

EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF SCIENCE AND TECHNOLOGY POLICY  
WASHINGTON, D.C. 20506

8 November 1993

MEMORANDUM FOR: LYNN DAVIS  
Department of State

FRANK WISNER  
Department of Defense

JOHN KELIHER  
Department of Energy

SAMUEL BERGER  
National Security Council

FROM: SUE BACHTEL   
Special Assistant to the Director

SUBJECT: Draft letter from Dr. Gibbons to William Waldegrave, U.K.  
Chancellor of the Duchy of Lancaster *re* a Possible Alternative  
to Putting the Thermal Oxide Reprocessing Plant (THORP) into  
operation.

The attached letter asks if the U.K. has considered fulfilling its reprocessing contracts by exchanging already separated U.K. civil plutonium and high-level waste for spent fuel as an alternative to putting the THORP plant into operation. Decision on THORP is expected to be made during the November 16-18, 1993 period.

Request concurrence/comments by close of business (5:00 PM), Tuesday, 9 November to  
OSTP FAX:202-395-1572.

## DRAFT

November 8, 1993

Dear Bill;

The Office of Science and Technology Policy is participating in an excess U.S. weapons plutonium long-term disposition study. Very much on our minds as we carry out this effort will be the possibility of initiatives to assist Russia in improving the security of their stocks of separated military and civil plutonium. We also hope to persuade the Russian government to stop separating more plutonium, since Russia will not be able to dispose of the existing stocks for at least some decades.

I am aware that the Government of the United Kingdom is currently conducting a review of the need for reprocessing at the new THORP plant. I understand that this is a very difficult decision, in part, because of commercial contracts to provide reprocessing services for foreign spent fuel. I certainly don't wish to intrude on a matter of British policy. However, I can't resist suggesting that perhaps the problem might be simplified if looked at through a physicist's eye.

From a physicist's point of view, one might think of THORP as a black box. Spent fuel is delivered by the customers and, some time later, they receive the equivalent amount of separated plutonium and vitrified high-level waste in return. Apparently, the quantity of plutonium that is to be separated over ten years under the firm contracts is about 50 tons.

I understand that quite close to THORP, the B205 plant has been, since 1964, reprocessing the magnox fuel from British gas-graphite power reactors and has accumulated an inventory of almost 40 tons of reactor-grade plutonium that is projected to grow to about 50 tons by the year 2000. Apparently the British utilities that own this plutonium have no current plans for using it. By now you have certainly seen my question coming! Could not THORP simply fulfill its contracts by shipping back to its customers the already separated magnox plutonium and the associated vitrified high-level waste?

Would not everyone come out ahead in this way? BNFL would receive income from reprocessing contracts without having to pay the operating costs for THORP, and perhaps avoid large decommissioning costs. The U.K. would have exchanged the problems of storing separated plutonium and high-level waste for the simpler problem of storing spent fuel, whose security is easier to assure. Operation of THORP could always be started later, if contracts requiring more than the magnox inventory were agreed to.

The major nonproliferation benefit would be the clear message that would be sent to Russia by such a British action: "Don't separate more plutonium than you need" - !

It is quite possible that my view is indeed naive. But it would give me great comfort if you could look seriously into this alternative before the decision is made to operate the THORP facility. After all, the 50 tons of plutonium that THORP would separate would approximately offset the quantity that the U.S. will be struggling to figure out how to "unseparate" during the same period!

With very best regards,

John H. Gibbons

The Right Honourable William Waldegrave  
Chancellor of the Duchy of Lancaster and  
Minister of Public Service and Science  
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