UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

DEC 16 2002

Information Systems Laboratories, Inc.
ATTN James Meyer
11140 Rockville Pike, Suite 500
Rockville, MD 20852

SUBJECT MODIFICATION NO. 6 TO TASK ORDER NO. 1 ENTITLED, "PTS ANALYSIS" UNDER CONTRACT NO. NRC-04-02-054

Dear Mr. Meyer

This letter definitizes Modification No. 6 to Task Order No. 1 in accordance with the enclosed statement of work The period of performance for Task Order No. 1 remains from December 20, 2001 through February 28, 2003. The task order estimated cost and fixed fee is changed as follows.

	From	By:	To:
Estimated Costs	$477,060	$114,510	$591,570
Fixed Fee	$ 37,538	9,153	$ 46,691
CPFF	$514,598	$123,664	$638,262

$60,000 in incremental funds are hereby allotted to this task order bringing the total funds to $574,598 of which $532,563 represents funds for the estimated costs and $42,035 represents funds for the fixed fee It is estimated that these funds will be sufficient for performance through January 15, 2003 Accounting Data for Task Order No. 1 Mod 6 is as follows:

Commitment No.	APPN#	B&R	JCN	BOC	Amount
RES-C03-321	31X0200	36015110191	Y6598	252A	$60,000.00
Total Obligated Amount -					$60,000.00

A summary of obligations for this task order, from award date through the date of this action is given below

Total FY02 Obligation Amount:	$514,598.00
Total FY03 Obligation Amount.	$60,000.00
Cumulative total of NRC obligations:	$574,598.00

TEMPLATE - ADM001

ADM002

Please indicate your acceptance of Modification No. 6 to Task Order No. 1 by having an official authorized to bind your organization execute three copies of this document, by signing in the space provided, and return two copies to me. You should retain the third copy for your records All other terms and conditions of this task order remain unchanged.

Should you have any questions, regarding this modification, please contact me on (301) 415-8168.

Sincerely,

Stephen M. Pool, Contracting Officer
Division of Contracts
Office of Administration

ACCEPTED _____
NAME

VP
TITLE

12/18/02
DATE

STATEMENT OF WORK
TASK ORDER NO 1
MODIFICATION NO. 6
PTS ANALYSIS

WORK REQUIREMENTS

1 Extend the completion date of Task Order No. 1 from ~~10/02~~ 12/31/02 to 2/28/03.

2 Add the following tasks:

Task 1: Contribute Material to Staff NUREG Documenting Overall PTS Reanalysis

The NRC is preparing a comprehensive report discussing the risk assessment that has been performed to support the PTS re-baselining study. As part of this effort ISL will prepare material for this report related to the thermal-hydraulic analysis for the Beaver Valley, Palisades, and Oconee plants. Discussion of the overall modeling approach, a summary of transients analyzed, and the results are to be included in this section for the three plants. ISL will also prepare material for a section pertaining to the RELAP5 assessment being done to demonstrate the applicability of RELAP5 to predicting the thermal-hydraulic response of a reactor system during transients that may be significant contributors to PTS risk. ISL will provide documentation of the above analyses to be included in sections 5 2, 6 1, and 7.6 of the Attached Outline.

Estimated Level of Effort. 2 staff-months
Estimated Completion Date: 12/31/02

Task 2: Numerically Driven Flows

A recirculating flow pattern in the reactor vessel downcomer was found in the RELAP5 results for the Calvert Cliffs plant. This flow pattern, which could have a significant impact on the predicted downcomer temperature, was judged to be unrealistic ISL ran a large number of sensitivity studies to isolate the problem and traced the cause of the flow recirculation to a problem with the momentum flux model in RELAP5. As a result of this problem, the Calvert Cliffs model needs to be revised to disable application of the momentum flux model in the downcomer and the cases previously run by NRC staff need to be rerun. Several Palisades cases also affected by this problem also need to be re-analyzed. A total of approximately 25 cases will be re-analyzed.

All RELAP5 input and output files that should be retained as defined by the NRC project officer will be archived on the NRC data bank.

Estimated Level of Effort: 2 staff-months
Estimated Completion Date: 2/28/03

Task 3 ACRS Thermal Hydraulic Subcommittee Review of RELAP Validation for PTS

ISL will assist the NRC in preparing a presentation on PTS and PTS Assessment for the ACRS Thermal-hydraulics subcommittee meeting in December. Power Point presentation materials will be prepared based on results obtained from the Oconee, Beaver Valley, Palisades and Calvert Cliffs PTS analyses. Results from the PTS assessment will also be incorporated into a separate presentation. ISL will work with NRC staff and other contractors to incorporate NRC review comments

Estimated Level of Effort:	1 staff month: Senior Engineer
Estimated Completion Date:	12/31/02

Attachment

DRAFT Outline of NUREG to Provide the
Technical Basis for the PTS Rule Revision

1 Background

1.1 Description of the PTS Problem
1.2 The Existing PTS Rule

1.2 1 Why it was Developed
1 2 2 Provisions of the Current Rule

1.3 PTS Rule Re-evaluation

1.3 1 Motivation
1.3 2 Structure of Project (what organizations participated, and how)
1.3.3 Guiding Principles for Project Conduct

1 3 3 1 Risk-informed Regulation
1 3 3 2 An Adequate Protection Rule
1 3.3 3 Methodology/Approach (i.e. the Nathan paper)

2. Detailed Project Approach

2 1 Perform Analyses of 4 Plants

2 1 1 The 4 Plants Analyzed

2.1 1.1 Why Selected
2.1 1.2 Characteristics

2.2 Develop Risk Goal
2.3 Compare 2.1 to 2.2, Generalize 4 Plants to All Plants
2.4 Structure of Remainder of NUREG

3. PTS Risk Acceptance Criterion

4. Discussion of Historically Experienced Overcooling Events

5. Methodology Used to Establish Models and Address Uncertainty (& results of these efforts)

5 1. PRA
5.2 T-H
5.3 PFM

5.3 1. Toughness and Embrittlement
5 3 2 Flaws
5 3.3 Fluence

6. Validation of Methodology (comparison to experiment/comparison to some other independent metric of truth/demonstration of conservatism of approach)

   6 1 T-H
   6 2 PFM

7. Results (each section provides an overview, and refers to an appendix which offers complete details of the analyses)

   7.1 Oconee
   7.2 Beaver Valley
   7.3 Palisades
   7.4 Calvert Cliffs
   7.5 Generic or "Hypo" Analyses
   7.6 Uncertainty Analyses (T-H)
   7.7 Sensitivity Studies

8. PTS Screening Criteria (combine sections 3 & 7)

   8 1 Use of 3 Plant Data
   8 2 Consideration of External Events
   8 3 Generalization to All Plants

9. Considerations / Recommendations Regarding Promulgation of New PTS Rule

10 References

Appendices

A Oconee

   A.1 PRA
   A.2 T-H
   A.3 PFM

B. Beaver Valley

C. Palisades

D. Calvert Cliffs

E. Generic or "Hypo"

F Sensitivity Studies