PDR

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

JAN 0 5 1994

Advanced Systems Technology
ATTN: Ms. Isabel H. Knox
One Securities Centre
3490 Piedmont Road, N.E., Suite 1410
Atlanta, Georgia 30305-1550

Dear Ms Knox:

Subject: Contract NRC-04-91-047, Task Order No. 8, Entitled "Consistency of Regulations with Rev. 10 CFR Part 20"

In accordance with the task order procedures of the subject contract, this letter definitizes Task Order No. 8. This effort shall be performed in accordance with the enclosed Statement of Work and the Contractor's technical proposal dated December 9, 1993 and revised proposal dated December 22, 1993. The effective date of this task order is December 29, 1993. A verbal was given to Ms. Tiffany Bussey, on December 28, 1993, by Jeanne Cucura of my staff to commence work on December 29, 1993.

Task Order No. 8 shall be in effect from December 29, 1993 through December 28, 1994 with a cost ceiling of $112,183.59. The amount of $104,453.99 represents the total estimated reimbursable costs and the amount of $7,729.60 represents the fixed fee.

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 Task Order No. 8 is as follows:

Commitment No.:	RES-C94-319
B&R No.:	4-6019-202400
JOB No.:	L1618
BOC:	255A
APPN No.:	31X0200.460
Obligated Amount:	$112,183.59

The following individuals are considered to be essential to the successful performance of the work hereunder: Donovan Smith, Claude Wiblin, and J Howe.

DF07

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.

Your contacts during the course of this task order are:

Technical Matters: Alan Roecklein
Project Officer
(301) 492-3740

Contractual Matters: Jeanne Cucura
Contract Administrator
(301) 492-8296

The issuance of Task Order No. 8 does not change any terms and conditions of the subject contract.

Please indicate your acceptance of Task Order No. 8 by having an official authorized to bind your organization, execute three copies of this document in the space provided and return two copies to the Contracting Officer. You should retain the third copy for your records.

If you have any questions regarding this matter, please contact Jeanne Cucura, Contract Administrator, on (301) 492-8296.

Sincerely,

Joyce A. Fields

Joyce A. Fields, Contracting Officer
Contract Administration Branch No. 3
Division of Contracts and Property Management
Office of Administration

Enclosure: As stated

cc: U.S. Small Business Administration
1375 Peachtree Street, N.E., 6th Floor
Atlanta, Georgia 30367-8102

ACCEPTED:

_____
NAME

Senior Vice President
TITLE

January 12, 1994
DATE

AST Contract No. 04-91-047
Job Code L1618

STATEMENT OF WORK

TASK ORDER NO. 8

TITLE: Technical Assistance: Consistency of Regulations With Rev. 10 CFR Part 20

1.0 Background

The Nuclear Regulatory Commission published a revision of 10 CFR Part 20, "Standards for Protection Against Radiation," in May 1991. The rule became effective in June 1991, and licensees must comply on or before January 1, 1994. The revision uses the new ICRP principles and dosimetry concepts such as Effective Dose Equivalent (EDE), and establishes limits based upon the sum of doses to organs weighted by health effect probabilities. The former 10 CFR Part 20 used a total body/critical organ concept for dose limiting. All other parts of the Code of Federal Regulations (CFR) reference the units of the former Part 20 for control purposes. Likewise, these other portions of the regulations use the logic of Part 20 in the establishment of their requirements. Thus, the staff believes that there may be potential inconsistencies within the regulations which could be confusing to users. Other portions of the regulations may be inconsistent in terms of the underlying principles or philosophical positions of the rules. Enclosure A reflects an initial staff review for potential inconsistencies.

The purpose of this task order is to procure technical assistance for the task of identifying, qualifying, quantifying, prioritizing and resolving potential inconsistencies between the new 10 CFR Part 20 principles, philosophical positions, units and approach and those used in other parts of the regulations.

2.0 Work Requirements

Enclosure A of this SOW is a listing of candidate inconsistencies between the new 10 CFR Part 20, and other parts of the CFR which have been identified by NRC staff. This list is not necessarily complete, and other candidates have been suggested in response to a request from the EDO to the Offices. Responses to the EDO request are provided in Enclosure B. These potential inconsistencies have not been evaluated in terms of their potential impact, the extent of the inconsistency or the level of effort needed to resolve the issue. It should be noted that some items on the list have been, or are being reviewed by the NRC staff.

The contractor shall:

1. Develop for NRC staff review, a comprehensive list of potential inconsistencies between limits and approach of Part 20 and other

parts of the CFR. This list shall include a clear description of the potential problem and a statement regarding the scope of analysis that the contractor believes is needed in order to resolve the inconsistency. The list shall be prepared showing the contractor's recommendations regarding the importance and priority for each potential inconsistency, and shall specifically identify any potential inconsistencies which might require the immediate attention of the NRC staff.

The NRC staff will review this listing and indicate which items are to be analyzed as follows.

2. The contractor shall characterize each potential inconsistency in detail both qualitatively and quantitatively, and shall identify regulatory or enforcement problems that might result if the inconsistency is not resolved.

3. The contractor shall make recommendations of options to the staff regarding how each inconsistency should be resolved, including pros and cons of each option, and provide an outline for each step of the recommended option.

   The NRC staff will review and comment on these recommendations and indicate which items require further technical assistance.

4. The contractor shall provide technical assistance to the staff on developing necessary documents such as Federal Register Notices, regulatory analysis, regulatory guidance, etc., needed to effect resolution of inconsistencies as directed by the staff.

3.0 Reporting Requirements

Submit monthly letter status reports to the Project Officer. The reports shall include a summary of work performed, tracking of progress, problems encountered and how they are to be resolved, and a detailed summary of costs incurred. The report shall be submitted by the 15th of each month.

4.0 Required Expertise

Technical experts assigned to this task order by the contractor are subject to approval by the NRC Project Officer. The assigned experts should be cognizant of NRC's current policies, regulations and standards regarding protection of workers and members of the general public from the hazards of radiation.

5.0 Deliverables

1. The comprehensive listing and prioritization of potential inconsistencies is due 2 months after initiation of the task order.

2. The characterization report shall be completed within 2 months after receipt of NRC staff comments on the listing.

3. Recommendations on resolution of inconsistencies shall be complete within two months of receipt of NRC comments on the characterization reports.

4. Technical assistance on preparation of documents needed to resolve issues will be provided on a schedule mutually agreed to by AST and the NRC project officer.

6.0 Period of Performance

The period of performance for this Task Order shall be from December 29, 1993 through December 28, 1994.

7.0 Estimated Level of Effort

A maximum of 1000 hours of senior technical staff time and 100 hours of clerical time are expected to be required.

8.0 Project Officer/Technical Monitor

The Project Officer for this Task is Alan K. Roecklein, who may be contacted on (301) 492-3740.

9.0 Travel and Meetings

One initial meeting and subsequent periodic meetings not to exceed three between the contractor and the NRC Project Officer shall be planned to discuss technical or procedural problems and progress.

ENCLOSURE A

CFR Portions Affected by Revision of 10 CFR Part 20

10 CFR Part 19	Staff is working on two actions related to instructions to workers. One relates to the information to be provided to workers (19.12). The second relates to information that would need to be provided to members of the public (19.13). OGC has raised a question regarding possible changes needed for 19.32 and 10 CFR 2.111 regarding discrimination. Present wording may make enforcement of 20.1208 on dose to am embryo/fetus difficult to enforce.
10 CFR Part 20	10 CFR Part 20.1005 allows the use of curies, bequerels or disintegrations per unit of time (i.e., dpm). However, 10 CFR 20.2101 does not allow units of dpm for purposes of recordkeeping. Was this an omission in 20.2101?
10 CFR Part 30	Provisions for exemptions from the regulations. RES currently has an effort underway with ORNL to reevaluate exemptions. Provisions for general license of devices. Although not explicitly stated in the regulations, the basis for decisions on generally licensed devices is believed to have their genesis in acceptable dose values of 500 mrem per year. The revision of Part 20 to 100 mrem per year could be seen as a need for revaluation of these generally licensed devices. Decommissioning funding criteria are currently based upon Appendix C of the old Part 20. The revision created new values for Appendix C, thereby potentially changing the criteria. RES staff are considering amendment of Parts 30, 40, and 70 to append the old Part 20 Appendix C as an interim measure while contractor work to develop a more precise basis for decommissioning financial assurance is developed.
10 CFR Part 32	Provisions of § 32.23 and 32.24 are based upon whole body and organ dose. Revision of Part 20 to The Total Effective Dose Equivalent (TEDE) concept could result in a need to revise criteria. Provisions of 32. 51 that refer to 10% of values of Part 20 are currently being examined.
10 CFR Part 35	Petitioners have identified potential inconsistencies with the criteria for release of patients. RES is currently pursuing rulemaking on this topic.

Recent enforcement activities have highlighted potential interactions between the misadministration levels and public dose limits.

10 CFR Part 20.2101 requires that licensees uses the units of rem, rad and curie...for all records required by this part. Part 35.70(h) requires that records be kept in millirem per hour or disintegrations per minute (dpm) per 100 cm^2.

10 CFR Part 36 — Criteria of 36.23(g) conflict with 20.1902(c). This has been addressed with the Regulatory Guide currently under development, but not in rulemaking.

10 CFR Part 39 — Provisions of 39.63 should be revised to update the reference to 20.205.

10 CFR Part 40 — Provisions for exemptions from the regulations. RES currently has an effort underway with ORNL to reevaluate exemptions.

10 CFR Part 50 — Provisions of Appendix I are based upon whole body and organ dose values. Revision of Part 20 to the TEDE concept results in a need to revaluate the dose basis used in Appendix I. Several regulatory guides, and in particular RG 1.109, also require revision.

Provisions for evaluations of safety related structures (50.65) are based upon a refueling interval, not to exceed 2 years. Potential conflict could result from the periodic (at least annual) review of radiation protection programs required by 20.1101.

Technical specifications for reactors continue to reference the old Part 20 for instantaneous release levels. NRR is examining alternatives for blanket change to specifications.

The General Design Criteria, including GDC 19, should be reviewed to determine if revision is appropriate.

10 CFR Part 60 — General reference to Part 20 should not result in problems. Note that SECY-92-408 would potentially apply Part 20 to accidents.

10 CFR Part 61 — Provisions for protection of the general population in 61.41 are based upon whole body and organ dose. Revision of Part 20 to the TEDE concept would appear to require a reexamination of the appropriate criteria.

Provisions of 61.55 have been questioned in a petition for rulemaking which suggests that intruder dose analysis should be revised since Part 20 dose limits for members of the public were reduced to 100 mrem per year.

10 CFR Part 70 — Criteria for general license are based upon whole body and organ dose. Revision to the TEDE concept would appear to require a reexamination of the criteria, although it does not appear likely that changes would be necessary.

Criteria of 40 CFR 190, which is the EPA generally applicable environmental standards applicable to the fuel cycle, is based upon the whole body and organ dose. Revision to the TEDE concept would appear to require a reexamination of the criteria. It should be noted that EPA has already indicated, in its high level waste standard, that it would revise the criteria to 15 mrem TEDE.

10 CFR Part 72 — Criteria for the controlled area are based upon whole body and organ dose. Revision to the TEDE concept would appear to require a reexamination of the criteria.

10 CFR Part 100 — Criteria for determination of exclusion area are based upon whole body and organ dose. Revision to the TEDE concept would appear to require a reexamination of the criteria.

ENCLOSURE B

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

C: Morris
Roecklein
Trottier
Cool
File (Part 20) #33

October 27, 1993

MEMORANDUM FOR: Bill M. Morris, Director
Division of Regulatory Applications
Office of Nuclear Regulatory Research

FROM: Frank J. Congel, Director
Division of Radiation Safety
and Safeguards
Office of Nuclear Reactor Regulation

SUBJECT: REGULATIONS THAT COULD BE IMPACTED BY REVISION OF 10 CFR PART 20 YT0930227

I am responding to the September 30, 1993, memorandum from Hugh Thompson to Dr. Murley on this subject. That memorandum requested that NRR provide RES with any input regarding the plan to have a contractor perform work concerning this subject and any input concerning the enclosed list of "CFR Portions Affected by Revision of 10 CFR Part 20." Our comments are enclosed.

Ed Butcher/ba

Frank J. Congel, Director
Division of Radiation Safety
and Safeguards
Office of Nuclear Reactor Regulation

Enclosures: As stated

Contact: John Buchanan, NRR
(301) 504-3184

Enclosure

Comments on "CFR Portions Affected by Revision of 10 CFR Part 20," (the enclosure to a memorandum from H. L. Thompson, EDO, to T. E. Murley, et al., dated September 9, 1993).

ITEM:

"10 CFR Part 19 Staff is working on two actions related to instructions to workers. One relates to the information to be provided to workers (19.12). The second relates to information that would need to be provided to members of the public (19.13).

OGC has raised a question regarding possible changes needed for 19.32 and 10 CFR 2.111 regarding discrimination. Present wording may make enforcement of 20.1208 on dose to an embryo/fetus difficult to enforce."

COMMENT: We had not previously been told of, and we are puzzled by, the comment concerning the OGC question regarding possible changes needed for 10 CFR 19.32 and 2.111, and the statement that the present wording could make enforcement difficult. Absent any other information on this OGC question, we do not believe contractor study of this item is needed because:

(1) Action to amend (or delete) these sections has been on the NRC regulatory agenda for some time. See *NRC Regulatory Agenda*, NUREG-0936, Vol. 12, No. 2, page 38, RIN 3150-AD50. See also the July 29, 1993 memorandum from A. T. Gody, NRR, to Bill M. Morris, RES, on the subject, "Semiannual Report to the EDO on the Priorities and Status of Rulemaking:" this memorandum noted that this rulemaking had been started but apparently had been stopped because of higher priority work. The memorandum also requested that RES change the priority on this rulemaking to "high." Also see the memorandum from T. E. Murley to E. S. Beckjord, dated September 7, 1989, on the subject "Amendment or Deletion of 10 CFR 19.32 and 2.111;" this memorandum requested this rulemaking, provided reasons for the request, and enclosed a memorandum from J. Becker, OGC, to J. Lieberman, OE, on the subject, "Enforcement of 10 CFR 19.32," which provided a legal basis for the requested change.

(2) 10 CFR 20.1208, "Dose to an Embryo/Fetus," does not discriminate on the basis of sex and does not require any licensee to discriminate on the basis of sex; to our knowledge, OGC has never before taken a position to the contrary. This requirement is in accordance with "Radiation Protection Guidance to Federal Agencies for Occupational Exposure - Recommendations Approved by the President," 52 FR 2822, January 1, 1987, which includes the following statement:

> The limiting value for the unborn does not create a basis for discrimination, and should be achieved in conformance with the provisions of Title VII of the Civil Rights Act of 1964, as amended, regarding discrimination in employment proctices, including hiring, discharge, compensation, and terms, conditions, or privileges of employment.

In its decision in the case of *UAW vs. Johnson Controls*, the Supreme Court responded in the negative to the question, "May an employer exclude a fertile female employee from certain jobs because of its concern for the health of the fetus a woman might conceive?" The court held that Title VII of the Civil Rights Act of 1964, as amended, forbids sex-specific fetal-protection policies. The majority of the court concluded with a very strong statement: "It is no more appropriate for the courts than it is for individual employers to decide whether a woman's reproductive role is more important to herself and her family than her economic role. Congress has left this choice to the woman as hers to make." Following that Supreme Court decision, OGC concurred in a letter (from B. M. Morris, RES, to W. E. Morgan, The Boeing Company, dated August 8, 1991) that said the position taken in the regulation, and in Regulatory Guide 8.13, are in consort with the decision in Johnson Controls.

The following item should be added to the list:

10 CFR Part 50 — Appendix A, General Design Criteria (GDC) For Nuclear Power Plants, Criterion 19 - Control Room, contains provisions for protection of control room personnel. The dose values are based upon the whole body and organ dose concept. Revision of Part 20 to incorporate the TEDE concept results in a need to reevaluate the dose basis used in GDC 19.

cc: Roecklein
Dragonette
Cool
Morris
File (33) Part

dm

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

OCT 21 1993

MEMORANDUM FOR: Bill M. Morris, Director
Division of Regulatory Application
Office of Nuclear Regulatory Research

FROM: J. Philip Stohr, Director
Division of Radiation Safety and Safeguards

SUBJECT: REGULATIONS THAT COULD BE IMPACTED BY REVISION TO 10 CFR PART 20

This is in response to a memorandum dated September 30, 1993, from Hugh Thompson, Jr., to Stewart Ebneter requesting that Region II provide the Office of Research input on the plan to modify regulations to make them consistent with the revised Part 20. In addition to those items listed in Mr. Thompson's memorandum, we suggest that those regulations outlined in the enclosure to this memorandum also be reviewed for update.

We appreciate the opportunity to provide input to this program and encourage the prompt revision of the regulations to bring them into concert with revised Part 20.

If you have any questions, please give me a call.

J. Philip Stohr

Enclosure:
CFR Potentially Affected by
Revision of 10 CFR Part 20

cc: K. Stablein, DEDS
R. Cooper, RI
W. Axelson, RIII
L. Callan, RIV
R. Scarano, RV

OCT 21 1993

ENCLOSURE

CFR Potentially Affected by Revision of 10 CFR Part 20

10 CFR Part 39	Provisions of 39.63 should be revised to update the reference to 20.205
10 CFR Part 50	The General Design Criteria, including GDC 19, should be reviewed to determine if revision is appropriate.

OCT 15 1993

MEMORANDUM FOR: Eric S. Beckjord, Director
Office of Nuclear Regulatory Research

FROM: Robert M. Bernero, Director
Office of Nuclear Material Safety
and Safeguards

SUBJECT: REGULATIONS THAT COULD BE IMPACTED BY REVISION OF 10 CFR PART 20

As requested by a memorandum dated September 30, 1993, from Hugh L. Thompson, Jr., I have had my staff review your preliminary list of regulations that may be impacted by the revision of 10 CFR Part 20. Enclosed please find a supplemental list of other potential conflicts that may arise after January 1, 1994.

As more inconsistencies or problems arise in our different programs areas, we will provide these to your staff for review by your contractor. Please provide Cynthia Jones of my staff (E-mail CGJ; telephone 504-2629) with a contact name in RES who will be responsible for this project, so that we may continue to assist you in this effort.

Original signed by
Guy A. Arlotto

Robert M. Bernero, Director
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

cc: H. L. Thompson, Jr.

DISTRIBUTION: NMSS 93-498

IMOB r/f	IMNS r/f	NMSS r/f
CMcKenney	EFlack	JCunningham, NRR
RBangart, OSP	CEstep	CPoland
BBurnett	JGreeves	JYoungblood
DCool	Dir. Off. r/f	

OFC	IMOB	E	IMOB	C	IMNS		IMNS		NMSS		NMSS	
NAME	CJones		FCombs		EWBlach		CPapariello		GArlotto		RBernero	
DATE	10/15/		10/15/93		10/15/93		10/15/93		10/11/93		10/ /93	

C = COVER E = COVER & ENCLOSURE N = NO COPY
OFFICIAL RECORD COPY: g:\nms93498.cgj

PART 20 IMPACTS

In addition to the areas identified in Hugh L. Thompson, Jr. memorandum dated September 30, 1993, please add the following:

1. 10 CFR Part 20.2101 requires that licensees uses the units of rem, rad and curie...for all records required by this part. Part 35.70(h) requires that records be kept in millirem per hour or disintegrations per minute (dpm) per 100 cm^2.

2. 10 CFR Part 20.1005 allows the use of curies, bequerels or disintegrations per unit of time (i.e., dpm). However, 10 CFR 20.2101 does not allow units of dpm for purposes of recordkeeping. Was this an omission in 20.2101?

cc: Morris
Cool
Roecklein
Dragonette
File (Part 20)

dm

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION V

1450 MARIA LANE
WALNUT CREEK, CALIFORNIA 94596-5368

OCT 12 1993

MEMORANDUM FOR: Eric S. Beckjord, Director
Office of Nuclear Regulatory Research

FROM: B. H. Faulkenberry, Regional Administrator
Region V

SUBJECT: REGULATIONS THAT COULD BE IMPACTED BY REVISION OF 10 CFR Part 20

This is in response to Hugh Thompson's memorandum of September 30, 1993, on the above subject. That memo asked the regions and program offices to provide input on the above subject to RES.

Region V is in agreement with the proposal outlined in the September 30th memorandum. We have one comment to offer. Under Part 35, the list identifies that recent enforcement activities have highlighted potential interactions between medical misadministration levels and the public dose limits of 10 CFR 20.1301. Region V believes this issue needs to be resolved much sooner than the schedule proposed for the overall study. The interpretation provided by OGC (memorandum Treby to Paperiello dated 8/24/93) could result in numerous cases where licensees could be considered to be in violation of 10 CFR 20.1301(a)(1). The medical community is not aware of the issue and will not be evaluating cases against 10 CFR 20.1301. It is imperative for this issue to be promptly resolved and the NRC's position to be promulgated to the medical community.

B. H. Faulkenberry
Regional Administrator

cc: Regional Administrators RI, RII, RIII, RIV
R. Bernero, NMSS
T. Murley, NRR
J. Lieberman, OE

Morris
cc- Bucklew

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137-5927

OCT 0 1 1993

MEMORANDUM FOR: Hugh L. Thompson, Jr., Deputy Executive Director for Nuclear Materials Safety, Safeguards, and Operations Support

FROM: John B. Martin, Regional Administrator, Region III

SUBJECT: REGULATIONS THAT COULD BE IMPACTED BY REVISION OF 10 CFR PART 20

Region III has reviewed the proposal to have a contractor assist the NRC in assessing the impact of revised 10 CFR Part 20 on existing regulations as outlined in your memorandum of September 30, 1993. These potential conflicts should be evaluated, and given the existing resource constraints, contracting this task outside the NRC would conserve valuable resources. At this time, Region III has no changes or additions to your enclosed list of potential problem areas. Region III will inform the Office of Nuclear Regulatory Research of any conflicts between revised Part 20 and existing regulations that are encountered during inspection activities.

for
John B. Martin
Regional Administrator

cc: J. Taylor, EDO
J. Sniezek, EDO
E. Beckjord, RES