U.S. NUCLEAR REGULATORY COMMISSION
NOTICE OF GRANT/ASSISTANCE AWARD

1. GRANT/AGREEMENT NO.	2. MODIFICATION NO.	3. PERIOD OFPERFORMANCE	4. AUTHORITY
NRC-04-07-073		FROM: Block 18 TO: One Year	Pursuant to Section 31a and 141b of the Atomic Energy Act of 1954, as amended

5. TYPE OF AWARD

- [ ] GRANT
- [x] COOPERATIVE AGREEMENT

6. ORGANIZATION TYPE

Non-Profit

7. RECIPIENT NAME AND ADDRESS

ASME STANDARDS TECHNOLOGY LLC

THREE PARK AVE

NEW YORK NY 100165990

8. PROJECT TITLE:

PROBABILISTIC RISK ASSESSMENT TRAINING

9. PROJECT WILL BE CONDUCTED

PER GOVERNMENT'S/RECIPIENT'S PROPOSAL(S) DATED 11-09-2006

AND APPENDIX A-PROJECT GRANT PROVISIONS

10. TECHNICAL REPORTS ARE REQUIRED

- [ ] PROGRESS AND FINAL
- [x] FINAL ONLY
- [ ] OTHER (Conference Proceedings)

11. PRINCIPAL INVESTIGATOR(S) NAME AND ADDRESS

ASME Standards Technology, LLC
Attn: Jim Ramirez, 917-882-6219
Three Park Avenue
New York, NY 10016

12. NRC PROGRAM OFFICE (NAME & ADDRESS)

U.S. Nuclear Regulatory Commission
Attn: Asimios Malliakos, 301-415-6458
Mail Stop: T-10-E-50
11545 Rockville Pike
Rockville, MD
20852

13. ACCOUNTING & APPROPRIATION DATA

APPN. NO:	31X0200.760
B&R NO:	76015111123
JOB CODE:	G6361
BOC NO:	4110
OFFICE ID NO:	04

14. METHOD OF PAYMENT

- [ ] ADVANCE BY TREASURY CHECK
- [ ] REIMBURSEMENT BY TREASURY CHECK
- [ ] LETTER OF CREDIT
- [x] OTHER (SPECIFY) Payment by EFT-CCR (See Attach. 30 in Appendix A - "Electronic Payment")

15. NRC OBLIGATION FUNDS

THIS ACTION	$125,000.00
PREVIOUS OBLIGATION	
TOTAL	$125,000.00

16. TOTAL FUNDING AGREEMENT

NRC	$125,000.00
RECIPIENT	
TOTAL	$125,000.00

This action provides funds for Fiscal Year 2007 in the amount of $125,000.00

17. NRC ISSUING OFFICE (NAME AND ADDRESS)

U.S. Nuclear Regulatory Commission
Div. of Contracts
Attn: Mandy Mauer, 301-415-0030
Mail Stop T-7-I-2
Washington, DC 20555

18. RECIPIENT

X Mr Weis 3/15/07
(Signature) (Date)

NAME (TYPED) Michael Weis

TITLE Treasurer

TELEPHONE NO.

19. NRC CONTRACTING OFFICER

Neha Dhir 3/8/2007
(Signature) (Date)

NAME (TYPED) Neha Dhir

TITLE Contracting Officer

TELEPHONE NO. 301-415-6594

20. PAYMENT INFORMATION

Payment will be made within thirty (30) days after receipt of the billing unless the bill is improper or the recipient has failed to comply with the program objectives, award conditions, Federal reporting requirements or other conditions specified in OMB Circular A-110.

Payment will be made by:

U.S. Nuclear Regulatory Commission
Payment Team, Mail Stop T-9-H-4
Attn: (NRC-04-07-102)

Washington DC 20555

Vouchers should be submitted in an original and three (3) copies on form 270 to:

U.S. Nuclear Regulatory Commission
Division of Contracts, Mail Stop T-7-I-2
Attn: (NRC-04-07-102)
11545 Rockville Pike
Rockville, MD 20852

21. Attached is a copy of the "NRC General Provisions for Grants and Cooperative Agreements Awarded to Institutions of Higher Education and Other Nonprofit Organizations". Acceptance of these terms and conditions is acknowledged when Federal funds are used on this project.

22. ORDER OF PRECEDENCE

In the event of a conflict between the recipient's proposal and this award, the terms of the Award shall prevail.

23. By this award, the Recipient certifies that payment of any audit-related debt will not reduce the level of performance of any Federal Program

TEMPLATE - ADM001 SUNSI REVIEW COMPLETE ADM002

NRC-04-07-073

NRC GENERAL PROVISIONS FOR GRANTS AND COOPERATIVE AGREEMENTS AWARDED TO INSTITUTIONS OF HIGHER EDUCATION AND OTHER NONPROFIT ORGANIZATIONS

This award is subject to the following provisions:

1. General

a. This award is composed of an award face page (which may incorporate the recipient's proposal by reference) and the NRC General Provisions for Grants and Cooperative Agreements Awarded to Institutions of Higher Education and Other Nonprofit Organizations.

b. This award constitutes acceptance by the U.S. Nuclear Regulatory Commission (NRC) of the recipient's proposal and budget unless otherwise indicated on the face page.

c. The recipient is obligated to conduct such project oversight as may be appropriate, to manage the funds with prudence, and to comply with the provisions outlined herein. Within this framework, the Principal Investigator (PI) named on the award face page is responsible for the scientific or technical direction of the project and for preparation of the project performance reports.

d. This award is funded on a cost reimbursement basis not to exceed the amount awarded as indicated on the face page and is subject to a refund of unexpended funds to NRC.

e. This award is subject to the policies prescribed in OMB Circular A-110, dated November 29, 1993, as amended.

2. Reporting Program Technical Performance

Recipients are responsible for the performance under grants and other agreements and, where appropriate, ensure that time schedules are being met, projected work units by time periods are being accomplished, and other performance goals are being achieved.

a. Frequency of Performance Reports

Performance reports will be submitted in letter format within 30 calendar days after the end of every second calendar quarter and a final report no later than the expiration date of the award period indicated on the face page.

b. Copies of Performance Reports

One copy of the letter report shall be submitted to the Division of Contracts and Property Management, three copies to the NRC Program Office (at the address indicated on the face page).

c. Content of Performance Report

The report content shall be as follows:

(1) A comparison of actual accomplishments with the goals established for the period, the findings of the investigator, or both. If the output of programs or projects can be readily quantified, such quantitative data should be related to cost data for computation of unit costs.

(2) Reasons why established goals were not met.

(3) Other pertinent information including, when appropriate, analysis and explanation of anticipated cost overruns or high unit costs.

(4) Between the required performance reporting dates, events may occur that have significant impact upon the project or program. In such instances, the recipient shall inform the Nuclear Regulatory Commission as soon as the following types of conditions become known:

(a) Problems, delays, or adverse conditions that will materially affect the ability to attain program objectives, prevent the meeting of time schedules and goals, or preclude the attainment of project work units by established time periods. This disclosure shall be accompanied by a statement of the action taken, or contemplated, and any Federal assistance needed to resolve the situation.

(b) Favorable developments or events that enable time schedules to be met sooner than anticipated or more work units to be produced than originally projected.

(c) If any performance review conducted by the recipient discloses the need for change in the budget estimates in accordance with the criteria established in Circular A-110, the recipient shall submit a request for budget revision.

d. Publication of Results

The general conditions of the assistance instrument will specify the publications requirements of the award and a provision for the granting to the Government a royalty free, nonexclusive, irrevocable license to reproduce, translate, publish, use and dispose of all copyrightable material first produced or composed in the recipient's performance under the grant or cooperative agreement.

Recipients may be required to produce reports to be published by NRC in accordance with the provisions of NRC Handbook 3.8 and NRC Manual Chapter 3206 or be given the option of publication in a recognized technical journal.

Each journal article submission must be accompanied by the following statement:

The submitted manuscript has been authored by a recipient of the U.S. Government under Award No. NRC-04-07-073 Accordingly, the U.S. Government has a nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or allow others to do so, for U.S. Government purposes.

All open literature publications prepared under this award shall contain the following statement:

This paper was prepared with the support of the U.S. Nuclear Regulatory Commission (NRC) under Award No. NRC-04-07-073 The opinions, findings, conclusions and recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the NRC.

If requested by the journal or other publisher to transfer the copyright, the author shall respond to the journal or other publisher, in writing, in accordance with the sample letter shown below:

Sample Letter on Copyright Agreement

Dear _____:

We recently received a document for signature assigning copyright and republication rights in the submitted article (title) to (name or publication). This letter is offered in lieu of the document as a means of completing the transfer of ownership. Accordingly, we hereby expressly transfer and assign our rights of ownership in the above cited work to (name of publisher).

You are advised, however, that the above assignment and any publication or republication of the above cited work is subject to the following Government rights:

The submitted manuscript has been authored by a contractor (recipient) of the U.S. Government under contract (award) No. _____. Accordingly, the U.S. Government has a nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or allow others to do so, for U.S. Government purposes.

Sincerely,

_____

e. Reprints of Publications

At such time as any article resulting from work under the award is published in a scientific technical or professional journal or publication, two reprints of the publication should be sent to the cognizant NRC Program Officer clearly labeled with the award number and other appropriate identifying information.

3. Suspension or Termination for Cause

a. When in the opinion of NRC, a recipient has materially failed to comply with the terms and conditions of an award, NRC may (1) suspend the award or (2) terminate the award for cause.

b. NRC prefers that deficiencies be corrected whenever practicable. When it is believed that a recipient has failed to comply with one or more of the terms and conditions of an award, the Grants Officer will advise the recipient by letter of the nature of the problem and that failure to correct the deficiency may result in suspension or termination of the award. The recipient will be requested to respond in writing within 30 days of receipt of such letter, describing the action taken or the plan designed to correct the deficiency. Copies of such correspondence will be furnished to the Principal Investigator (PI) and to the NRC Program Officer. If a satisfactory response is not received within 30 days of receipt of such a letter, the Grants Officer may issue a notice suspending authority to further obligate award funds, in whole or in part. The notice of suspension will be sent by certified mail (return receipt requested, to the recipient with a copy to the PI.) The notice will set forth the activities covered by the suspension and its effective date, and the corrective action required by the recipient in order to lift the suspension. However, this policy does not preclude immediate suspension or termination when such action is reasonable under the circumstances and necessary to protect the interests of the Government.

c. If an award is suspended pursuant to this article, no obligations incurred by the recipient during the period of suspension will be allowable under the suspended award other than necessary and proper costs that the recipient could not reasonably avoid during the period of suspension; provided that such costs would otherwise be allowable under the applicable Federal cost principles.

d. The suspension will remain in effect for a maximum of 90 days during which time the recipient will take corrective action to the satisfaction of NRC or give assurances satisfactory to NRC that corrective action will be taken. In that event, the Grants Officer will issue a notification, to the recipient, that the suspension is lifted.

e. In the event the deficiency is not corrected to the satisfaction of NRC, the Grants Officer may issue a notice of termination. The notice will establish the reasons for the action and its effective date.

f. If an award is terminated pursuant to this article, financial obligations incurred by the recipient prior to the effective date of termination shall be allowable to the extent they would have been allowable had the award not been terminated, except that no obligation incurred during the period in which the award was suspended (except those allowed pursuant to c, above) will be allowed. The settlement of termination costs will be in accordance with the applicable Federal cost principles.

g. Within 90 days of the effective date of termination, the recipient will furnish an itemized accounting of funds expended for allowable costs prior to the effective date of termination and the unexpended award balance.

4. Termination for Convenience

a. Circumstances may arise in which either NRC or the recipient wishes to terminate its performance of a project in whole or in part. If both parties agree, the award may be terminated by mutual agreement.

b. If the recipient wishes to terminate the project, it shall advise the NRC Grant Officer, with a copy to the cognizant NRC Program Officer.

c. If NRC wishes to terminate the project, the Grants Officer will advise the recipient with copies to the PI and the cognizant NRC Program Officer.

d. Within 30 days after receipt of a request from either party for termination by mutual agreement, the other party will provide an appropriate written response.

e. In the event of disagreement between the parties, the Grants Officer will make a final decision subject to the review procedures described in the following article entitled Dispute Review Procedure.

f. The recipient shall not incur new obligations for the terminated portion after the effective date, and shall cancel as many outstanding obligations as possible. The Nuclear Regulatory Commission shall allow full credit to the recipient for the Federal share of the noncancellable obligations, properly incurred by the recipient prior to termination.

5. Dispute Review Procedure

a. Any request for review of a notice of termination or other adverse decision should be addressed to the Grants Officer. It must be postmarked no later than 30 days after the postmarked date of such notice.

b. The request for review must contain a full statement of the recipient's position and the pertinent facts and reasons in support of such position.

c. The Grants Officer will promptly acknowledge receipt of the request for review and shall forward it to the Director, Office of Administration, who shall appoint a review committee consisting of a minimum of three persons.

d. Pending resolution of the request for review, the NRC may withhold or defer payments under the award during the review proceedings.

e. The termination review committee will request the Grants Officer who issued the notice of termination to provide copies of all relevant background materials and documents. It may, at its discretion, invite representatives of the recipient and the NRC program office to discuss pertinent issues and to submit such additional information as it deems appropriate. The chairman of the review committee will insure that all review activities or proceedings are adequately documented.

f. Based on its review, the committee will prepare its recommendations to the Director, Office of Administration, who will advise the parties concerned of his/her decision.

6. Travel

Domestic travel is an appropriate charge to this award, and prior authorization for specific trips is not required. Foreign travel must be clearly essential to the award effort and must, to be charged against this award, have prior explicit approval of the Grants Officer regardless of its inclusion in the approved award budget.

All common carrier travel reimbursable hereunder shall be via the least expensive class rates consistent with achieving the objective of the travel. If not available, reimbursement vouchers will be annotated that economy class accommodations were not available. First-class air travel is not authorized.

7. Use of U.S. Flag Carriers

a. The Comptroller General of the United States, by Decision B- 138942 of June 17, 1975, as amended, provided guidelines for implementation of Section 5 of the International Air Transportation Fair Competitive Practices Act of 1974.

b. Any air transportation to, from, between, or within a country other than the U.S. of persons or property, the expense of which will be assisted by NRC funding, must be performed on a U.S. flag carrier if services provided by such carrier is available.

c. For the purposes of this requirement:

(1) Passenger of freight service by a certificated air carrier is considered available even though:

(a) Comparable or a different kind of service by a noncertificated air carrier costs less, or

(b) Service by a noncertificated air carrier can be paid for in excess foreign currency, or

(c) Service by a noncertificated air carrier is preferred by the recipient, contractor, or traveler needing air transportation, or

(d) Service by a noncertificated air carrier is convenient for the recipient, contractor, or traveler needing air transportation.

(2) Passenger service by a certificated air carrier is considered to be unavailable:

(a) When the traveler, while enroute, has to wait 6 hours or more for an available U.S. carrier, or

(b) When any flight by a U.S. flag carrier is interrupted by a stop anticipated to be 6 hours or more for refueling, reloading, repairs, etc., and no other flight by a U.S. air carrier is available during the 6 hour period, or

(c) When the flight by a U.S. air carrier takes 12 or more hours longer than a foreign carrier.

8. Allowable Costs

a. The allowability of costs and cost allocation methods for work performed under this award, up to the amount specified in the award instrument, shall be determined in accordance with the applicable Federal Cost Principles in effect on the effective date of the award and the terms of the award.

b. The Federal Cost Principles applicable to specific types of recipients are as follows:

(1) Institutions of higher education, OMB Circular A-21 is applicable to both public and private institutions of higher education.

(2) Nonprofit Organizations - OMB Circular A-122

9. Retention and Custodial Requirements for Records

Recipients shall retain and permit examination of records as required by OMB Circular A-110. Recipients shall place appropriate requirements on sub-grantees as specified.

10. Payment and Financial Reporting Requirements

Payments by NRC will be made by the method indicated on the face page. Recipient requests for payment, NRC payments, and recipient financial reporting requirements shall be made in accordance with OMB Circular A-110.

11. Property Management Standards

Property shall be accounted for and managed in accordance with OMB Circular A-110.

12. Copyright

Unless otherwise provided in the award instrument, the recipient may copyright any books, publications, films, or other copyrightable materials developed in the course of or under this award. However, any such copyrighted materials shall be subject to a royalty-free, irrevocable, worldwide, nonexclusive license in the United States Government to reproduce, perform, translate, and otherwise use and to authorize others to use such materials for Government purposes.

13. Patent Rights (Small Business Firms or Non-Profit Organizations, July, 1981)

a. Definitions

(1) Invention means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code (USC).

(2) Subject Invention means any invention of the recipient conceived or first actually reduced to practice in the performance of work under this award.

(3) Practical Application means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations, available to the public on reasonable terms.

(4) Made when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(5) Small Business Firm means small business concern as defined at Section 2 of Public law 85-536 (15 USC 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standard for small business concerns involved in Government procurement, contained in 13 CFR 121.3-8, and in subcontracting, contained in 13 CFR 121.3-12, will be used.

(6) Non-Profit Organization means universities and other institutions of higher education of an organization of the type described in Section 501(c)(3) of the Internal Revenue Code of 1954 (26 USC 501a) or any non-profit scientific or educational organization qualified under a state non-profit organization statute.

b. Allocation of Principal Rights

The recipient may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause. With respect to any subject invention in which the recipient retains title, the Federal Government shall have a non-exclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world for which the recipient has elected to retain title.

c. Invention Disclosure Election of Title and Filing of Patent Applications by Recipient

(1) After a subject invention has been disclosed in writing by the inventor(s) to recipient personnel responsible for the administration of patent matters, the recipient will:

(i) Disclose such invention to the Nuclear Regulatory Commission (NRC) within six months;

(ii) Elect whether or not to retain title to any such invention by notifying the NRC within twelve months of disclosure to the recipient;

(iii) File its initial patent application on an elected invention within two years after election; and

(iv) File patent applications in additional countries within either ten months of the corresponding initial patent application, or six months from the date a license is granted by the Commissioner of Patents and Trademarks to file foreign patent applications when such filing was prohibited for security reasons.

(2) Notwithstanding the requirements of subparagraph c(1) above:

(i) Disclosure to the NRC shall be made immediately after recipient personnel responsible for the administration of patent matters become aware of any manuscript describing the invention accepted for publication, or any publication, on sale or public use of such invention; and

(ii) In any case where publication, or sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title and filing of a United States patent application may be shortened by the NRC to a date that is no more than 45 days prior to the end of the statutory period.

(3) Requests for extension of the time for disclosure to the NRC, election and filing, where reasonable, will normally be granted.

(4) The disclosure to the NRC shall be in the form of a written report and shall identify the award under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding of the nature, purpose, operation, and, to the extent known, the physical, chemical, biological or electrical characteristics of the invention. The report shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and accepted at the time of disclosure.

d. Forfeiture of Title

(1) The recipient will convey to the NRC, upon written request, title to any subject invention:

(i) If the recipient fails to disclose or elect the subject invention within the times specified in c above, or elects not to retain title.

(ii) In those countries in which the recipient fails to file patent applications within the times specified in c above; provided, however, that if the recipient has filed a patent application in a country after the times specified in c above but prior to its receipt of the written request of the NRC, the recipient shall continue to retain title in that country; or

(iii) In any country in which the recipient decides not to continue the prosecution of any application for, to pay the maintenance feels on, or defend in a reexamination or opposition proceeding of a patent on a subject invention.

e. Minimum Rights to Recipient

The recipient will retain a non-exclusive, royalty-free license throughout the world in each subject invention to which the Government obtains title except if the recipient fails to disclose the subject invention within the times specified in c above. This license extends to and is revocable and transferable, as specified in Part 5b(2) of Office of Federal Procurement Policy Bulletin 81-22 dated June 30, 1981.

f. Recipient Action to Protect Government's Interest

(1) The recipient agrees to execute or to have executed and promptly deliver to the NRC all instruments necessary to:

(i) Establish or confirm the rights the Government has throughout the world in those subject inventions for which the contractor retains title; and

(ii) Convey title to the NRC when requested under (d) above and to enable the Government to obtain patent protection throughout the world in that subject invention.

(2) The recipient agrees to require, by written agreement, its employees, other than clerical and non-technical employees to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the recipient each subject invention made under this award in order that the recipient can comply with the disclosure provisions of c above and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. The disclosure format should require, as a minimum, the information requested by subparagraph c(4) above. The recipient shall instruct such employees through the employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) The recipient will notify the NRC of any decision not to continue prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of the response period required by the relevant patent office.

(4) The recipient agrees to include, within the specification of any United States patent application and any patent issuing thereon covering a subject invention, the following statement, This invention was made with Government support under (identify the award) awarded by the Nuclear Regulatory Commission. The Government has certain rights in this invention.

g. Subcontracts

(1) The recipient will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work to be performed in the United States by a small business firm or a non-profit organization. The subcontractor will retain all rights provided for the recipient in this clause, and the recipient will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(2) The recipient will include in all other subcontracts, regardless of tier, for experimental, developmental or research work the patent rights clause required by Federal Procurement Regulation 1-9.107-5(a).

h. Reporting on Utilization of Subject Inventions

The recipient agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the recipient or its licenses or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the recipient, and such other data and information as the NRC may reasonably specify. The recipient also agrees to provide additional reports as may be requested by the NRC in connection with any march-in proceeding undertaken by the NRC in accordance with paragraph j of this clause. To the extent data or information supplied under this section is considered by the recipient, its licensee or assignee to be privileged and confidential and is so marked, the NRC agrees that, to the extent permitted by 35 USC 202(c)(5), it will not disclose such information to persons outside the Government.

i. Preference for United States Industry

Notwithstanding any other provision of this clause, the recipient agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the NRC upon a showing by the recipient or its assignee that reasonable but unsuccessful efforts have been made to grant licenses or similar terms to potential licenses that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

j. March-in Rights

The recipient agrees that with respect to any subject invention in which it has acquired title, the NRC has the right in accordance with the procedures in OMB Bulletin 81-22 to require the recipient, an assignee or exclusive licensee of a subject invention to grant a non-exclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the recipient assignee, or exclusive licensee refuses such a request, the NRC has the right to grant such a license itself if the NRC determines that:

(1) Such action is necessary because the recipient or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the recipient, assignee, or their licensees;

(3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the recipient, assignee, or licensees; or

(4) Such action is necessary because the agreement required by paragraph i of this clause has not been obtained or waived or because a licensee or the exclusive right to use or sell any subject invention in the United States is breach of such agreement.

k. Special Provisions for Awards with Non-profit Organizations

If the recipient is a non-profit organization, it agrees that:

(1) Rights to a subject invention in the United States may not be assigned without the approval of the NRC, except where such assignment is made to an organization which has as one of its primary functions the management of inventions and which is not, itself, engaged in or does not hold a substantial interest in other organizations engaged in the manufacture or sale of products or the use of processes that might utilize the

invention or be in competition with embodiments of the invention (provided that such assignee will be subject to the same provisions as the recipient);

(2) The recipient may not grant exclusive licenses under United States patents or patent application in subject inventions to persons other than small business firms for a period in excess of the earlier of:

(i) five years from first commercial sale or use of the invention; or

(ii) eight years from the date of the exclusive license excepting that time before regulatory agencies necessary to obtain premarket clearance, unless on a case-by-case basis, the Federal agency approves a longer exclusive license. If exclusive field of use licenses are granted, commercial sale of use in one field of use will not be deemed commercial sale or use as to other fields of use, and a first commercial sale or use with respect to a product of the invention will not be deemed to end the exclusive period to different subsequent products covered by the invention.

(3) The recipient will share any royalties collected on a subject invention with the inventor; and

(4) The balance of any royalties or income earned by the recipient with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education.

14. Notice and Assistance Regarding Patent and Copyright Infringement

The provisions of this clause shall be applicable only if the amount of this award exceeds $10,000.

a. The recipient shall report to the Grants Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this award of which the recipient has knowledge.

b. In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this award or out of the use of any supplies furnished or work or services performed hereunder, the recipient shall furnish to the Government when requested by the Grants Officer, all evidence and information in possession of the recipient pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the recipient has agreed to indemnify the Government.

c. This clause shall be included in all subcontracts.

15. Reporting of Royalties

If this award is in an amount which exceeds $10,000 and if any royalty payments are directly involved in the award or are reflected in the award price to the Government, the recipient agrees to report in writing to the Patent Counsel, NRC (with notification by Patent Counsel to the Grants Officer) during the performance of this award and prior to its completion or final settlement the amount of any royalties or other payments paid or to be paid by it directly to others in connection with the performance of this award together with the names and addresses of licensors to whom such payments are made and either the patent numbers involved or such other information as will permit the identification of the patents or other basis on which the royalties are to be paid. The approval of NRC of any individual payments or royalties shall not stop the Government at any time from contesting the enforceability, validity or scope of, or title to, any patent under which a royalty or payments are made.

16. Procurement Standards

a. NRC recipients shall follow the requirements of OMB Circular A-110.

b. In addition, unless these provisions provide otherwise, prior written approval shall be obtained from the NRC Grants Officer before:

(1) Any of the research or other substantive project effort is contracted or otherwise transferred.

(2) Contracting for the commercial production or distribution of books, films, or similar materials.

c. NRC approvals will be made by the Grants Officer, who will specify which requirements of this award must be flowed-down to satisfy the purposes of OMB Circular A-110.

d. Recipient requests for approvals shall include an explanation of the need for the contracting, a proposed performance statement, justification for the price or estimated cost (including a detailed budget for cost-reimbursement type arrangements), and the basis for selecting the contractor.

17. Revision of Financial Plans

Award budget activity under this award is subject to the requirements of OMB Circular A-110.

18. Program Income

Program income is subject to the policy prescribed by OMB Circular A-110.

19. Statutory Requirements

a. Civil Rights

This award is subject to Title VI of the Civil Rights Act of 1964 (P.L. 88-352); Title IV, Sex Discrimination, of the Energy Reorganization Act of 1974, and Executive Order 11246, as amended, Parts II, III, and IV (for awards over $10,000 within a twelve month period).

The recipient agrees that no person in the United States shall, on the ground of race, sex, color or national origin, be excluded from participation in , be deprived the benefits of, or be otherwise subjected to discrimination under any program or activity for which the recipient receives financial support from NRC.

b. Nondiscrimination Under Federal Grants and Cooperative Agreements

This award is subject to the provisions of the Rehabilitation Act of 1973, Public Law 93-112. The recipient therefore agrees that, No otherwise qualified handicapped individual in the United States (as defined in Section 7(6) of the Act), shall solely by reason of his/her handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Further, this award is subject to the provisions of the Age Discrimination Act of 1975 (42 U.S.C. 6101). The recipient therefore agrees that no age discrimination will occur under this Federally assisted program.

c. Clean Air - Clean Water

(Applicable only if the award exceeds $100,000, or a facility to be used has been the subject of a conviction under the Clean Air Act (42 U.S.C. 1857c-8(c)(1)) or the Federal Water Pollution Control Act (33 U.S.C. 1319(c)), and is listed by EPA.)

(a) The Recipient agrees as follows:

(1) To comply with all the requirements of section 114 of the Clean Air Act, as amended (42 U.S.C. 1857, et seq., as amended by Public Law 91-604) and section 308 of the Federal Water Pollution Control Act (33 U.S.C. 1251, et seq., as amended by Public Law 92-500), respectively, relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in section 114 and section 308 of the Clean Air Act and the Water Act, respectively, and all regulations and guidelines issued thereunder before the award of this award.

(2) That no portion of the work required by this award will be performed in a facility listed on the Environmental Protection Agency List of Violating Facilities on the date that this award was awarded unless and until the EPA eliminates the name of such facility or facilities from such listing.

(3) To use his/her best efforts to comply with clean air standards and clean water standards at the facility in which the award is being performed.

(4) To insert the substance of the provisions of this clause into any nonexempt subcontract, including this paragraph (a)(4).

(b) The terms used in this clause have the following meanings:

(1) The term Air Act means the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Public Law 91-604).

(2) The term Water Act means the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Public Law 92-500).

(3) The term clean air standards means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted pursuant to the Air Act or Executive Order 11738, an applicable implementation procedure as described in section 110 (d) of the Clean Air Act (42 U.S.C. 1857c-5(d)), an approved implementation procedure or plan under section 111(c) or section 111(d), respectively, of the Air Act (42 U.S.C. 1857c-6(c) or (d)), or an approved implementation procedure under section 112(d) of the Air Act (42 U.S.C. 1857c-7(d)).

(4) The term clean water standards means any enforceable limitation, control, condition, prohibition, standard, or other requirement which is promulgated pursuant to the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. 1342) or by local government to ensure compliance with pretreatment regulations as required by section 307 of the Water Act (33 U.S.C. 1317).

(5) The term compliance means compliance with clean air or water standards. Compliance shall also mean compliance with a schedule or plan ordered or approved by a court of competent jurisdiction, the Environmental Protection Agency or an air or water pollution control agency in accordance with the requirements of the Air Act or Water Act and regulations issued pursuant thereto.

(6) The term facility means any building, plant, installation, structure, mine, vessel or other floating craft, location, or site of operations, owned, leased, or supervised by the recipient or subcontractor, to be utilized in the performance of work under an award or subcontract. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location or site shall be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are collocated in one geographical area.

20. Liability and Losses

NRC assumes no liability with respect to any damages or loss arising out of any activities undertaken by the grant recipient with the financial support of this award.

21. Changes in Principal Investigator or Technical Objectives

a. The recipient shall be permitted to change the methods and procedures employed in performing the research without the need to make special reports on proposed actions or obtain NRC approval. Significant changes in methods or procedures shall be reported to NRC in status reports and final technical reports. However, in the event the methodology or experiment is proposed as a specific stated objective of the research work, it shall not be changed without approval of the Grants Officer.

b. The stated objective of the research effort shall not be changed, except with the approval of the NRC Grants Officer.

c. The phenomenon or phenomena under study, i.e., the broad category of research, shall not be changed except with the prior approval of the NRC Grants Officer.

d. The recipient shall obtain the approval of the NRC Grants Officer to change the principal investigator, or to continue the research work during a continuous period in excess of three months without the participation of an approved principal investigator.

e. The recipient shall consult with the NRC Grants Officer if the principal investigator plans to, or becomes aware that he will, devote substantially less effort to the work than that anticipated in the approved proposal. If NRC determines that the reduction of effort would be so substantial as to impair the successful prosecution of the research, it may request a change of principal investigator or other appropriate modification of the award or may suspend or terminate the award pursuant to clauses 4 and 5 herein entitled, Suspension or Termination for Cause and Termination by Mutual Agreement, respectively.

22. Site Visits

The NRC, through authorized representatives, has the right, at all reasonable times, to make site visits to review project accomplishments and management control systems and to provide such technical assistance as may be required. If any site visit is made by the NRC on the premises of the recipient or a contractor under an award, the recipient shall provide and shall require his/her contractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representatives in the performance of their duties. All site visits and evaluations shall be performed in such a manner as will not unduly delay the work.

23. Title to Equipment

Unless otherwise specified in the award instrument, title to equipment purchased or fabricated with NRC funds by a college or university, other nonprofit organization, or a unit of State or local Government shall vest in the recipient institution, with the understanding that such equipment (or a suitable replacement obtained as a trade in) will remain in use for the specific project for which it was obtained.

24. Organizational Prior Approval System

a. In order to carry out its responsibilities for monitoring project performance and for adhering to award terms and conditions, each performing organization shall have a system to ensure that appropriate authorized officials provide necessary organizational reviews and approvals in advance of any action that would result in either the performance or modification of an NRC-supported activity where such approvals are required by the award instrument, including the obligation or expenditure of funds where the governing cost principles either prescribe conditions or require approvals.

b. The organization shall designate an appropriate official or officials to review and approve the types of actions described in a, above. Preferably, the official(s) should be the same official(s) who sign(s) or countersign(s) those types of requests that require submission to and approval by NRC. The designated

official(s) shall not be the principal investigator or any official having direct responsibility for the actual conduct of the project, or a subordinate of such individual.

25. Retention and Custodial Requirements for Records

a. Financial records, supporting documents, statistical records, and other records pertinent to this award shall be retained by the recipient for a period of 3 years from submission of the Final Report in accordance with OMB Circular A-110.

(1) Records that relate to audits, appeals, litigation, or the settlement of claims arising out of the performance of the project shall be retained until such audits, appeals, litigation, or claims have been disposed of, but in any event not less than 3 years after final report submission.

(2) Records relating to projects subject to special project team provisions shall be retained until 3 years from the end of the recipient's fiscal year in which the award instrument requirement for reporting income expires.

b. The NRC and Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any pertinent books, documents, papers, and records of the recipient organization, and of the performing organization, if different, to make audits, examinations, excerpts and transcripts. Further, any contract in excess of $10,000, made by the recipient shall include a provision to the effect that the recipient, NRC, the Comptroller General, or any of their duly authorized representatives, shall have access to pertinent records for similar purposes.

26. Standards for Financial Management Systems

NRC recipients shall have financial management systems that meet the requirements to OMB Circular A-110.

27. Audits

NRC recipients shall be audited in accordance with OMB Circular A-133 which supersedes Attachment F, subparagraph 2h. of OMB Circular A-110.

A.1 52.203-11 CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (SEP 2005)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of this contract;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer, and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

A.2 52.203-12 LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (SEP 2005)

(a) Definitions.

"Agency," as used in this clause, means executive agency as defined in 2.101.

"Covered Federal action," as used in this clause, means any of the following Federal actions:

(1) The awarding of any Federal contract.

(2) The making of any Federal grant.

(3) The making of any Federal loan.

(4) The entering into of any cooperative agreement.

(5) The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

"Indian tribe" and "tribal organization," as used in this clause, have the meaning provided in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) and include Alaskan Natives.

"Influencing or attempting to influence," as used in this clause, means making, with the intent to influence, any communication to or appearance before an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government," as used in this clause, means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government.

"Officer or employee of an agency," as used in this clause, includes the following individuals who are employed by an agency:

(1) An individual who is appointed to a position in the Government under title 5, United States Code, including a position under a temporary appointment.

(2) A member of the uniformed services, as defined in subsection 101(3), title 37, United States Code.

(3) A special Government employee, as defined in section 202, title 18, United States Code.

(4) An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, title 5, United States Code, appendix 2.

"Person," as used in this clause, means an individual corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit, or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable compensation," as used in this clause, means with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable payment," as used in this clause, means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient," as used in this clause, includes the Contractor and all subcontractors. This term excludes an Indian tribe, tribal organization, or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly employed," as used in this clause, means, with respect to an officer or employee of a person requesting or receiving a Federal contract, an officer or employee who is employed by such person for at least 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than 130 working days within 1 year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for 130 working days.

"State," as used in this clause, means a State of the United States, the District of Columbia, or an outlying area of the United States, an agency or instrumentality of a State, and multi-State, regional, or interstate entity having governmental duties and powers.

(b) Prohibitions.

(1) Section 1352 of title 31, United States Code, among other things, prohibits a recipient of a Federal contract, grant, loan, or cooperative agreement from using appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(2) The Act also requires Contractors to furnish a disclosure if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

(3) The prohibitions of the Act do not apply under the following conditions:

(i) Agency and legislative liaison by own employees.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action if the payment is for agency and legislative liaison activities not directly related to a covered Federal action.

(B) For purposes of subdivision (b)(3)(i)(A) of this clause, providing any information specifically requested by an agency or Congress is permitted at any time.

(C) The following agency and legislative liaison activities are permitted at any time where they are not related to a specific solicitation for any covered Federal action:

(1) Discussing with an agency the qualities and characteristics (including individual demonstrations) of the person's products or services, conditions or terms of sale, and service capabilities.

(2) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(D) The following agency and legislative liaison activities are permitted where they are prior to formal solicitation of any covered Federal action -

(1) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(2) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(3) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Pub. L. 95-507, and subsequent amendments.

(E) Only those agency and legislative liaison activities expressly authorized by paragraph (b)(3)(i) of this clause are permitted under this clause.

(ii) Professional and technical services.

(A) The prohibition on the use of appropriated funds, in subparagraph (b)(1) of this clause, does not apply in the case of -

(1) A payment of reasonable compensation made to an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action, if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action.

(2) Any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action or an extension, continuation, renewal, amendment, or modification of a covered Federal action if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal action or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal action. Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(B) For purposes of subdivision (b)(3)(ii)(A) of this clause, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this section unless they provide advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly or solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(C) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation and any other requirements in the actual award documents.

(D) Only those professional and technical services expressly authorized by paragraph (b)(3)(ii) of this clause are permitted under this clause.

(E) The reporting requirements of FAR 3.803(a) shall not apply with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

(c) Disclosure.

(1) The Contractor who requests or receives from an agency a Federal contract shall file with that agency a disclosure form, OMB standard form LLL, Disclosure of Lobbying Activities, if such person has made or has agreed to make any payment using nonappropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph (b)(1) of this clause, if paid for with appropriated funds.

(2) The Contractor shall file a disclosure form at the end of each calendar quarter in which there occurs any event that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph (c)(1) of this clause. An event that materially affects the accuracy of the information reported includes -

(i) A cumulative increase of $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(ii) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(iii) A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

(3) The Contractor shall require the submittal of a certification, and if required, a disclosure form by any person who requests or received any subcontract exceeding $100,000 under the Federal contract.

(4) All subcontractor disclosure forms (but not certifications) shall be forwarded from tier to tier until received by the prime Contractor. The prime Contractor shall submit all disclosures to the Contracting Officer at the end of the calendar quarter in which the disclosure form is submitted by the subcontractor. Each subcontractor certification shall be retained in the subcontractor file of the awarding Contractor.

(d) Agreement. The Contractor agrees not to make any payment prohibited by this clause.

(e) Penalties.

(1) Any person who makes an expenditure prohibited under paragraph (a) of this clause or who fails to file or amend the disclosure form to be filed or amended by paragraph (b) of this clause shall be subject to civil penalties as provided for by 31 U.S.C. 1352. An imposition of a civil penalty does not prevent the Government from seeking any other remedy that may be applicable.

(2) Contractors may rely without liability on the representation made by their subcontractors in the certification and disclosure form.

(f) Cost allowability. Nothing in this clause makes allowable or reasonable any costs which would otherwise be unallowable or unreasonable. Conversely costs made specifically unallowable by the requirements in this clause will not be made allowable under any other provision.

A.3 52.223-5 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (AUG 2003)

(a) Definitions. As used in this clause--

Priority chemical means a chemical identified by the Interagency Environmental Leadership Workgroup or, alternatively, by an agency pursuant to section 503 of Executive Order 13148 of April 21, 2000, Greening the Government through Leadership in Environmental Management.

Toxic chemical means a chemical or chemical category listed in 40 CFR 372.65.

(b) Executive Order 13148 requires Federal facilities to comply with the provisions of the Emergency Planning and Community Right- to-Know Act of 1986 (EPCRA) (42 U.S.C. 11001-11050) and the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13101-13109).

(c) The Contractor shall provide all information needed by the Federal facility to comply with the following:

(1) The emergency planning reporting requirements of section 302 of EPCRA.

(2) The emergency notice requirements of section 304 of EPCRA.

(3) The list of Material Safety Data Sheets, required by section 311 of EPCRA.

(4) The emergency and hazardous chemical inventory forms of section 312 of EPCRA.

(5) The toxic chemical release inventory of section 313 of EPCRA, which includes the reduction and recycling information required by section 6607 of PPA.

(6) The toxic chemical, priority chemical, and hazardous substance release and use reduction goals of sections 502 and 503 of Executive Order 13148.

A.4 52.223-6 DRUG-FREE WORKPLACE (MAY 2001)

(a) Definitions. As used in this clause,

"Controlled substances" means a controlled substance in schedules I through V of section 202 of the Controlled Substances Act (21 U.S.C. 812) and as further defined in regulation at 21 CFR 1308.11-1308.15.

"Conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violations of the Federal or State criminal drug statutes.

"Criminal drug statute" means a Federal or non-Federal criminal statute involving the manufacture, distribution, dispensing, possession or use of any controlled substance.

"Drug-free workplace" means the site(s) for the performance of work done by the Contractor in connection with a specific contract where employees of the Contractor are prohibited from engaging in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance.

"Employee" means an employee of a Contractor directly engaged in the performance of work under a Government contract. "Directly engaged" is defined to include all direct cost employees and any other Contractor employee who has other than a minimal impact or involvement in contract performance.

"Individual" means an offeror/contractor that has no more than one employee including the offeror/contractor.

(b) The Contractor, if other than an individual, shall--within 30 days after award (unless a longer period is agreed to in writing for contracts of 30 days or more performance duration); or as soon as possible for contracts of less than 30 days performance duration--

(1) Publish a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition;

(2) Establish an ongoing drug-free awareness program to inform such employees about--

(i) The dangers of drug abuse in the workplace;

(ii) The contractor's policy of maintaining a drug-free workplace;

(iii) Any available drug counseling, rehabilitation, and employee assistance programs; and

(iv) The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.

(3) Provide all employees engaged in performance of the contract with a copy of the statement required by subparagraph (b)(1) of this clause;

(4) Notify such employees in writing in the statement required by subparagraph (b)(1) of this clause, that as a condition of continued employment on this contract, the employee will-

(i) Abide by the terms of the statement; and

(ii) Notify the employer in writing of the employee's conviction under a criminal drug statute for a violation occurring in the workplace no later than 5 days after such conviction;

(5) Notify the Contracting Officer in writing within 10 calendar days after receiving notice under subdivision (a)(4)(ii) of this clause, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

(6) Within 30 days after receiving notice under subparagraph (b)(4)(ii) of this provision of a conviction, take one of the following actions with respect to any employee who is convicted of a drug abuse violation occurring in the workplace:

(i) Taking appropriate personnel action against such employee, up to and including termination; or

(ii) Require such employee to satisfactorily participate in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency; and

(7) Make a good faith effort to maintain a drug-free workplace through implementation of subparagraphs (b)(1) through (b)(6) of this clause.

(c) The Contractor, if an individual, agrees by award of the contract or acceptance of a purchase order, not to engage in the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance while performing this contract.

(d) In addition to other remedies available to the Government, the Contractor's failure to comply with the requirements of paragraph (b) and (c) of this clause may, pursuant to FAR 23.506, render the contractor subject to suspension of contract payments, termination of the contract for default, and suspension or debarment.

UNSOLICITED PROPOSAL

NRC Collaborative Agreement Request

Probabilistic Risk Assessment (PRA) Training and Technology Development

Submitted by:

ASME
Three Park Avenue
New York, NY 10016

November 9, 2006

Unsolicited Proposal
Collaborative Agreement Request

Proposal Name: Probabilistic Risk Assessment (PRA) Training and Related Technology Development

Proposal's Leader Name: Jim Ramirez, ASME Standards Technology, LLC

Address: Three Park Avenue, New York, NY 10016

E-Mail: ramirezj@asme.org

Telephone: 917-882-6219

1 Overview

Develop a course that provides Probabilistic Risk Assessment (PRA) Standards training and insights to the engineering management issues encountered at a power plant for this evolving technology. The research related to course development will address application of emerging integrated PRA standards and related risk technologies providing needed insight into preparing coherent plant response models for use in risk applications. This course is intended to assist engineers, project managers, and engineering managers with risk assessment responsibilities at their power plants by providing valuable knowledge on meeting evolving technology related to the standards, what the requirements mean, and how to determine if a requirement is or is not met. This proposed training effort is an intrinsic part of the standards development due to the unique aspect that PRA technology is not fully developed and the standards are not prescriptive and will still require supporting research. Research supporting development of the training course is expected to identify specific needs to be incorporated into future revisions of the standards.

2 Objective

To develop a training course based upon the research into the development of the emerging integrated PRA standards intended to provide a clear understanding of the content and application of the subject standards such that there would be coherence and uniformity in applying the standards by different individuals within a spectrum of stakeholder organizations.

3 Problem Statement and Background

The nuclear industry is poised for the introduction of new, integrated PRA standards. A research effort is needed to develop the necessary understanding of how to apply the new integrated standards when preparing coherent plant response models for use in risk applications by plant personnel. The research will form the basis for developing a training program to help assure that PRA standards are consistently applied by operating plants eliminating the guess-work often found when trying to meet PRA standards for this evolving technology. Since PRA technology is not fully developed, the related standards are not prescriptive and will require supporting research. The training effort is an intrinsic part of standards development since future standards needs will also be identified.

4 Description of Course and Technology Development

4.1 Technical Content

The training course and supporting research will be comprised of several parts including, (a) Explanation of the purpose and philosophy behind the standard, (b) Detailing the overall structure (objectives, HLR, SLR) and the purpose behind the various parts, (c) Provide a clear understanding of the content and application of the standards, i.e., what the requirements mean and how to determine if a requirement is or is not met, complying with the standard and what it means (meeting the standard does not mean everyone has the same answer) (d) Determining if the requirement is significant to the application under consideration, and (e) Stressing the importance of peer review as an essential part of meeting the standard.

Some specific areas to be covered are environmental implications, safety, security, economics, commodity and infrastructure needs, certification, and codes and standards. This course and supporting research will cover nuclear power plants and it will be designed for several days duration. Consideration to residual or add-on courses will be taken into account as other courses can focus on specific areas that would be too complex for a general course. The project deliverables will include the Training presentation and Training manual.

4.2 Level of users

The training material and supporting research information would be developed for different types of users:

- Level 1: Require a passing or high-level knowledge of the standard, i.e., what it takes to demonstrate the standard is met, and what it means to meet the standard (e.g., managers).
- Level 2: Require an interim level knowledge of the standards sufficient to lead a team that relies on team members for detailed expertise.
- Level 3: Require a detailed knowledge of the standard; this person is using the standard to make detailed judgments/decision associated with various applications.

4.3 Target Audience

Engineers, Project managers, and Engineering managers with PRA responsibility for managing, design, and day-to-day power plants operations.

4.4 Additional Information

Annex 1 to this proposal includes a proposed Organizational Chart for the project.

5 Project Management

ASME Standards Technology, LLC (ASME ST-LLC), acting as the Contract and Project Management office for ASME Codes and Standards, will manage the research development project including contracting with the subject matter experts. The resultant training material will be peer reviewed by ASME Nuclear Codes and Standards committees and other industry technical experts. Project deliverables will be turned over to the ASME Continuing Education Institute (CEI) for implementation of the course as a new ASME product. CEI will contract

separately with the course instructor(s). The course will be available in short course and online course formats when appropriate.

The project organization will include a Steering Committee comprised of volunteer leadership representing key stakeholders, including the NRC.

Key ASME staff personnel include:

- ASME ST-LLC: Jim Ramirez
- ASME CEI: Jackie Oppenheim
- ASME Codes & Standards: John Koehr

Brief biographies for the above key personnel are included in Annex 2.

6 Schedule

A 1-year project schedule is proposed for the work, with the intention of making the resultant training available for implementation at the end of calendar year 2007.

7 Budget

A project cost estimate by task is provided in the table below. Additional details are included on the attached SF 424A, Budget Information.

Task/Budget Item	Hours	Rate ($/hr)	Summary Direct Total	G&A	Budget Subtotal	Budget Total
Develop Training Course(s)						$181,260
Technical Lead/Project Engineer	240	$150	$36,000	$5,040	$41,040	
Subject Matter Experts/Course Developers			$51,000	$7,140	$58,140	
Modules 1 thru 6	340	$150				
Course Designer	160	$150	$24,000	$3,360	$27,360	
Subcontractor Travel			$48,000	$6,720	$54,720	
Finalize and Publish Course Manuals						$22,800
Training Manuals			$10,000	$1,400	$11,400	
Electronic Courses			$10,000	$1,400	$11,400	
Peer review materials						$17,817
Committee stipends			$12,000	$1,680	$13,680	
Teleconferences			$3,629	$508	$4,137	
Promotional activities			$10,000	$1,400	$11,400	$11,400
Project Management						$66,723
Staff labor					$39,997	
Admin	35	$51.7	$1,810	$0		
Sr. Engineering Administrator	54	$71.31	$3,851	$0		
Manager	210	$105.79	$22,216	$0		
Director	90	$134.67	$12,120	$0		
Staff travel			$14,400	$2,016	$16,416	
Meeting expenses			$2,400	$336	$2,736	
Teleconferences			$6,644	$930	$7,574	
TOTAL Budget				$31,930	$300,000	$300,000

8 ASME Qualifications

ASME is uniquely qualified to perform this work scope due to its 125-years of experience in promoting the art, science, and practice of mechanical engineering and allied sciences. Throughout its history ASME has established strong collaborative relationships with academia, industry and government and helped promote advancements and commercialization of new technology. ASME brings with it a proud heritage of integrity, engineering excellence, international prestige, and a strong commitment to technology. ASME's membership, technical divisions, and standards committees contain a diverse group of technical experts spanning the globe and serving many industries.

The American Society of Mechanical Engineers is a not-for-profit professional organization promoting the art, science and practice of mechanical and multidisciplinary engineering and allied sciences. ASME develops codes and standards that enhance public safety, and provides lifelong learning and technical exchange opportunities benefiting the engineering and technology community. ASME's 100,000 individual members are organized internationally into geographic and student membership sections. ASME conducts one of the world's largest technical publishing operations, holds numerous technical conferences worldwide, and offers hundreds of professional development courses each year. ASME publishes and accredits users of internationally recognized industrial and manufacturing codes and standards that enhance public welfare and safety. ASME's codes and standards organization maintains approximately 600 consensus standards with over 100 ASME standards committees formed from over 3,600 volunteer committee members. ASME standards address pressure technology, nuclear, safety, standardization, and performance test codes. Visit www.asme.org for more information.

ASME's Continuing Education Institute (CEI) develops and offers various training courses for engineering professionals and is recognized as a leader in training for the mechanical engineering community. ASME CEI specialist courses are tailored to the needs of industry professionals, combine academic rigor with applications to real-world situations, and cover a wide range of relevant technical topics. Offerings include Short Courses, In-Company Training Courses, and Distance Learning Courses. ASME CEI also offers International Training Courses through various global partnership. ASME CEI materials are compliant with International Association for Continuing Education Training (IACET) and are eligible for Continuing Education Units (CEUs). Visit http://www.asme.org/Education/Courses/ for more information.

ASME Standards Technology, LLC (ASME ST-LLC) is a not-for-profit Limited Liability Company, with ASME as the sole member, was formed to carry out work related to newly commercialized technology. The ASME ST-LLC mission includes meeting the needs of industry and government by providing new standards-related products and services, which advance the application of emerging and newly commercialized science and technology and providing the research and technology development needed to establish and maintain the technical relevance of codes and standards. ASME ST-LLC has established competency in facilitation and management of collaborative standards-related research projects involving emerging technology and including academic, industry and government participation. Visit www.stllc.asme.org for more information.

ASME Nuclear Codes and Standards (NCS) are utilized internationally by the commercial nuclear power industry, and the NRC has adopted many of these codes and standards into regulations. ASME NCS volunteer consensus committees have developed five risk-informed inservice inspection (ISI) and repair/replacement Code Cases and seven risk-informed inservice testing (IST) Code Cases.

Risk-Informed ISI Code Cases:

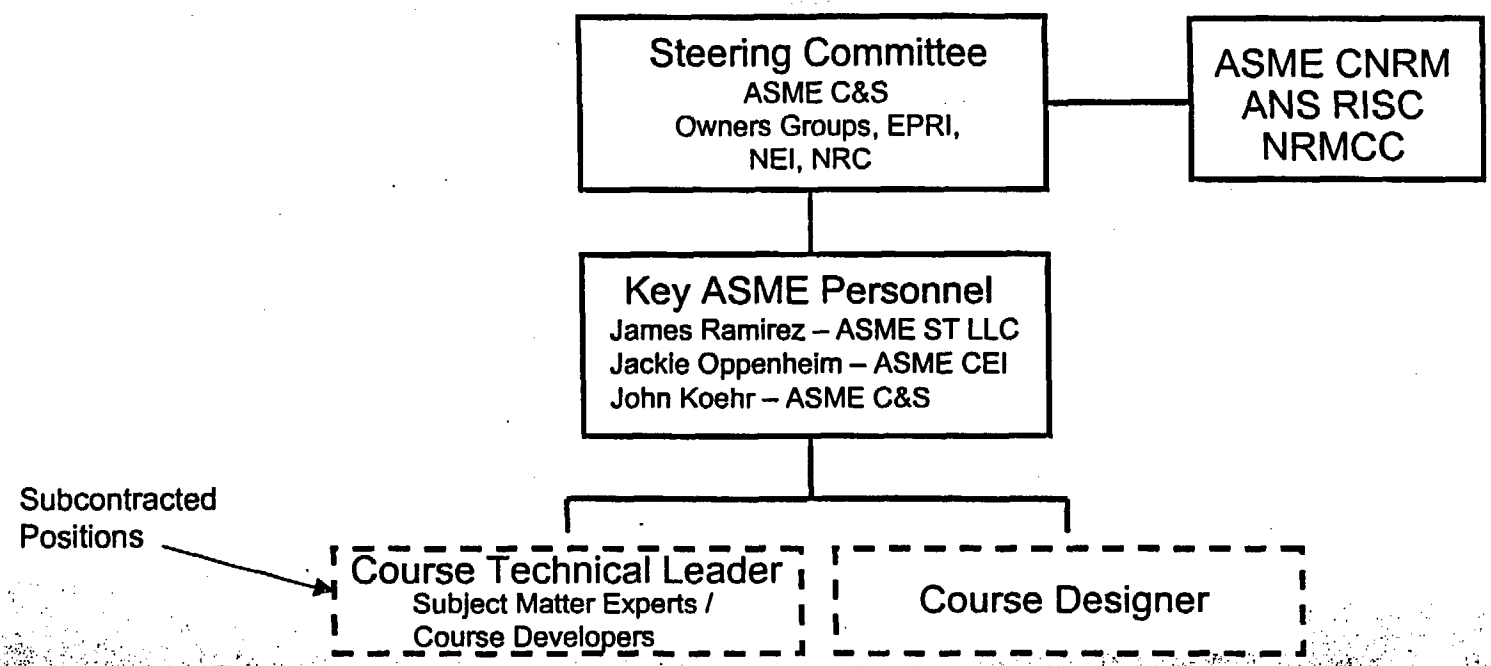
1. Code Case N-560-2, Alternative Examination Requirements for Class 1, Category B-J Welds, Section XI, Division 1
2. Code Case N-577-1, Risk-Informed Requirements for Class 1, 2, and 3 Piping, Method A, Section XI, Division 1
3. Code Case N-578-1, Risk-Informed Requirements for Class 1, 2, and 3 Piping, Method B, Section XI, Division 1
4. Code Case N-660, Risk-Informed Safety Classification for Use in Risk-Informed Repair/Replacement Activities, Section XI, Division
5. Code Case N-662, Alternative Repair/Replacement Requirements for Items Classified in Accordance With Risk-Informed Processes, Section XI, Division 1

Risk-Informed ISI Code Cases:

1. Code Case OMN-1, Alternate Rules for Preservice and Inservice Testing of Certain Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants
2. Code Case OMN-3, Requirements for Safety Significance Categorization of Components Using Risk Insights for Inservice Testing of LWR Power Plants
3. Code Case OMN-4, Requirements for Risk Insights for Inservice Testing of Check Valves at LWR Power Plants
4. Code Case OMN-7, Requirements for Risk Insights for Inservice Testing of Pumps at LWR Power Plants
5. Code Case OMN-10, Requirements for Safety Significance Categorization of Snubbers Using Risk Insights and Testing Strategies for Inservice Testing of LWR Power Plants, New York (2001)
6. Code Case OMN-11, Risk-Informed Testing for Motor-Operated Valves
7. Code Case OMN-12, Alternate Requirements for Inservice Testing Using Risk Insights for Pneumatically and Hydraulically Operated Valve Assemblies in Light-Water Reactor Power Plants

In 2005 ASME ST-LLC published STP/NU-001, "Risk Initiatives of ASME Nuclear Codes and Standards", which provides an analysis of ASME's five risk-informed ISI and repair/replacement Code Cases and seven risk-informed IST Code Cases and summarizes the historical technical basis for the nuclear power plant risk-informed initiatives, and provides a summary of ASME O&M Committee actions. Visit http://files.asme.org/STLLC//5980.pdf for more information.

PRA Standards Training Course Project Organization



James F. Ramirez
ASME, Manager, Technology Development

James Ramirez is currently the Manager, Technology Development for ASME and he is also the Secretary for ASME Standards Technology, LLC where he develops new business opportunities and manages research projects related to standardization of new technology. He has over 16 years of experience in the multi-discipline engineering including Mechanical, Electrical, Electromechanical, and Manufacturing engineering. His work experience includes:

- Project Manager for the Gen IV Materials Project - $1 MM Project funded by the U.S. Department of Energy
- Project Manager for Non-Destructive testing and Evaluation Methods Project - $500,000. This Cooperative Research Project is a partnership between industry and ASME and it is funded by Lincoln composites, Lincoln NE; TransCanada Ltd., Canada; Digital Wave Corporation, Denver CO, ASME, New York NY; and the National Center for Manufacturing Sciences.
- Project Manager for the ASME Power Plant Construction Course – The course will be solely owned by ASME and will be delivered via the ASME Continuing Education Institute (CEI) in the form of face-to-face training as well as web based.
- Safety integrity level 3 (SIL 3) systems
- Design and manufacturing of pressure vessel devices for commercial, nuclear, petrochemical, and military service applications, electromechanical design and manufacturing, technology transfer (domestic and international), leading new product development with multidiscipline teams, project management, business development, sales, marketing, procurement, contracting, and leading a separate business unit.
- Developed and trained personal on technology transfers in the U.S. and Mexico for Pressure equipment and electromechanical devices.

Just prior to joining ASME in 2005, Mr. Ramirez owned a business. Prior to that, he led a separate business unit for Emerson Electric. The first eight years of his career were spent designing, manufacturing, and managing an engineering group. During this period Mr. Ramirez developed and brought new products to market for ultra pure water systems, chemical applications, offshore products, and water filtration devices.

Education: He received his B.S. in Mechanical Engineering from the New Jersey Institute of Technology and his MBA from Rutgers University.

Jackie Oppenheim
ASME, Director of Continuing Education

- Jackie is responsible for the development, marketing and implementation of all public, onsite and online continuing education training programs for ASME. Prior to ASME Jackie spent fifteen years working in a variety of global publishing, training and information-provider organizations including The Economist, Euromoney Institutional Investor and the Financial Times.

- She has a solid understanding of each facet of a training business. As Chief Operating Officer at New York Institute of Finance, the training arm of the Financial Times, Jackie oversaw course development team, including instructional designers, and was actively involved in the business development, marketing and promotions of the organization.
- Prior to this Jackie ran the Financial Training business in North and Latin Americas for Euromoney Institutional Investor where she was responsible all aspects of the business, from research of markets to training delivery and evaluation.
- Education: Jackie holds Masters in Marketing and eCommerce and UK academic equivalency to a US MBA (comprising studies in Management & Administration and Accounting & Finance)

John J. Koehr, EMCP, PMP
ASME, Director, C&S Technology

John Koehr joined the ASME Codes and Standards (C&S) staff in 2002 and is presently the Director of C&S Technology. John also serves as President of the ASME Standards Technology, LLC, formed by ASME to provide standards-related products and services, which advance the application of emerging and newly commercialized science and technology, and to provide the research and technology development needed to maintain the relevance of codes and standards.

John's professional career includes 20 years of experience in project and engineering management during which he coordinated multi-discipline engineering activities supporting design, analysis, licensing, fabrication, construction and operation of mechanical systems. Immediately prior to joining ASME he managed major projects in the submarine telecommunications cable industry. Prior to that, John spent over eight years in the commercial nuclear power industry and served for five years as a U.S. Navy submarine officer. He has a Bachelor of Science degree in Aerospace Engineering from the U.S. Naval Academy and a Masters Certificate in Project Management from George Washington University. He has been certified by Engineering Management Certification International (EMCI) as an Engineering Management Certification Profession (EMCP). He is also certificated by the Project Management Institute (PMI) as a Project Management Professional (PMP).