

USNRC REGION
ATLANTA, GEORGIA

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February 19, 1982
L-82-61

Mr. James P. O'Reilly
Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

Re: Turkey Point Unit 4
Docket No. 50-251
I&E Bulletin 81-01
Surveillance of Mechanical Snubbers



Florida Power & Light has completed testing the Turkey Point Unit 4 mechanical snubbers which are on safety related systems. The information requested by Bulletin 81-01 concerning this testing is attached.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Robert E. Uhrig".

Robert E. Uhrig
Vice President
Advanced Systems and Technology

REU/JEM/mbd

Attachment

cc: Harold F. Reis, Esquire

8204230523

ATTACHMENT

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Results of Snubber Inspection

1. Description of the visual examinations and tests performed.

The inspector visually inspected the linkage assembly. To determine operability he (1) removes the lockwire from the mounting bolts, (2) supports the weight of snubber and removes the mounting bolt that connects the snubber to the transition tube, (3) exercises the snubber fully in both directions, checking for smoothness of operation over entire travel, (4) and then reconnects the snubber to the transition tube by installing bolts and lockwiring.

2. Number of snubbers examined and tested.

A total of 60 safety related snubbers were examined and tested. These were all manufactured by Pacific Scientific and consisted of 18 PSA-3's, 37 PSA-10's and 5 PSA-35's.

3. Number of failures identified.

Snubbers #20 and #21 were found to have loose internal parts and erratic operation. Both of the restraints are on "B" Steam Generator feedwater line at the 58' elevation. Both are PSA-10's rated at 10,000 psi. Neither restraint was found to be locked up, however there was no restraining action.

The snubbers were damaged from what appears to have been an overload condition which appears similar to the incident that occurred in the summer of 1979. It is postulated that the water hammer transient that damaged the snubbers was caused by a low level in the steam generator followed by auxiliary feedwater initiation. The cold water condensed the steam in the header causing a shock wave transient.

The damaged snubber was caused by a downward movement of the pipe. This was determined by observing the dent in the snubber cover and the sheared threads in the snubber ball screws. The maximum stress in the pipe would be limited by the 1 1/8" deflection of the pipe due to the 4-FW-14 hanger located to the right of the snubbers. The maximum stress would occur at the pipe to reducer weld at the steam generator nozzle. This stress was computed and found to be 17,458 psi. The thermal stress (3,879 psi) and the pressure stress (5063 psi) were added and the maximum stress was 26,400 psi.

The yield strength up to 450°F from B31.1 is 35,000 psi. Therefore since we did not exceed the yield strength, there should be no damage to the piping and no inspection of the reducer joint is required and the piping is acceptable for continued use.

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This joint will be changed during the ongoing Steam Generator Repair. Therefore the 40 year fatigue life will not be a concern. Also, the new steam generators with the J tube design headers should prevent future water hammer transients. In addition, it is planned to change these Y direction snubbers from 10,000# to 35,000# capacity. These actions should prevent this type of event from occurring in the future.

STATE OF FLORIDA)
)
COUNTY OF DADE)

Robert E. Uhrig, being first duly sworn, deposes and says:

That he is Vice President of Florida Power &
Light Company, the herein;

That he has executed the foregoing document; that the statements made in this said document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said

Robert E. Uhrig
Robert E. Uhrig

Subscribed and sworn to before me this

19 day of February, 1982

Cheryl Z. Fredrick
NOTARY PUBLIC, in and for the County of Dade,
State of Florida

My commission expires: Notary Public, State of Florida at Large
My Commission Expires October 30, 1983
Bonded thru Maynard Bonding Agency