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 RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Forwards response to NRC 870818 request for addl info re
 util response to IE Bulletin 85-003, "Motor-Operated Valve
 Common Mode Failures During Plant Transients Due to Improper
 Switch Settings."

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SEPTEMBER 17 1987

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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
IE Bulletin 85-03
Request for Additional Information

Attached is Florida Power & Light Company's response to your August 18, 1987 request for additional information concerning our response to IE Bulletin 85-03, "Motor Operated Valve Common Mode Failures During Plant Transients Due to Improper Switch Settings."

If there are any further questions regarding this subject, please contact us.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'C.O. Woody'.

C.O. Woody
Group Vice President
Nuclear Energy

cc: Dr. J. Nelson Grace, Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

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ATTACHMENT

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
IE Bulletin 85-03
Request for Additional Information

QUESTION 1:

Has water hammer due to valve closure been considered in the determination of pressure differentials? If not, please explain.

RESPONSE:

Water hammer due to valve closure has not been considered in the determination of motor operated valve (MOV) differential pressure at Turkey Point Units 3 and 4. Water hammer may occur in a closed piping system when there is a sudden deceleration of flow, such as with rapid valve closure. Under this condition, a positive wave that travels at the speed of sound is developed upstream of the valve due to compression of fluid. Two important physical characteristics must be present in a piping system for significant water hammer to be developed. They are rapid valve closure and very long piping lengths. MOVs are inherently slow acting valves with regard to water hammer. Valve stroke testing performed at Turkey Point measured MOV stroke times in excess of 5 seconds. Additionally, piping geometries at Turkey Point are not considered significant and have not been included in the determination of MOV differential pressures.

QUESTION 2:

Please expand the proposed program for action items b, c, and d to include the following details as a minimum:

- (a) commitment to a training program for setting switches, maintaining valve operators, using test equipment, and interpreting test results,
- (b) commitment to justify continued operation of valve determined to be inoperable, and
- (c) description of a method possibly needed to extrapolate valve stem thrust measured at less than maximum differential pressure.

RESPONSE:

- (a) Training modules have been written for the setting and adjustment of switches for motor operated valves (MOV). Appropriate electrical maintenance personnel were trained in the use of MOVATS equipment and signature interpretation by MOVATS, Inc. Additional training in the set up of the MOVATS equipment was provided by the Turkey Point training department. Maintenance and testing of MOVs are controlled by approved plant procedures.

- (b) Actions will be taken as required by Technical Specifications for any MOV found to be inoperable.
- (c) In order to accomplish item c of IE Bulletin 85-03, it is FPL's intent to stroke test the motor operated valves (MOV) under the highest achievable differential pressure without placing the plant in an unsafe or abnormal configuration. Valve stem thrust was not measured during differential pressure stroke testing due to equipment set up time and the fact that testing was usually performed during critical path of a refueling outage. Additionally, IE Bulletin 85-03 did not require that stem thrust be monitored during differential pressure testing. For the majority of the valves, differential pressures in excess of 90% of that originally calculated were achieved. FPL believes that this fact, in conjunction with the conservative MOV switch setting policy for Turkey Point, alleviates the need to monitor valve stem thrust during stroke testing. However, specific program details, test conditions, and the appropriate justifications will be provided in the final report upon program completion.