ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES: 1 | 13

IMPORTANT: Mark all packages and papers with contract and/or order numbers. BPA NO. NRC-HQ-11-A-04-0014

1. DATE OF ORDER: AUG 05 2011	2. CONTRACT NO. (If any): GS10F0145T
3. ORDER NO.: NRC-HQ-11-O-04-0001 MODIFICATION NO.:	4. REQUISITION/REFERENCE NO.: RES-11-060 Dated 11/29/2010

5. ISSUING OFFICE (Address correspondence to):
U.S. Nuclear Regulatory Commission
Div. of Contracts
Attn: Ashlee Bushell
Mail Stop: TWB-01-B10M
Washington, DC 20555

6. SHIP TO:
a. NAME OF CONSIGNEE: U.S. Nuclear Regulatory Commission
b. STREET ADDRESS: Attn: Eric Focht
Mailstop: CSB-5A24M
11555 Rockville Pike
c. CITY: Rockville | d. STATE: MD | e. ZIP CODE: 20852

7. TO:
a. NAME OF CONTRACTOR: ENGINEERING MECHANICS CORPORATION OF COLUMBUS
EMC2
b. COMPANY NAME:
c. STREET ADDRESS: 3518 RIVERSIDE DR STE 202
d. CITY: COLUMBUS | e. STATE: OH | f. ZIP CODE: 432211735

f. SHIP VIA:

8. TYPE OF ORDER
[ ] a. PURCHASE — REFERENCE YOUR _____ Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.
[x] b. DELIVERY — Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.

9. ACCOUNTING AND APPROPRIATION DATA
B&R: 2011-60-11-6-154 JOB: V6200 BOC: 252A
APP: 31X0200.160 FFS: 111103 Obligate $120,000.00
Contractor DUNS: 014083161 NAICS: 541330

10. REQUISITIONING OFFICE: RES

11. BUSINESS CLASSIFICATION (Check appropriate box(es))
[x] a. SMALL [ ] b. OTHER THAN SMALL [ ] c. DISADVANTAGED [ ] d. WOMEN-OWNED [ ] e. HUBZone
[ ] f. SERVICE-DISABLED VETERAN-OWNED [ ] g. WOMEN-OWNED SMALL BUSINESS (WOSB) EUGIBLE UNDER THE WOMEN-OWNED SMALL BUSINESS PROGRAM [ ] h. ECONOMICALLY DISADVANTAGED WOMEN-OWNED SMALL BUSINESS (EDWOSB)

12. F.O.B. POINT: Destination

13. PLACE OF		14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)	16. DISCOUNT TERMS
a. INSPECTION: Destination	b. ACCEPTANCE: Destination	N/A	N/A	N/A

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	Issuance of Task Order No. NRC-HQ-11-O-04-0001 Title: Fracture of Dissimilar Weldments: Modeling Analysis and Support Task Order Ceiling: $922,826.10 Amount Obligated: $120,000.00 Period of Performance: Award - 36 months Contractor Acceptance on page 3 of 13 NRC Project Officer: Eric Focht Email: eric.focht@nrc.gov Phone: 301-251-7649	See CONTINUATION Page				

SEE BILLING INSTRUCTIONS ON REVERSE

18. SHIPPING POINT	19. GROSS SHIPPING WEIGHT	20. INVOICE NO.	

21. MAIL INVOICE TO:
a. NAME: Department of Interior / NBC
NRCPayments@nbc.gov
b. STREET ADDRESS (or P.O. Box): Attn: Fiscal Services Branch - D2770
7301 W. Mansfield Avenue
c. CITY: Denver | d. STATE: CO | e. ZIP CODE: 80235-2230

17(h) TOTAL (Cont. pages):
17(i). GRAND TOTAL: $922,826.10

22. UNITED STATES OF AMERICA BY (Signature)

23. NAME (Typed): Matthew Bucher
Contracting Officer
TITLE: CONTRACTING/ORDERING OFFICER

AUTHORIZED FOR LOCAL REPRODUCTION
PREVIOUS EDITION NOT USABLE

OPTIONAL FORM 347 (REV. 5/2011)
PRESCRIBED BY GSA/FAR 48 CFR 53.213(f)

TEMPLATE - ADM001 SUNSI REVIEW COMPLETE AUG 05 2011 ADM002

In accordance with Section B.8 TASK ORDER PROCEDURES of Blanket Purchase Agreement (BPA) No. NRC-HQ-11-A-04-0014 this definitizes Task Order No. NRC-HQ-11-O-04-0001. The effort shall be performed in accordance with the Statement of Work (SOW).

A.1 CONSIDERATION AND OBLIGATION – LABOR HOUR

(a) The total estimated cost to the Government for full performance under this Task Order is $922,826.10.

(b) The amount obligated by the Government with respect to this Task Order is $120,000.00. This obligated amount may be unilaterally increased by the Contracting Officer by a written modification to the contract. The obligated amount shall, at no time, exceed the Task Order ceiling as specified in paragraph (a) above. When and if the amount(s) paid and payable to the Contractor hereunder shall equal the obligated amount, the Contractor shall not be obligated to continue performance of the work unless and until the Contracting Officer shall increase the amount obligated with respect to this contract. Any work undertaken by the Contractor in excess of the obligated amount specified above is done so at the Contractor's sole risk.

A.2 DURATION OF CONTRACT PERIOD (MAR 1987)

This Task Order shall commence on the date of award and will expire in 36 months.

A.3 PRICE/COST SCHEDULE

CLIN	LABOR CATEGORY	GSA LABOR CATEGORY	LABOR RATE	ESTIMATED HOURS	ESTIMATED CEILING
0001	Project Manager				
0001a		President	[redacted]	[redacted]	[redacted]
0001b		Senior Program Manager			
Estimated Subtotal for Task Order 1 Management					$84,861.00
0002	Research Leader				
0002a		Senior Research Leader	[redacted]	[redacted]	[redacted]
0002b		President			
Estimated Subtotal for Task Order 1 Research Leader and Admin.					$ 8,400.00
0003	Principal Engineer				
0003a		Principal Engineer	[redacted]	[redacted]	[redacted]
0003b		Research Engineer			
0003c		Engineer			
0003d		Master Technician			
0003e		Administrative Assistant			
Estimated Subtotal for Task Order 1 Engineer and Admin.					
Total Estimate for Labor					$872,826.10
0004	Travel** (Cost Reimbursable) (NOT TO Exceed) The government will pay up to the rates specified in the Government Federal Travel Regulations (FTR) for travel destination. Hotel reservations will be made by the contractor and will be reimbursed for actual costs only, with receipts/back up documentation attached to the invoice. PAYMENTS WILL NOT BE MADE WITHOUT SUPPORTING DOCUMENTATION.				[redacted]
Estimated Travel Total for Task Order 1					$50,000.00

*Labor rates shall remain constant over the life of the contract, as stated in proposal
**OPEN MARKET

TOTAL ESTIMATED TASK ORDER CEILING -- $922,826.10

A.4 KEY PERSONNEL

The following individuals are considered to be essential for the successful performance of work under this Task Order:

Frederick W. Brust	Senior Research Leader
Do-Jun Shim	Research Engineer
Robert Kurth	Senior Research Leader
Gary Hattery	Senior Program Manager

The Contractor agrees that such personnel shall not be removed from the effort under this task order without compliance with BPA Clause C.4 KEY PERSONNEL.

A.5 NRC PROJECT OFFICER AND CONTRACT SPECIALIST

NRC contacts during the course of this Task Order are:

Technical Matters: Eric Focht, Project Officer
301-251-7649, Eric.Focht@nrc.gov

Contractual Matters: Ashlee Bushell, Contract Specialist
301-492-3486, Ashlee.Bushell@nrc.gov

A.6 CONTRACTOR ACCEPTANCE OF TASK ORDER

Acceptance of Task Order No. NRC-HQ-11-O-04-0001 shall be made by having an official, authorized to bind your organization, execute two copies of this documents in the space provided and return one copy to the Contract Specialist. Retain the other copy for your records.

Accepted Task Order No. NRC-HQ-11-O-04-0001

Signature

August 3, 2011
Date

Director of Operations
Title

B. STATEMENT OF WORK

FRACTURE OF DISSIMILAR METAL WELDMENTS: EVALUATIONS, ANALYSIS AND SUPPORT

1.0 BACKGROUND

The focus of the research outlined in this statement of work is to continue the development of analytical tools in support of the xLPR Project and to provide technical support to NRC staff on issues that emerge regarding xLPR program development and implementation including participating in relevant ASME Boiler and Pressure Vessel Code meetings. Much of the effort will focus on developing finite element (FE) evaluations for various pressurizer nozzles in order to compute weld residual stress (WRS) profiles through the thickness of dissimilar metal welds (DMWs) that include the effects of PWSCC mitigation and weld repairs. Other tasks will focus on updating existing codes with more accurate solutions based on the latest probabilistic fracture mechanics technology and crack growth evaluation techniques.

This project will build on the results of previous WRS evaluation projects conducted by the NRC. However, the current solutions for calculating WRS were developed to address a specific problem and are not considered an adequate solution for addressing the variety of pressurizer nozzles under consideration. Specifically, the WRS solutions must be applicable to pressurizer surge, relief, safety, hot leg and cold leg nozzles. WRS validation experiments are underway and the data collected from those efforts will be made available to help validate the WRS evaluations developed under this project. The WRS evaluations developed under this project must be capable of being easily incorporated into larger probabilistic computational frameworks such as GoldSim, SIAM or other similar applications.

2.0 OBJECTIVE

The contractor shall provide necessary personnel, management, materials, administrative and technical services required to provide technical assistance to develop computational tools/evaluations as outlined in the statement of work.

3.0 SCOPE OF WORK

The scope of this Task Order involves the performance of analytical computer evaluations in conjunction with the xLPR Project. The evaluations in this project shall be developed collaboratively with the xLPR Project Tasks Groups. The contractor shall develop computational tools that calculate WRS profiles, loads, crack growth behavior (i.e. crack shape evolution) and crack stability for various DMW geometries based on pressurizer nozzles that can be easily incorporated into larger probabilistic computational frameworks such as GoldSim, SIAM or other similar applications. The contractor shall also describe how the computational tools developed in this project can be integrated into large probabilistic computational tools. PWSCC crack morphology parameters will be measured from flaws removed from service to update the database and uncertainty for these parameters as they relate to the SQUIRT leak rate prediction code.

The contractor shall interface with the NRC xLPR Project Officer to coordinate the work performed under this contract with the xLPR Task Groups. The contractor shall adhere to the configuration management (CM) guidelines for each application/evaluation being developed or modified established those being implemented for the xLPR Project.

4.0 SPECIFIC TASKS

4.1 Kickoff Meeting

4.2 Task 1: Weld Residual Stress and PWSCC Mitigation Evaluations

4.2.1 Task 1a: Selection of Geometries and Evaluation of Weld Residual Stress in Dissimilar Metal Weldments

4.2.1.1 REQUIREMENT

The contractor shall determine the types and numbers of DMW geometries associated with the reactor coolant pressure boundary to include the piping system and attached components, and perform weld residual stress evaluations for the selected DMWs. The geometries to be evaluated will be selected by the NRC after they have been identified. The NRC anticipates the contractor analyzing no more than seven (7) DMWs. Once the contractor identifies the DMWs to be analyzed, they shall submit them to the NRC for approval.

4.2.1.2 STANDARD

a) The offeror shall evaluate a minimum of three and possibly up to seven different nozzles. The weld residual stress evaluations for DMWs shall be capable of accurately determining the residual stresses in weldments made from weld metal families Alloy 80/182, Alloy 52/152 and base metals Alloy 600 and Alloy 690.

b) The evaluations shall be applicable to DMW made from both Alloy 82/182 and Alloy 52/152 weld metals and Alloy 600 and Alloy 690 base metals.

c) The evaluations shall accurately determine the WRS through the thickness of DMW representative of pressurized water reactor (PWR) pressurizer surge nozzles, safety nozzles, relief nozzles, hot leg nozzles and cold leg nozzles for all nozzle configurations currently in service in the U.S.

4.2.1.3 Quality Assurance Surveillance Plans:

One hundred percent inspection.

4.2.1.4 Performance Incentives when appropriate:

One percent deduction from the monthly invoice for non-compliance with the standard.

4.2.1.5 Deliverables:

The contractor shall deliver codes, including compiled versions, if applicable, for the weld residual stress evaluations for DMWs.

The contractor shall deliver a final technical letter report for 18 months after the award date. The report may be combined with the reports for Task 1b. The report shall describe the work performed in each task, results and conclusions. The source codes for the models and all associated QA, QC and CM documentation shall be provided to the NRC CO and PO in electronic formats determined during discussions between the CO, PO and the Contractor.

Due Date: Eighteen months following the award date.

4.2.1.6 Acceptance Criteria:

No more than one instance of not meeting the standard.

4.2.1.7 NRC Furnished Material and Equipment:

None.

4.2.1.8 Additional Guidance and/or References:

The WRS evaluations shall be validated using WRS measurement data obtained in a related NRC project. Other available DMW WRS measurement data may be used in addition to data provided by the NRC for validation and verification purposes. The contractor confirmed that they have the DMW WRS measurement data needed to conduct the work.

4.2.2 Task 1b: Evaluation of the Weld Residual Stresses Associated with Weld Repairs

4.2.2.1 REQUIREMENT:

The contractor shall develop accurate three dimensional (3-D) WRS evaluations for weld repairs in DMWs for each of the nozzle geometries evaluated in Task 1a.

4.2.2.2 STANDARD:

The contractor shall at a minimum evaluate the weld residual stresses for three to five different weld repair geometries. The weld repair evaluations shall be 3-D and applicable to repairs on both the inside and outside surfaces of the nozzles.

4.2.2.3 Quality assurance surveillance plans:

One hundred percent inspection.

4.2.2.4 Performance Incentives when appropriate:

One percent deduction from the monthly invoice for non-compliance with the standard.

4.2.2.5 Deliverables:

The contractor shall deliver the computer codes, including compiled versions, if applicable, for the 3D weld repair evaluations.

The contractor shall deliver a final technical letter report for 18 months after the award date. The report may be combined with the reports for Task 1a. The report shall describe the work performed in each task, results and conclusions. The source codes for the models and all associated QA, QC and CM documentation shall be provided to the NRC CO and PO in electronic formats determined during discussions between the CO, PO and the Contractor.

Due Date: Eighteen months following the contract award date.

4.2.2.6 Acceptance Criteria:

One percent deduction from the monthly invoice for non-compliance with the standard.

4.2.2.7 NRC Furnished Material and Equipment:

None.

4.2.2.8 Additional Guidance and/or References:

None.

4.2.3 Task 1c: Incorporation of the Effects of PWSCC Mitigation

4.2.3.1 REQUIREMENT:

The contractor shall perform evaluations that accurately determine the effect of PWSCC mitigation techniques such as mechanical stress improvement (MSI), inlays, overlays, and onlays on the WRS profiles for all nozzle configurations evaluated on Tasks 1a and 1b.

4.2.3.2 STANDARD:

The DMW PWSCC mitigation evaluations shall be 3-D to properly assess the WRS and shall be applicable to repairs on both the inside and outside surfaces of the nozzles.

4.2.3.3 Quality assurance surveillance plans:

One hundred percent inspection.

4.2.3.4 Performance Incentives when appropriate:

One percent deduction from the monthly invoice for non-compliance with the standard.

4.2.3.5 Deliverables:

The contractor shall deliver the computer codes, including compiled versions, if applicable, for the 3-D DMW PWSCC mitigation evaluations.

The contractor shall deliver a final technical letter report for 24 months after the award date. The report shall describe the work performed in each task, results and conclusions. The source codes for the models and all associated QA, QC and CM documentation shall be provided to the NRC CO and PO in electronic formats determined during discussions between the CO, PO and the Contractor.

Due Date: Twenty-four months following the contract award date.

4.2.3.6 Acceptance Criteria:

No more than one instance of not meeting the standard.

4.2.3.7 NRC Furnished Material and Equipment:

None.

4.2.3.8 Additional Guidance and/or References:

The size of the repair welds evaluated will be determined through discussions with the NRC technical point of contact.

4.3 Task 1d: Crack Growth and Surface Crack Stability Analyses

4.3.1 REQUIREMENTS:

The contractor shall perform crack growth and surface crack stability evaluations that use accurate crack driving force solutions. The evaluations shall apply to the pressurizer nozzle geometries analyzed in Task 1a.

4.3.2 STANDARD:

The evaluations shall predict the natural growth of cracks based on the variability of the driving force along the crack front and the stability of the crack with respect to pipe rupture.

4.3.3 Quality assurance surveillance plans:

One hundred percent inspection.

4.3.4 Performance Incentives when appropriate:

One percent deduction from the monthly invoice for non-compliance with the standard.

4.3.5 Deliverables:

Crack growth and surface crack stability evaluations and the associated computational tools.

The contractor shall deliver a final technical letter report for 24 months after the award date. The report shall describe the work performed in each task, results and conclusions. The source codes for the models and all associated QA, QC and CM documentation shall be provided to the NRC CO and PO in electronic formats determined during discussions between the CO, PO and the Contractor.

Due Date: Twenty-four months following contract award.

4.3.6 Acceptance Criteria:

No more than one instance of not meeting the standard.

4.3.7 NRC Furnished Material and Equipment:

None.

4.3.8 Additional Guidance and/or References:

Accurate crack driving force (K_I, J_I) solutions are needed to predict the crack growth behavior and the stability of surface cracks in the DMWs of interest. In particular, the evolution of the crack shape during crack growth is not "ideal" such as those often represented by typical crack shapes (e.g., semi-elliptical, semi-circular, straight-sided through-wall), so evaluations that predict a more "natural" crack shape during crack growth are needed. The natural growth behavior as a surface crack transitions into a through-wall crack shall be investigated.

4.4 Task 1e: PWSCC Crack Morphology Measurements

4.4.1 REQUIREMENTS:

The contractor shall (a) measure metallographic parameters that include the crack surface roughness, the crack path length, and the number of turns the crack takes over its length and (b) compare and contrast the projected leak rates for PWSCC cracks between the SQUIRT and AREVA leak rate code named KRAKFLO.

4.4.2 STANDARD:

The crack morphology measurements shall be expressed as statistical distributions.

4.4.3 Quality assurance surveillance plans:

One hundred percent inspection.

4.4.4 Performance Incentives when appropriate:

One percent deduction from the monthly invoice for non-compliance with the standard.

4.4.5 Deliverables:

The contractor shall deliver crack morphology parameter measurements and the associated statistics (i.e., mean, standard deviation, distribution) of the crack surface roughness, the crack path length, and the number of turns the crack takes over its length. All of the measurements made to develop the distributions shall be provided in EXCEL format.

The contractor shall deliver high quality copies of photographs (digital) of the crack profiles used to make the crack morphology measurements.

The contractor shall deliver a final technical letter report for 30 months after the award date. The report shall describe the work performed in each task, results and conclusions.

Due Date: Thirty months after contract award date.

4.4.6 Acceptance Criteria:

No more than one instance of not meeting the standard.

4.4.7 NRC Furnished Material and Equipment:

The NRC will provide the contractor with currently available metallographic specimens of the DMW cracks removed from service. The sample specimens will include those already removed from service and those acquired during the period of performance of this contract so that the PWSCC crack morphology parameters can be measured.

4.4.8 Additional Guidance and/or References:

The Seepage Quantification In Reactor Tubes (SQUIRT) code is currently used to predict the leak rate of through-wall cracks initiated as a result of PWSCC.

4.5 Task 1f: Materials Testing

4.5.1 REQUIREMENTS:

The contractor shall develop test data on alloys 52/152, 82/182, 600 and 690 materials.

4.5.2 STANDARD:

The contractor shall perform testing to develop fracture toughness data (i.e. J vs Δa curves), tensile properties and cyclic stress-strain properties for these materials as a function of temperature up to and including normal operating temperatures seen by these materials in service.

The Contractor shall perform testing at the following three temperatures: 70°F, 550°F and 600°F.

4.5.3 Quality assurance surveillance plans:

One hundred percent inspection.

4.5.4 Performance Incentives when appropriate:

One percent deduction from the monthly invoice for non-compliance with the standard.

4.5.5 Deliverables:

a. Digital raw data files for all test specimens.

b. J versus Δ a data developed from the raw data for fracture toughness testing.

c. Polynomial fitting parameters for each J versus Δ a curve.

d. Stress versus strain curve data for tensile testing.

e. Digital images of the cyclic curves for cyclic testing.

f. Cyclic stress versus strain curves.

The contractor shall deliver a final technical letter report for 30 months after the award date. The report shall describe the work performed in each task, results and conclusions.

Due Date: Thirty months following the contract award date.

4.5.6 Acceptance Criteria:

No more than one instance of not meeting the standard.

4.5.7 NRC Furnished Material and Equipment:

The materials that are actually tested under this task will depend on their availability. The contractor shall assess the availability of the materials needed to perform the tests. If the contractor cannot locate and obtain the materials, the NRC staff will assist the contractor by identifying material available from past NRC sponsored research and make those materials available to the contractor.

4.5.8 Additional Guidance and/or References:

None.

4.6 Task 1g: Technical Assistance

4.6.1 REQUIREMENTS:

The contractor shall provide technical assistance to the NRC staff on an as-requested basis through knowledge transfer of existing evaluations dealing with DMW WRS, crack stability, crack growth, leakage through cracks, and material properties and developing appropriate values, including both fixed and mean, standard deviation and normal distributions for probabilistic fracture mechanics evaluations of a PWR pressurizer surge DMW. Assistance may be in the form of meetings, conferences and analyses as the needs arise, including travel (as stated in 6.0 Meetings and Travel).

4.6.2 STANDARD:

a. Biweekly phone progress reports with the NRC Project Officer for approximately one-hour in duration throughout the period of performance. The frequency and duration of the phone progress reports will be adjusted according to the needs of the program to ensure progress is maintained.
b. Periodic phone meetings with the xLPR Project Models Task Group on an as-need basis, but two per month may be used for planning purposes.
c. xLPR Project Task Group meetings.
d. ASME Boiler and Pressure Vessel Code meetings.
e. ASME conferences.
f. Reviewing pertinent industry reports related to weld residual stresses
g. Advisory Committee for Reactor Safeguards (ACRS)/NRC meetings - provide technical expertise to the NRC as necessary

h. Provide technical assistance on other issues related to the probabilistic fracture mechanics of piping systems.

4.6.3 Quality assurance surveillance plans:

One hundred percent inspection.

4.6.4 Performance Incentives when appropriate:

One percent deduction from the monthly invoice for non-compliance with the standard.

4.6.5 Deliverables:

Deliverables will be determined based on the needs that arise, but will most likely consist of reporting results in the MLSR.

4.6.6 Acceptance Criteria:

No more than one instance of not meeting the standard.

4.6.7 NRC Furnished Material and Equipment:

None.

4.6.8 Additional Guidance and/or References:

See Meetings and Travel section for details.

5.0 DELIVERABLES SCHEDULE

Draft and Final dates for deliverables are expressed in calendar days measured from day of contract award. In addition to the applicable requirements, the Contractor shall provide the following deliverables and reports. Note that all data and results achieved are subject to NRC approval and are owned by the NRC.

Deliverable	Due Date
Kick-off Meeting	10 days after award
WRS Codes for DMWs	18 months after award
Codes for Weld Repair Evaluations	18 months after award
Final Technical Letter Report for Task 1a and 1b	18 months after award
Models of the Effects of PWSCC Mitigation Techniques	24 months after award
Crack Growth and Surface Crack Stability Models	24 months after award
Final Technical Letter Report	24 months after award
PWSCC Crack Morphology Measurements	30 months after award
Digital Pictures of Crack Profiles	30 months after award
Materials Testing Data: -Digital raw data files for all test specimens. -J versus Δ a data developed from the raw data for	30 months after award

fracture toughness testing. -Polynomial fitting parameters for each J versus Δ a curve. -Stress versus strain curve data for tensile testing. -Digital images of the cyclic curves for cyclic testing. - Cyclic stress versus strain curves.	
Final Technical Letter Report	30 months after award
Progress Review Teleconference	Biweekly
xLPR Project Models Task Group Meetings	Biweekly
Monthly Status Reports	15th of each month

6.0 MEETINGS AND TRAVEL

Projected Trips:

Three domestic trips for two personnel each shall be included for participation in xLPR Computational Task Group meetings. The trips shall be planned for four days each, including travel time to U.S. destinations.

Twelve trips for one personnel each shall be planned to attend ASME Code Week meetings. ASME Code Weeks are typically in February, May, August and November of each year. Foreign locations for ASME meetings, if any, are not known at this time. Trips shall be planned for four days each including travel time.

Two trips for two personnel each shall be planned for project-related meetings at NRC Headquarters in Rockville, MD. The trips shall be planned for one day each, including travel time.

Two trips for one person each shall be planned to attend the annual ASME PVP conferences over the duration of the project. PVP conferences are typically in July each year. Foreign locations for the PVP conference, if any, are not known at this time. The trips shall be planned for four days each, including travel time.