accumulation of unburned, solidified plastic at the lower chamber ash ram housing, and waste burning in the loading chute, but operational and hardware changes have minimized the effects on schedules and system performance.

A hazardous liquid waste burner system has been installed and is planned for operation after RCRA Pat B permitting is approved. The facility is increasing acceptable waste radiation levels based on operating experience.

INCINERATOR SYSTEM DESCRIPTION

The facility includes systems to characterize and convey the solid waste to the incinerator, incinerate the waste, cool and drum the resulting ash, and cool and filter the off-gas.

The combustible waste comes to WERF prepackaged in 2-foot cube cardboard boxes that are lined with 4 mil thick polyethylene bags. These packages provide fixed geometry for the waste portal radiation monitor, and are sized to allow an adequate waste unit feed rate at incinerator design throughput rates. The waste feed and characterization system consists of an automated roller conveyor system with integral stations for monitoring waste radiation

levels, a standard airport-type x-ray unit for inspection of packages for undesirable contents and a scale to weigh the waste for control of burn rates. A lift and roller conveyor system introduces the waste into the top loading chute of the incinerator.

The incinerator is a commercially available, dual chambered, controlled air incinerator capable of burning 400 lbs per hour of 12,000 BTU/lb combustible material. Although initially intended to incinerate only solid combustible radioactively contaminated wastes, the incinerator has also been designed to accommodate liquid and high viscosity waste forms with minor hardware additions. Principal components include a gravity-fed loading chute that acts as an airlock for introducing waste to the primary chamber, the primary or ignition chamber that acts as an afterburner for the volatile gases generated in the primary chamber, and an ash ram that periodically strokes along the hearth to push residual ash to the rear of the primary chamber and into a cooling hopper.

The loading chute consists of a triple door airlock arrangement. The top hatch is opened, and the boxed waste is loaded onto the upper door of a double internal door arrangement. The lower door is refractory lined to minimize temperature rise in the loading chute. The top hatch is then closed before the bottom two doors are cycled to drop the waste into the primary chamber. This arrangement minimizes the introduction of large amounts of uncontrolled combustion air into the incinerator system and minimizes the potential for backflow during loading operations.

The ash drumming system is located in the basement beneath the incinerator. The system was designed to drum out ash during incinerator operations; but formation of clinkers sometimes causes jamming of ash feed gates. As a result ash is usually manually drummed out during routine incineration chamber inspection. The ash is cooled by circulating air through plenum chambers surrounding and dividing the hopper, and by percolating low-pressure bleed air up through the ash bed. a 55-gallon drum with a rigid polyethylene liner is used to receive ash from the drumming system for storage and subsequent disposal.

The incinerator off-gas treatment system which is an integral part of the facility heating, cooling, and contamination control system, was designed to cool and filter the incinerator effluent before release through the main exhaust stack. The off-gas system is a dry filtered system which cools the incinerator combustion gases by means of both air dilution and an air-to-gas heat exchanger. A dry off-gas system was selected to avoid the need to process a secondary waste stream.

This incinerator system was designed to require a minimum number of people for operation. One person operates the remotely located control panel and another periodically places a number of waste boxes on the semi-automatic waste conveying system. The control console contains all of the necessary indicators, controllers, TV monitors, and annunciators to remotely monitor and operate the system. A supervisor and Health Physics technician make up the balance of the four person crew.

A recent modification to the incinerator system included an auxiliary burner for combusting hazardous flammable liquid wastes in the incinerator lower chamber. The burner is designed to start up on fuel oil from the incinerator oil supply system, then to gradually switch over to liquid waste drawn from shipping drums. This burner system was tested through a demonstration burn but is currently inactive while an EPA hazardous waste disposal permit application is being processed.

CONTAMINATION/RADIATION CONTROL

Contamination control for the incinerator operation is achieved by:

1. Maintaining the incinerator chambers at a slight vacuum (-1.5 in. WC) during operations so that leakage is into the chambers,
2. Continuously changing out the room air via a dedicated fan pulling air from the room which is replaced with outside air through a room inlet filter box, and
3. Providing an airlock room between the incinerator room and the high bay personnel area through which both the waste boxes and personnel enter the incinerator room. The incinerator room is routinely monitored to minimize the spread of contamination.

To date no detectable contamination has been found outside of the incinerator chambers. Entry into the incinerator room, consequently, requires no anticontamination clothing or respirators. Regular surveys are made by Health Physics technicians to check for contamination. In addition, the incinerator room is continuously monitored by a Constant Air Monitor (CAM) and Radiation Area Monitor (RAM).

Activity in the bottom ash is relatively low, with occasional particles peaking in the 30 millirem/h range. Entry into the incinerator chambers between burns to clean out the hearth is performed by personnel in full anticontamination clothing and breathing air. Residual activity in the chambers when all ash has been removed is near room background, indicating the refractory is not being significantly contaminated. Activity in the fly ash carried over to the main baghouse has been limited to less than 5 millirem/h.

Radiation exposure to operators due to incinerator operations have been minimal. Health Physics records for the WERF staff shows total estimated on-the-job dose of 0.07 Rem for operations to date. With the current box radiation limit of 10 millirem/h at contact, only 0.3% of the waste boxes have been rejected because of radiation. The average radiation level for all boxes is less than 1 millirem/h at contact.

Contamination control for the ash drumming operation is achieved with redundant barriers for the ash. The ash hopper has two stage gating for controlling drop rates into the drum. The drum and drum liner have separate seals to the ash hopper plate. The glove box and drumming bag provide separate barriers between the drummed ash and the room.

SYSTEM PERFORMANCE

Volume Reduction. A total of 23,464 ft^3 of contaminated waste was processed through the incinerator between September 1984 and February 1986, with over two-thirds of the total being processed in the last four months. The baghouse fly ash and incinerator bottom ash generated in the same time frame was 168 ft^3. Since the baghouse services other process areas as well as the incinerator, a portion of the baghouse fly ash is not generated by the incinerator. However, assuming all fly ash is incinerator ash, the resulting overall volume reduction ratio is 140 to 1. After individual burns, inspection of the incinerator hearth and baghouse hoppers have shown volume reductions to be near 250 to 1 for waste with high plastic, low-wood compositions.

Ash Handling System. The incinerator ash system was designed to cool the ash and allow safe transfer to 55-gallon drums for disposal during incinerator operations. The ash hopper is maintained partially full of ash to insulate the hopper from the lower chamber temperatures. To date, the small volume of ash generated for a normal burn is insufficient to require drumming during incinerator operations. In fact, the ash pile routinely fails to reach the ash chute during a burn. All ash transfers to date have been accomplished without incident or loss of material through the drum/ash system seals. Radiation levels of the drummed ash are in the 5-15 millirem/h range at contact.

Analyses of the incinerator bottom ash for hazardous constituents have been performed. The fly ash has consistently exceeded Resource and Conservation Recovery Act (RCRA) levels for cadmium and lead and the bottom ash has occasionally shown high lead content. Methods are being studied to render the ash nonhazardous.

Off-Gas System. The dry incinerator off-gas treatment system was selected because of its low cost and minimum maintenance requirements. The primary concern in the operation of this system is maintaining adequate cooling so that the baghouse filter and HEPA filter material temperature limits are not exceeded. At the same time, temperatures must be maintained above dewpoint levels to prevent condensation of acid gases on the ducting. System temperatures are annunciated for both high and low conditions to aid the operator in maintaining proper levels.

The off-gas is monitored for radiation releases out the stack. To date, no detectable radiation levels above background have been released.

PROCESS MODIFICATIONS/IMPROVEMENTS

Liquid Waste System. A liquid waste feed and burner system was recently installed and checked out to provide WERF with the capability of incinerating hazardous, nonhalogenated liquid wastes, either radioactively contaminated or noncontaminated. WERF incinerator operations were included in a RCRA Part B permit application recently submitted to the EPA for the INEL. Since most of the hazardous wastes generated at the INEL which will be processed by the WERF incinerator are in small quantities, the waste feed system is designed to extract liquids from 55-gallon drums. The burner and feed system are designed with the flexibility to accept a wide variety of liquid wastes with varying physical properties. EPA trial burns are currently scheduled for the fall of 1986.

Off-Gas Monitoring. To aid in the characterization of incinerator off-gas constituents and to comply with EPA requirements for hazardous waste processing, several additional off-gas monitoring systems will be added at WERF. A choloride monitor is planned to evaluate the extent of halogenated materials contained in the WERF combustible waste stream. A stack oxygen monitor and a CO monitor will be added in support of the RCRA Part B permit activity.

(**Fee** from pg. 1)
Comments on the proposal must be received on or before December 7, 1986, 4:30 p.m. No public hearings are scheduled.

Definition of KWH Generated

Since the Court issued its decision in the Wisconsin suit, DOE has provided guidance to utilities on the manner in which net electricity is to be calculated. The most troublesome aspect of the procedure was the manner in which utilities gave credit for non-nuclear generated electricity at a site, or when electric power into a facility exceeded output. The proposed rule clarifies both situations by proposing the following definition for "kilowatt hours generated":

> "The term '**Kilowatt hours generated**' means the gross electrical output produced by a civilian nuclear power reactor measured at the output terminals of the turbine generator minus the normal on-site nuclear station service loads during the time electricity is being generated, expressed in megawatt hours."

When Use Exceeds Generation

With respect to the calculation of net generation, the DOE proposes "that at all times when station use exceeds station generation, the resulting negative values should be treated as zero for fee calculation purposes." Non-nuclear electricity generated on-site is not to be deducted from gross generation unless included in the gross generation data.

"In cases involving a multi-unit nuclear station," DOE proposes that, "when at least one nuclear unit is operating (generation from at least one unit exceeds station use), electricity generated from that unit shall be assumed to be supplying the normal nuclear station load whether or not it can be separately metered."

For further information contact: Alan B. Brownstein, OCRWM-DOE, 1000 Independence Avenue S.W., Room GB-270, Washington, DC 20585, (202) 252-1652.

SETTING THE RECORD STRAIGHT: ARTICLES ON NAS ROLE IN THE DOE HLW PROGRAM

In two previous issues of the EXCHANGE, Vol. 5, Nos. 16 and 17, articles have been published regarding: Nevada's concern over the role of the National Academy of Sciences Radioactive Waste Management Board; DOE's response to the Nevada concern; and, comments forwarded to DOE regarding the selection of the Hanford site from Professor Detlof von Winterfeldt. In the last article the EXCHANGE mistakenly identified Professor von Winterfeldt as a member of the NAS panel that reviewed DOE's site selection siting Methodology Report. He was not a member of the panel but served only as a consultant to the panel.

NAS and The Lyons' HLW Site

As reported in the Exchange, Vol. 15, No. 17, Mr. Loux in his letter to Mr. Ben Rusche,

OCRWM Director, cites a list of past NAS experiences with the HLW program that he viewed as less than objective. One particular item was "a NAS panel recommendation condoning the selection of a [HLW] site in Lyons, Kansas."

According to the report released by that NAS panel in 1970, this was not a blanket recommendation, but included very specific qualifications.

As included in the summary of the 1970 report, the Panel recommended that "the site near Lyons, Kansas, selected by the AEC [as] satisfactory, subject to the development of certain additional confirmatory data and evaluation." In the body of the report the Panel specifically explained what "additional confirmatory data and evaluation" was required. It advised that "before radioactive materials are committed to the [Lyons site]" several problems of a "geological and physical" nature needed to be resolved. Among the problems listed were "location of previous oil and gas wells and inspection of records, where available, should determine if these former wells have been adequately plugged to avoid an entrance of water to the salt."

The panel recommended "a survey be made of neighboring wells in order to avoid threats to the integrity of the proposed bedded salt disposal site." It was this survey that discovered the major faults with the Lyons' site.

Public Participation in NAS Efforts

On the issue of public participation in NAS-NRC studies, the EXCHANGE has also been informed that the NAS does retain the option to involve the public or outsiders in Academy studies even if such participation is not required by the federal contracting agency. An NAS panel can exercize this option when it is determined that the study would benefit from such outside participation. **

RFP FOR NRC-FUNDED HLW ANALYSIS CENTER TO BE ISSUED IN LATE NOVEMBER

The November 10, 1986 edition of the **Commerce Business Daily** includes an Advance Notice of the Nuclear Regulatory Commission's intent to issue a Request for Proposal (RFP) to manage and operate the NRC funded "Center for Nuclear Waste Regulatory Analyses." The Commission approved the funding and establishment of the Center on November 5.

According to the NRC staff the RFP is scheduled to be released either the day before or the day after Thanksgiving. [Editors Note: The Notice of Intent to establish the Center was published in the March 11, 1986 **Federal Register.** Comments were solicited until April 24, 1986.]

The Center is intended to provide the NRC with an independent means of technical support to carry out the Agency's responsibility to license the HLW repository.

Conflict of Interest Req'mts Changed

The initial draft of the RFP included very specific contractor conflict of interest requirements. Because of the comments received, substantial changes were made in these proposed requirements. From what the EXCHANGE has learned, the conflict of interest requirements included in the final version of the RFP will be substantially eased from the initial proposal. Other than these changes, the RFP will be pretty much identical to the staff March draft.

Center Tasks, Period of Performance

The tasks proposed for the Center and the period of performance of the initial and subsequent contracts to operate it remains identical to the initial proposal. The tasks would encompass: waste systems engineering and integration; evaluation of the long-term performance of geological settings and engineered barriers for a HLW repository; evaluation of the performance of a Monitored Retrievable Storage facility and operation of the repository; and, studies of environmental impacts and transportation.

The period of performance of the initial contract to operate the Center will be for five years with a provision for renewal every five years upon a comprehensive

review by the Commission. The Center is intended to provide support to NRC for the duration of the HLW program -- 20 years or more.

For more information, or in case you missed or don't receive the **Commerce Business Daily**, call: Ms. Mary Mace at the NRC Procurement Office: (301) 492-4291. **

WA VOTERS OVERWHELMINGLY APPROVE MEASURE TO FIGHT HLW REPOSITORY

Over eighty percent of Washington State citizens who voted on the referendum calling for the State to continue challenging the selection of Hanford as the location for a HLW repository approved the measure. The referendum was placed on the November ballot following approval of the language at a special session of the legislature convened by Governor Booth Gardner this past August. The Governor actively campaigned in support of the measure. The statewide vote count, as this issue went to print, not including absentee ballots, was 82.5 percent for, 17.4 percent opposed.

"Host" County Opposes Majority Vote

According to information the EXCHANGE has received, voters in the counties in and around Hanford bucked the statewide majority and voted in opposition to the referendum. In Benton County, where Hanford is located, the referendum was defeated by a vote of 43.4 percent for; 56.5 percent against.

Interestingly, the voters in both Benton and Franklin counties also had the opportunity to express their opinion on a county-wide counter referendum which was worded to endorse continued DOE technical and scientific studies of the proposed Hanford site. This "counter" referendum was, in fact, overwhelmingly approved by both counties -- in Benton county by a 79 percent margin; in Franklin by 67 percent.

The differences in the voting margins on the two "counter" referendums cannot easily be explained. Those supporting the statewide measure allowed as to how a voter could vote for the county referendum, expressing support for continued study, but also vote for the statewide measure which does not veto locating the repository at Hanford, but just calls for the state to challenge the selection process.

Public Vote on Site Selection

The statewide referendum, as adopted, also provides for a statewide vote to disapprove the President's selection of Hanford as the site for the repository if the Governor or legislature fails to disapprove the selection. **

REPORTS OF NOTE (HLW)

System Engineering Management Plan for the Salt Repository Project (DOE/CH-21); U. S. Department of Energy, Office of Civilian Radioactive Waste Management, Salt Repository Project Office, Columbus, Ohio 43201-2693.

Integrated Data Base for 1986: Spent Fuel and Radioactive Waste Inventories, Projections, and Characteristics (DOE/RW-0006, Rev. 2); Oak Ridge National Laboratory. The information in this report summarizes the Department of Energy (DOE) data base for inventories, projections and characteristics of domestic spent nuclear fuel and radioactive waste. To sustain the objectives of this program in providing accurate and complete data in this field of operation, comments and suggestions to improve the quality and coverage are encouraged. Such comments and any general inquiries should be directed to: U.S. Department of Energy, Office of Nuclear Energy, Mail Stop NE-12, Washington, DC 20545. This report was prepared by the Integrated Data Base Program, which is jointly sponsored by the Office of Civilian Radioactive Waste Management, the Office of the Assistant Secretary for Defense Programs, and the Office of the Assistant Secretary for Nuclear Energy. A useful reference for anyone involved in any aspect of radioactive waste management. Projections are made through 2020.

IN THE CONGRESS

Prior to departing Washington for his home state of Texas following the adjournment of Congress, Senator Lloyd Bentsen forwarded a letter to DOE Secretary Herrington cautioning that, any "attempt to lease, purchase, or condemn land in the Panhandle [would be] inconsistent with the Congressional mandated moratorium" imposed on DOE's HLW site selection activities with the enactment of the Continuing Resolution on Appropriations.

The Senator requested that the Secretary "inform [him] in writing of [any] intentions regarding acquisition of land in the Panhandle during this fiscal year."

DOE has yet to respond to the Senator's letter and request. However, the language of the Continuing Resolution as signed by the President does not prohibit DOE from acquiring land to carry out the purposes of the Act. In fact, the language specifically allows DOE to do so.

The Senator's contention that land acquisition would be in opposition to Congress' intent is based on the Senate Appropriations Committee Report, not the law. It will be interesting to see how DOE responds to the Senator's admonition and request, now that the Democrats and not the Republicans control the Senate.

IN THE STATES

In contrast to the overwhelming approval of the referendum in the State of Washington directing the state to challenge the selection of Hanford as the possible site for a HLW repository, **Oregon's** voters overwhelmingly rejected an initiative that would have required shutting down and mothballing Portland General Electric Co.'s Trojan plant until a HLW disposal facility was licensed.

IN THE NRC

REDEFINITION OF HLW The newly developed NRC waste Management staff proposal for an Advanced Notice of Proposed Rulemaking (ANPR) on the redefinition of HLW submitted in late October to the Executive Director's Office (EDO) was reverted back to the waste management division over the past couple of weeks with a request for response to several questions. The proposal is now back in the EDO's office for further review. No date for submission of the proposal to the Commission had been set as of November 13.

IN THE OCRWM

DEFENSE HLW FEE CONTRIBUTION Believe it or not folks, the **Federal Register** Notice on DOE's recommendation for Defense Program's contribution to the Nuclear Trust Fund is on the Secretary's desk and should be signed this week (Nov. 14). It should appear in the **Register** sometime between Nov. 17-24.

AT INEL

Highly enriched uranium (HEU) fuel in some 18 university research reactors is being replaced through a national program managed at the Idaho National Engineering Laboratory (INEL). The fuel will be substituted with a lower enriched fuel (LEU) which still can provide power needs for research. The $10 million program is being funded by the Department of Energy but is being carried out to meet a directive of the Nuclear Regulatory Commission. EG&G Idaho will manage all aspects of the replacement of the HEU and the shipping of the fuel to a secured location.

The NRC's directive came as a result of the Nonproliferation Treaty adopted during the President Carter administration. The aim of the treaty is to reduce the inventory of HEU available for diversion by hostile organizations. One method of reducing the inventory is the conversion of NRC-licensed non-power reactors to LEU. About 18 universities around the country are affected by the NRC directive. The conversions will take about four years, depending on funding. **

THE CHANGING POLITICS OF HLW NUCLEAR WASTE... AN EXCHANGE PERSPECTIVE -- THE IMPACT OF THE RECENT ELECTIONS ON THE HLW PROGRAM

Despite what many believe were blatant political maneuvers within the HLW Program by Secretary Herrington to improve the electability of various incumbent Republican Senators, the opposite has occurred. And now, having so politicized the program, DOE must brace itself for a political maelstrom of its own making. And, while girding for the onslaught of more substantial criticism from the newly formed Democratic Senate, it must also take precautions to cover its flanks. The only bright spots, if there are any, will be Senator Bennett Johnston's rise to the Chairmanship of the Energy and Natural Resources Committee, and the fact that the House of Representatives will not be overly anxious to open up the Act and possibly face having the Northeastern and Midwestern states being more openly reconsidered as hosts for the repository. Of course one must not discount the influence of the new speaker--Mr. Wright--a powerful Texan.

From our vantage point, as a result of the elections the HLW Program could be stopped dead in its tracks administratively; possibly face a concerted legislative effort to revamp it; or, experience a change at the highest levels of management.

Any or all of the above can take place. But substantial progress toward site selection is definitely a low probability. The only remaining possibility of movement is if the Congress gets so embroiled fighting over what should be done that DOE is left to proceed as it has.

Newly elected Democratic Senators, Brock Adams in Washington and Harry Reid, Nevada, will significantly bolster the program's critics in the Senate. Senator-elect Adams repeatedly called for Secretary Herrington's dismissal during his campaign; Reid's assumption to the Senate as a Democratic will add to a vocal bipartisan force highly critical of the program. What we have are: Senator Evans (R-WA), joined by Adams (D-WA) and Reid (D-NV) with support from Senators Bentsen (D-TX), Simpson (R-WY), Hatfield (R-OR) and Domenici (R-NM). In addition, it is also likely that the Tennessee Senate delegation will join the chorus bringing in two more Democrats, Sasser and Gore. Thus, the critical opposition in the Senate to DOE HLW activities has definitely grown in strength. It is also not unlikely that Senator Hecht will reluctantly join the opposition, he not being pleased with the postponement of the Second Round Program.

Another element that must be factored into this witches' brew is the switch in Chairmanship of the Senate Environmental and Public Works Committee -- from an Eastern Republican to a Western Democrat, Quentin Burdick of North Dakota. Westerners tend to stick together on national issues when it looks like their region is being "put upon" by the Feds, and Mr. Burdick, in our view, will be very supportive of the efforts of his colleagues from Washington, Nevada and even that southWestern state, Texas. What adds to the strength of this regional alliance is that these states now have Democratic as well as Republican Senators.

The one apparent bright spot for the HLW Program is, as previously noted, the rise of Senator Bennett Johnston to the Chairmanship of the Energy and Natural Resources Committee. The Louisiana Senator is the strongest supporter for the MRS and has supported the diligent efforts of Mr. Rusche. However on his Committee he most likely will face a bipartisan group of Westerners who can be expected to make revamping the HLW Program a top priority issue.

The increase in active hostility in the Senate towards the program may not be paralleled in the House. This does put the Louisiana Senator in the catbird seat. He has the influence and power to redirect the program if he wants to. But, again, we must take note of the new speaker from Texas -- Mr. Wright. No significant changes as of yet have occurred within the "group" that has been continuously criticizing the program. However, House Committee chairmanships

are expected to be revamped, and, from all reports, it looks like changes would benefit the program. Congressman Udall may again play a pivotal role if he continues to feel DOE has renigged on sticking to the Nuclear Policy Act by delaying the Second Round Program. He could be influenced to support new legislation.

However, it must be kept in mind that Mr. Udall did not succeed in convincing the House Appropriations Committee to restore funds for the Second Round Program. The Arizona Congressman may not have the energy to fight for a program which, by-in-large, is of little interest to his own constituency.

The big unknown is whether Mr. Wright will see fit to play a role in any legislative initiative. He could be the wildcard that would trigger a successful legislative initiative and work it out with his friend in the Senate from Louisiana.

It also could be that all of this could result only in increased harrassment of the program, more of Ben Rusche's and the Secretary's time on the Hill, more adverse media coverage of the program in states like Washington, Nevada, New Mexico, Oregon and Texas, Texas, Texas...during an upcoming Presidential campaign. This hassle factor could realistically lead the Administration to changing the management of the program, which would slow progress.

Does this all lead to Congress backing into authorizing the MRS???...Possibly. Senator Bennett Johnston, the strongest backer of the MRS, is in an influential spot; Westerners, whether Republican or Democrat, would support it. However, the Democrats now control the Senate and with both Tennessee Senators being Democratic approval of the facility is going to be a tough battle unless the Tennesseens can be accommodated. Adding to their strength will be Senators from states through which spent fuel would be transported as it travels to a Tennessee facility. On the House side Congressman Udall may attempt to oppose it, possibly joined by others. But his opposition could be mollified by guarantees that spent fuel would be removed at a certain date. Many Midwesterners and Northeasterners may not oppose the facility when they consider such alternatives as opening the Act or reinstating the Second Round Program.

That's the picture in the House and Senate as we see it as a result of the election. But that is not the only arena that one must examine to see what the results of November 4, 1986 could have on the program. The election of Republican Governor Clements could have a far more reaching impact on the program than any of the victories of the Senate Democrats. First, Governor Clements is a Republican, with strong ties to this Administration and direct ties to an individual who hopes to attempt to lead the next Administration--Republican Vice President Bush, a Texan.

Governor Clements in his first term was not publicly critical of the HLW Program so his election could easily be seen by DOE as providing a respite from the continuing barrage of criticism leveled by the current powers that be in Texas. However, even if the criticism does lighten up it could just be the "quiet before the storm" (indeed--the hurricane). It behooves DOE's astute "political analysts" to consider this scenario. If Vice President Bush (who in many observers' eyes played a role in getting the Second Round postponed--New Hampshire primaries and all that sort of stuff) needs a hefty block of votes to become the Republican Presidential nominee, there stands the Texas Republicans with a Republican Governor and a Republican Senator, Gramm. And if he succeeds in getting the nomination, a state with a significant number of electoral votes is none other than--you guessed it--Texas.

It may be in the National interest to proceed toward a HLW geological repository. But, one would have to conclude that Republican National interest of maintaining control of the Presidency would be higher on the Administration's agenda and particularly Mr. Bush's. The same, of course, would be true if a Democrat was in the same situation. **

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