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Robinson Nuclear Plant
PO Box 790
Hartsville SC 29551

Robinson File No.: 13510
Serial: RNP/94-1978

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United States Nuclear Regulatory Commission
Attention: Document Control Desk
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H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
DOCKET NO. 50-261/LICENSE NO. DPR-23
ADDITIONAL INFORMATION RELATED TO THE JULY 29, 1994, REQUEST FOR
RELIEF FROM REACTOR VESSEL INSPECTION REQUIREMENTS

Gentlemen:

The purpose of this letter is to provide additional information related to our request for relief, dated July 29, 1994, from the American Society of Mechanical Engineers Code schedule requirements for performance of reactor pressure vessel examination categories B-A, B-D, B-F, B-G-1, and B-N-1 at the H. B. Robinson Steam Electric Plant, Unit No. 2. This information was developed as a result of a conference call between Messrs. Jan Kozyra and Richard Weber, Carolina Power & Light Company and Ms. Brenda Mozafari, et al, NRC on December 1, 1994.

Questions regarding this matter may be referred to Mr. K. R. Jury at (803) 857-1363.

Very truly yours,

R. M. Krich
Manager - Regulatory Affairs

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Enclosure

c: Mr. S. D. Ebnetter, Regional Administrator, USNRC; Region II
Ms. B. L. Mozafari, USNRC Project Manager, HBRSEP
Mr. W. T. Orders, USNRC Senior Resident Inspector, HBRSEP

ENCLOSURE
ADDITIONAL INFORMATION REGARDING RELIEF REQUEST SUBMITTED BY
LETTER DATED JULY 29, 1994

The following additional information is provided for clarification of a previously submitted relief request regarding deferral of the third ten year Inservice Inspection interval, first 40 month period reactor vessel examinations to the end of the third ten year interval.

EXAMINATION CATEGORY B-A

Although access is provided for manually scanning the flange surface with the reactor vessel closure head in place for the required 50% of the weld length (see attached sketch of reactor vessel closure head configuration at the stud hole locations), clean up of the typically heavy build up of crud on the flange surface to achieve a suitable scanning surface creates an appreciable amount of contaminated waste in the form of scale and dust. Additionally, the dose rates incurred during the cleaning and scanning operations at the flange are in the range of 150mr/hr to 200mr/hr. Based on the personnel exposures expected for these examinations and cleanup and the fact that these are, at best, partial examinations, performance of these examinations within the 40 month period is of low value and accordingly should be deferred to the end of the current 10 year interval. At that time, 100% coverage for 100% of the weld length will be achieved with the internals removed and scanning will be performed remotely with the reactor vessel tool from the vessel wall.

EXAMINATION CATEGORY B-G-1

The relief requested for stud holes 1 through 25 is being withdrawn since relief is not required provided the conditions regarding detected leakage of borated water discussed in footnote (5) of Table IWB-2500-1 examination category B-G-1 are met. A copy of Table IWB-2500-1 is attached.

EXAMINATION CATEGORY B-D WELDS 29, 31 and 33 (OUTLET NOZZLE TO SHELL WELDS)

EXAMINATION CATEGORY B-D NOZZLE INNER RADII 29, 31 and 33 (OUTLET NOZZLES)

EXAMINATION CATEGORY B-F NOZZLE TO SAFE-END and SAFE-END TO PIPE WELDS (OUTLET NOZZLES)

Extensive examinations of the above listed areas have been previously performed as described below. Welds 29, 31 and 33 and associated Nozzle Inner Radii of welds 29, 31 and 33 were examined from the Nozzle Bores and the Vessel Wall at the end of the first and second ten year intervals (i.e., 1982 and 1990); additionally, the required 40 month examinations were performed on the same welds from the nozzle bores with the internals installed in 1984.

The Examination Category B-F Outlet Nozzle-Safe-End and Safe-End to Pipe welds were examined at the same time as the above listed Nozzle to Shell and Inner Radii.

Note that Carolina Power & Light Company has performed these exams on all six nozzles and safe-ends at the end of each ten year interval from both the nozzle bores and from the vessel wall as applicable.

American Society of Mechanical Engineers (ASME) Code Case N-521, "Alternative Rules for Deferral of Inspections of Nozzle-to-Vessel Welds, Inside Radius Sections, and Nozzle-to-Safe End Welds of a Pressurized Water Reactor (PWR) Vessel," approved by the ASME August 9, 1993, allows deferral of category B-D and B-F examinations under certain conditions, although this Code Case is not yet included in Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability ASME Section XI Division 1, Revision 11." The H. B. Robinson Steam Electric Plant, Unit No. 2 meets the conditions specified in Code Case N-521.

As stated in the July 29, 1994, relief request, we propose to accelerate the 10 year examinations forward in the interval such that examinations are scheduled not to exceed 10 years between examinations (i.e., on or before October 27, 2000). This date is chosen based on the completion date of the 1990 examinations as shown on the attached graph.

Based on the extensive previous examinations, performance of examinations on the outlet nozzles and safe-ends again during refueling outage 16 in April 1995, imposes unnecessary impacts in terms of cost, manpower, radiation exposures, and resources without a compensating increase in the level of quality and safety.

EXAMINATION CATEGORY B-N-1 VESSEL INTERIOR

This relief was requested due to the extremely limited examinations that can be performed on the vessel interior with the lower internals installed, that is, the reactor vessel flange surface and nozzle inner surfaces as access permits. The risk of dropping or losing parts or equipment in the vessel or potentially damaging the internals with the equipment used for this exam outweigh the benefit if the examination is performed.

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Based on the proposed alternatives as stated above, deferring the first 40 month period reactor vessel examinations to the end of the third ten year interval does not decrease the effectiveness of the reactor vessel examination schedule. Additionally, if the above Examination Category items were completed as currently required, the increase in the level of quality and safety achieved would be small in comparison to the burden of cost, manpower, radiation exposures, and resources required to perform the examinations.

TABLE IWB-2500-1 (CONT'D)
EXAMINATION CATEGORIES

| EXAMINATION CATEGORY B-G-1, PRESSURE RETAINING BOLTING, GREATER THAN 2 in. IN DIAMETER | | | | | | | |
|--|---|---------------------------------------|------------------------|---------------------|--|---|--|
| Item No. | Parts Examined ¹ | Examination Requirements/ Fig. No. | Examination Method | Acceptance Standard | Extent and Frequency of Examination | | Deferral of Inspection to End of Interval ⁵ |
| | | | | | 1st Inspection Interval ^{2,3} | Successive Inspection Intervals, 2nd, 3rd, 4th ^{2,3} | |
| B6.10 | Reactor Vessel | * | Surface | * | All bolts, studs, nuts, bushings, threads in flange stud holes | Same as for 1st interval | Not permissible |
| B6.20 | Closure Head Nuts | IWB-2500-12 | Volumetric | IWB-3515 | | | |
| B6.30 | Closure Studs, in place | IWB-2500-12 | Surface and volumetric | IWB-3515 | | | |
| B6.40 | Closure Studs, when removed | IWB-2500-12 | Volumetric | IWB-3515 | | | |
| B6.50 | Threads in Flange | Surfaces | Visual, VT-1 | IWB-3517 | | | |
| B6.60 | Pressurizer | | | | All bolts, studs, nuts, bushings, and flange surfaces | Same as for 1st interval | Not permissible |
| B6.70 | Bolts and Studs | IWB-2500-12 | Volumetric | IWB-3515 | | | |
| B6.80 | Flange Surface, ⁴ when connection disassembled | Surfaces | Visual, VT-1 | IWB-3517 | | | |
| B6.90 | Nuts, Bushings, and Washers | Surfaces | Visual, VT-1 | IWB-3517 | All bolts, studs, nuts, bushings, and flange surfaces | Same as for 1st interval | Not permissible |
| B6.100 | Steam Generators | IWB-2500-12 | Volumetric | IWB-3515 | | | |
| B6.110 | Bolts and Studs | Surfaces | Visual, VT-1 | IWB-3517 | | | |
| B6.120 | Flange Surface, ⁴ when connection disassembled | Surfaces | Visual, VT-1 | IWB-3517 | All bolts, studs, nuts, bushings, and flange surfaces | Same as for 1st interval | Not permissible |
| B6.130 | Heat Exchangers | IWB-2500-12 | Volumetric | IWB-3515 | | | |
| B6.140 | Bolts and Studs | Surfaces | Visual, VT-1 | IWB-3517 | | | |
| | Flange Surface, ⁴ when connection disassembled | Surfaces | Visual, VT-1 | IWB-3517 | | | |
| | Nuts, Bushings, and Washers | Surfaces | Visual, VT-1 | IWB-3517 | | | |

NOTES:

See Notes at end of Examination Category B-G-1.

*In course of preparation.

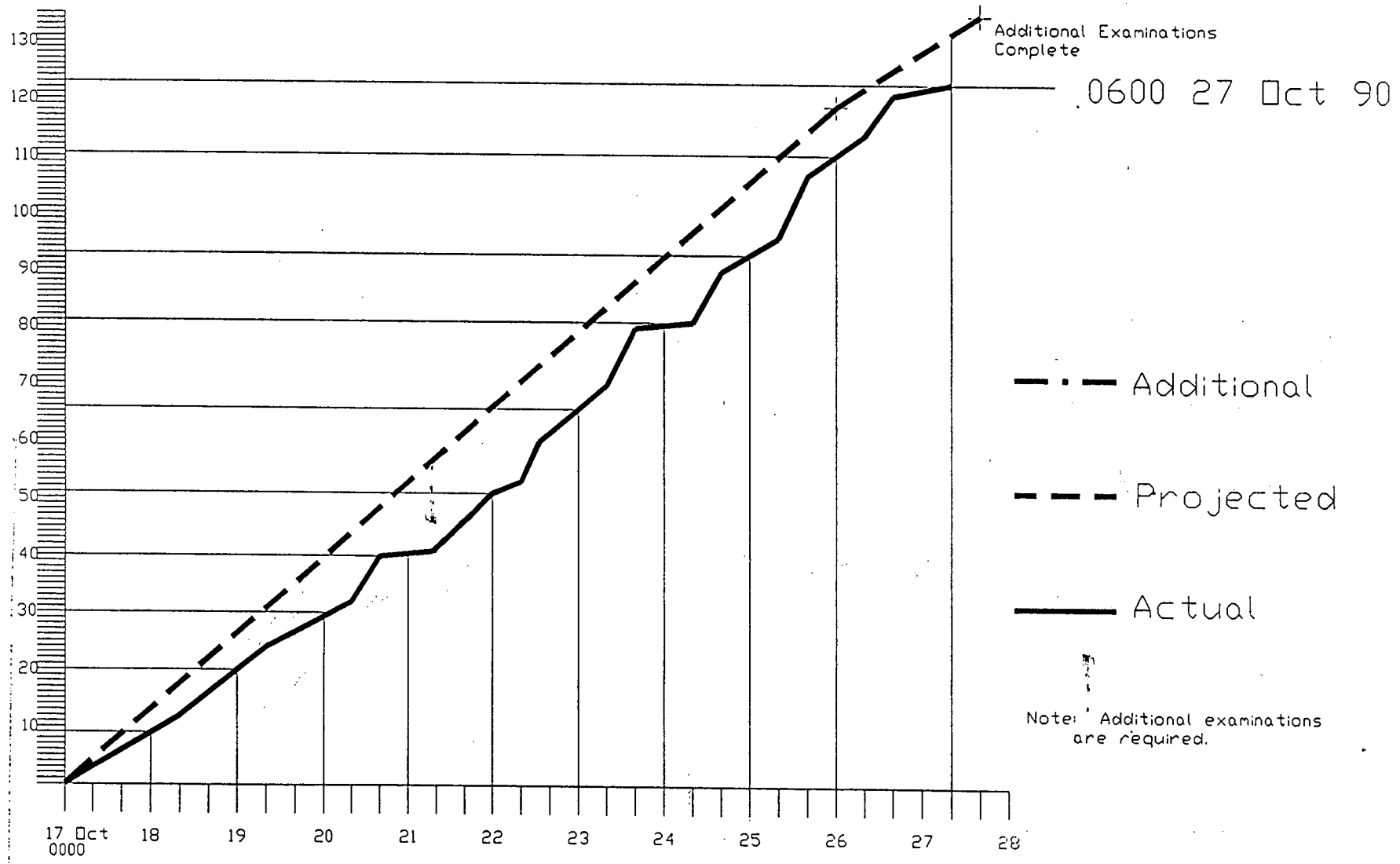
TABLE IWB-2500-1 (CONT'D)
EXAMINATION CATEGORIES

| EXAMINATION CATEGORY B-G-1, PRESSURE RETAINING BOLTING, GREATER THAN 2 in. IN DIAMETER (CONT'D) | | | | | | | |
|---|---|---------------------------------------|----------------------------|----------------------|---|---|--|
| Item No. | Parts Examined ¹ | Examination Requirements/ Fig. No. | Examination Method | Acceptance Standard | Extent and Frequency of Examination | | Deferral of Inspection to End of Interval ⁵ |
| | | | | | 1st Inspection Interval ^{2,3} | Successive Inspection Intervals, 2nd, 3rd, 4th ^{2,3} | |
| B6.150 B6.160 B6.170 | Piping Bolts and Studs Flange Surface, ⁴ when connection disassembled Nuts, Bushings, and Washers | IWB-2500-12 Surfaces | Volumetric Visual, VT-1 | IWB-3515 IWB-3517 | All bolts, studs, nuts, bushings, and flange surfaces | Same as for 1st interval | Not permissible |
| B6.180 B6.190 B6.200 | Pumps Bolts and Studs Flange Surface, ⁴ when connection disassembled Nuts, Bushings, and Washers | IWB-2500-12 Surfaces | Volumetric Visual, VT-1 | IWB-3515 IWB-3517 | | | |
| B6.210 B6.220 B6.230 | Valves Bolts and Studs Flange Surface, ⁴ when connection disassembled Nuts, Bushings, and Washers | IWB-2500-12 Surfaces | Volumetric Visual, VT-1 | IWB-3515 IWB-3517 | | | |

NOTES:

- (1) Bolting may be examined:
 - (a) in place under tension;
 - (b) when the connection is disassembled;
 - (c) when the bolting is removed.
- (2) Bushings and threads in base material of flanges are required to be examined only when the connections are disassembled. Bushings may be inspected in place.
- (3) For heat exchangers, piping, pumps, and valves, examinations are limited to components selected for examination under Examination Categories B-B, B-J, B-L-2, and B-M-2.
- (4) Examination includes 1 in. annular surface of flange surrounding each stud.
- (5) Deferral of the inspection is permissible except when the detected leakage of borated water requires a visual VT-1 in accordance with IWA-5250(a)(2).

HBRobinson RPV Examination Schedule



- . - Additional
 - - - Projected
 - - - Actual

Note: Additional examinations are required.