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November 27, 1984

NOTE TO: John Davis  
FROM: Bob Browning  
SUBJECT: NUCLEAR FUEL ARTICLE

Regarding differences between the Nuclear Fuel article and our Commission Paper (both attached), note the following:

1. The Commission Paper quotes the language of the draft AMFM report directly, stating that the Panel "concludes" that other organizations are better suited than DOE. We did not write that the report "recommended" a transfer of functions, which it does not.
2. The Commission Paper also reported the Panel's "recommendations" that DOE improve the current structure, such as by forming an Advisory Siting Council and other bodies, which could later be transferred to the new organization. (These ideas originated when the Panel was searching for ways to afford a smooth transition to a new organization.)
3. The draft report does identify FEDCORP--the public corporation--as the Panel's preferred alternative.
4. The November 19 article in Inside Energy (also attached) has a different emphasis and is in better agreement with the results of the study and our Commission Paper.

Original Signed by  
Robert E. Browning

Bob Browning

Enclosures:

1. Nuclear Fuel Article
2. Commission Paper
3. Inside Energy Article

cc: M. Bell  
J. Bunting

bcc: MKearney  
NNumark

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tion. Candu natural uranium fuel bundles from the Douglas Point reactor have been similarly contained for testing at Whiteshell with the same integrity over nine years. Sochaski said the average cost of the canisters, including six baskets, all accessories, and a capitalized share of the concrete pad at Whiteshell was \$64,000. Transportation and loading added \$10,000; maintenance and a capitalized share of the transfer flask and loading gantry brought the cost to supply, fill, and store one canister to \$111,000. The canister will hold 2.6 tons/U of enriched fuel or 4.2 tons/U of Candu fuel, for a cost of \$47.60/kgU and \$29.37/kgU respectively in the study.

"Our involvement in commercializing this concept both within and outside Canada within the last year has been marginally successful," Sochaski said. AECL Whiteshell and AECL Candu sales engineers at Montreal have been assessing the concrete canister economics to store fuel from the experimental Gentilly-1 reactor. Some conceptual design work has been done under contract to France's Commissariat a l'Energie Atomique (CEA) to adapt the canister for possible storage of fuel from French reactor EL-4 soon to be decommissioned. Early this year AECL negotiated a license agreement with Nuclear Packaging of Federal Way, Washinton to use AECL concrete canister technology for a similar NuPac container that would hold U.S. LWR fuel (Nucleonics Week, 8 Nov., 12). NuPac expects to introduce its concept by the end of 1985, and Sochaski said "marketing is being actively pursued with considerable interest from prospective utilities."

AECL has done some development work on a pilot-scale model to determine whether the Whiteshell canister, as now designed, could be used for transportation. Drop tests have been encouraging, but computer studies suggest that fire testing to IAEA standards might cause thermal cracking of the concrete. Ontario Hydro, however, has done extensive feasibility studies which nuclear material engineer Jose Freire-Canosa told the Toronto conference show that heavy reinforced concrete canisters, with an impermeable outer shell of polymer concrete, would allow Hydro to move its fuel bundles to dry storage after five years of water-bay cooling, transport them up to 1,000 miles from the Pickering, Bruce, and Darlington stations to disposal sites, and bury them at a cost of \$28.5 /kgU in the year 2000; \$19.1/kgU in 2025 (as calculated in 1981 Canadian dollars). If Hydro reactor fuel is retained in water-bay storage (which would have to be considerably expanded), eventually transported in metallic casks and buried in lead containers, Freire-Canosa put the costs at (1981 dollars) at \$49.4 and \$31.8/kgU in the years 2000 and 2025 respectively. The Hydro study was based on polymer-impregnated concrete canisters that would hold 288 Candu fuel bundles in three interior modules.—Ray Silver, Toronto

## PANEL SUGGESTS CURRENT DOE WASTE PROGRAM BE IMPROVED AND POSSIBLY RESTRICTED

Instead of recommending a new organization to run the waste program as expected, the advisory panel on alternative means of financing and managing radioactive waste management facilities (AMFM) has recognized the practical difficulties of taking such a hard-line approach and has concluded that an immediate effort should be made to enhance the current structure. The panel also said, however, that consideration should be given to the practicality of implementing a new organization such as a federal corporation to run the program because of the inherent lack of stability and continu-

## CURRENT URANIUM PRICING INDICATORS

(U.S. \$/lb U308)

| Source (date)                       | Price | Last report (date) |
|-------------------------------------|-------|--------------------|
| DOE (as of Dec. 1983) <sup>1</sup>  | 39.43 | 37.30 (Oct. 1982)  |
| Nuexco (Oct. 31, 1984) <sup>2</sup> |       |                    |
| Exchange value                      | 16.00 | 17.50 (Sept. 1984) |
| Transaction value                   | 16.05 | 16.55              |
| Nukem (Oct.) <sup>3</sup>           | 16.50 | 18.00 (Sept. 1984) |
|                                     | 16.85 | 16.25              |

1. DOE sells uranium in emergency cases only. Its list price, established exclusively for this purpose, is a weighted average based on identifiable spot-price sales and market-price contract settlement in the year prior to the reporting date.
2. Nuexco's *Exchange Value* reflects the company's judgment of the price at which sales of significant quantities of yellowcake could be concluded as of the reporting date. The *Transaction Value* is a weighted average price derived from recent sales for which delivery is scheduled within one year of the transaction date.
3. Nukem's price range reflects bids and offers for natural uranium on the worldwide spot market during the reporting month.

## U.S. GOVERNMENT INDICES

### USED AS U308 CONTRACT ESCALATORS<sup>1</sup>

| Index (date)   | Value | Last report (date) |
|--|-------|--------------------|
| GNP implicit price deflator (Oct.) <sup>2</sup>                  | 224.3 | 222.4 (Sept. 1984) |
| Producer price index — industrial commodities (Oct. 1984)        | 323.2 | 322.3 (Sept. 1984) |
| Gross average hourly earnings, production/nonsupervisory workers |       |                    |
| Metal mining (Sept. 1984)  | 13.23 | 13.10 (Aug. 1984)  |
| Primary nonferrous metals (Sept. 1984)                           | 13.40 | 13.52 (Aug. 1984)  |
| Chemicals and allied products (Oct. 1984)                        | 11.27 | 11.19 (Sept. 1984) |

1. Except for the GNP figures, data incorporated in this table are compiled and published by the U.S. Bureau of Labor Statistics. The base year for the Producer Price Index is 1967 (assigned a value of 100.00). Current figures are subject to later revision by the bureau.
2. The GNP *implicit price deflator* is computed on a quarterly basis by the U.S. Department of Commerce, using 1972 as the base year (100.00). The current value is the seasonally adjusted figure for the second quarter of 1984; the previous value, that for the first quarter of 1984.

ity in the current structure. The panel, which has been examining alternatives to the present organization since January, made these recommendations to Secretary of Energy Donald Hodel at its final meeting on November 14. The panel's report is expected to be released in December.

During the course of its deliberations over the last 11 months, the panel found serious defects in the structure of the Office of Civilian Radioactive Waste Management (OCRWM) that hamper its ability to carry out an effective program. In light of this, the panel examined a number of management structures as possible alternatives that would improve the credibility, internal flexibility, and cost effectiveness of the program. At its meetings in September and October,

The panel appeared to be leaning toward recommending some form of a public corporation as a preferred alternative (NF, 8 Oct., 12). There was considerable disagreement, however, on the details of the federal corporation concept (FEDCORP) that evolved, as well as on the practicality of recommending any new organization (NF, 5 Nov., 13). Recognizing the difficulties of making any legislative changes to the Nuclear Waste Policy Act of 1982, the panel finally adopted the two-tier approach of emphasizing changes to the current structure while also keeping open the possibility of a new organization such as FEDCORP as the most practical solution. The panel emphasized that its recommendations were made within that context.

The panel agreed on a number of specific suggestions for improvements to the current structure, which it said should be examined as necessary elements of any organizational structure selected to run the program. The most important of these points was the formation of a siting advisory council to provide input to as well as oversight of the site selection process. The siting council, which has been a concept included since the beginning of the panel's deliberations, would be composed of a balanced representation of constituency groups. The panel also suggested formation of a waste fund oversight committee and a scientific peer review board to provide input to these aspects of the waste program. A number of suggestions intended to improve federal/state cooperation and to mitigate public opposition to the siting of a waste facility were also included. The panel also said the waste office should engage the services of an oversight contractor, a private law firm for regulatory counsel, and a private accounting firm.

As developed by the panel, FEDCORP would be a public corporation with seven directors appointed by the President and confirmed by the Senate. The board would appoint a chief executive officer to run the corporation as well as a siting advisory council similar to that suggested for the current waste office. The panel recommended that FEDCORP be a relatively small corporation with most of its work done by outside contractors. Some of the advantages of FEDCORP, the panel said, would be its strong business orientation, its greater internal flexibility, and its relative freedom from political influence. The major disadvantage of such a change, it said, would be problems of transition. However, the panel also cautioned that many of the advantages could turn out to be disadvantages if the program was not managed properly.

The panel emphasized that its frame of reference in making its recommendations was the recognition that OCRWM was "a moving target" and that any changes requiring legislative action would be difficult. The panel said they also recognized several organizational forms might be better suited for managing the construction and operation phases of the waste program and encouraged further study of the legislative changes needed for such a transition. The panel touched only briefly on the current financing mechanism of the waste program, concluding that it was "fair, amenable to administrative implementation and cost controls, and sufficiently flexible to accommodate the full-recovery requirement of the legislation."

It was not clear whether DOE would take a position on the panel's recommendations before submitting the report to Congress. While Hodel made no specific comments on the panel's conclusions, he noted that "the administration favors nongovernmental solutions to problems," implying the department might choose to endorse the panel's ideas on FEDCORP. Waste office director Benard Rusche said FEDCORP

was "conceptually" a good idea, adding, however, that "practicality" is a different question. Rusche emphasized that any suggestions of change would have to take into consideration the importance of and complexities of federal/state interaction in implementing the waste program.

Several industry sources were encouraged by the panel's recognition of "the practical impossibilities" of a fundamental change in the program during the site selection process. One source emphasized that the panel's suggested enhancements would have the most impact.—*Mary Louise Wagner, Wash-*

## SWUCO'S WOLF SAYS DOE'S US CONTRACT ENSURES LONG-TERM MARKET DEMAND

DOE's utility services (US) contract appears to ensure a long-term market for DOE-supplied SWU, at least in the 1990s, said Walt Wolf, president of Swuco Inc. However, the picture is not as "cheery" for the near term, he added, since provisions written into the contract will likely curb DOE's market for actual sales in the late 1980s.

Wolf, talking at the Atomic Industrial Forum's annual conference in Washington last week, said "it is clear that the conversion program has met its objective to protect the future business of the U.S. enriching enterprise." Those who converted benefit as well, Wolf said, since contract provisions grant a 30% margin for purchasing non-DOE SWU and afford the protection of a ceiling price, which is currently \$135/SWU. Moreover, while the quantities of DOE SWU available for purchase will be limited after fiscal year 1986, the nameplate capacity of all enrichment plants ensures no shortage of supply until at least the year 2000 or beyond, Wolf said.

The negotiated conditions of conversion to the US contract, coupled with the termination of requirements contracts (which exceed 6.9-million SWU), will limit near-term direct sales of DOE SWU, Wolf said. DOE has not released the particulars of the individual US contracts in the five weeks since the conversion deadline passed. However, Wolf said there are instances in which: the contract holder will not buy any SWU from DOE until 1989 or 1990, and instead buy 100% non-U.S. SWU; a US holder will make only one purchase from DOE for the duration of the contract; some US converters will wipe out commitments for SWU deliveries in this decade due to nuclear plants not yet operating; some converters have the opportunity to use up their own inventories prior to purchasing any DOE SWU; and some contracts grant complete relief in the near term. "I'm sure that in a number of these cases, DOE has extracted a quid pro quo, (but) until the details of each negotiation are known, we can only guess," Wolf said.

Wolf projects an active secondary market for SWU sales, primarily those of DOE origin, through FY-86. In subsequent years, the quantity of DOE SWU available for purchase will be limited and will come from DOE fixed-commitment contract holders who did not convert, Wolf said. In 1987, excess DOE SWU, primarily in the form of enriched uranium, will be committed to converters to the US contract, he said. At that time, there will be a balance in the supply and demand for excess DOE SWU commitments, Wolf said.

By the end of the decade, the majority of SWU on the secondary market will originate from non-DOE sources, Wolf said. Because there has been little movement toward relief from Eurodif contract commitments, he said, these excess commitments will continue to enter the market, probably at

For: The Commissioners

From: William J. Dircks  
Executive Director for Operations

Subject: RECOMMENDATIONS OF THE DEPARTMENT OF ENERGY'S ADVISORY  
PANEL ON ALTERNATIVE MEANS OF FINANCING AND MANAGING  
RADIOACTIVE WASTE FACILITIES

Purpose: To inform the Commissioners on the Panel's forthcoming  
recommendations in preparation for review of DOE's draft  
report to Congress

Background: Section 303 of the Nuclear Waste Policy Act requires the  
Secretary of Energy to "undertake a study with respect to  
alternative approaches to managing the construction and  
operation of all civilian radioactive waste facilities,  
including the feasibility of establishing a private  
corporation for such purpose." The Act directs the  
Secretary to "consult" with the Chairman of the Commission  
in conducting the study, which was to have been reported to  
Congress by January 7, 1984.

In carrying out these provisions, DOE elected to establish  
an Advisory Panel pursuant to the provisions of the Federal  
Advisory Committee Act. The background on the  
establishment of the Panel and a listing of Panel members  
was provided to the Commissioners in SECY-84-118 (March 15,  
1984). An update on the Panel's activities as of August  
1984 was provided to the Commissioners in SECY-84-338  
(August 23, 1984). The Panel held ten meetings between  
January and November of 1984, which were attended by NRC  
staff observers. The Director of NRC's Office of Nuclear  
Material Safety and Safeguards briefed the Panel on the  
Commission's regulatory role on February 22, 1984.

Contact:  
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Discussion:

The Panel's tenth and final meeting on November 13 and 14 concluded in a meeting with Secretary Hodel to discuss their recommendations and forthcoming report. The report, which will be available in final draft form by December 7, concludes that several organizational forms are more suited than DOE for managing the waste program, including an independent federal agency or commission, a public corporation, and a private corporation. Among these alternative organizations, the draft report identifies a public corporation as the Panel's preferred alternative, as it best meets criteria the Panel developed for an acceptable waste management organization. In particular, the draft report indicates that a public corporation would be stable, highly mission-oriented, able to maintain credibility with stakeholders, and more responsive to regulatory control than a federal executive agency.

As described in the draft report, the corporation, "FEDCORP," would have a seven-member Board of Directors appointed by the President and confirmed by the Senate, serving staggered seven-year terms. The President would designate a Chairman of the Board. The Board would appoint a Chief Executive Officer to serve at their pleasure as manager of the corporation and to be an ex officio member of the Board.

Regarding financing, the draft report concludes that the fee on nuclear-generated electricity (currently 1 mil per kilowatt-hour) provided for in NWPA is fair, shows no evidence of serious flaw to date, and appears to be adaptable to a change in organizational structure.

The Panel's draft also recommends adoption of several specific program components which are independent of the type of organization Congress ultimately chooses to run the program. These could be instituted by DOE and later transferred to a new organization. Foremost among these, the Panel believes an Advisory Siting Council should be established by DOE, with representatives from all legitimate stakeholders. The Council would provide oversight concerning site selection processes, and would review and comment on siting recommendations made by the site selection authority. Under the Panel's plan, the NWPA procedures for State and Tribe participation in siting decisions would be retained. In addition, the draft report recommends that an oversight contractor with a systems

integration function should be hired, that a waste fund oversight commission and a scientific peer review board should be established, and that the selected organization should be exempted from civil service requirements.

In a letter to Secretary Model dated July 8, 1983, the Chairman indicated that the Commission intended to limit its area of consultation on the AMFM study to the examination of potential impacts on NRC regulatory responsibility which may flow from any recommended alternative management proposal. The Panel has stated that they do not intend any change in NRC's regulatory role as a result of their recommendations. The staff has expressed to the Panel that it would be of value to state the Panel's intent concerning regulation in the report to avoid any potential misunderstanding. Although the transfer of functions to a public corporation (or other organization) would affect some of NRC's procedures for doing business in the waste program, the staff does not expect any major impact on regulatory responsibilities.

The Panel expects to submit its final report to the Secretary before the start of the 99th Congress. After developing its own draft report to Congress, DOE is expected to submit the draft to the Commission for a brief review and consultation period. Secretary Model stated in a February 16, 1984 letter to Chairman Palladino that the NWSA consultation requirement cannot be met until the Chairman is given the opportunity to review and comment on the Department's draft report to Congress.

In preparation for commenting on the Secretary's draft report to Congress, the staff has organized a review of the Panel's final draft report, which will be available by December 7. If the Commission intends to broaden its scope of involvement beyond impacts on NRC responsibility, the staff recommends that members of the AMFM Panel be invited to brief the Commission on their work. In the interim, the staff will forward the final draft of the Panel's report to the Commission under separate cover. We will keep the Commissioners informed of future developments.

The staff notes that this action involves no new resource requirements.

Schedule:

The Panel expects to submit its final report to the Secretary before the beginning of the 99th Congress. It is expected that DOE's draft report to Congress will be forwarded to the Commission for review and comment shortly thereafter.

William J. Dircks  
Executive Director for Operations

possible.

The notice also contains a status report on ERA's enforcement program. Currently about 450 firms are subject to investigations or litigation, down from more than 2,000 when oil-price controls were eliminated in January 1981. ERA is auditing fewer than 150 firms, with most of the cases in the final stages of completion, the notice said. They will be litigated, settled or closed out.

## ADVISORS SAY A PUBLIC CORPORATION, NOT DOE, SHOULD MANAGE NUCLEAR WASTE

Despite a lack of consensus among members, DOE's advisory panel examining alternatives for managing nuclear-waste repositories will stick with its original vote to recommend a federally chartered corporation to run the program, Dan Schausten, the panel's staff director, said last week.

But rather than a single flat recommendation, the public-corporation suggestion will appear as a "preferred alternative" among a series of options, Schausten said. The decision to present the recommendation in a more "fuzzy" form is a concession to those panel members who still have "some uncertainty" and think DOE should be given simply a shopping list of alternatives, perhaps with rankings but with no stated preference, he said.

The panel made the final determination to recommend a public corporation at its meeting last week in Washington, following two months of flip-flopping on the issue. At a September session, the panel voted to recommend to DOE the public-corporation approach. But at an October meeting, after some panelists raised concerns about the decision, the group was leaning towards providing only a "shopping list" of alternatives for Energy Secretary Donald Hodel to choose from (IE/FL, 29 Oct. 1). It wasn't until "as late as last week" that the group agreed to stick with its original plan, Schausten said.

The 13-member Advisory Panel on Alternative Means of Financing and Managing Radioactive Waste Facilities stems from section 303 of the Nuclear Waste Policy Act, which required DOE to "undertake" a one-year study of waste-management alternatives. The agency chose to establish an independent panel of state and utility officials to conduct the study.

One alternative that won't appear in the report, to be issued in final form next month, is for DOE's Office of Civilian Radioactive Waste Management to continue managing the program, Schausten said. No model of OCRWM would provide "adequate stability and continuity," a preliminary draft of the report says.

Schausten said that the draft report recommends interim steps DOE can take to improve waste management between now and when Congress would charter the public corporation. For instance, the agency should set up a waste-management oversight commission to examine the administration of DOE's waste-management fund, the draft says.

The panel notes, however, that the overall financing structure for the waste program, which involves in part the collection of fees from individual repositories, requires no change. "It is the panel's conclusion that the financing mechanism provided by Congress under the Nuclear Waste Policy Act appears to be fair, amenable to administrative implementation and cost controls and sufficiently flexible to accommodate the full recovery requirement of the legislation," the draft report says.

"We're not getting involved in whether the fee should be increased or decreased," Schausten said. "All we're saying is that the mechanism itself is fair and workable."

In another interim step, DOE should establish immediately an advisory panel for the siting of nuclear repositories that would include representatives of all parties interested in the issue. The panel would help DOE set criteria for selecting sites and obtaining public input, in addition to actually recommending sites for repositories.

The panel is recommending that the public corporation be run by a seven-member board of directors appointed by the president and confirmed by the Senate. No limits were set by the panel on how many members should be selected from government or private industry. —Vicky Stamas

## DOE HAS NO NOMINEES YET FOR ASSISTANT SECRETARY OF NUCLEAR ENERGY, Energy Secretary

Donald Hodel said last week, attempting to quash rumors to the contrary. "We do not have a nominee for that position," Hodel told *Inside Energy/with Federal Lands*. "I keep running into people making assumptions that we have candidates."

One rumor heard in Washington has Lyle Wilcox filling the assistant-secretary post vacated by Shelby Brewer earlier this year. Wilcox was appointed deputy assistant secretary for breeder-reactor programs in July. He is the former president of the University of Southern Colorado.

Said Hodel: "I want Lyle to reshape the breeder program and manage it. It was with that relatively clear understanding — I didn't know then that Shelby was leaving — [that he was appointed to the deputy's post.] not with the thought in mind that it would be a stepping stone. I don't have plans to recommend to the president that he nominate Lyle."