

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. AMENDMENT/MODIFICATION NO. **8** 2. EFFECTIVE DATE **10/1/82** 3. REQUISITION/PURCHASE REQUEST NO. **RES-80-215** 4. PROJECT NO. (If applicable)*

5. ISSUED BY **U. S. Nuclear Regulatory Commission**
Division of Contracts
Washington, DC 20555 6. ADMINISTERED BY (If other than block 5) CODE

DESIGNATED ORIGINAL

7. CONTRACTOR NAME AND ADDRESS CODE FACILITY CODE
U. S. Small Business Administration
San Francisco District Office
211 Main Street
San Francisco, CA 94105
Technology Development of California
3990 Freedom Circle
Santa Clara, CA 95054

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AMENDMENT OF SOLICITATION NO. _____
DATED _____ (See block 9)
 MODIFICATION OF CONTRACT/ORDER NO. **NRC-04-80-215**
DATED **8/22/80** (See block 11)

9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS
 The above numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of Offers is extended, is not extended.
Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods:
(a) By signing and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

10. ACCOUNTING AND APPROPRIATION DATA (If required)
B&R No. 60-19-01-03 **FIN No. B7077** **\$429,000.00**

11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS
(a) This Change Order is issued pursuant to _____
The Changes set forth in block 12 are made to the above numbered contract/order.
(b) The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12.
(c) This Supplemental Agreement is entered into pursuant to authority of _____
It modifies the above numbered contract as set forth in block 12.

12. DESCRIPTION OF AMENDMENT/MODIFICATION
"ARTICLE I - STATEMENT OF WORK, is revised to include the following tasks:
D. Scope of Technical Work. The contractor will upgrade the Nuclear Plant Data Bank system to support routine use by NRC staff and its contractors, by performing the following tasks, therefore, the contractor will:
Task 7: Develop data structures and display templates for types of data not required for the demonstration system. Emphasis will be on accommodating additional data types oriented primarily toward supporting TRAC and RELAP analyses (samples supplied by NRC or NRC contractors). This will include data on additional vessel types (e.g., Combustion Engineering, General Electric BWR, Babcock and Wilcox, and Westinghouse Upper Head Injection); additional steam generator types; control systems; and on containment structures.
Also, reference to data sources will be added for all data structures.

Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.

13. CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN **4** COPIES TO ISSUING OFFICE

14. NAME OF CONTRACTOR/OFFEROR BY **Raymond P. Gustave**
(Signature of person authorized to sign) (Signature of Contracting Officer)

15. NAME AND TITLE OF SIGNER (Type or print) **8211160007 821110**
PDR CONTR
NRC-04-80-215 PDR 16. DATE SIGNED 17. NAME OF CONTRACTING OFFICER (Type or print) **Raymond P. Gustave** 18. DATE SIGNED **11/10/82**

TDC expects that arrangements for the plant data necessary to support this task will be made by the NRC and that the data will be supplied in a timely fashion so as not to jeopardize the schedule. This task activity will be constrained by the task funding and scheduled receipt of the data.

- Task 8: a. Make modifications to software and modeling cartoons to accommodate additional data types developed under Task 7.
- b. Upgrade the data entry software to support new data types and to facilitate data entry (e.g., reduction of piping input by 40%).
- Task 9: Enter and verify data supplied to TDC by NRC and NRC contractors. This will be a level of effort activity directed at entering and verifying a portion of the data used in Task 7. This data entry task will permit the testing and demonstration of the new data structures, display forms and software modifications performed in Tasks 7, 8, and 10.
- Task 10: a. Develop a program-specific input interface to TRAC-PF1 based upon the generic interface currently being developed. The NRC will arrange a technical support contact at Los Alamos National Laboratory (LANL) to review user requirements. TDC will make one (1) trip to Los Alamos National Laboratory to review user requirements.
- b. Upgrade this interface to accommodate some of the additional types of data resulting from Tasks 7 and 9.
- Task 11: Upgrade user interface to account for comments obtained at the demonstration (e.g., reduced usertime by skipping the "tree" display in selected cases.)
- o Enhance sequences of major and minor menus to simplify and standardize user responses.
 - o Modify index searching and paging routines to provide direct access to a page of interest.
 - o Modify index paging routines to allow forward (next) and backward (previous) paging without the need to return to the index.
 - o Add and enhance sets of user instructions at each major function in the paging routines.
 - o Modify software to avoid system failure due to faulty telephone communications.
 - o Add a user menu to select batch generation of a plot rotation angle and label option.

Task 12: Provide consultation to LANL and INEL on use of the NPDB, with emphasis on TRAC-PF1 and RELAP5, Modification 1.5 modeling. This task is limited to two on-site trips, one each to LANL and INEL, and follow-on telephone consultation.

Task 13: Develop a Best Estimate Methodology Software Interface from the NPDB to RELAP5, Modification 1.5. This will be a program-specific interface. The NRC is expected to arrange a technical support contact at INEL to review user requirements. TDC will make one trip to INEL to review user requirements.

E. Under Reports, Documentation, and Other Deliverable End Items

1. Technical Reports

The major overall deliverable under this contract will be computer software which will be delivered in the form of source code and executable modules on the computer system at Idaho National Engineering Laboratories. In addition, the following deliverables will be provided:

	<u>Deliverable</u>	<u>Delivery Date</u>
Task 7	a. Booklet of hard-copy displays of the complete hierarchic index and data structures	30 Sep 83
	b. Complete booklet of hard copies of all blank display forms in the NPDB	30 Sep 83
Task 8	a. Software source code listings of all NPDB at INEL	30 Sep 83
	b. Set of data entry forms including revised piping structure data	30 Sep 83
	c. Complete booklet of hard-copy displays of all new or modified modeling cartoons	30 Sep 83
Task 9	a. Complete booklet of hard copies of all filled-in display forms and templates showing the entire data contents of the NPDB	30 Sep 83
Task 10	a. Booklet of hard-copy displays for the specific TRAC interface showing the data selected or entered by the user and the resulting data generated by the NPDB as input decks to TRAC	30 June 83

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|---------|---|---|
| Task 11 | a. Complete booklet of hard-copy displays for menus, menu options and user instructions contained in the NPDB | 30 Sep 83 |
| Task 12 | a. Details on the results of consultation sessions at Los Alamos Scientific Laboratory and Idaho National Engineering Laboratory will be contained in monthly progress reports required in E.2 below for the appropriate period of activity | 15th of each month for the period of activity in the preceeding month |
| Task 13 | a. Booklet of hard-copy displays for the specific RELAP 5 interface showing the data selected or entered by the user and the resulting data generated by the NPDB as input decks RELAP5 | 30 Sep 83 |
| | b. Validation report on the RELAP5 interface in accordance with best estimate methodology | 30 Sep 83 |

ARTICLE II - PERIOD OF PERFORMANCE, is revised as follows:

The performance of work described in ARTICLE I hereof shall commence as of the effective date of this contract and shall continue to completion thereof, estimated to occur by September 30, 1983, unless such period of performance is extended by the Contracting Officer.

ARTICLE III - CONSIDERATION AND PAYMENT

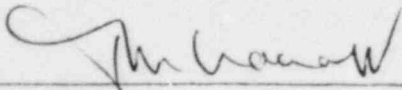
A. Estimated Cost, Fixed Fee and Obligation

1. It is estimated that the total cost to the Government for full performance of this contract will be \$1,319,490.00 of which the sum \$1,199,537 represents the estimated reimbursable costs and of which \$119,953.00 represents the fixed fee.
2. Total funds currently available for payment are increased by \$429,000.00 from \$890,490.00 to \$1,319,490.00 of which \$1,199,537.00 represents the estimated reimbursable costs, and of which \$119,953.00 represents the fixed fee.
3. Obligation of Funds. The amount of funds currently obligated by the Government is increased by \$429,000.00 from \$890,490.00 to \$1,319,490.00."

SIGNATURE PAGE

(Subcontractor - Firm Name)

Technology Development of California, Inc.

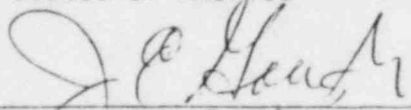
BY: 

Name & Title: Thomas M. Cracraft
Executive Vice President

Date: October 29, 1982

(Prime Contractor)

Small Business Administration
United States of America

BY: 

Name & Title: J. K. Gough
Contracting Officer

Date: NOV 01 1982

(Procuring or Administrative Office)

U. S. Nuclear Regulatory Commission

BY: See page 1 RPS

Name & Title: _____

Date: _____