



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

September 14, 2000

Advanced Technologies and Laboratories  
International, Inc.  
ATTN.: Ms. Ray-way Hwang  
20251 Century Boulevard, Suite 200  
Germantown, Maryland 20874

SUBJECT: TASK ORDER NO. 5 ENTITLED "TECHNICAL ASSISTANCE IN THE  
DEVELOPMENT OF RISK INFORMATION FOR THE REVIEW OF A  
RULE-MAKING PETITION" 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. 5 shall be in effect from September 15, 2000 through October 31, 2000. The total cost ceiling is \$42,515.76, of which the sum of \$40,766.86 represents the reimbursable costs and the sum of \$1,748.90 represents the fixed fee. The following cost ceilings are established for each period specified:

Period	Cost Ceiling	Cost	Fee
9/15/00 - 9/30/00	\$ 28,037.15	\$ 26,883.83	\$ 1,153.32
10/1/00 - 9/30/01	\$ 14,478.61	\$ 13,883.03	\$ 595.58

The Contractor shall not exceed the established cost ceiling, during the specified period, without prior written authorization by the Contracting Officer. Any work undertaken by the Contractor in excess of the cost ceiling specified above, for the associated period, is done so at the Contractor's sole risk.

This Task Order No. 5 obligates funds in the amount of \$42,515.76.

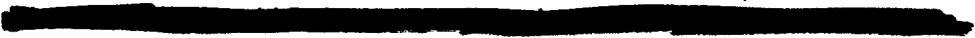
The obligated amount shall, at no time, exceed the task order ceiling. When and if the amount(s) paid and payable to the Contractor hereunder shall equal the obligated amount, the Contractor shall not be obligated to continue performance of the work unless and until the Contracting Officer shall increase 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.

NRC-02-00-010 - Task Order No. 5

Accounting data for this task order is as follows:

B&R No.: 05015203115  
Job Code No.: J5332  
BOC: 253D  
APPN No.: 31X0200  
FFS No. : 5000R135  
Obligated Amount: \$27,000.00

B&R No.: 05015203115  
Job Code No.: J5332  
BOC: 253D  
APPN No.: 31X0200  
FFS No. : 5000R146  
Obligated Amount: \$15,515.76

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

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.

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

NRC-02-00-010 - Task Order No. 5

of Contracts and Property Management, T-712, ADM/DCPM/CMB2, Washington, D.C. 20555.  
You should retain the third copy for your records.

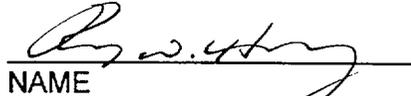
Sincerely,



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

Enclosure:  
As stated

ACCEPTED:

  
NAME

Chief Financial Officer  
TITLE

September 14, 2000  
DATE

PROJECT TITLE: Technical Assistance in the Development of Risk Information for the Review of a Rulemaking Petition  
JOB CODE NO.: J5332  
TASK ORDER NO.: TBD  
B&R NUMBER: 05015203115  
CONTRACT NO.: NRC-02-00-010  
NRC TECHNICAL  
PROJECT MANAGER: James Smith (301) 415-6459  
NRC TECHNICAL ASSISTANCE  
PROJECT MANAGER: Penny Kinney (301) 415-7805  
FEE RECOVERABLE: No

#### BACKGROUND:

The NRC's current regulations at 10 CFR 36.65(a) and (b) describe how an irradiator must be attended during operations. Both an irradiator operator and an individual trained on how to respond and promptly render or summon assistance are required during operation of the irradiator with an automatic conveyor system; and whenever a product is moved in and out of the radiation room when the irradiator is operated in a batch mode. During static irradiations, a person who has received the training on how to respond to alarms as described in 10 CFR 36.61(d) must be onsite.

On June 25, 1998, the Nuclear Regulatory Commission received a petition for rulemaking from the American Standards Institute N43.10 Committee, PRM-36-1. The petitioner requests that the NRC amend its radiation safety requirements for irradiators to allow the operation of panoramic irradiator facilities without continuous onsite attendance by a qualified operator.

The NRC is responsible for ensuring the protection of the public's health and safety. In the recent past, accidents at panoramic irradiators in other foreign countries are known to have resulted in death or permanent injury. An NRC regulatory action which may reduce regulatory burden, but may result in the permanent injury or the loss of life of an employee or member of the public, would not be acceptable. Therefore, the NRC must obtain technical assistance to determine what risk exists if the petitioner's request is granted.

#### OBJECTIVE

The objective of this task is to obtain a risk analysis of the proposed licensing request of panoramic irradiators to operate without qualified operators on site. Further, in evaluating the petitioner's request, the importance of a qualified on-site operator to the irradiator operation safety shall be analyzed.

#### WORKSCOPE

The contractor shall perform a sensitivity analysis (importance analysis) which specifically models the risk of the petitioner's proposal and compares it to the risk of operating under the current requirements. The risk analysis and information found in NUREG/CR-6642 and the

associated database should be used as a baseline for this analysis to the extent that it is applicable. Uncertainties in the analysis and data should be presented, discussed, and quantified if possible. The consequences to be analyzed include, but may not be limited to, acute exposure resulting in deterministic effects such as death or morbidity, and chronic low level exposures exceeding the regulatory dose limits. As part of this risk assessment, the contractor shall perform a literature search for any accidents worldwide associated with the operation of panoramic irradiators. The contractor shall assess these accidents to determine whether the presence or absence of a qualified operator during all licensed activities was a factor in these events. The contractor should also determine the regulatory requirements for qualified operator presence and enforcement practices in the countries where these events have occurred and assess whether the regulatory regimes contributed to the events.

Upon completion of the risk analysis, the contractor shall document all findings and make recommendations to the NRC Technical Project Manager (TPM) in a report which summarizes the specifics of the analysis conducted with a list of all references used.

#### DELIVERABLES/SCHEDULE

All deliverables with an anticipated schedule are provided below. Each deliverable shall be submitted to the TPM in both hard copy and in an electronic medium form (Wordperfect).

1. A preliminary draft of the Risk Analysis including a complete list of references to data used. Due one month following the effective date of this task order.
2. NRC staff comments regarding the report. Due two weeks after receipt of the preliminary draft.
3. A final draft of the Risk Analysis including a complete list of references to data used. The final draft should incorporate NRC staff comments. Due two weeks following receipt of NRC staff comments on the preliminary draft.
4. A description of international irradiator incidents and their root causes. Due one month following receipt of this contract.

#### NRC-FURNISHED MATERIAL

The NRC TPM will furnish the contractor with a copy of NUREG/CR-6642, the rulemaking petition, and any other documents pertinent to complete this task.

#### MEETINGS AND TRAVEL

Two trips to irradiator facilities are anticipated. For proposal preparation purposes, assume trips for two people for two days to irradiator facilities in Forest, Virginia and Aibonito, Puerto Rico. On one of these trips, the contractor will be accompanied by NRC staff. Meetings between the contractor and the NRC TPM will be conducted at least twice a month at NRC Headquarters. Teleconferencing and exchanges of information via the internet will be employed to the maximum extent practicable.

## REQUIRED EXPERTISE

The contractor shall have available a health physicist or engineer who is familiar with panoramic irradiators sufficient to perform the risk analysis for this task. Expertise should also be provided in risk assessment, including human factors assessment, sensitivity analyses, and uncertainty analysis. Familiarity with NUREG/CR-6642 and the associated database is also required.

## 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 31, 2000.

## LEVEL OF EFFORT

The estimated level of effort for this contract is 0.1 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 Technical Assistance Project Manager (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.