JUL 05 1988

MEMORANDUM FOR: Mary Mace, Contracting Officer
Division of Contracts, ARM

FROM: Joseph O. Bunting, Chief
Systems Engineering and Evaluation Branch
NRC CNWRA Program Manager

SUBJECT: APPROVAL OF RESEARCH PROJECT PLAN #5, INTEGRATED WASTE PACKAGE -- ADDITIONAL FUNDING AUTHORIZATION FOR RESEARCH PROJECT PLAN #4, SEISMIC/ROCK MECHANICS

Please communicate to the Center that the "Integrated Waste Package Project Plan" is approved subject to the mandatory changes indicated below. The Center should be authorized to expend Research Funds up to $216,119 which will fully fund this project thru fiscal year 1988.

The comments contained in the enclosure titled "DIRECTION FOR REVISIONS TO BE MADE TO PROJECT PLAN FOR FIN B6663: INTEGRATED WASTE PACKAGE EXPERIMENTS (TUFF)" constitute the mandatory changes with the exception of comment #11, which is modified as follows:

11) Consistent with the provisions of Section C.3 of the contract, the Center shall coordinate its domestic travel in advance with the NRC (technical monitor), and shall obtain NRC approval for all foreign travel.

Please authorize an additional $13,270 funding for Research Project Plan #4, Seismic/Rock Mechanics, for a new total of $325,270 for this project, which will fully fund the project thru fiscal year 1988.

Original Signed By

Joseph O. Bunting, Chief
Systems Engineering and Evaluation Branch
NRC CNWRA Program Manager

Enclosure:
As stated

* This has been coordinated over the telephone with F. Costanzi, RES 7/1/88 per JOB

OFC:	HLSE sf for	: RES	:	:	:	:	:
NAME:	JOBunting	: FACostanzi*	:	:	:	:	426.1
DATE:	07/05/88	: 07/01/88	:	:	:	Wm-11	NH17

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DIRECTIONS FOR REVISIONS TO BE MADE TO PROJECT PLAN FOR FIN B6663:
INTEGRATED WASTE PACKAGE EXPERIMENTS (TUFF)*

1) Combine tasks 1, 2, and 4 in the draft Project Plan into Task 1. Task 3 of the draft Project Plan will then become Task 2 and Task 5 in the draft Project Plan will become Task 3.

2) With regard to all Tasks, rather than produce a single final report for the project, schedule the publication of significant research in a timely manner as NUREG/CRs to make information available to NMSS in the form of referenceable products. Draft reports are indicated in the schedule but only one final report is indicated. If significant work will have been completed, a final report on this work should be scheduled. It is most likely that the experimental program to be performed under Task 3 in the draft Project Plan will prove suitable for generation of such topical reports.

3) Task 2 of the draft Project Plan. Eliminate the advisory committee.

4) Task 3 of the draft Project Plan. Scoping studies should be performed before such potentially important mechanisms as the effects of internal corrosion of waste package materials or low temperature sensitization (LTS) of stainless steels become subjects of major investigations. Eliminate galvanic studies of carbon steel.

5) Task 3 in the draft Project Plan. Complete the experimental design in 6 months. Design the program to complement work being carried out by other NRC contractors in this field. Avoid duplication of their efforts (e.g. microbially accelerated corrosion) except where (e.g. the electrochemical work being done at Cortest Columbus) a few tests of a confirmatory nature of closely related work may serve to ensure the corroboration of the reliability of NRC's work.

6) Task 3 of the draft Project Plan. Considering information obtained under Task 1 in the draft Project Plan (literature search), only the materials under study by DOE should be investigated. Provide flexibility to change with changes by DOE. Do not commence laboratory testing until the Work Plan has been approved by the Project Manager.

7) Task 3 of the draft Project Plan. Develop a statistically designed work plan. Statistical analysis of data is not the same as an experiment with good statistical design. Further discussion on this topic should be pursued with the Project Manager.

8) Task 3 of the draft Project Plan. Only those parameters which are known or suspected to measure first order effects on material degradation shall be emphasized. Fewer studies of a scoping nature should be planned for secondary or lesser order effects (e.g. radiation). Specifically, pitting, stress corrosion cracking, hydrogen embrittlement, waterline corrosion, and the effects of welds should be the focus of the majority of the investigation.

9) Task 3 of the draft Project Plan. Emphasize the analysis of corrosion products and their sequence of development (which may include important passivating films at some stages of corrosion).

10) Task 3 of the draft Project Plan. Whatever tests of corrosion and leaching are undertaken should be designed to permit extension to longer times as needed or as funding permits.

11) Task 3.5 in the draft Project Plan. All travel will require prior approval of the Project Manager. International travel should be planned at the beginning of the fiscal year since contractor travel of this type requires approval on the agency's foreign travel plan by the EDO.

12) Task 4 in the draft Project Plan. Provide a decision point to assess the possibility of studying scale up effects at a later date. Initiation of work on scale up effects will be conditional on approval of a modified work plan by the NRC Project Manager.

13) The plan description on page 24 of the draft Project Plan should include background information on the key personnel to be involved in this program both at the Center and at the Fontana Corrosion Center at Ohio State University. The physical resources to be utilized both at the SWRI Corrosion and Metallurgy Laboratories and at the Fontana Corrosion Center should be described.

* Copy of Draft Project Plan attached