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Transco Inc.

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Presentation of

"Transco's Flexible Therma-Wrap"

Blanket Type Insulation

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May 4, 1982

PUBLIC SERVICE COMPANY OF NEW . MPSHIRE

SEABROOK STATION - UNITS 1 & 2

Subject:

Inquiry No. SNH-733, 9763.006-249-8 Insulation for Equipment & Piping Inside Containment Public Service Company of New Hampshire Seabrook Stations 1 & 2 Seabrook, New Hampshire Transco Proposal #3794

Gentlemen:

We are pleased to be granted this opportunity to present our "blanket type" insulation which we have chosen to name "Transco Flexible Therma-Wrap". We make no proprietary claim, as ours is another generic product being offered for use in Nuclear Containment insulations. It is our intent to describe our additional capability to furnish a "blanket type" insulation, which is specified as an acceptable alternate in Section 6 of your specifications.

Transco has proposed to furnish this alternate product which is composed and constructed of the same raw materials utilized by Owens-Corning Fiberglass, "Nukon", and is in complete compliance with your subject specifications.

It is our understanding that the Nuclear Regulatory Commission's (NRC) response to the submittal of the "Topical Report OCF-1" has been accepted as qualification in the use of their blanket system. We, too, claim acceptance based on this report, since our design does not differ in

Public Service Company of New Hampshire Seabrook Station - Units 1 & 2 May 4, 1982 Page 2

content or concept. In fact, within the NRC's response (January 31, 1979, copy attached and highlighted) to our questions, it should be noted that the NRC has only "determined that the report is an acceptable reference for licensing actions". We believe that all identical blanket material can now be referenced to this report, as the six points considered by the NRC directly relate to the raw materials used in a composite state. (See para. #3 NRC letter dated January 31, 1979, attached.)

With reference to the above mentioned NRC documentation and additional O.C.F. literature (attached and highlighted), "blanket type" insulation is described as "generic" and should be considered as such. Transco Inc. has used blanket materials as proposed and with variations, in other applications as an adjunct to Reflective and Metal Encapsulated products in numerous nuclear plants throughout this country. We have provided a list where at least some of these materials are in service today and/or under contract with Transco Inc.

Transco Inc. is interested in serving the insulation needs of the industry and more specifically the Seabrook Nuclear Station by offering a full line of products to suit the numerous conditions within containment. We are uniquely qualified in that we offer Reflective, Metal Encapsulated and the new Transco Flexible Therma-Wrap in any combination thereof.

It should be noted that Transco Inc. does not fully agree that "blanket type" insulation be used as the bulk product within containment. We know that Reflective and/or Metal Encapsulated material cannot always be made to accomodate all conditions within the plant out we feel its modular construction and its successful in-service record better qualifies as nuclear insulation material.

Nevertheless, since there is interest in the new "blanket type" material and since it is generally less expensive in initial cost, we are pleased to make the offering. Again, we wish to assure you that Transco Inc., having been qualified as one of two major suppliers of nuclear containment insulation materials for more than 25 years, will provide the normal high quality engineering and manufacturing expertise in producing the Transco Flexible Therma-Wrap product.

We sincerely hope we will be successful in securing a contract to furnish these materials for this project.

TRANSCO FLEXIBLE THERMA-WRAP SYSTEM

I. System Description

- 1.1 Transco's Flexible Therma-Wrap System consists of low density, semi-rigi fibrous glass insulation quilted between reinforcing scrim and encapsulated in woven glass cloth. Therma-Wrap blankets are 1 inch through 2½ inches in thickness. Blankets will be double layered if thicker insulation is required.
- 1.2 Each Therma-Wrap blauket will feature a 1 inch wide Velcro ® fastener tape on the longitudinal seam for installation. Longitudinal laps shall be 3 inches wide.
- 1.3 Cloth seams will be double stitched and reversed.
- 1.4 Nominal blanket width will be 24 inches. No one composite section shall weigh more than 65 pounds.
- 1.5 Transco's Flexible Therma-Wrap System may be encapsulated with an optional rolled and formed (304) stainless steel jacketing. Jacketing will be furnished with quick-release latches and handles.

II. Material Description

- 2.1 Fiberglass insulation shall consist of Owens-Corning TIW-Type II.
- 2.3 Fiberglass scrim shall be used to act as a reinforcement for the blankets and to prevent sagging or movement of the fiberglass wool while the system is in use. The scrim material shall comply with MIL-1-24244.
- 2.4 The woven fiberglass shall be Burlington 1952 or equal complying with MIL-1-24244.
- 2.5 Thread shall consist of fiberglass sewing thread with silicone lubricant.
- 2.6 Fastener tape shall consist of American Velcro ® Corporation hook and loop fastening system. Stainless steel hooks shall be Velcro ® Mid-Temp. ® Nomex ® hooks shall be Velcro ® H-Air.

TRANSCO INC. NUCLEAR PROJECTS

UTILIZING BLANKET INSULATION FOR SPECIAL CONDITIONS

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STATION NAME	TYPE	OUTPUT MWe	OWNER	REACTOR SYSTEM
Point Beach 1	PWR	500	WMP/WEP	WEST
Surry 1	PWR	800	VIRGINIA E&P	WEST
Surry 2	PWR	800	VIRGINIA E&P	WEST
Cooper Station	BWR	780	NPPD	GE
Maine Yankee	PWR	800	MYAPC	CE
Calvert Cliffs ?	PWR	860	BALTIMORE GAS	CE ,
St. Lucie 1	PWR	825	FLORIDA P&L	CE
Russelville 1	PWR	860	ARKANSAS P&L	B&W
Russelville 2	PWR	905	ARKANSAS P&L	CE
Millstone 2	PWR	850	NORTHEAST UTILS	CE (
North Anna 1	PWR	870	VIRGINIA E&P	WEST
North Anna 2	PWR	870	VIRGINIA E&P	WEST
Shoreham	BWR	820	LILCO	GE
Palo Verde 1	PWR	1270	ANPP	CE
Palo Verde 2	PWR	1270	ANPP	CE
Palo Verde 3	PWR	1270	ANPP	CE
South Texas 1	PWR	1250	HOUSTON LSP	WEST
South Texas 2	PWR	1250	HOUSTON L&P	WEST
WPPSS 3	PWR	1240	WPPSS	CE

Please note that the bulk of inside containment insulation provided by Transco Inc. on these projects is either Reflective or Metal Encapsulated.



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

JAN 31 1979

Mr. William Waite Senior Vice President TRANSCO, Inc. 55 East Jackson Boulevard Chicago, Illinois 60604

SUBJECT: TRANSCO, INC. LETTER REGARDING OWENS-CORNING FIBERGLAS TOPICAL REPORT OCF-1, NUCLEAR CONTAINMENT INSULATION SYSTEM

Dear Mr. Waite:

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Your letter of December 27, 1978 provided information that you wished us to consider prior to completing our review of the subject topical report. Actually, our review had been completed and our Topical Report Evaluation had been issued prior to receipt of your letter. A copy of our Evaluation is enclosed.

Even though our review of the topical report had been completed, we have carefully considered the points raised in your letter and conclude that a revision to our evaluation of the subject topical report is not needed. The bases for this conclusion are discussed below.

The NRC staff's review of the Owens-Corning topical report considered: (1) release of airborne particles leading to a radiation health hazard' in service; (2) stress corrosion cracking of the austenitic stainless steel surfaces that come in contact with the insulation; (3) deterioration of the thermal properties during normal operation, complicating operation and control of the plant; (4) potential for creating fire hazard in the containment area that could interfere with safe operation of the plant; (5) interference with the emergency spray system in the event of a loss-of-coolant accident; and (6) blocking of pressure relief ports in the event of an accident.

We believe that these are the major safety considerations for this type of insulation. Our approval of the topical report merely means that the NRC staff has determined that the report is an acceptable reference for licensing actions. It does not imply that the staff believes that it is superior to a compatitive product or that it is suitable for every possible application. The licensee bears the primary responsibility for the selection of all components and systems, including thermal insulation.

Many of the points mentioned in your letter were raised a number of years ago by members of the NRC staff and the Advisory Committee on Reactor Safeguards. This led to the issuance of a number of Regulatory Guides.

Mr. William Waite

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As discussed below, one of these, Regulatory Guide 1.36, "Nonmetallic Thermal Insulation for Austenitic Stainless Steel," issued in February 1973, deals specifically with thermal insulation; and the others deal with general requirements for all components regarding shipping, storage, installation, inspection, housekeeping, and quality assurance during operation.

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Position C.1 of Regulatory Guide 1.36 cautions:

"All insulating materials should be manufactured, processed, packaged, shipped, stored, and installed in a manner that will limit, to the maximum extent practical, chloride and fluoride contamination from external sources."

The specific criteria that the Nuclear Regulatory Commission uses for evaluation of thermal insulation to be used on austenitic stainless steel are the criteria of Regulatory Position C.2 (Qualification Test) of Regulatory Guide 1.36. The Position C.2 Qualification Test requires that a representative insulation sample pass an appropriate stress corrosion cracking test and comply with the Regulatory Guide Figure 1 chemical analyses limitation regarding leachable chloride, fluoride, sodium and silicate. The test data and information in the subject topical report show that the Nu'k'on insulation meets the guide and is qualified for use in light-water-cooled nuclear plants in this respect.

As your letter notes, there are a number of potential sources of radioactive or chemical contamination, especially during construction. These sources apply to all plant components, not only thermal insulation. The NRC staff requires that all equipment and components that may affect plant safety be packaged, shipped, stored, installed, operated, and maintained in a manher to prevent radioactive and chemical contamination. There are a number of Regulatory Guides that deal with this subject. Examples of these are Regulatory Guide 1.38, "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants, " Revision 2, issued in May 1977; Regulatory Guide 1.116, "Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems," issued in May 1977; Regulatory Guide 1.39, "Housekeeping Requirements for Water-Cooled Nuclear Power Plants," Revision 2, issued in September 1977; and Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operations)," Revision 2, issued in March 1978. The NRC staff, as part of our plant specific review, requires that applicants develop a program to implement these Regulatory Guides or their equivalent.

Mr. William Waite

JAN 2 1 1979

NRC establishes general safety criteria, sets specific requirements, and provides guidance in the form of Regulatory Guides or NUREG reports. The NRC staff performs inspections and audits to assure that programs are properly implemented. Henever, it should be noted that the licensees are the first line of defense to ensure safety of the public. They directly control plant design, construction, operation, and maintenance. The licensees make the basic decision on suitability of specific products and are responsible to see that the plant is operated in accordance with NRC Regulations and in a manner to protect the health and safety of the public.

Based on the considerations discussed above, we believe that our review of Owens-Corning Fiberglas Topical Report OCF-1, "Nuclear Containment Insulation System," was performed in an acceptable manner, and covered the major safety concerns. Therefore, we conclude that the topical report is acceptable for referencing on specific applications.

Sincerely, Nasulla

D. B. Vassallo, Assistant Director for Light Water Reactors Division of Project Management

Enclosure: Topical Report Evaluation