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SBN-943
T.F. B7.1.3

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. Vincent S. Noonan, Project Director
PWR Project Directorate No. 5

- References: (a) Construction Permits CPPR-135 and CPPR-136,
Dockets Nos. 50-443 and 50-444
- (b) USNRC NUREG-0896, "Safety Evaluation Report
(SER), Related to the Operation of Seabrook
Station, Units 1 and 2," dated March 1983
- (c) "Nuclear Regulatory Commission Policy Statement
on Engineering Expertise on Shift," dated
October 22, 1985

Subject: Shift Technical Advisor (STA); TMI Action Plan Item
I.A.1.1 (SER Outstanding Issue No. 16)

Dear Sir:

In reference (b) NRC staff indicated that their approval of the Seabrook Station Shift Technical Advisor (STA) proposal was pending completion of their review. As noted in our PSAR, Seabrook Station has elected to combine the STA position with either the Shift Superintendent or Unit Shift Supervisor. This provides the on-shift engineering and accident assessment expertise recommended by NUREG-0737, Action Plan Item I.A.1.1. In addition to meeting the Item I.A.1.1 guidelines, we believe that the proposed dual position meets the recommendations and objectives of the Commission's recent Policy Statement on Engineering Expertise on Shift [Reference (c)].

Understanding the benefits of a dual-role position for the STA, Seabrook Station has developed an intensive, stringent and formal educational training program in conjunction with the Memphis State University Center for Nuclear Studies. The program courses, as depicted in Table 1, represent technical degree work in the areas of engineering, mathematics and physical sciences. In addition, the Seabrook STA curriculum included communications, stress management and humanities courses as shown in Table 2. Individuals completing this program hold an accredited degree from the Regents College of the University of the State of New York and/or Memphis State University.

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The Regents College degree represents an accredited curriculum in nuclear technology courses under the degree of Bachelor of Science (B.S.), Liberal Studies. The Memphis State University degree represents an accredited curriculum in nuclear industrial operations under the degree of Bachelor Professional Studies (B.P.S.). Though these degrees are not explicitly titled "engineering", we believe the degrees and course work satisfy the Commission's Policy Statement, under Option 1, Alternative 3.

Table 1 shows that the minimum number of technical courses taken by Seabrook's STA's are as extensive as those taken under a typical engineering or engineering technology curriculum. The Seabrook STA program ensures that an individual has substantial knowledge and understanding of the physical and mathematical sciences and the principles of engineering, as they relate to the operations of a nuclear facility. Moreover, as illustrated in Table 3, Seabrook would typically have at least two individuals per shift who qualify for the dual-role position. This ensures that an adequate number of dual-role licensed staff are available to provide engineering expertise at Seabrook Station when needed.

In summary, we agree with the Commission's desires to have technically qualified persons on shift, and we appreciate the Policy Statement's acknowledgment of programs that meet the intent of their Policy Statement on a "case-by-case" basis. We believe that the Seabrook Station STA Program provides the engineering expertise on shift delineated as Option 1, Alternative 3 of the Policy Statement. It would be appreciated if your staff, in possible conjunction with the Commissioners' Staff, would resolve this Open SER issue, so as not to affect the present course of action taken by the Seabrook Station STA Program. A response to our position would be appreciated by February 28, 1986.

Should you have any questions regarding this matter, please do not hesitate to contact us.

Very truly yours,


George S. Thomas

GST/cjb

Enclosures

cc: Atomic Safety and Licensing Board Service List

TABLE 1

MINIMUM TECHNICAL COURSES TAKEN FOR ACADEMIC CREDIT
BY ALL SEABROOK STA'S

| <u>COURSE TITLE</u> | <u>NUMBER OF CREDITS</u> | <u>COURSE LEVEL (a)</u> |
|--|--------------------------|-------------------------|
| College Algebra | 3 | lower |
| Calculus I | 4 | lower |
| Calculus II | 4 | lower |
| Mathematics Total | 11 | |
| General Physics | 4 | lower |
| General Physics | 4 | lower |
| Nuclear Physics | 3 | upper |
| Reactor Physics | 3 | upper |
| Radiation Biology | 3 | upper |
| Chem. for Reactor Tech. | 3 | lower |
| Thermodynamics | 3 | upper |
| Physical Science Total | 23 | |
| Intro. to Instrumentation | 3 | lower |
| Industrial Materials | 3 | upper |
| Corrosion Chemistry | 3 | upper |
| Nuclear Heat Mechanics | 3 | upper |
| Chemical Thermodynamics | 3 | upper |
| Physics of Fluids | 3 | upper |
| Computer Technology | 3 | upper |
| Advanced Reactor Physics | 3 | upper |
| Stress Mechanics | 3 | upper |
| Electrical Power Systems | 3 | upper |
| Reactor Operation & Licensing | 3 | upper |
| Mitigating Core Damage (b) | 1 | upper |
| Transient & Accident Analysis (b) | 1 | upper |
| U.S. Navy Technical Training Courses (c) | 12 | upper & lower |
| Engineering Science Total | 47 | |
| Overall Total | 81 | |

TABLE 1

(continued)

Footnotes for Table 1

- (a) Upper level courses are designed for degree candidates in the third or fourth year of university work; lower level courses are designed for degree candidates in the first year of university work.
- (b) This course, designed by Westinghouse for PWR plants, was given at Seabrook by Westinghouse instructors. The course is recommended for one credit, upper level, by the American Council on Education. The Seabrook STA's would qualify for this credit toward a four-year, university degree in nuclear technology.
- (c) Except for two Seabrook STA's who have engineering degrees, all other STA's have had technical work in U.S. Navy technical training courses. Memphis State University has granted credit for this technical training. The 12 credits indicated are the minimum number of U.S. Navy technical training credits earned by any of the STA's, other than the two with engineering degrees.

TABLE 2

COURSES IN COMMUNICATIONS, STRESS MANAGEMENT, AND HUMANITIES
TAKEN FOR ACADEMIC CREDIT BY ALL SEABROOK STA'S

| <u>COURSE TITLE</u> | <u>NUMBER OF CREDITS</u> | <u>COURSE LEVEL</u> |
|---------------------------|--------------------------|---------------------|
| Communications | 6 | lower |
| Stress and Human Behavior | 3 | upper |
| Technology and Change | <u>6</u> | upper |
| TOTAL | 15 | |

TABLE 3

SEABROOK STA TRAINED INDIVIDUALS PER SHIFT (d)

| <u>SHIFT</u> | <u>DEGREED^(a) INDIVIDUALS</u> | <u>TOTAL ON SHIFT</u> | <u>% OF SHIFT DEGREED</u> |
|--------------|--|---------------------------|-------------------------------|
| A | 2 | 4 | 50% |
| B | 3 ^(b) | 4 | 75% |
| C | 2 | 5 | 40% |
| D | 2 | 4 | 50% |
| E | 2 ^(b) | 4 | 50% |
| <u>F</u> | <u>3</u> | <u>5</u> | <u>60%</u> |
| TOTALS: 6 | 14 ^(c) | 26 | 54% |

(a) Degree is a Bachelor of Science in Liberal Studies from Regents College of the University of the State of New York.

(b) One (1) individual, in addition to holding the degree noted in (a) above, has a Bachelor of Professional Studies specializing in Nuclear Industry Operations from Memphis State University (i.e., holds two degrees).

(c) Three (3) additional licensed individuals hold a degree from either Regents or MSU, but they are not expected to be used for shift duty, and they have not been taken credit for in this table.

(d) Figures are as of February, 1986.