



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

DCD

AUG 18 1999

Sciencetech, Inc.  
ATTN: Douglas Knight  
910 Clopper Road  
Gaithersburg, MD 20878

SUBJECT: TASK ORDER NO. 244 ENTITLED, "TECHNICAL ASSISTANCE IN EVALUATING  
A PROPOSED INCREASE IN THE ALLOWED ULTIMATE HEAT SINK TEMPERATURE  
OF HB ROBINSON, UNIT 2" UNDER NRC-03-95-026

Dear Mr. Knight:

In accordance with the Section G.5, Task Order Procedures, of the subject contract, this letter definitizes Task Order No. 244. This effort shall be performed in accordance with the enclosed Statement of Work.

Task Order No. 244 shall be effective the date of this letter through November 30, 1999. The total cost ceiling is \$23,069.00. The amount of \$21,382.00 represents the reimbursable costs, and the amount of \$1,687.00 represents the fixed fee.

The task order obligates funds in the amount of \$23,069.00. Accounting data for this Task Order is as follows:

B&R No.: 920-15-101-105  
FIN No.: J-2680  
APPN No.: 31X0200.920  
BOC No.: 252A  
NRR95026244  
OBLIGATED AMOUNT: \$23,069.00

The following individual(s) are considered to be essential to the successful performance of the work hereunder:

Mr. Benjamin Gitnick  
Mr. Alan Toblin

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.

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Statement of Work  
TASK ORDER 244

TITLE: Technical Assistance in Evaluating a Proposed Increase in the Allowed Ultimate Heat Sink Temperature H. B. Robinson, Unit 2

NRC PROJECT MANAGER: Lawrence Ruth, NRR/DSSA (301) 415-1211  
E-Mail: lcr@nrc.gov

NRC TECHNICAL MONITOR: James Tatum, NRR/DSSA/SPLB (301) 415-2805  
E-Mail: jet1@nrc.gov

TAC NUMBER: MA5612

PERIOD OF PERFORMANCE: Date of Award through November 30, 1999

BACKGROUND

The ultimate heat sink (UHS) for H. B. Robinson (HBR), Unit 2, is Lake Robinson. During plant operation, the Technical Specifications for HBR require that the lake level be  $\geq 218$  feet mean sea level, and that the lake temperature be  $\leq 95$  °F, in order to assure sufficient cooling capability during postulated plant accident conditions. However, periodically during hot summer months, the lake temperature can exceed 95 °F for short periods of time. In order to better accommodate continued operation of the plant during the summer, Carolina Power and Light Company (CP&L, or the licensee), has proposed a change to the Technical Specification requirements to increase the maximum allowed UHS temperature to 97 °F.

OBJECTIVE

The objective of this task order is to obtain the necessary technical expertise to review the licensee's evaluation supporting the proposed increase in the maximum allowed UHS temperature for HBR in an expedited manner, and to independently assess whether the increase in UHS temperature will have any adverse effects.

TECHNICAL AND OTHER SPECIAL QUALIFICATIONS REQUIRED

The contractor must have in-depth knowledge of pond or reservoir-type UHS design and operating requirements for commercial nuclear power plants, and have considerable knowledge and experience in performing heat transfer analyses associated with the UHS, power plant fluid systems, and related components and structures. The contractor must have considerable knowledge and experience in determining the maximum allowed fluid system temperature that can be tolerated for operation of power plant fluid systems, components, and structures, including the ability to assess the effects of increased fluid temperature on containment performance. The contractor must be familiar with NRC licensing criteria and typical plant design basis requirements. The contractor is preferably someone who has a Ph.D. and is an expert in heat transfer analysis (or related field), and is familiar with standard Westinghouse computer codes for assessing containment performance.



WORK REQUIREMENTS AND SCHEDULE

<u>TASK</u>	<u>COMPLETION SCHEDULE</u>
1. Review the CP&L submittal dated March 26, 1999, review calculations that have been completed in support of the March 26 submittal, focusing primarily on methodology and assumptions, and determine whether additional information or analysis by the licensee is required in order to justify the proposed increase in UHS temperature. Through this review, confirm that the licensee used worst-case conditions and single failure assumptions as appropriate, and identify any significant changes in design-basis assumptions that are less conservative for staff review and consideration. Much of this work will be completed at the site (or other location as designated by CP&L) in order to facilitate access to the licensee's calculations and design information.	August 27, 1999
2. If additional information is required, prepare a request for additional information (RAI), and provide it to the Technical Monitor. Both hard copy and electronic version are required.	September 3, 1999
3. Review the licensee's RAI response (if applicable), and perform independent analysis (as necessary) in order to identify any significant problems that may exist related to the proposed relaxation of UHS temperature requirements.	Within one week after receiving the licensee's RAI response, or by September 17, 1999 (if an RAI was not required).
4. The contractor shall prepare a written Technical Evaluation Report (TER) documenting the results of his/her evaluation, noting any significant non conservative changes in design-basis assumptions or unresolved problems that were encountered during the review. Sufficient information must be included in the TER to allow the Technical Monitor and CP&L to understand what was done during the review, and the basis for the conclusions that were reached.	Within two weeks of completing Task 3.
5. If requested by the NRC staff, the contractor shall attend a meeting in Rockville, MD, to discuss the information contained in the TER and to answer any questions that the NRC staff or CP&L may have.	To be determined based on contractor's availability.

### DELIVERABLES

As discussed in Task 2, a RAI may be required if additional information is needed. As discussed in Task 4, a TER is required upon completion of this review effort. The TER must summarize the results of the review that was performed and conclusions that were reached, specifically identifying any non conservative changes to design-basis assumptions and any significant unresolved problems that were identified. Sufficient information must be included in the TER to allow the Technical Monitor and CP&L to understand what was done during the review, and the basis for the conclusions that were reached.

The assigned contractor shall submit the RAI (if required) and the TER to the NRC Technical Monitor, with a copy to the NRC Project Manager. Both hard copy and electronic version must be provided.

### MEETINGS AND TRAVEL

It is expected that this effort will involve one trip to the H. B. Robinson plant in Hartsville, SC (or other location as designated by CP&L) of up to six days duration, and one trip to the NRC Headquarters in Rockville, MD of one day duration.

### NRC FURNISHED MATERIALS

The licensee's submittal of May 27, 1999, and the licensee's RAI response (as applicable) will be provided by the NRC. Calculations, plant design data, drawings, and any other design and licensing-basis information that is needed for the review will be made available by the licensee.

### OTHER APPLICABLE INFORMATION

The contractor shall keep the NRC Technical Monitor informed of the progress being made on this review and of any problems that are encountered through periodic telephone conversations and/or meetings with the staff.

It is anticipated that upon completion of this effort, the staff may choose to meet with CP&L to discuss the conclusions stated in the contractor's TER. The contractor must be available to discuss the information contained in the TER with the NRC staff and the licensee. This may require that the contractor attend a one-day meeting in Rockville, MD (included in the Meetings and Travel Section, above).

The work specified in this SOW is fee recoverable and should be charged to TAC MA5612.