(HEARINGS)

Elaine Harris

MAR 9 1987

The Honorable Jesse Helms
United States Senate
Washington, DC 20510

Dear Senator Helms:

I am pleased to respond to your constituent's (W. Travis Porter) concern about the use of substandard bolts in U.S. nuclear power plants. Attached to your constituent's letter was an article on the same concern written by columnist Jack Anderson and published in the Durham Sun newspaper on January 22, 1987. The Jack Anderson article stated that counterfeit, inferior grade bolts manufactured in Asia have been used at one U.S. nuclear power plant and may have been used in other U.S. nuclear power plants.

Bolt problems have been found by NRC inspectors at 11 nuclear sites during the period of 1982 to 1986. The majority of the bolting problems related to loss of control of traceability back through the manufacturing process rather than counterfeit or physically inferior fasteners. These problems were described in NRC Information Notice No. 86-25 "Traceability and Material Control of Material and Equipment, Particularly Fasteners" which was issued on April 11, 1986 to inform the nuclear industry of the potential problems so that appropriate actions would be taken to prevent similar problems from occurring at their facilities.

The NRC, starting in the Summer of 1986, tested and evaluated 39 bolts from various nuclear power plants and bolt suppliers and manufacturers. The program was undertaken to verify the bolts' compliance with the applicable material specification and to evaluate the potential presence of counterfeit bolts within the nuclear industry. Mechanical and chemical testing of the bolts was conducted at the Franklin Research Center. All the bolts tested met their mechanical properties with the exception of one which failed at about 10% below the required tensile strength. Inherent design safety margins can be expected to accommodate variations in mechanical properties suggested by these tests.

The NRC is continuing to test bolts designated for safety-related applications and will selectively obtain additional bolts from various nuclear power plants and bolt suppliers and manufacturers over the next year.

Please feel free to contact my office if additional information is required. As requested, Mr. Porter's letter is being returned.

Sincerely,

(Signed) T. A. Rehm

Victor Stello, Jr.
Executive Director
for Operations

Enclosure:
As stated

*See previous concurrence

*LA:PAD#2	*PM:PAD#2	*D:PAD#2	*AD:DPLA	DD:NRR	D:NRR
DMiller	RBuckley:hc	LRubenstein	TNovak	RVollmer	HDenton
3/ /87	3/ /87	3/ /87	3/ /87	3/ /87	3/ /87

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3/5 /87

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The NRC is continuing to test fasteners designated for safety-related applications and will selectively obtain additional bolts from various nuclear power plants and bolt suppliers and manufacturers over the next year.

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DMiller	BBuckley:hc	LRubenstein	TNovak	RVollmer	HDenton
3/ /87	3/ /87	3/ /87	3/3/87	3/ /87	3/ /87

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result in a higher probability of stress relaxation (slight elongation) of the grade 8.2 bolt. Stress relaxation would, for example, be expected to result in leakage from a flanged joint. As of this date, we are not aware of any safety-related grade 8 or 8.2 bolts being used in high temperature (above 500°F) applications at nuclear power plants.

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Sincerely,

Victor Stello, Jr.
Executive Director
for Operations

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