

# WOLF CREEK

NUCLEAR OPERATING CORPORATION

Richard A. Muench  
Vice President Engineering

April 24, 1997

ET 97-0040

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Station P1-137  
Washington, D. C. 20555

Subject: Docket No. 50-482: Request for Use of ASME Section XI  
IWA-5244 in the 1995 Edition with the 1995 Addenda

Gentlemen:

Pursuant to the provisions of 10 CFR 50.55a(a)(3)(i), Wolf Creek Nuclear Operating Corporation (WCNOC) requests approval for use of ASME Section XI paragraph "IWA-5244 Buried components" in the 1995 Edition with 1995 Addenda.

The attached relief request, I2R-22, provides the justification for the use of the provisions of a later ASME Code edition and addenda than the ASME Code edition and addenda currently approved in 10 CFR 50.55a(b). In addition, the attached relief request includes a determination that use of IWA-5244 in the 1995 Addenda provides an acceptable level of quality and safety. Approval for use of this relief request is requested by July 16, 1997, to support WCNOC's preparation for the next refueling outage scheduled to begin September 20, 1997. A copy of IWA-5244 from the 1995 Addenda is enclosed for your convenience.

If you should have any questions regarding this request, please contact me at (316) 364-8831, extension 4034, or Mr. Richard D. Flannigan at extension 4500.

Very truly yours,



Richard A. Muench

RAM/jad

Attachment: Relief Request I2R-22  
Enclosure: IWA 5244, 1995 Addenda

cc: E. W. Merschhoff (NRC), w/a  
W. D. Johnson (NRC), w/a  
J. F. Ringwald (NRC), w/a  
J. C. Stone (NRC), w/a

9704290090 970424  
PDR ADOCK 05000482  
PDR



A0471/

RELIEF REQUEST I2R-22  
Page 1 of 2

Component Identification:

Buried Class 3 Piping

Category:

ASME Section XI 1989 Edition, Table IWD-2500-1, Examination Categories D-A, D-B, and D-C, Item Numbers D1.10, D2.10 and D3.10

Examination Requirements:

The pressure retaining components within the boundary of each system shall be pressure tested and VT-2 examined each inspection period and hydrostatically tested and VT-2 examined each inspection interval. VT-2 examination of buried components is performed in accordance with IWA-5244.

Relief Requested:

Pursuant to 10 CFR 50.55a(a)(3)(i), relief is requested for the Second 10-Year Inspection Interval. Relief is requested to use an alternative to the provisions currently approved for use in 10 CFR 50.55a(b). The requested alternative is to use the provisions of IWA-5244 from the 1995 Edition with 1995 Addenda of ASME Section XI in lieu of the provisions of IWA-5244 from the 1989 Edition for performing pressure tests of buried components at Wolf Creek Generating Station. All other provisions of the 1989 Edition would continue to be met, except as specifically approved for other relief requests.

Basis For Relief:

The following examples demonstrate the need and the acceptability of using IWA-5244 from the 1995 Edition with 1995 Addenda:

- 1) The 1989 Edition of ASME Section XI, as approved by 10 CFR 50.55a, does not provide provisions for testing buried systems that are, "redundant," and, "isolable," such as the case for the WCNOE Essential Service Water (ESW) System. Use of the 1995 Addenda of Section XI categorizes requirements based on isolability alone and is independent of whether the system is considered "redundant". Use of the 1995 Addenda would allow WCNOE to perform, where applicable, a Code prescribed "rate of pressure loss" test, measuring mass going into the isolated ESW buried pressure boundary which would account for leakage, if present, through the buried portions of the system and the boundary valves.
- 2) IWA-5244(b) of the 1989 Edition addresses systems that are, "redundant," and, "nonisolable." The only method in the 1989 Edition for testing this configuration is to compare the flow at one end of the buried components with the flow at the other end of the buried components. Compliance with this requirement is not always possible. Such is the case for the WCNOE Emergency Fuel Oil Transfer System because one end of the buried pipe is the transfer pump which is submerged within an

**RELIEF REQUEST I2R-22**

Page 2 of 2

underground storage tank. Therefore, it is not possible to measure the flow leaving the pump. The function of this system is to transfer fuel oil to the day tank which is the suction source for the emergency diesel generator fuel injectors. Excess inventory is then gravity drained back to the storage tank. Use of the 1995 Addenda would allow the use of measuring an adequate flow rate which is performed on a quarterly basis through implementation of the Inservice Pump Testing requirements.

The Code revision to IWA-5244 was based on recognition that the requirements do not address industry conditions, such as "redundant/isolable" conditions and inability to measure flow at both ends of buried components. The revision broadens the requirements for isolable systems by requiring the same provisions for all isolable buried components, whether they are redundant or nonredundant systems. The revision also changes the test for nonisolable systems to require a verification that flow during operation is not impaired since determining the change in flow between ends of nonisolable buried components for redundant systems, as required by the 1989 Edition, is not always possible. This Code revision published in the 1995 Addenda was approved by the Code consensus process. Approval by the Code consensus process and the above discussion demonstrates an acceptable level of quality and safety. Therefore, the use of the 1995 Addenda is an acceptable alternative to the 1989 Edition.

**IWA-5222 System Hydrostatic Test Boundary**

(a) The boundary subject to test pressurization during a system hydrostatic test [IWA-5211(b)] shall be defined by the system boundary (or each portion of the boundary) within which the components have the same minimum required classification and are designed to the same pressure rating as governed by the system function and the internal fluid operating conditions, respectively.

(b) Systems which share safety functions for different modes of plant operation, and within which the component classifications differ, shall be subject to separate system hydrostatic tests of each portion of the system boundary having the same minimum required design pressure ratings.

(c) Systems designed to operate at different pressures under several modes of plant operation or post-accident conditions shall be subject to a system hydrostatic test within the test boundary defined by the operating mode with the higher pressure.

(d) Where the respective system design pressure ratings on the suction and discharge sides of system pumps differ, the system hydrostatic test boundary shall be divided into two separate boundaries (such as suction side and discharge side test boundaries). In the case of positive displacement pumps, the boundary interface shall be considered as the pump. In the case of centrifugal pumps, the boundary interface shall be the first shutoff valve on the discharge side of the pump.

**IWA-5240 VISUAL EXAMINATION****IWA-5241 Noninsulated Components**

(a) The VT-2 visual examination shall be conducted by examining the accessible external exposed surfaces of pressure retaining components for evidence of leakage.

(b) For components whose external surfaces are inaccessible for direct VT-2 visual examination, only the examination of the surrounding area (including floor areas or equipment surfaces located underneath the components) for evidence of leakage shall be required.

**IWA-5242 Insulated Components**

(a) For systems borated for the purpose of controlling reactivity, insulation shall be removed from pressure retaining bolted connections for VT-2 visual examination. For other components, a VT-2 visual examination may be conducted without the removal of insulation by examining the accessible and exposed surfaces and joints of the insulation. Essentially vertical surfaces of insulation need only be examined at the lowest elevation

where leakage may be detectable. Essentially horizontal surfaces of insulation shall be examined at each insulation joint.

(b) When examining insulated components, the examination of the surrounding area (including floor areas or equipment surfaces located underneath the components) for evidence of leakage, or other areas to which such leakage may be channeled, shall be required.

(c) Discoloration or residue on surfaces examined shall be given particular attention to detect evidence of boric acid accumulations from borated reactor coolant leakage.

**IWA-5243 Components With Leakage Collection Systems**

Where leakages from components are normally expected and collected (such as valve stems, pump seals, or vessel flange gaskets) the VT-2 visual examination shall be conducted by verifying that the leakage collection system is operative.

**IWA-5244 Buried Components**

A95

(a) For buried components surrounded by an annulus, the VT-2 visual examination shall consist of an examination for evidence of leakage at each end of the annulus and at low point drains.

(b) For buried components where a VT-2 visual examination cannot be performed, the examination requirement is satisfied by the following:

(1) The system pressure test for buried components that are isolable by means of valves shall consist of a test that determines the rate of pressure loss. Alternatively, the test may determine the change in flow between the ends of the buried components. The acceptable rate of pressure loss or flow shall be established by the Owner.

(2) The system pressure test for nonisolable buried components shall consist of a test to confirm that flow during operation is not impaired.

(3) Test personnel need not be qualified for VT-2 visual examination.

**IWA-5245 Elevated Temperature Tests**

The visual examination of system components requiring a test temperature above 200°F during the system pressure test may be conducted after the pressure holding period of IWA-5213 is satisfied, and the pressure is lowered to the level corresponding with a temperature of 200°F, in accordance with allowable cooldown rates established by fracture prevention criteria.