U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Center for Disease Control
National Institute for Occupational Safety and Health
Cincinnati, Ohio 45226

HEALTH HAZARD EVALUATION DETERMINATION REPORT
HE 79-136-668

SHOREHAM NUCLEAR POWER PLANT
SHOREHAM, LONG ISLAND, NEW YORK

February 1980

I. SUMMARY

On August 22, 1979, a confidential request for a health hazard evaluation was received from employees at the construction site of the Shoreham Nuclear Power Plant, Long Island, New York. The request indicated a concern regarding the improper use of an asbestos product (trade name - Novatex).

To evaluate work practices concerning this product, NIOSH investigators visited the construction site on October 18, 1979, met with company and union (International Brotherhood of Electrical Workers) representatives, and conducted a walk-through investigation.

Three samples (two area and one personal) for airborne asbestos fibers were collected. Bulk samples, including a settled dust sample, for qualitative determination of asbestos were obtained.

Laboratory analysis confirmed that Novatex was chrysotile asbestos. Asbestos fibers were also detected in the settled dust sample (1-5% chrysotile). The two area samples were negative; however, the one personal sample (a pipefitter) was positive for asbestos (calculated exposure - 0.16 fibers per cubic centimeter of air). This level of exposure is in excess of the NIOSH recommended criteria[1] of 0.1 fibers/cc.

Based on a review of work practices involving the use of Novatex, environmental data obtained previously by the Occupational Safety and Health Administration, and our environmental findings, NIOSH has determined that a hazard of occupational exposure to airborne asbestos fibers exists at the Shoreham Nuclear Power Plant construction site.

Recommendations restricting the use of Novatex for certain operations are included in detail on page 3 of this report.

II. DISCUSSION

Observations on the work practices involving Novatex were detailed in Interim Report #1 (November, 1979). These observations are summarized below.

1. The primary and appropriate use of Novatex is to wrap stainless steel pipe after assembly to protect it from arc strikes. Additionally it is used as an insulating wrap for a welded pipe joint as it is being heat stressed.

2. At one time, Novatex was received from the manufacturer in 4-5' rolls and cut to required sizes by Shoreham workers, first with a band saw and then to more specific sizes with carpet knives. At the time of the NIOSH investigation, the band saw was no longer used and Novatex was ordered in rolls of proper width. However, length cutting was still done by the pipe fitter at the wrap site.

3. Welders also used sheets of Novatex as drop cloths to keep welding sparks from falling on workers below.

4. The predominant misuse of Novatex was as a walkway covering and/or as a "kneepad" for workers having to kneel on the grate walkways.

NIOSH believes that the "unnecessary" uses of Novatex should be discontinued. Uses such as drop cloths, kneepads and walkway coverings are considered "unnecessary", since substitute materials, such as cardboard for kneepads and asbestos-free, fireproof cloth for welding protection, are available. Ideally it would be desirable to eliminate the use of asbestos entirely, however, NIOSH understands that a unique quality of Novatex (low chlorine content) precludes the use of any substitute for stainless steel contact.

The environmental data recently collected by NIOSH, considering the data previously collected by OSHA (12 samples, asbestos nondetectable)[2], is not considered to be statistically firm evidence of an airborne asbestos problem. However, the circumstantial evidence, i.e., the presence of 1-5% asbestos fibers in a settled dust sample, cannot be ignored. The potential exists for the generation of airborne asbestos fibers primarily or secondarily as resuspended settled fibers.

As mentioned in the Interim Report, NIOSH considered the possibility of a medical study to determine the presence of pulmonary disease in construction workers who had been exposed only to Novatex - type asbestos. However, it was subsequently determined that a group of workers meeting the following criteria - no previous asbestos exposure and a minimum 10-20 year Novatex exposure duration - did not exist within Shoreham Nuclear Power Plant.

Also as noted in the Interim Report, the absence of an effective medical surveillance program for the construction trades is of great concern. The Department of Labor has recognized this need, and the Assistant Secretary of Labor/OSHA has requested the D.O.L. Occupational Safety and Health Advisory Committee to make recommendations concerning the implementation of health standards for the construction industry. Appropriate deliberations are underway. Results of the Advisory Committee's recommendations will be available to the public through the Department of Labor.

III. RECOMMENDATIONS

1. Unnecessary uses of Novatex should be prohibited. Asbestos-free substitutes should be used instead. An example of nonflammable asbestos-free product suitable for drop cloth use is "Siltemp", by Haveg Industries, Inc.* This product is currently used at Shoreham for other uses.

2. Other users (pipefitters, stress test engineers), should be instructed to pick up any leftover Novatex and dispose of it properly.

3. Supervisors and other personnel should be advised of the hazards of asbestos and should more closely monitor the uses and cleanup of Novatex to prevent abuses of the material.

4. Asbestos waste and scrap shall be collected and disposed of in sealed bags and other containers.

5. All cleanup of asbestos dust shall be performed by vacuum cleaners or wet cleaning methods. No dry sweeping should be performed.

IV. REFERENCES

1. Criteria for a Revised Recommended Standard . . . Occupational Exposure to Asbestos, DHEW (NIOSH) Pub. No. 77-169. December 1976.

2. Occupational Safety and Health Administration. Case File (file number unknown) for Shoreham Nuclear Power Plant, Shoreham, New York. Field sample numbers 2-LI-78-134 through 138.

V. AUTHORSHIP AND ACKNOWLEDGEMENTS

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* Mention of the trade name of one product over another product of similar qualities and characteristics does not constitute an endorsement by NIOSH.

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VI. DISTRIBUTION AND AVAILABILITY OF DETERMINATION REPORT

Copies of this report are currently available, upon request, from NIOSH, Division of Technical Services, Information Resources and Dissemination Section, 4676 Columbia Parkway, Cincinnati, Ohio 45226. After 90 days, the report will be available through the National Technical Information Service (NTIS), Springfield, Virginia 22161.

Copies of this report have been sent to:

1. International Brotherhood of Electrical Workers, Local 25
2. Business Representative, Local 25, IBEW
3. Superintendent of Construction, Shoreham Nuclear Power Plant
4. Confidential Requestor
5. NIOSH - Region II
6. OSHA - Region II
7. International Brotherhood of Electrical Workers, National Headquarters

For the purposes of informing the approximately 330 affected employees, copies of the report shall be posted by the employer in a prominent place accessible to the employees, for a period of 30 calendar days.