



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

JUN 24 2002

1007700

Purdue Research Foundation
ATTN: Thomas Wright
1063 Hovde Hall, Purdue University
West Lafayette, IN 47907-1063

Dear Mr. Wright:

SUBJECT: MODIFICATION NO. 15 TO TASK ORDER NO. 6 ENTITLED "SNAP RUNTIME AND OUTPUT VISUALIZATION DEVELOPMENT" UNDER CONTRACT NO. NRC-04-97-046

In accordance with Section G.4, Task Order Procedures, of the subject contract, this letter definitizes Task Order No. 6 Modification No. 15. This effort shall be performed in accordance with the enclosed Statement of Work. The period of performance for Task Order No. 6 remains from January 9, 1998 through December 31, 2002. The total estimated cost for performance of the task order is increased by \$48,000 from \$1,269,518 to \$1,317,518. Funds in the amount of \$48,000 are hereby obligated for performance of this task order bringing the total obligated funds from \$1,269,518 to \$1,317,518.

Accounting data for Task Order No. 6 MOD 15 is as follows:

B&R No.: 260-15-11-020-5
Job Code: W-6749
BOC Code: 252A
RES ID: RES-C02-427
Appropriation No.: 31X0200
Obligated Amount This Action: \$51,000^{48,000} ~~51,000~~

11-11-02

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Purdue

Contract No. NRC-04-97-046
Task Order No. 6 MOD 15
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The issuance of this task order does not amend any terms or conditions of the subject contract.

Your contacts during the course of this task order are:

Technical Matters: James Han, Project Officer
(301) 415-6773

Contractual Matters: Stephen Pool, Contract Specialist
(301) 415-8168

Please indicate your acceptance of this task order by having an official, authorized to bind your organization, execute three copies of this document in the space provided and return two copies to the Contract Specialist. You should retain the third copy for your records.

Sincerely,



Stephen M. Pool, Contracting Officer
Division of Contracts and Property
Management

Enclosure:
As stated

ACCEPTED: TASK ORDER NO. 6 MOD 15



NAME _____ DATE JUN 13 2002

Eric E. Fulkerson
Sr. Contract Manager

TITLE _____

Modification (No. 15) to the Statement of Work for Task Order #6, "SNAP Runtime and Output Visualization Development," under Contract No. NRC-04-97-046, "Thermal-Hydraulic Research"

Background

CONTAIN is a lumped parameter code for performing containment analysis. It was originally developed under the severe accident program in the Office of Nuclear Regulatory Research (RES). Currently, CONTAIN is being used to analyze design basis accidents (DBA) in the Office of Nuclear Reactor Regulation (NRR). The CONTAIN code requires that a complex input deck be prepared describing the containment geometry and special containment features. Output from the CONTAIN code is in a binary file format that needs to be pre-processed by the POSTCON code. The POSTCON code also requires a somewhat complicated input deck to be prepared describing which channels the user wishes to extract from the binary CONTAIN output file. NRR has recently requested that a CONTAIN code user interface be implemented to allow analysts to more easily prepare containment models and process output results from the CONTAIN code.

RES has been working on a generic graphical user interface system called "SNAP" (Symbolic Nuclear Analysis Package). SNAP provides input and output processing. Currently SNAP only works with the RELAP5 code. SNAP is currently under development to implement an interface for the TRAC-M code. The existing platform-dependent binary file format produced by CONTAIN cannot be easily read by Java applications such as SNAP without introducing platform-dependent 'C' coding which must be compiled on each platform. In addition, the ability to access archived calculations is impacted since platform-dependent binary files may not be readable by the archive server.

It is therefore proposed that the existing CONTAIN platform-dependent binary format be replaced with the equivalent "platform-independent" coding, and modifications be made to the SNAP software to support runtime and post-processing of CONTAIN results. To enable the SNAP interface for CONTAIN to readily present CONTAIN results, the CONTAIN code needs to be modified to allow communication of its channel data to the SNAP post-processor codes VEDA and AcGrace.

Additional Work Requirements (5/15/02 - 12/31/02)

Add the following new Task 28 to the SOW.

Task 28. Develop SNAP Runtime/Post-processing Capability for the CONTAIN code

Modify the CONTAIN code by replacing the existing binary plot file format with a platform-independent binary plot format. Establish a data channel naming convention for CONTAIN plot data. Modify AcGrace by adding an ability to read the new CONTAIN plot file format. Write a CONTAIN specific SNAP runtime/post-processor plug-in. Modify the CONTAIN code by adding external data communications routines needed to support data notifications and pause/resume/kill controls. Modify the POSTCON code to read the new plot file format.

Estimated Level of Effort: 3 staff-months

Estimated Completion Date: 12/31/02