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WM Project 10,11,16
Docket No.
PDR ✓
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Distribution:
P. Brooks | Joan - Ticket
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Ms. Pauline Brooks, Project Officer
Division of Waste Management
MS 623 SS
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Contract No. NRC-02-81-026
Benchmarking of Computer Codes and Licensing Assistance
Monthly Letter Progress Report for May 1986

Dear Pauline:

This letter contains a management level summary of progress during the month of May.

Task 3 — Benchmark Problem Report — Waste Package Codes

Review comments were incorporated and the report was submitted for final typing.

Task 4 & 5 — Siting Codes

During May, GeoTrans worked on revising the final Task 4 & 5 report. Revisions to this report are taking longer than planned. GeoTrans believes that a draft report will be available in July. We will provide status when it is available.

Tasks 4 & 5 — Radiological Assessment Codes

Draft copies of the final report for these tasks were submitted to the NRC by letter dated March 27, 1986. NRC's comments on this report were received in early June. Outside QA review by Bruce Mann was provided at the end of June.

Tasks 4 & 5 — Repository Design Codes

All applicable codes have been procured. However, since the NRC has decided not to procure the 1984 version of the ADINA code, we must modify our scope of work to accommodate this restriction.

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Problem 6.1 (Project Salt Vault) requires a temperature-dependent creep law which is specific to salt formation at the Lyons Site. This problem cannot be modeled with ADINA; thus, no further attempts will be made.

Problems 5.1 and 5.3 require the use of three-dimensional modeling and do not specify which material is to be used. Problem 5.1 is to be run with the ADINAT, ADINA and HEATING codes. This problem has been started with ADINAT, but difficulties have arisen due to the complexity of the canister details. For the purpose of modeling this problem, the canister has been simplified to the degree that this problem becomes nearly identical to Problem 5.2, except that Problem 5.2 is in two dimensions. Work on Problem 5.1 was discontinued during the set-up phase when difficiencies in the creep laws within ADINA were identified.

Problem 5.3 is to be run with the ADINAT, ADINA, SALT4, and STEALTH codes. This Problem has not yet been set-up for ADINA or ADINAT, but has been set up for STEALTH and run with SALT4. The results obtained from the SALT4 analysis were very general and are not considered accurate enough to yield meaningful comparisons with other code results.

Due to the storage difficulties encountered while attempting to run Problem 6.3 (BWIP) with ADINA at Brookhaven, we feel that the accuracy of three-dimensional modeling with this code will be very limited due to the coarseness of the finite element meshes.

Work was done on the figures for the write-ups of the ADINAT, COYOTE, DOT, MATLOC, SALT4, and VISCOT codes. Draft copies of these figures are undergoing internal review.

The lengthly delay caused by the unavailability of the ADINA and ADINAT (1981 versions) codes has caused us to fall well behind schedule in meeting the proposed Draft Task Summary Report deadline of March 15, 1985. Our revised deadline of May 1, 1986 was also changed, due to current delays caused by the procurement of ADINA (1984 version).

Task 4 & 5 — Waste Package Codes

There was no significant effort on this task during May.

Task 6 — Technology Transfer

During May, effort was devoted to documenting the microcomputer solutions to benchmark problems.

General

On May 29 Douglas K. Vogt resigned his position at CorSTAR and a portion of May was devoted to providing a smooth transition of project management and technical functions.

Estimated costs to date through the end of May (May 24 for CorSTAR and May 31 for Acres and GeoTrans) is $3,581,623.18.

Yours sincerely,

Charles J. Rosselle

Charles J. Rosselle
Project Manager

CJR:kg