DC D05684



# UNITED STATES NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

MAY 1 7 1996

Athey Consulting Attn: George Athey PO Box 178 Charles Town, WV 25414

Dear Mr. Athey:

Subject: Task Order No. 3 Under Contract No. NRC-26-93-289

In accordance with Section G.5 of the subject contract, entitled "Task Order Procedures," this letter definitizes Task Order No. 3. The effort shall be performed in accordance with the enclosed Statement of Work.

Task Order No. 3 shall be in effect from May 14, 1996, through February 28, 1998, with a total cost ceiling of \$266,745. The amount of \$264,986 represents the total estimated reimbursable costs, and the amount of \$19,759 represents the fixed fee.

The obligated amount of this task order is \$80,000.00.

Accounting data for Task Order No. 3 follows:

B&R No.: 682-15-11-60-35 FIN: E9211 BOC: 252A Appn. No.: 31X0200.682 AEOD Doc. ID: AED93289003 Amount Obligated: \$80,000.00

The following individual is considered to be essential to the successful performance of the work hereunder: George Athey

The contractor agrees that such personnel shall not be removed from the effort under the task order without compliance with contract clause H.1, "Key Personnel."

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

(301) 415-6742

Your contacts during the course of this task order are:

Technical Matters:	Janet Quissell Project Officer (301) 415-6402
Contractual Matters:	Mary Little Contract Specialist

210062 9605210477 960517 PDR CONTR NRC-26-93-289 PDR

Athey Consulting

Please indicate your acceptance of this task order by having an official authorized to bind your organization execute three copies of this document in the space provided, and return two copies to me. You should retain the third copy for your records.

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If you have any questions regarding this task order, please call Mary Little on (301) 415-6742.

Sincerely, Acella

Mary Jo Mattia, Contracting Officer FIP Acquisitions Branch Division of Contracts Office of Administration

Enclosure: As stated

ACCEPTED BY:

Den 7. Ch President 5-17-96 (Name)

(Title)

(Date)

## Statement of Work for Task Order No. 3 - NRC-26-93-289

Upgrades to the Technical Tools and Integration into the Response Computer System (RCS) with Development of Procedures and Training

#### A. Background

The NRC Headquarters Operations Center (HQOC) located on the 4th Floor of Two White Flint North (TWFN) has been occupied since May, 1994. The local area network (LAN) for the HQOC hosts a Windows-based application referred to as the Response Computer System (RCS). This software was written specifically to support the tasks of the Operations Center and provides a unified shell for accessing the computer-based tocls. The next phase of development is to ensure remote access into the RCS with portable computers by the NRC staff at the Regional Incident Response Centers (IRC) and/or at the site of an emergency.

Key components of the RCS are the computer-based technical tools which are used to perform NRC accident assessment. These are stand-alone software packages that must be able to transfer their output files to the RCS and/or transfer input data from the RCS. These technical tools are: the Radiological Assessment System for Consequence Analysis (RASCAL); access software to a commercial weather data provider (such as Accu-Access for Windows); and a digital mapping database, the Geographic Information System (GIS). Currently, all of the technical tools are being updated. A new revision, RASCAL v3.0, is in development, the GIS data base files are being finalized, and a new contract for a commercial weather provider has been awarded. As these software packages are updated, the RCS will need to be revised to accommodate the changes.

The emergency response team members who operate these technical tools in the HQOC and the Regional IRCs must receive either initial training or refresher training each year to maintain the NRC response capability. Training materials, operational procedures and technical instruction are needed that reflect the current features of the RCS.

B. Objective

Task Order No. 3 is to provide a continuation of the technical support needed for the planning, development, upgrading, documentation and training for the technical tools that are components of the RCS.

C. Scope of Work

Task 1: RASCAL v2.1 Maintenance and RASCAL v3.0 Development with RCS Integration

TASK 1a: RASCAL v2.1 Maintenance and RCS Integration

RASCAL v2.1 will be the primary dose assessment tool until v3.0 is available in 1997. The RASCAL v2.1 must be maintained during this period. Maintenance includes: correcting problems, improving interface with RCS and GIS software, and making modifications to improve usability. The specific improvements the contractor shall perform for the user interface with RCS and GIS software include, but are not limited to the following:

- improve the user interface for transferring ST-DOSE results to the GIS.
  - improve the usability of the ST-DOSE "Save Case" screen.
    - add the ability to print all ST-DOSE text reports as one page.
    - improve the link to the RCS Video Display Server; need some way to include the case name on the list of products available for display.
    - investigate the problem of slow printing of RASCAL graphics on the RCS LAN, work with other NRC contractor(s) to identify and implement a solution.
    - make it easier to print graphics in color from the ST-DOSE model.
  - annually evaluate the software's performance based on technical and user requirements, report identified issues and assist with the technical solutions.

Task 1b: RASCAL v3.0 Development

The Contractor shall continue to develop RASCAL v3.0 with other NRC contractors from ORNL and PNL to meet the design specifications for v3.0 as reviewed and approved by the NRC Technical Monitor and the Project Officer. The process of development includes the following:

- refinement of the design specifications.
- revision of ST-DOSE.
  - development of user interface screen prototypes, evaluate with NRC users and revise.
  - define data transfer file formats and file structures.
- develop prototype RASCAL v3.0, test, debug and correct.
  - revise and/or develop FM-DOSE, DECAY, BACKCALC, ST-DOSE UI, and backend processing.

- issue Beta Test RASCAL v3.0, test, evaluate user feedback, clean up code and develop on-line HELP System.
- develop 3 volume documentation, User's Guide, Workbook, and Technical Reference Manual.
- develop user's procedures.
- install and test RASCAL v3.0 on the RCS in the Operations Center.
- Task 2: RCS Upgrades

Task 2a: Remote RCS Upgrades

To enable the NRC response personnel to use the RCS from the site, a remote access feature was designed. Additional work is needed with the NKC Wang federal contractor to provide the remote users with a fully functional and reliable connection to the RCS. The contractor shall perform the following:

- update the remote-node connection software.
- update the software installation package and the written installation procedures.
- develop and/or revise user procedures for Regional Site Team operators of the remote RCS computers.
- work with NRC Wang contractors to improve the usability of the remote RCS by testing the remote RCS under a variety of conditions. Make recommendations to the NRC on ways to improve the remote RCS operations.

Task 2b: RCS upgrades

This task requires the contractor to work with NRC staff and the NRC Wang federal contractor to quarterly evaluate the performance of the RCS software to function as intended, to accept revised software applications, and to assist with development of the necessary specifications for changing the RCS hardware and/or software. Specific user interface upgrades to be written by the contractor involve updating the WordPerfect macros to include the following:

- Change the existing RCS WordPerfect macros and document templates to WordPerfect for Windows v6.1.
- Improve error handling and reporting of the macros.

Develop additional templates and make changes to existing templates as directed.

Task 3: GIS Maintenance and Enhancements

The initial phase of the GIS implementation has been completed. More work is needed in integrating the GIS with the RCS, maintenance of the standard 10- and 50-mile map image files and investigation of new data sources.

The following activities are included:

maintain the 10- and 50-mile radius map image files for each site on the RCS; create new or modify existing images as needed using NRC provided Arc View data or the DeLORME Map Expert product.

improve the GIS interface to RASCAL and RCS; this may involve creation of computer programs under Windows and/or modification of ArcView v2 using the Avenue programming language.

update existing test procedures for GIS whenever changes have been made to the hardware or software that effects GIS operations. This shall include, but not be limited to, upgrades to the workstation hardware, the ArcView software, and the RCS function.

revise existing operating procedures for using the GIS with RASCAL and the RCS as the custom interface software is upgraded

install and test Version 3.0 of the ArcView GIS software when it becomes available from ESRI in the fall of 1996. Installation and testing shall occur within 30 days of NRC receipt of the software upgrade.

evaluate additional tools for improving the usability and functionality of the GIS; reviews will include but not be limited to:

> Data Automation Kit from ESRI, ArcView v3.0, Geographic Calculator and GeoView database engine from BlueMarble

make minor corrections and additions to the GIS database overlays.

evaluate hardware and software and make recommendation for upgrades.

assist NRC staff in developing specifications for the format and content of the next round of CD-ROM disks to be produced by EG&G.

#### Task 4: Weather

A new weather data provider contract has been awarded. It is anticipated that the software used in the RCS to access the on-line weather data will change. Work will be needed to integrate the new access software with the RCS. The contractor shall:

Test and validate any new access software. Contractor shall install the software on an NRC designated test workstation and investigate the following:

complete functionality on the RCS workstation, ability to access OCIMS LAN printers, transfer graphics to the RCS video displays, proper integration of graphics database with RCS.

Provide a report to the NRC on any problems with integrating new software to the RCS.

Work with the Wang federal contractor to integrate new software with the RCS.

Work with weather data provider to set up an automated system for getting weather observations into RASCAL.

Work with weather data provider to customize their user interface to make it easier for NRC personnel to retrieve data in an emergency.

Update RCS weather test and user procedures within one month of receipt of the software.

Task 5: Review Waining Materials and Conduct Training

The contractor shall prepare training materials and instruct the students on the technical tools: RASCAL, AccuWeather, and RCS. The materials shall include as a minimum: viewgraphs, reference handouts, and a course agenda. The courses shall make use of existing user's guides and workbooks and shall emphasize hands-on experience with the tools. The training materials shall be submitted for NRC approval prior to teaching the courses. At NRC Headquarters:

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Quantity	Duration	Audience / Topics
4	2 days	PMT / RASCAL and AccuWeather
2	1 day	Operations Staff/GIS & RCS

At NRC Regional Offices:

Quantity	Duration	Audience / Topic
8 (total includes one four day trip to the four regions each of the two years)	2 day	4 Regions PMT/ RASCAL and Accu-Weather
	l day	4 Regions IRC Staff/ Remote RCS
	1 day	Set-up

At other locations:

Quantity	Duration	Audience / Topics
2	3 days	HSPH course / RASCAL
2	2 days	EMI / RASCAL

Task 6: Provide Technical Support

The contractor shall provide technical support. This support will include, but not be limited to, the following:

- Providing support telephonically to the NRC Headquarters and Regional staff in support of the Operations Center and the Incident Response Centers;
- Providing hands-on support to the NRC Headquarters staff in the event of an emergency or with unanticipated problems regarding the RCS, RASCAL, Weather or the GIS;

Providing technical guidance to other NRC contractors in support of their work related to RCS tools and the Operations Center.

D. Deliverables/Deadlines

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Monthly Written Technical Progress Reports

The contractor shall include in the monthly Technical Progress Report a written summary of the technical support provided, including documentation of any hardware and software changes.

Task 1: RASCAL v2.1 Maintenance and RASCAL v3.0 Deliverables

Task 1a: RASCAL v2.1 Maintenance with RCS Integration and documentation is due September 31, 1996.

Task 1b: RASCAL v3.0 Milestones

August 31, 1996 User Screen Designs Complete
October 31, 1996 Working Prototype
January 31, 1997 Early Beta Test
March 31, 1997 Formal Beta Test
July 31, 1997 RASCAL v3.0 Complete
August 31, 1997 RASCAL v3.0 Documentation Complete

Task 2: RCS Deliverables

Remote RCS corrections are due October 31, 1996. Update WordPerfect macros are due December 31, 1996.

#### Task 3: GIS Deliverables

The 10- and 50-mile map images are due within 2 weeks of a request for update. Images will be installed on the GIS workstation and on the RCS file server.

Documentation, test procedures, and operating procedures due 30 days after changes to the operation of the GIS software are completed.

The upgrades to the RASCAL/GIS interface are due by December 31, 1996.

Task 4: Weather Deliverables

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Install, test, validate, and revise procedures for new access software. Due 30 days after receipt by NRC of software from vendor.

#### Task 5: Training Deliverables

Attendance will be taken and course evaluations conducted. At the completion of each annual cycle a training report will be provided to the NRC Project Officer.

Task 6: Provide Technical Support Deliverables

The technical support will be provided continuously during the task order performance period.

### F. Period of Performance

The period of performance of this task is May 20, 1996 through February 28, 1998.