



71-9300

Big Rock Point Restoration Project
Major Component Removal
10269 US 31 North
Charlevoix, MI 49720-9436
Tel: (231) 547-8357
Fax: (231) 237-2585

Mr. William E. Brach

Your ref:

Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Our ref: BRP-2001-08-293
Date: August 21, 2001
WBS: 1.3.08

Dear Mr. Brach:

Subject: Big Rock Point Restoration Project - 5339 - Appendix 2-1 Pages A2 and A3 of the Big Rock Point Reactor Vessel Package Safety Analysis Report (BRP RVP SAR-5339)

Docket No. 71-9300

Dear Mr. Brach:

Enclosed please find one copy of pages A2 and A3 for BNFL Inc.'s report **Big Rock Point Reactor Vessel Package Safety Analysis Report**, BRP RVP SAR-5339, Appendix 2-1, dated June 19, 2001. These pages were inadvertently omitted from the package transmitted under cover letter BRP-2001-06-213, dated June 19, 2001. These pages were transmitted via FAX to Messrs. Steve O'Conner and Roland Wood of the Nuclear Regulatory Commission on June 26, 2001. Ms Nancy Osgood of your office requested that these pages be formally transmitted to the NRC.

Should you have any questions or comments, please do not hesitate to contact me at 231-547-8228, or Mick Papp at 231-547-8384.

Sincerely,

A handwritten signature in black ink, appearing to read "Patrick T. Daly", with a long, sweeping horizontal line extending to the right.

Mr. Patrick T. Daly, MCR Project Manager
BNFL Inc.

cc: Ms. N. Osgood, USNRC NMSS - Rockville

NH 550/pd/hi

Sargent & Lundy

Calc For Reactor Vessel Transport Cask Stress Analysis	
<input checked="" type="radio"/> Important to Safety Category A	<input type="radio"/> Non-Safety-Related

Calc. No. S-10525-020-012	
Rev. 0	Date:
Page A3	

Client	BNFL, Inc.
Project	Big Rock Point Major Component Removal
Proj. No. 10525-020	Equip. No.

Prepared by: P. H. Hoang	Date
Reviewed by: C. W. Mak	Date
Approved by:	Date

The following mechanical properties are obtained from ASME Code, 1995 Edition, Section II, Part D, Subpart 1, Table 2A and Subpart 2, Table TM-1:

Temperature °F	Modulus of Elasticity, E X10 ⁶ (psi)		Design Stress Intensity, S _m X10 ³ (psi)	
	SA-516 Gr. 70 C-Mn-Si	SA-302 Gr. B Mn-½Mo	SA-516 Gr. 70 C-Mn-Si	SA-302 Gr. B Mn-½Mo
-100	30.2	29.9	--	--
-20	--	--	23.3	26.7
70	29.5	29.2	23.3	26.7
100	29.34*	29.0*	23.3	26.7
200	28.8	28.5	23.1	26.7
300	28.3	28.0	22.5	26.7
400	27.7	27.4	21.7	26.7
500	27.3	27.0	20.5	26.7
600	26.7	26.4	18.7	26.7
650	--	--	18.4	26.7
700	25.5	25.3	18.3	26.7
800	24.2	23.9	--	--
900	22.4	22.2	--	--

* Per Interpolation

Calc For Reactor Vessel Transport Cask Stress Analysis

Calc. No. S-10525-020-012

Rev. 0

Date:

☒ Important to Safety
Category A

☐ Non-Safety-Related

Page A2

Client	BNFL, Inc.
Project	Big Rock Point Major Component Removal
Proj. No. 10525-020	Equip. No.

Prepared by: P. H. Hoang	Date
Reviewed by: C. W. Mak	Date
Approved by:	Date

The following thermal properties are obtained from ASME Code, 1995 Edition, Section II, Part D, Subpart 2, Tables TE-1 and TCD:

Temperature °F	Mean Coefficient of Thermal Expansion, α $\times 10^{-6}$ (in/in/°F)		Nominal Coefficient of Thermal Conductivity, T_c Btu/(hr-ft-°F)	
	SA-516 Gr. 70 C-Mn-Si	SA-302 Gr. B Mn-½Mo	SA-516 Gr. 70 C-Mn-Si	SA-302 Gr. B Mn-½Mo
70	5.42	7.02	23.6	23.3
100	5.53	7.06	23.9	23.6
150	5.71	7.16	24.2	24.1
200	5.89	7.25	24.4	24.4
250	6.09	7.34	24.4	24.6
300	6.26	7.43	24.4	24.7
350	6.43	7.50	24.3	24.7
400	6.61	7.58	24.2	24.6
450	6.77	7.63	23.9	24.4
500	6.91	7.70	23.7	24.2
550	7.06	7.77	23.4	23.9
600	7.17	7.83	23.1	23.5
650	7.30	7.90	22.7	23.2
700	7.41	7.94	22.4	22.8
750	7.50	8.00	22.0	22.4
800	7.59	8.05	21.7	22.0
850	7.9	8.1	21.2	21.6
900	7.9	8.1	20.9	21.2
950	8.0	8.2	20.5	20.8
1000	8.1	8.2	20.0	20.4
1050	8.1	8.3	19.6	19.9
1100	8.2	8.3	19.2	19.5
1150	8.3	8.3	18.7	19.0
1200	8.3	8.4	18.2	18.6
1250	8.4	8.4	17.5	18.1
1300	8.4	8.4	16.7	17.6
1350	--	8.5	15.8	17.0
1400	--	8.5	15.3	16.1
1450	--	8.5	15.1	15.3
1500	--	8.5	15.1	15.5

BNFL, INC.
10269 US 31 NORTH
CHARLEVOIX, MI 49720



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