



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

NRC/PDR

Docket Nos.: 50-369
and 50-370

OCT 06 1980

Duke Power Company
ATTN: Mr. William O. Parker, Jr.
Vice President - Steam
Production
P. O. Box 33189
422 South Church Street
Charlotte, N. C. 28242

Dear Mr. Parker:

SUBJECT: INSERVICE INSPECTION OF PRESSURE ISOLATION VALVES
(McGuire Nuclear Station, Units 1 and 2)

As a result of our review of your application regarding inservice inspection of pressure isolation valves, we require the following information:

Provide a list of pressure isolation valves included in your testing program with four (4) sets of piping and instrumentation diagrams which clearly show the reactor coolant system isolation valves. Also discuss in detail how your leak testing program conforms to the staff position (see enclosure).

It is requested that this information be provided by October 6, 1980. This position has previously been provided to your staff.

Sincerely,

Robert L. Tedesco, Assistant Director
for Licensing
Division of Licensing

Enclosure:
Staff Position -
Inservice Inspection of Pressure
Isolation Valves, September 22, 1980

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Staff PositionInservice Inspection of Pressure Isolation Valves

There are several safety systems connected to the reactor coolant pressure boundary that have design pressure below the rated reactor coolant system (RCS) pressure. There are also some systems which are rated at full reactor pressure on the discharge side of pumps but have pump suction below RCS pressure. In order to protect these systems from RCS pressure, two or more isolation valves are placed in series to form the interface between the high pressure RCS and the low pressure systems. The leak tight integrity of these valves must be ensured by periodic leak testing to prevent exceeding the design pressure of the low pressure systems thus causing an inter-system LOCA.

Pressure isolation valves are required to be Category A or AC per IWV-2000 and to meet the appropriate requirements of IWV-3420 of Section XI of the ASME code except as discussed below.

Limiting Conditions for Operation (LCO) are required to be added to the technical specifications which will require corrective action i.e., shutdown or system isolation when the final approved leakage limits are not met. Also surveillance requirements, which will state the acceptable leak rate testing frequency, shall be provided in the technical specifications.

Periodic leak testing of each pressure isolation valve is required to be performed at least once per each refueling outage, after valve maintenance prior to return to service and each time the valve has moved from its fully closed position unless justification is given. The testing interval

should average to be approximately one year. Leak testing should also be performed after all disturbances to the valves are complete, prior to reaching power operation following a refueling outage maintenance and etc.

The staff's present position on leak rate limiting conditions for operation must be equal to or less than 1 gallon per minute to ensure the integrity of the valve, demonstrate the adequacy of the redundant pressure isolation function and give an indication of valve degradation over a finite period of time. Significant increases over this limiting value would be an indication of valve degradation from one test to another.

Leak rates higher than 1 GPM will be considered if the leak rate changes are below 1 GPM above the previous test leak rate or system design precludes measuring 1 GPM with sufficient accuracy. These items will be reviewed on a case-by-case basis.

The Class 1 to Class 2 boundary will be considered the isolation point which must be protected by redundant isolation valves.

In cases where pressure isolation is provided by two valves, both will be independently leak tested. When three or more valves provide isolation, only two of the valves need to be leak tested.

Mr. William O. Parker, Jr.
Vice President, Steam Production
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

cc: Mr. W. L. Porter
Duke Power Company
P. O. Box 2178
422 South Church Street
Charlotte, North Carolina 28242

Mr. R. S. Howard
Power Systems Division
Westinghouse Electric Corporation
P. O. Box 355
Pittsburgh, Pennsylvania 15230

Mr. E. J. Keith
EDS Nuclear Incorporated
220 Montgomery Street
San Francisco, California 94104

Mr. J. E. Houghtaling
NUS Corporation
2536 Countryside Boulevard
Clearwater, Florida 33515

Mr. Jesse L. Riley, President
The Carolina Environmental Study Group
854 Henley Place
Charlotte, North Carolina 28207

J. Michael McGarry, III, Esq.
Debevoise & Liberman
1200 Seventeenth Street, N. W.
Washington, D. C. 20036

Robert M. Lazo, Esq., Chairman
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. Emmeth A. Luebke
Atomic Safety and Licensing Board
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. Cadet H. Hand, Jr., Director
Bodega Marine Lab of California
P. O. Box 247
Bodega Bay, California 94923

David Flesichaker, Esq.
1735 Eye Street, N. W.
Suite 709
Washington, D. C. 20006

Richard P. Wilson, Esq.
Assistant Attorney General
State of South Carolina
2600 Dull Street
Columbia, South Carolina 29201

Office of Intergovernmental Relations
116 West Jones Street
Raleigh, North Carolina 27603

County Manager of Mecklenburg County
720 East Fourth Street
Charlotte, North Carolina 28202

U. S. Environmental Protection Agency
ATTN: EIS Coordinator
Region IV Office
345 Courtland Street, N. W.
Atlanta, Georgia 30308

Mr. Tom Donat
Resident Inspector McGuire NPS
c/o USNRC
Post Office Box 216
Cornelius, North Carolina 28031