

# REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8012090295 DOC. DATE: 80/12/01 NOTARIZED: YES DOCKET #  
 FACIL: 50-397 NPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397  
 AUTH. NAME AUTHOR AFFILIATION  
 BOUCHEY, G.D. Washington Public Power Supply System  
 RECIP. NAME RECIPIENT AFFILIATION  
 TEDESCO, R.L. Assistant Director for Licensing

may

SUBJECT: Responds to NRC 801120 & 0819 ltrs re sacrificial shield wall. Forwards info re fire hazard of shielding matl used in repair of wall gaps. Affidavit encl.

DISTRIBUTION CODE: B001S COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 8+33  
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NOTES: PM: 2 copies of all material.

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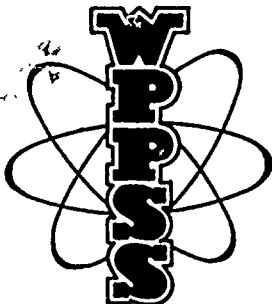
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71

THE  
OFFICE OF THE  
ATTORNEY GENERAL  
STATE OF NEW YORK  
ALBANY

IN SENATE  
JANUARY 10, 1906  
REPORT  
OF THE  
ATTORNEY GENERAL  
IN RESPONSE TO  
A RESOLUTION  
PASSED BY THE SENATE  
MAY 1, 1905  
RELATIVE TO THE  
PROCEEDINGS OF THE  
COMMISSIONERS OF THE  
LAND OFFICE  
IN CONNECTION WITH  
THE SALE OF  
LAND BELONGING TO  
THE STATE

ALBANY:



Washington Public Power Supply System  
A JOINT OPERATING AGENCY

P. O. Box 988

3000 GEO. WASHINGTON WAY

RICHLAND, WASHINGTON 99352

PHONE (509) 375-5000

G02-80-272

December 1, 1980

Docket No. 50-397

U.S. Nuclear Regulatory Commission  
Office of Nuclear Reactor Regulation  
Washington, D. C. 20555

Attention: Mr. R. L. Tedesco  
Assistant Director for Licensing  
Division of Licensing

Gentlemen:

Subject: WPPSS Nuclear Project No. 2  
Flammability Resistance of  
Sacrificial Shield Wall (SSW)  
Shield Material

- Reference: 1) Letter, RL Tedesco (NRC) to RL Ferguson (WPPSS),  
"Staff Evaluation of the Proposed Corrective Weld  
at the 541 Foot Construction Joint of the  
Sacrificial Shield Wall", dated November 20, 1980
- 2) Letter, G02-80-182, DL Renberger (WPPSS) to  
BJ Youngblood (NRC), "Engineering Evaluation of  
the Sacrificial Shield Wall", dated August 19, 1980,  
transmitting Supplement No. 1 to the subject report

Attached please find three (3) copies of information responding to your concern in Reference 1 about the fire hazard of the shielding material used in the repair of gaps in the WNP-2 Sacrificial Shield Wall (SSW). According to discussions with the WNP-2 NRC Project Manager, Mr. Lynch, submittal of this information removes the remaining 'hold' NRR has placed on the actual performing of the girth weld repair. The other open item relative to the girth weld (submittal of a response to NRC Question 130.048) is understood not to be a construction hold item and will be resolved in the normal course of the NRC Structural Engineering Branch (SEB) review.

We also note that you have stated there is insufficient information in our August 19th submittal to you (Reference 2) which gave, among other

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## Washington Public Power Supply System

Mr. R. L. Tedesco  
Page 2

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December 1, 1980

items, the rationale for leaving known defects in the SSW. You also stated the submittal lacked specificity and sufficient justification. Please note that the August 19 submittal was only intended to be a summary statement prepared in response to an NRC request for such a document. The detailed engineering justification for the acceptability of the as-built structure was embodied in the original report submitted for your review on August 1.

Notwithstanding the above item, we urgently request you document your detailed concerns to us as quickly as possible relative to this matter, since resolution of these concerns may be an NRC prerequisite to further construction activities on the SSW other than the girth weld. We would appreciate prompt disposition of this matter to avoid potential construction delays.

Content of the Reference 1 letter, not pertinent to technical disposition of the SSW, will be the subject of separate discussion/correspondence with NRC management.

Very truly yours,

G. D. BOUCHEY  
Director, Nuclear Safety

GDB:OKE:cph

attachments (5)

cc: MD Lynch - NRC-DOL w/att (telecopy cover letter)  
RH Engelken - NRC w/att (telecopy cover letter)  
BJ Youngblood - NRC (telecopy cover letter)  
A. Toth - NRC Resident Inspector w/att  
JJ Verderber - Burns & Roe, New York w/att  
ND Lewis - EFSEC, Olympia wo/att  
JR Lewis - BPA wo/att  
WNP-2 Files



STATE OF WASHINGTON )  
COUNTY OF BENTON ) ss

Flammability Resistance of  
Sacrificial Shield Wall (SSW)  
Shield Material

G. D. BOUCHEY, Being first duly sworn, deposes and says: That he is the Director, Nuclear Safety, for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that he is authorized to submit the foregoing on behalf of said applicant; that he has read the foregoing and knows the contents thereof; and believes the same to be true to the best of his knowledge.

DATED November 25, 1980

G. D. Bouche  
G. D. BOUCHEY

On this day personally appeared before me G. D. BOUCHEY to me known to be the individual who executed the foregoing instrument and acknowledged that he signed the same as his free act and deed for the uses and purposes therein mentioned.

GIVEN under my hand and seal this 25<sup>th</sup> day of November, 1980



J. H. H. H.  
Notary Public in and for the State  
of Washington  
Residing at Kennelworth





Information Responding to NRC Concern<sup>1</sup> Relative to Flammability  
Resistance of the Shielding Material to be used in the Repair  
of Gaps in the WNP-2 Sacrificial Shield Wall

Contents

Item

1. Summary
2. Material Properties of BISCO NS-I Shielding Compound
3. Fire Test on BISCO SF-20 Silicone Foam and Radiation  
Seals in Masonry Wall Design WP 374
4. Investigation of Surface Burning Characteristics of  
A Solid Silicone Sheet Material, NS-1
5. Summary of WNP-2 Mock-up Test Regarding Heat Input to  
The Shield Material

<sup>1</sup>Letter, RL Tedesco (NRC) to RL Ferguson (WPPSS), "Staff Evaluation  
of the Proposed Corrective Weld at the 541 Foot Construction Joint  
of the Sacrificial Shield Wall," dated November 20, 1980



Summary

The essential properties of the shielding material are listed in item 2 of this attachment. The material is Brand Industrial Services, Inc. (BISCO) NS-1 (High Density) shield material employing powdered lead as a shield enhancing additive. Item 3 of this attachment is a copy of the test report by Factory Mutual of several BISCO products for compliance with ASTM E 119-73 (NFPA 251). BISCO Material SF-150L, which the report also covered, is essentially the same material as BISCO NS-1. In both cases the primary polymer, additive component (powdered lead), and purity level of the additive component are identical. Item 4 of this attachment is a copy of Southwest Research Institute Report documenting tests on BISCO Material NS-1 in accordance with E 84-79a (NFPA 255). Though the material test specimen in this instance did not contain the powdered lead additive, BISCO has stated that such non-combustible additives will not detract from the fire resistance of the material. In fact, BISCO said such materials usually enhance the resistance. Item 5 is a summary of the mock-up test done at WNP-2 to determine if there would be any deleterious effects on the shield material due to the heat input from welding. No such effects were observed for the spectrum of gaps to be encountered. It is evident from the above test reports and the mock-up test that the flammability resistance of the material of concern is demonstrated.

Material Properties of BISCO

NS-I Shielding Compound



March 26, 1980

Mr. Fred Weingard  
Burns & Roe Corporation  
Washington Nuclear Power Project No. 2  
P. O. Box 200  
Richland, WA 99352

Subject: Special Material for Shim Gap and  
Sacrificial Shield Wall Shielding use.

FILE COPY :
To Be Filed Under:
File Title:
Job File No. _____
Quote No. _____
cc To Be Filed Under:
File Title

Dear Mr. Weingard:

The material property description and elemental composition for our high density NS-I compound is attached for your review.

I am sending a similar enclosure along with prior correspondence and test data to Woodberry, as you requested.

We look forward to providing this solution for your project, please contact us for any further information.

Sincerely,

BRAND INDUSTRIAL SERVICES, INC.

A handwritten signature in cursive script, appearing to read "James W. Sherwood".

James W. Sherwood  
Director of Marketing

JWS/vo  
Enclosure

cc: A. Eaton  
C. Brown  
J. Anderson

WBGBR-215-9758 C

Fred Weingard  
Burns & Roe  
3/26/80

MATERIAL PROPERTIES

PRODUCT TYPE: NS-I (High Density)

POLYMER,  
DESCRIPTION: Dimethyl Polysiloxane  
(Synthetic Rubber)

DENSITY, COMPOSITE: 2.4 gm/cc (150#/cu.ft.) nominal

COMPOSITION:

	Polymer
H - Wt. %	4.4% 1.4 gm/cc
C - Wt. %	17.5%
O - Wt. %	37.0% (87#/cu.ft.)
Si - Wt. %	41.1%

FILLER TYPE: Powdered Lead

FILL %, VOLUME: 11% nominal

COMPOSITE FLAME SPREAD:

ASTM E-84	• Less than 25
ASTM E-162	• Less than 20. Flame Spread
ASTM E-119	• Tested for 5 hours duration (FM 24963)

TENSILE STRENGTH: • 300 psi initial

ELONGATION: • 100% initial

DUROMETER: • over 60 Shore A initial

RADIATION RESISTANCE: • over  $1 \times 10^{11}$  Rads

DATA FROM: Kircher & Bowman  
"Effects of Radiation on Materials  
& Components", pages 90 to 100  
  
University of Michigan Test - Complete

HALOGEN CONTENT: Complies with requirements of  
Reg. Guide 1.36

SUPPLIED AS: A 2 liquid and powder system designed  
to be field blended and proportioned.  
Installs as a liquid and cures together  
at room temperature within 10 hours of  
mixing at 25°C (77°F). See BISCO Mix-  
ing and Installation Procedure.

WBGBR-215-9758 C