



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

February 20, 2002

Advanced Technologies and Laboratories
International, Inc.
ATTN.: Ms. Ray-way Hwang
20010 Century Boulevard, Suite 500
Germantown, Maryland 20874

SUBJECT: TASK ORDER NO. 12 ENTITLED "COURSE TO SUPPORT RISK ANALYSIS
WITH METHODOLOGY OF NUREG 6642" UNDER CONTRACT NO.
NRC-02-00-010

Dear Ms. Hwang:

In accordance with Section G.5(c) entitled "Task Order Award," of the subject contract, this letter definitizes the subject Task Order. This effort shall be performed in accordance with the enclosed Statement of Work .

Task Order No. 12 shall be in effect from February 21, 2002 through October 31, 2002. The total cost ceiling is \$42,936.54, of which the sum of \$39,756.06 represents the reimbursable costs and the sum of \$3,180.48 represents the fixed fee.

This Task Order No. 12 obligates funds in the amount of \$40,000.00.

The obligated amount shall, at no time, exceed the task order ceiling. 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 task order. Any work undertaken by the Contractor in excess of the obligated amount specified above is done so at the Contractor's sole risk.

Accounting data for this task order is as follows:

B&R No.: 25015203234
Job Code No.: J5332
BOC: 252A
APPN No.: 31X0200
FFS No. : 5002R045
Obligated Amount: \$40,000.00

The following individuals are considered essential to the successful performance of the work hereunder: [REDACTED]

The Contractor agrees that such personnel shall not be removed from the effort under the task order without compliance with Contract Clause H.5, Key Personnel.

NRC-02-00-010 - Task Order No. 12

Your contacts during the course of this task are:

Technical Matters: James Smith, Technical Monitor
(301) 415-6459

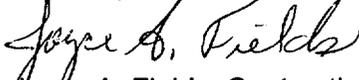
Penelope Kinney, Project Officer
(301) 415-7805

Contractual Matters: Joyce Fields, Contracting Officer
(301) 415-6564

The issuance of this task order does not amend any terms or conditions of the subject contract.

Please indicate your acceptance of this task order by having an official, authorized to bind your organization, execute three (3) copies of this document in the space provided below and return two (2) copies to the U.S. Nuclear Regulatory Commission, ATTN: Ms. Joyce Fields, Division of Contracts and Property Management, T-712, ADM/DCPM/CMB2, Washington, D.C. 20555. You should retain the third copy for your records.

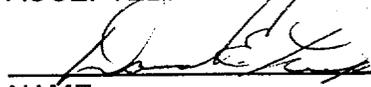
Sincerely,



Joyce A. Fields, Contracting Officer
Contract Management Branch No. 2
Division of Contracts and
Property
Office of Administration

Enclosure:
As stated

ACCEPTED:



NAME

Director of Contracts

TITLE

February 20, 2002

DATE

PROJECT TITLE: Course to Support Risk Analysis with Methodology
of NUREG 6642

JOB CODE NO.: J5332

B&R NUMBER: 25015203234

CONTRACT NO.: NRC-02-00-010

NRC TECHNICAL PROJECT
MANAGER (TPM): James Smith (301) 415-6459

NRC TECHNICAL ASSISTANCE
PROJECT MANAGER (TAPM): Penny Kinney (301) 415-7805

FEE RECOVERABLE: No

BACKGROUND:

In 1997, the staff initiated a process for the development and implementation of a risk analysis methodology appropriate to the systems regulated under 10 CFR Parts 30-36 and 39. Working with a contractor, a risk assessment methodology was developed, implemented, and used to develop options for regulating materials activities. The methodology and its results were reported in NUREG-6642, *Risk Analysis and Evaluation of Regulatory Options for Nuclear Byproduct Material Systems*.

NUREG-6642, *Risk Analysis and Evaluation of Regulatory Options for Nuclear Byproduct Material Systems*, provides a method for ranking byproduct materials systems (similar to the various programs identified in IMC 2800) according to potential risk. The study evaluated various scenarios that might result in unintended doses for workers or members of the public and their respective probabilities of occurrence. The ranking is based on quantitative analysis of eight measures of risk which included factors addressing individual worker dose, normal use versus accident scenarios, and doses that might be received by individual members of the public, among others.

The Task Group working on Phase II of the Mallinckrodt Lessons Learned project evaluated the materials inspection program in light of the results of the Nuclear Materials Risk Review and the Phase I study to determine if programmatic changes were warranted to improve efficiency and effectiveness while maintaining safety. This evaluation included assessment of the Phase I recommendations specific to the materials inspection program; detailed analysis of the Byproduct Materials Risk database; and evaluation of the current program and operational data including inspection scheduling data in the Licensing Tracking System (LTS), historical enforcement data, and event-related data.

NUREG-6642 and its supporting data were reviewed extensively to gain insights on how this information could be used to risk inform the materials inspection program. The ranking of byproduct materials systems provides a framework for ordering, or grouping systems according to potential risk. In a general sense, the ranking can assist in making decisions regarding which systems or programs should receive the greatest inspection attention. The Task Group also determined that additional evaluation of the supporting data could provide insights on specific activities or aspects of a licensee's program that could lead to consequences or doses of interest to NRC. The Task Group anticipated that this evaluation could lead to insights on which aspects of a licensee's program should receive the greatest attention during an inspection.

As a result of the extensive review and use of NUREG-6642 and its supporting data, the Task Group gained insights on how this information could be used to risk inform the materials inspection program. Members of the Risk Task Group, working with the Phase II Task Group, recognized that better acceptance and utilization of NUREG 6642 by NRC staff could be obtained through a training course in the underlying methodologies and information used to populate the Byproduct Material System Risk Assessment Database. Therefore, contractor assistance is required to develop and present this type of training course.

OBJECTIVE

The objective of this task is to develop and teach a course regarding developing risk analysis processes to populate the underlying database and possible uses of the information in regulatory decision making.

WORKSCOPE

The contractor shall develop and present a course using the methodology developed to populate the database that underlies NUREG 6642. The handbook developed under Task Order 11 of this contract should be used as the text for the course. Any relevant examples, such as the risk analyses developed for the staff to address the Petitions for Rulemaking (PRM) 34-5 and PRM 36-1 should also be used.

The course should be designed for senior technical staff and policy makers. The course shall provide the students with a general understanding of the process of developing risk analysis to populate the underlying database of NUREG-6642 and give examples of possible uses of the information in regulatory decision making.

The course shall provide an overview of the risk analysis methodology, methods to define systems and sequences, uncertainty in human performance assessment, and basic utilization of the Byproduct Material System Risk Assessment Database.

The contractor shall provide two training sessions in Headquarters and one in each Region, for a total of six training sessions. The contractor shall provide each participant with a copy of the Handbook and a copy of the Byproduct Material Study database CD.

DELIVERABLES/SCHEDULE

All deliverables with the attached schedule are provided below. Each deliverable shall be submitted to the TPM in a hard copy and in an electronic medium form (Wordperfect or PowerPoint). A copy of the final deliverable shall be provided to the Contracting Officer and to the NMSS TAPM.

- A preliminary draft of the lesson plan for the course. Due two weeks following the effective date of this task order.
- A final lesson plan for the course. Due four weeks following the effective date of this task order.

- A dry run of the course for members of the Risk Task Group. Due ten weeks following the effective date of this task order.
- Six formal sessions of the course, as described above, two at NRC Headquarters and one in each of the NRC Regions. The TPM and contractor will determine together dates for presenting the course.

NRC-FURNISHED MATERIAL

The NRC TPM will furnish the contractor with a copy of NUREG/CR-6642, a copy of the Byproduct Material Study database CD, a copy of the Handbook, and copies of pertinent Commission Papers and other documents to be used as examples, or other documents identified by the contractor.

MEETINGS AND TRAVEL

Meetings between the contractor and the NRC TPM will be conducted at least once a month at NRC Headquarters. Teleconferencing and exchanges of information via the internet will be employed to the maximum extent practicable. The contractor should assume that the course sessions will be offered at NRC Headquarters and each of the four regions. Additionally, the contractor should assume that the portion of the course which addresses employing risk information in making risk informed policy decisions will be covered by an NRC employee accompanying the contractor at the course sessions.

REQUIRED EXPERTISE

The contractor shall have available a health physicist or engineer who is familiar with the methodologies and underlying database for NUREG/CR-6642, the Handbook, and the materials licensees described in the NUREG. Expertise should also be provided in risk assessment, including human factors assessment, sensitivity analyses, and uncertainty analysis.

PERIOD OF PERFORMANCE

The period of performance for the work specified in this SOW shall commence on the effective date of this task order and shall continue until October 2002.

LEVEL OF EFFORT

The estimated level of effort for this contract is 0.2 professional staff years.

FINANCIAL AND TECHNICAL STATUS REPORTS

The contractor shall submit a monthly technical report in accordance with section F.3 - Technical Progress Report and a monthly financial status report each month in accordance with

the requirements specified in Section F.4 - Financial Status Report of the basic contract with distribution to the (1) NMSS TAPM, (2) NMSS/TPM [2 copies], and (3) Contracting Officer.

TECHNICAL/PROJECT DIRECTION

Penny Kinney is the NMSS TAPM and is the focal point for all contract-related activities. All work assignments and program funding are initiated by the NMSS TAPM who submits all requests to the Division of Contracts and Property Management (DCPM) for processing. All proposed work scope or schedule changes must be submitted through the NMSS TAPM for DCPM.

James Smith is designated the NMSS TPM and is responsible for providing technical guidance to the contractor regarding staff interpretations of the technical aspects of regulatory requirements, along with copies of relevant documents when requested by the contractor. All work products must be reviewed and approved by the TPM before they are submitted as final documents. All technical direction given to the contractor must be consistent with the work scope and schedule. The NMSS TPM is not authorized to unilaterally make changes to the approved work scope or schedule, or give the contractor any direction that would increase costs over approved levels. The Contracting Officer is the only individual authorized to make changes to this task.