

TOLEDO EDISON

DAVIS-BESSE NUCLEAR POWER STATION
(DBNPS)

SECOND TEN-YEAR INTERVAL

PUMP AND VALVE

INSERVICE TESTING

PROGRAM

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DAVIS-BESSE NUCLEAR POWER STATION

PUMP AND VALVE INSERVICE TESTING PROGRAM

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PUMP AND VALVE INSERVICE TESTING PROGRAM

FOR

DAVIS-BESSE NUCLEAR POWER STATION

SECTION 1

INTRODUCTION

I. INTRODUCTION

I.1 GENERAL

This document presents the program for inservice testing (IST) of pumps and valves at the Davis-Besse Nuclear Power Station in compliance with the requirements of 10 CFR 50.55a. According to 10 CFR 50.55a(g)(4)(ii), following completion of the first 120-month inspection interval, successive 120-month inspection intervals shall comply with the requirements of the latest edition and addenda of the American Society of Mechanical Engineers (ASME) Code incorporated by reference in paragraph (b) of 10 CFR 50.55a 12 months prior to the start of the 120-month inspection interval. The second 120-month inspection interval for the Davis-Besse Nuclear Power Station will start on September 21, 1990. This start date for the second 120-month inspection interval is in compliance with the requirements of Section XI of the ASME Boiler and Pressure Vessel Code, 1986 Edition.

I.2 Basis

NRC Regulations

Code of Federal Regulations 10CFR50.55a(g)(4)(ii) established the applicable edition and addenda of Section XI of the ASME Boiler and Pressure Vessel Code to be used for each successive inservice inspection interval for a nuclear power plant. This paragraph states:

"Inservice examinations of components, inservice tests to verify operational readiness of pumps and valves whose function is required for safety, and system pressure tests, conducted during successive 120-month inspection intervals shall comply with the requirements of the latest edition and addenda of the Code incorporated by reference in paragraph (b) of this section 12 months prior to the start of the 120-month inspection interval, subject to the limitations and modifications listed in paragraph (b) of this section."

The latest edition of ASME Section XI referenced in paragraph (b) of 10CFR50.55a is the 1986 Edition and accordingly the second 10-year IST program for DBNPS shall comply with 1986 Edition of ASME Section XI.

In addition to the reference Code edition and addenda, this program has been prepared in compliance with NRC guidance contained in "Guidance for Preparing Pump and Valve Testing Program Descriptions and Associated Relief Requests Pursuant to 10CFR50.55a(g)" and the guidance contained in Generic Letter 89-04. These three documents provide the basis for selection of components, test requirements, relief requests, and format.

I.3 Scope

The Pump and Valve Inservice Testing Program provides testing requirements for all safety-related pumps and valves. Safety-related components are those required by either position or movement to:

- a) shut down the reactor to the safe shutdown condition^{*}
- b) maintain the reactor in the safe shutdown condition
- c) mitigate the consequences of an accident

^{*}Safe reactor shutdown for the Davis-Besse Nuclear Power Station is defined in Section 7.4.1 of the USAR as that station condition in which the reactor is 1.0 percent subcritical and the reactor coolant system temperature and pressure are in the normal operating range.

Safety-related systems and components include both ASME Code Class 1, 2, and 3 as well as non-class systems and components if they are safety-related. The construction permit for Davis-Besse Nuclear Power Station was issued on March 24, 1971.

I.3.1 Criteria for Safe Shutdown Conditions

Section XI, IWV 1100 Scope addresses equipment to be tested as "...required to perform a specific function in shutting down a reactor to the cold shutdown condition, in mitigating the consequences of an accident or in providing overpressure protection." Davis-Besse Power Station defines shutting down the reactor per Section 7.4.1 of the USAR as that station condition in which the reactor is 1.0 percent subcritical and the reactor coolant system temperature and pressure are in the normal operating range. Per Davis-Besse Technical Specifications this condition is defined as Mode 3, Hot Standby. A Cold Shutdown condition is not required to shut down the reactor. This is based on the above conditions which is part of the licensing basis for the Davis-Besse Nuclear Power Station.

I.4 Augmented Components

Plant test procedures, manufacturer recommendations, and the Davis-Besse Technical Specifications may require testing of additional pumps and valves not within the scope of Section XI testing, as defined above. These additional test requirements are not addressed by this program.

I.5 General Program Concept

Section XI requires quarterly testing of all components unless it is impractical to do so. This program specifies quarterly testing of pumps and valves unless it has been determined that such testing would:

1. Be impractical due to system or component design
2. Render a safety-related system inoperable
3. Cause a reactor scram or turbine trip
4. Require significant deviations from normal operations
5. Require entry into inaccessible plant areas
6. Increase the possibility of an inter-system LOCA

Excluded from exercising during normal operations are all valves which, if exercised, could place the plant in an unsafe condition. Cases where valve exercising could

compromise plant safety include:

1. All valves whose failure in a nonconservative position during the cycling test would cause a loss of system function will not be exercised. Valves in this category would typically include all non-redundant valves in lines such as single discharge line from the Borated Water Storage Tank. Other valves may fall into this category under certain system configurations or plant operating modes. For example, when one train of a redundant system such as ECCS is inoperable, non-redundant valves in the remaining train will not be stroked since their failure in the closed position would cause a loss of total system function.
2. All valves, whose failure to close during a cycling test would result in a loss of containment integrity will not be tested. Valves in this category would typically include all valves in containment penetrations where the redundant valve is open.
3. All valves, which when cycled, could subject a system to pressures in excess of their design pressures. It is assumed for purpose of a cycling test, that one or more of the upstream check valves has failed unless positive methods are available for determining the pressure or lack thereof on the high pressure side of the valve to be cycled. Valves in this category would typically include the isolation valves of the residual heat removal/shutdown cooling system and, in some cases certain ECCS valves.

Each component excluded from quarterly testing has been analyzed to determine when appropriate testing may be performed. If exercising of a valve is not practical during plant operation, the Code allows part-stroke exercising during normal plant operation, and full-stroke exercising at cold shutdown.

Since the Code allows testing at cold shutdown, this program does not request relief for those valves for which testing is delayed until cold shutdown.

The Valve IST Program does provide a justification for the delay of testing until cold shutdown. These justifications are prepared in a format similar to relief requests, and are included following the Valve Test Tables for each system.

Where it has been determined that it is impractical to comply with Code requirements, 10 CFR 50.55a (3) requires that a relief request be submitted to the NRC. NRC Generic Letter 89-04 provides preapproval for several Code alternative test requirements. The Generic Letter states that if a component is tested consistent with the positions taken in Attachment 1 of

Generic Letter 89-04 as alternatives to the Code requirements, it should be noted in the IST program and approval is granted through the Generic Letter. Since the Generic Letter grants preapproval of Code alternative test requirements, this program does not request relief for those alternatives addressed by the Generic Letter.

This program does provide a justification for the need to apply the preapproved Code alternative test requirements. These justifications are prepared in a format similar to relief requests, and are included in the program following the component test tables.

Where it has been determined that testing is not practical during plant operation, or at cold shutdown, and is not addressed by NRC Generic Letter 89-04, a specific relief request has been prepared. Each relief request provides justification for not performing the Code required testing, and provides appropriate alternative testing.

In addition to specific relief requests, general relief requests which address specific Code requirements found to be impractical for this site have been prepared. Because of the general nature of these relief requests, and the number of components involved, they are presented in separate sections and are not repeated in the individual system sections.

Cold Shutdown and Refueling as used in this test program includes mode changes going into and coming out of plant Technical Specifications defined modes 5 and 6. Because of unique system operating conditions, it will be necessary to perform some tests during mode change. For example, a steam driven turbine scheduled for testing at cold shutdown cannot be tested during mode 5 when there is no steam available. In this case, testing will be performed during a mode change when sufficient steam is available.

I.6 Organization

The Pump and Valve Inservice Testing Program is organized into three independent sections, each of which can be removed from the Program for review. Section I presents the general program commitment basis and the conceptual framework used in developing the Program Plan. Section II deals specifically with the Pump Test Program, and Section III deals specifically with the Valve Test Program.

Sections II and III are formatted in a manner to aid review. Each section summarizes the basis and concepts used to formulate the Pump and Valve Testing Program. Pump testing requirements are summarized in a single Pump Test Table attached to Section II. Valve test requirements are summarized in Valve Test Tables attached to Section III. The Valve Test Tables are arranged into separate attachments for each system. Where quarterly testing has been found to be impractical, a justification for delay of test to

cold shutdown, a Generic Letter 89-04 justification or a relief request, is provided following the appropriate Pump or Valve Test Tables.

I.7 DEFINITIONS

The terms below, when used in the Inservice Testing Program, are defined as follows:

- Quarterly: An interval of 92 days for testing components which can be tested during normal plant operation.
- Cold Shutdown: Testing delayed until cold shutdown will commence as soon as cold shutdown condition is achieved, but no later than 48 hours after achieving cold shutdown. Testing will continue until all tests are complete or the plant is ready to return to power. Completion of testing is not a prerequisite to return to power, and any testing not completed at one cold shutdown will be performed during subsequent cold shutdowns before the refueling outage. No cold shutdown testing will be performed on any components tested less than 92 days prior to achieving cold shutdown. The 48-hour interval will not hold for planned cold shutdowns where all required testing will be completed. In addition, all components which have testing delayed to cold shutdown will be tested during each refueling unless the component has been tested during the previous three months. Cold Shutdown testing includes testing performed during Plant Operating Modes between Normal Operation and Technical Specification defined Cold Shutdown conditions.
- Refueling: Testing delayed to refueling will be performed during the normal scheduled refueling shutdown before returning to power operation. Refueling testing includes testing performed during plant operating modes between normal and Technical Specification defined refueling conditions.
- Period: Category C safety and relief valves (IWV-3511), Category D explosive actuated valves (IWV-3610), and Category D rupture disks (IWV-3620) are periodically tested,

as defined in the appropriate Code sections.

- Pressure Isolation: Valves which act as an isolation boundary between the high-pressure reactor coolant system and a system having a lower operating or design pressure, and designated as pressure isolation valves in Table 3.4-2 of the plant Technical Specifications.
- Containment Isolation: Any valve which performs a containment isolation function and is included in the Appendix J, Type C, local leak rate test program.
- Active: Any valve which is required to change position to accomplish its safety-related functions. All valves not designated as passive (PAS) on the valve test tables are considered to be active valves.
- Passive: Any valve which is not required to change position to accomplish a specific function and for which the Code does not require operability testing. '

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PUMP AND VALVE INSERVICE TESTING PROGRAM

FOR

DAVIS-BESSE NUCLEAR POWER STATION

SECTION II

PUMP IST PROGRAM

PUMP IST PROGRAM

II.1 INTRODUCTION

This section presents the program for inservice testing (IST) of safety related pumps at the Davis-Besse Nuclear Power Station, in compliance with the requirements of 10 CFR 50.55a. This program has been prepared to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Subsection IWP, 1986 Edition for ASME Class 1, 2, and 3 pumps that are required to perform a specific function in shutting down a reactor or in mitigating the consequences of an accident, and that are provided with an emergency power source.

II.2 Concept

The pump test program has been developed to detect and monitor safety-related pump degradation. The Program addresses all pumps that are required to perform a specific function in shutting down a reactor or in mitigating the consequences of an accident, and that are provided with an emergency power source. This program specifies either Section XI or alternative testing, as appropriate, for all pumps that perform a safety-related function.

Pumps have been selected for inclusion in the test program based on a review of all plant systems. This review identified those systems performing safety-related functions. Each safety-related system was then analyzed to determine which pumps are essential to the safety-related operation of the system and if they are powered from an emergency power source. All pumps that fit these criteria were analyzed to determine whether Section XI testing can be performed on a quarterly basis and if all required test parameters could be measured in compliance with the Code. Where it was determined that a delay of test is required or Code test requirements could not be implemented either a Generic Letter 89-04 justification or a relief request is provided following the pump test tables.

II.3 Code Interpretations

A number of items in Subsection IWP of the Code are subject to interpretation. The interpretations of a number of general items encountered in preparing the pump test program are provided below:

II.3.1 Pump Test Data Analysis - Required Action Range

IWP-6000 requires that the reference values, limits and acceptance criteria be included in the test procedure. This data will be used following completion of pump testing to determine if the test

data is within the Required Action Range of Table IWP-3100-2. When the data is determined to be within the required action range, the effect on Technical Specification operability of the pump will be assessed and any applicable Technical Specification Action statement time starts.

II.3.2 Pump Retests to Verify Operability

If pump test data fall in the Required Action Range and the pump has been declared inoperable under any applicable Technical Specification Action Statement, the provision of IWP-3230(d) may be applied. As an alternative to repair or replacement the test instruments may be recalibrated and the test rerun. If the pump passes the retest it will be declared operable. If the pump fails the retest the pump remains inoperable and the Technical Specification Action Statement requirements remain in effect.

II.3.3 NRC Information Notices & Bulletins

NRC issued Information Notices and Bulletins relating to pumps were reviewed and incorporated, as applicable.

II.4 Generic Letter 89-04 Justification

NRC Generic Letter 89-04 provides approval of several ASME Code alternative test requirements providing the Pump and Valve programs are consistent with the positions taken in Attachment 1 of the Generic Letter. The Generic Letter states that these preapproved alternatives to the Code should be identified for each applicable pump in the pump test program. This program identifies these pumps by referencing Generic Letter 89-04 justifications. These justifications provide the basis for the need to use the Generic Letter alternative testing and reference the applicable Generic Letter approved alternative.

II.5 Pump Program Relief Requests

Where Code specified test requirements cannot be met or testing must be delayed to cold shutdown or refueling outages the NRC requires that a relief request be provided.

This program provides a relief request for each pump test requirements found to be impractical and/or testing delayed to cold shutdown or refueling outages.

II.6 Pump Test Records

A system of records for pump inservice testing will be

maintained at the site in accordance with IWP-6000 of Section XI.

II.7 GENERAL RELIEF REQUESTS FOR PUMPS

This section requests relief from specific requirements of Section XI found to be impractical for this site. Since they are general in nature and pertain to a number of components, this section requests general relief as presented below.

General Relief
Request: None

II.8 PUMP LIST

Pumps included in this program are as follows:

ASME Class 1, 2, and 3 Pumps

<u>System</u>	<u>P&ID Drawing No.</u>	<u>No. of Pumps</u>
Service Water	M-041 A	3
Auxiliary Feedwater	M-006 D	2
Makeup	M-031 C	2
Boric Acid Transfer	M-045 C	2
Decay Heat	M-033 B, C	2
Component Cooling Water	M-036 A	3
Containment Spray	M-034	2
High Pressure Injection	M-033 A	2
D. G. Fuel Oil Transfer	M-017 A	2

II.9 PUMP TEST TABLE NOMENCLATURE

The following abbreviations have been used in the Pump Test Tables:

Legend for Headings

Pump I.D. Number	- Unique pump identification number
ASME Class	- Classification as determined for Section XI
Drawing Number & COORD.	- Piping and Instrumentation drawing number and location on drawing where pump is shown.
Relief Request	- Applicable relief request numbers are indicated with a "RP" prefix.
Reference Notes	- Notes are located following the last Pump Test Table.

Legend for Pump Parameters

Pi - Inlet pressure (psig)
Po - Outlet pressure (psig)
dP - Differential pressure $dP = P_o - P_i$ (psid)
Q - Flow rate (gpm)
V - Vibration Displacement (mil)
N - Speed (rpm)
L - Lubricant level or pressure
RP - Pump relief request

Legend for Frequency of Test

Q - Quarterly
CS - Cold Shutdown
R - Refueling
NA - Not Applicable
- - Test deleted, See Relief Request

PUMP AND VALVE INSERVICE TESTING PROGRAM

FOR

DAVIS-BESSE NUCLEAR POWER STATION

SECTION II

ATTACHMENT 1: PUMP TEST TABLE AND RELIEF REQUESTS

FOR

SAFETY-RELATED

PUMPS

PUMP TEST TABLE NOTES

ASME Class 1, 2, and 3

The Pump Test List identifies the test parameters to be measured or observed, and the test frequencies. Notes 1 through 6 refer to amplifications of the Code requirements and are further discussed below:

1. On a pump with constant speed drive, speed is not measured, since the test will be performed at nominal motor nameplate speed, as required by Section XI, IWP-3100.
2. Inlet pressure is to be calculated from the inlet liquid level.
3. Bearing temperature measurement is not required (IWP-4310), since bearings are in the pump fluid flow path, such that they are completely immersed in and lubricated by the pumped fluid.
4. Pump lubricant level or pressure is not observed because of bearing lubrication design. Pump motor lubrication is observed in lieu of pump lubricant level or pressure.
5. Flow rate will be measured by measuring increase in day tank level versus time when the transfer pumps are in operation.
6. Neither pump nor motor lubricant level, pressure, or bearing temperatures can be observed since the pump and motor contain sealed bearings such that they are completely immersed in the fluid being pumped. Bearing temperature measurement is not required (IWP-4310).

PUMP RELIEF REQUEST

RP-1

PUMPS: All pumps except the Service Water and DG Fuel Oil Transfer.

CLASS: 2 and 3

TEST REQUIREMENTS: IWP-3000 requires a bearing temperature measurement at least once a year.

BASIS FOR RELIEF: The once-a-year temperature measurement will not provide significant information about pump conditions. Industry experience has shown that bearing temperature changes caused by degrading bearings occur only after major degradation has occurred at the pump. Prior to this, the vibration measurement would provide the necessary information to warn the operator of an impending malfunction. The long running time required to achieve temperature stability could result in increased maintenance and repair. Deletion of this measurement will not have significant effect on evaluating pump test results since other required test parameters are being measured.

ALTERNATE TESTING: Pump differential pressure, flow, and vibration (as applicable) will be used to monitor pump performance.

PUMP RELIEF REQUEST

RP-2

SYSTEM: Service Water

PUMP: P3-1, P3-2, P3-3

CLASS: 3

FUNCTION: Provide Cooling Water to Safety-Related Equipment.

TEST REQUIREMENTS: IWP-3100-2 specifies acceptable, alert, and required action ranges for pump flow rates testing.

BASIS FOR RELIEF: Due to climatic conditions the service water system experiences a wide variation in water temperature. The system flow instrumentation is not designed to compensate for temperature variations. Because of the variation of water temperature, the use of the Code required acceptable, alert, and required action ranges of Table IWP-3100-2 could result in unnecessary pump maintenance and repair. Operating experience with these pumps indicates that the Code ranges can be extended to compensate for temperature variation without adversely affecting the test programs ability to detect pump degradation.

ALTERNATE TESTING: The service water pumps will be tested quarterly in the as-found condition using the installed line flow rate instrumentation using the following acceptable, alert, and required action ranges:

Acceptable	0.94-1.06 Qr
Alert Low	0.90-<0.94 Qr
Alert High	>1.06-1.10 Qr
Required Action Low	<0.90 Qr
Required Action High	<1.10 Qr

PUMP RELIEF REQUEST

RP-3

SYSTEM:	Service Water
PUMP:	P3-1, P3-2, P3-3
CLASS:	3
FUNCTION:	Provide cooling water to safety-related equipment.
TEST REQUIREMENT:	IWP-4500 specifies measuring vibration at a pump housing or its structural support unless it is separated from its driver by a resilient mounting.
BASIS FOR RELIEF:	These pumps are submerged in a pit which makes them inaccessible for measuring vibration amplitude at the pump bearing.
ALTERNATE TESTING:	Vibration amplitude is to be measured on the top of the motor housing horizontally in two planes 90 degrees apart.

PUMP RELIEF REQUEST

RP-4

SYSTEM:	Service Water
PUMP:	P3-1, P3-2, P3-3
CLASS:	3
FUNCTION:	Provide cooling water to safety-related equipment.
TEST REQUIREMENT:	IWP-3100 requires that each measured test quantity be compared to the reference value of the same quality. Any deviations determined shall be compared to the limits given in Table IWP-3100-2.
BASIS FOR RELIEF:	These systems do not have installed pump test lines and system operating conditions will not allow adjusting system resistance without significant impact on plant operations. These are variable resistance systems that are in continuous operation during all modes of plant operation. Depending on plant operating conditions and climatic conditions, the cooling requirements range from minimum cooling loads to 100 percent with many of the loads automatically placed in operation in response to local temperature requirements. Because of these normal operating requirements, it is not possible to specify a reference test flow path or flow rate that can be repeated for each test.
ALTERNATE TESTING:	Pump Testing will be performed with the system in the as-found operating configuration and the test results compared with a curve of reference values which establish the relationship between flow rate and differential pressure in a band around the design point.

PUMP RELIEF REQUEST

RP-5

SYSTEM: Diesel Generator Fuel Oil Transfer

PUMP: P195-1, P195-2

CLASS: 3

FUNCTION: Transfer diesel generator fuel oil from the storage tanks to the diesel generator day tanks.

TEST REQUIREMENT: Measure pump test inlet pressure, differential pressure and flow rate in accordance with the requirements of IWP-3100 and pump test duration requirements of IWP-3500.

BASIS FOR RELIEF: The diesel generator fuel oil transfer pumps are located inside the storage tank with the pump discharge plenum and motor bolted to a flange on top of the tank. These pumps are low flow pumps, rated at 10 gpm for 150 psid. The Day tank can only receive approximately 150 gallons after each EDG test. None of the pumps have installed instrumentation to measure either flow or discharge pressure. The only possible flow measurement is by measuring change in day tank level over time. Error in measuring this volume is dependent on fuel oil temperature and a limited change in level indication because it is the upper section of a circular tank. Flow rate is dependent upon fuel oil viscosity which varies with environmental temperature conditions.

ALTERNATE TESTING: Pump flow functional test are performed quarterly after a Emergency Diesel Generator Test. Pumps are observed to start with a corresponding increase level in the Day Tank. Pump flow rate tests are performed each refueling. Flow rate is obtained by measuring a change in day tank level over time. A day tank level change of approximately 150 gallons shall be timed and flow rate determined at each refueling. Flow rate shall be determined to be greater than 4.5 gpm which is a minimum amount of flow required to perform the safety function.

PUMP RELIEF REQUEST

RP-6

SYSTEM:	Diesel Generator Fuel Oil Transfer
PUMP:	P195-1, P195-2
CLASS:	3
FUNCTION:	Transfer diesel generator fuel oil from the storage tanks to the diesel generator day tanks.
TEST REQUIREMENT:	Measure pump vibration in accordance with IWP-3100.
BASIS FOR RELIEF:	The diesel Fuel Oil Transfer pumps are submersible motor driven centrifugal pumps. Because the pump and motor are submersed and are not accessible for vibration measurements.
ALTERNATE TESTING:	None

PUMP TEST TABLE
DAVIS-BESSE NUCLEAR POWER PLANT

DOCUMENT REVISION: 0

PUMP LIST							MEASURED PARAMETERS						
SYSTEM	PUMP	P&ID	COORD.	CLASS	RELIEF	SPEED	INLET	DIP.				LUBE.	
	NUMBER	NO.			REQUEST	N	PI	DP	Q	V	T	LEVEL	REV.
SERVICE WATER	P3-1	M-041A	G-2	3	RP-2,3,4	(1)	Q(2)	Q	Q	Q	(3)	(4)	
	P3-2	M-041A	G-5			(1)	Q	Q	Q	Q	(3)	(4)	
	P3-3	M-041A	G-9			(1)	Q(2)	Q	Q	Q	(3)	(4)	
AUXILIARY WATER	P14-1	M-006D	G-9	3	RP-1	Q	Q	Q	Q	Q	--	Q	
	P14-2	M-006D	J-6			Q	Q	Q	Q	Q	--	Q	
MAKEUP	P37-1	M-031C	E-8	3	RP-1	(1)	Q	Q	Q	Q	--	Q	
	P37-2	M-031C	H-9			(1)	Q	Q	Q	Q	--	Q	
BORIC ACID TRANSFER	P38-1	M-045	J-4	3	RP-1	(1)	Q(2)	Q	Q	Q	--	Q	
	P38-2	M-045	K-3			(1)	Q(2)	Q	Q	Q	--	Q	
DECAY HEAT REMOVAL	P42-1	M-033B	G-9	2	RP-1	(1)	Q	Q	Q	Q	--	Q	
	P42-2	M-033C	F-8			(1)	Q	Q	Q	Q	--	Q	
COMPONENT COOLING WATER	P43-1	M-036A	D-4	3	RP-1	(1)	Q	Q	Q	Q	--	Q	
	P43-2	M-036A	J-4			(1)	Q	Q	Q	Q	--	Q	
	P43-3	M-036A	G-4			(1)	Q	Q	Q	Q		Q	
CONTAINMENT SPRAY	P56-1	M-034	D-10	2	RP-1	(1)	Q	Q	Q	Q	--	Q	
	P56-2	M-034	B-10			(1)	Q	Q	Q	Q	--	Q	
HIGH PRESSURE INJECTION	P58-1	M-033A	H-7	2	RP-1	(1)	Q	Q	Q	Q	--	Q	
	P58-2	M-033A	E-7			(1)	Q	Q	Q	Q	--	Q	
DG FUEL OIL TRANSFER	P195-1	M-017A	C-4	3	RP-5,6	(1)	--	--	Q(5)	--	(6)	--	
	P195-2	M-017A	C-7			(1)	--	--	Q(5)	--	(6)	--	

PUMP AND VALVE INSERVICE TESTING PROGRAM

FOR

DAVIS-BESSE NUCLEAR POWER STATION

SECTION III

VALVE IST PROGRAM

III. VALVE IST PROGRAM

III.1 INTRODUCTION

This section presents the program for inservice testing of valves at the Davis-Besse Nuclear Power Station, in compliance with the requirements of 10 CFR 50.55a. This program has been prepared to the requirements of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI, Subsection IWV, 1986 Edition for safety-related valves which are required to perform a specific function in shutting down a reactor to the cold shutdown condition or in mitigating the consequences of an accident or in providing overpressure protection.

III.2 Concept

The valve test program has been developed to verify the operability of safety-related systems. The program addresses those valves whose operability and/or position are essential to safety-related system operation and Section XI valve testing will be performed to verify valve operability. The program specifies either Section XI or alternate testing, as appropriate, for those valves which perform a safety-related function.

Valves have been selected for inclusion in the test program based on a review of all plant systems. This review identified those systems performing safety-related functions. Each safety-related system was analyzed to determine which valves are essential to the safety-related operation of the system. These valves were then investigated to determine whether Section XI testing could be performed during normal operation. Those valves for which quarterly testing was determined to be inappropriate were analyzed further to determine if Code allowed cold shutdown testing was possible. If so, justifications for delay of test to cold shutdown are provided following the appropriate valve test tables. Where it is not practical to comply with Code requirements, a review of Attachment 1 to NRC Generic Letter 89-04 has been performed. If the component can be tested consistent with the positions taken in Attachment 1, justifications describing the need to perform the preapproved alternate testing are provided following the appropriate valve test tables. Relief requests describing appropriate alternative testing, and justifying exclusion from Section XI testing for valves which cannot be tested quarterly or during cold shutdown and which are not specifically preapproved by Attachment 1 to NRC Generic Letter 89-04 are provided following the appropriate valve test tables.

III.3

Code Interpretations

A number of items in Subsection IWV of the Code are subject to interpretation. The interpretations of a number of general items encountered in preparing the Valve Test Program are provided below:

III.3.1 Relief Valves

The code requires testing of pressure relief valves in accordance with ASME/ANSI OM-1-1981. The relief valves designated for test are only those which perform a system pressure relief function. Thermal relief valves, whose only function is to protect components or piping from thermal expansion are not considered to be safety-related and are not addressed in the program. Where a relief valve performs both a system and a thermal relief function it has been included as testable. Thermal relief valves which also perform a containment isolation function are included in the program for Appendix J, Type C, testing only.

III.3.2 Passive Valves

The referenced Code excludes valves used only for operating convenience and/or maintenance from testing. Also, the Code defines passive valves but specifies no operability test requirements. This program defines as passive any manual or power operated valve which does not have to change position, but which does perform either a containment isolation or pressure isolation function. Passive containment and pressure isolation valves have been included for seat leak testing only. All valves not designated as passive are considered to be active valves.

III.3.3 System Test Valves

Valves included in a system to align the system for testing are included for Section XI testing if their position is critical to safety-related system operation. The system analysis postulates that the system is aligned to a test mode configuration when the actuation signal occurs. All valves, including those used only for testing, which must respond to the actuation signal, are included in the test program.

III.3.4 Pressure and Flow Control Valves

The referenced Code excludes valves which perform pressure or flow control functions. This program excludes them unless they also perform a system safety-related response function, such as automatic closure on system actuation. The program addresses these valves by specifying testing of the safety-related function and excluding the normal pressure or flow control functions.

III.3.5 Automatic Power Operated Valves

Power-operated valves which receive an automatic signal on system actuation are included in the program. These valves may be included as passive valves, if appropriate.

III.3.6 Remote Power Operated Valves

The program includes power operated valves activated by remote switches if they are required to change position to align a system for safety-related operation, terminate safety-related system operation, or provide containment isolation capability for mitigating the consequences of an emergency.

III.3.7 Normal vs. Safety-Related System Operation

Valves in systems which have both normal and safety-related operating modes are included in the program, only if they perform a safety-related function. Valves which provide normal system operation control and whose position has no effect on safety-related operation are excluded from the program.

III.3.8 Dual-Function Valves

Valves which provide more than one function are tested for their safety-related function only. Valves with multiple safety-related functions are tested for each function. Examples are the automatic depressurization valves, which open and close in response to either an automatic or remote manual signal, and also act as relief valves. Both are safety-related functions, and testing for both functions is included in the program.

III.3.9 Simple Check Valves

Simple check valves are tested to verify operability in the safety-related flow direction(s). Normally closed simple check valves which must open are tested to verify full opening with forward flow. Normally open simple check valves which must close on loss of flow are tested to verify closure on loss of forward flow. Normally closed simple check valves which remain closed on system actuations are tested to verify that the valves are closed. Normally open simple check valves which are required to remain open are tested to verify full-flow in the forward direction. Simple check valves which are required to cycle open and closed are tested to verify full opening with forward flow and closure on loss of forward flow. This interpretation is consistent with Items 1 and 3 of Attachment 1 to NRC Generic Letter 89-04. A check valve full stroke open position may be verified by passing the maximum required accident condition flow through the valve. A check valve reverse flow is tested in a manner that proves the disk travels to the seat promptly on cessation or reversal of flow.

Full forward flow or reverse flow can be verified by showing for a measured flow or other appropriate system parameters through the valve is such that the valve could only be fully open or closed. Full forward flow or reverse flow can be verified by using a mechanical exerciser which can be observed to move through a full stroke for full forward flow and partial movement of the disk travel to the valve seat for reverse flow. Full forward flow or reverse can be verified by partial disassembly of the valve and manually moving the disk through a full stroke. Following mechanical exerciser or partial disassembly test for forward flow a partial forward flow verification test will occur.

III.3.10 Manual Stop Check Valves

Manual stop check valves are tested to verify operability in the safety-related flow direction(s). If the manual operator is withdrawn, the valve operates as a simple

check in the forward flow direction and is tested as a simple check. Reverse flow closure is verified as a simple check, if possible, or by use of the manual operator.

III.3.11 Testable Check Valves

Check valves equipped with a manual exerciser will be tested as a simple check or by exercising using the manual exercising device. Check valves equipped with a power operator installed for the sole purpose of exercising the valve to verify operability will be tested as a simple check or by use of the power operator.

III.3.12 Power Operated Stop Check Valves

Power operated stop check valve testing is based on the function of the operator. If the valve operator is always withdrawn and the valve operates as a simple check valve, except during maintenance, the valve is tested as a simple check. If the operator is normally withdrawn such that the valve operates as a simple check in the forward direction and the operator provides positive closure, it is tested as a simple check in the forward direction and exercised closed using the operator. In addition to exercising, the operator will be timed and failed as appropriate.

III.3.13 Pump Discharge Check Valves

As a minimum, pump discharge check valves will be forward flow exercised. In addition, reverse flow closure will be verified when failure of the valve to close could result in a substantial reduction of system flow. Such a potential exists with parallel pumps connected to common suction and discharge headers. If the check valve on the idle pump fails to close a significant amount of system flow could be diverted back through the idle pump to the suction header.

III.3.14 Check Valve Full/Partial Stroke

In some cases, full design flow through a check valve requires less than full mechanical valve movement. As used in this program, the term full-stroke refers to

either the ability of the valve to pass design flow rate or full mechanical stroking. Forward flow full-stroke operability testing will be by any method that verifies the valve capable of passing design flow or full mechanical stroking. Any test that verifies less than full design flow capability or full mechanical stroking is considered as a partial-stroke test. This interpretation is consistent with item 1 of Attachment 1 to NRC Generic Letter 89-04.

III.3.15 Category AC (Containment Isolation Valve) Leak Testing

All valves specified for Appendix J, Type C, local leak rate testing are included in the Program as Category A and C valves. Appendix J, Type C, local leak rate testing fulfills the intent of Articles IWV-3420 through IWV-3425 and will be performed in lieu of Section XI testing. Analysis of leakage rates and corrective action requirements of IWV-3426 and IWV-3427(a) will be performed. Compliance to IWV-3427(b) is impractical and not required for Appendix J testing as established in Generic Letter 89-01, Attachment 1. The Program reflects the current list of valves receiving Appendix J, Type C, testing. Any future change to that list will be incorporated into the Program. This interpretation has been preapproved by Item 10 of Attachment 1 to NRC Generic Letter 89-04.

III.3.16 Category AC (Pressure Isolation) Valve Operability Testing

Reactor coolant system pressure isolation valves will be demonstrated operable in accordance with plant Technical Specifications 4.4.6.2.2 in lieu of the requirements of IWV-3420 as follows:

Each reactor coolant system pressure isolation valve specified in Table 3.4-2 shall be demonstrated operable pursuant to Specification 4.0.5, except that in lieu of any leakage testing required by Specification 4.0.5, each valve shall be demonstrated operable by verifying leakage to be within the allowable leakage criteria

of 1.0 gal/min with an upper limit of the maximum allowable leakage in Table 3.4-2; and the measured leak rate for a given test cannot reduce the difference between the results of the previous test and the maximum allowable leakage specified in Table 3.4.2 by more than 50 percent:

- a. After each refueling outage.
- b. Whenever the plant has been in COLD SHUTDOWN for 72 hours, or more, and if leakage testing has not been performed in the previous 9 months, and
- c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve.

Per WASH 1400 Event V, CF 30, CF 31, DH 76, and DH 77 will be leak tested prior to Reactor Startup if forward flow through these valves was identified. Any change to the list of pressure isolation valves referred to in Technical Specifications will automatically be incorporated into the program. This interpretation is consistent with Item 4 of Attachment 1 to NRC Generic Letter 89-04.

III.3.17 Locked Valves

This program classifies as locked valves only those which are physically restrained from movement (i.e., chain and padlock), or sealed (i.e., wire and seal) in position. Key locked valves are not considered to be physically locked.

III.3.18 Valve Position Indicator Verification

IWV-3300 requires that all valves with remote position indicators shall be observed at least once every two years to verify that valve operation is accurately indicated. It is the intent of this program that such verification will be performed on all valves which have remote position indicators.

III.3.19 Valve Stroke Direction

Valves will be stroked and timed in their safety-related directions(s). For example, a motor-operated valve whose safety-related

operation is to close on system actuation will be exercised and timed closed. If the valve must operate in both directions for safety-related system operations, it will be exercised and timed in both directions.

III.3.20 Valve Fail-Safe Directions

Valves will be tested to verify operability of the fail-safe operator in the direction that the valve travels to perform its safety-related function. Valves equipped with fail-safe operators for convenience only and which do not have to change position on loss of power for adequate safety-related operation will not be fail-safe tested.

III.3.21 Temperature Interlocked Valves

Valves which open and close in response to local temperature controls will not be tested unless they are interlocked to system operation. For example, temperature interlocked valves on local area heat exchangers will not be tested unless they are interlocked to go open/closed on system actuation for safety-related operation.

III.3.22 Containment Entry

Entry into the containment structure during normal operation or cold shutdown is strictly regulated by plant operating procedures. Because of environmental and As-Low-As-Reasonably-Achievable (ALARA) considerations, entry is made only for tasks that are absolutely necessary for plant operation, and duration inside the containment is limited to as-short-as-possible. Because of this, valve testing that would require entry into containment to perform special testing is limited to only those absolutely essential for safe plant operation and all others are delayed until refueling.

III.3.23 Pump Seal, Cooling, and Lubrication Valves

Valves in pump seal water, cooling water and lubrication lines which are an integral part of the pump design and which are effectively verified operable during pump operation or testing are not addressed in the program.

Acceptable pump operation or testing verifies adequate operability of pump seal, cooling and lubrication path valves.

III.3.24 Pressurizer Power Operated Relief Valve (PORV) Block Valve

The pressurizer PORV block valves will be operability tested quarterly to Code Requirements.

III.3.25 Rapid-Acting Valve Stroke Timing

Power operated valves with normal stroke times of two seconds or less are defined as Rapid-Acting valves. These valves will have a maximum limiting value of full-stroke time of two seconds. Any measured full-stroke time of two seconds or less verifies operability. If the measured valve full-stroke time exceeds two seconds the valve is declared inoperable and corrective action is taken in accordance with IWV-3417(b). This interpretation has been preapproved by Item 6 of Attachment 1 to NRC Generic Letter 89-04.

III.3.26 Power Operated Valve Limiting Values of Full-Stroke Time

For power operated valves the Code requires that (a) Limiting values of full-stroke times shall be specified (IWV-3413(a)), (b) Valve stroke times shall be measured to (at least) the nearest second (IWV-3413(b)) and (c) If the stroke time increases by 50% or more from the previous test, then the test frequency shall be increased to once each month until corrective action is taken (IWV-3417(a)). Paragraph IWV-3417(b) specifies corrective actions that must be taken. With reference to (c) above, measuring changes in stroke times from a reference value as opposed to measuring changes from the previous test is an acceptable alternative. (Reference: NRC Generic Letter No. 89-04 - April 3, 1989).

The purpose of limiting values of full-stroke time is to establish a value for taking action on a degraded valve before the valve reaches the point where there is a high probability of valve failure due to

valve degradation. The limiting value of full-stroke time for each valve is based on a reference value of full-stroke time for each valve when it is known to be in good mechanical condition and operating acceptable. The reference value can be a single measurement or, better still, the average of a number of measurements. The limiting value shall be a reasonable deviation from the reference value.

Neither the Code nor the NRC have provided any specific requirements or guidelines for establishing an appropriate deviation, except that the limiting value of full-stroke time be a reasonable value and based on each valve size, and the actuator type.

Toledo Edison is adopting component oriented maximum valve stroke times for these valves based upon the criteria below:

- a. Motor-operated valves will be limited to 1.5 times baseline.
- b. Air-operated valves with a stroke time baseline less than 10 seconds will be limited to 3.0 times baseline.
- c. Air-operated valves with a ten second or greater baseline will be limited to twice baseline.

After the limiting values of stroke times have been established they will be compared to Technical Specifications and USAR values. Where the limiting values are less than those of Technical Specifications, they will be used. If Technical Specification or USAR maximums are less than the calculated values, the Technical Specification or USAR maximum will be used. In no case will the limiting value of full-stroke time be greater than Technical Specification or USAR stroke times. This interpretation is consistent with Item 5 of Attachment 1 to NRC Generic Letter 89-04.

III.3.27 Submittal of Limiting Values of Stroke Time

The NRC requires that limiting values of power operated valve stroke times be included in the program submittal. Because of repair, maintenance, modification, etc.

limiting values of stroke time will change. If limiting values are included in the program and the program is approved by the NRC, any subsequent change to limiting stroke times would require a program revision. In order to avoid unnecessary program revision for Code allowed changes to limiting values of stroke time, a listing of limiting values of stroke times has been prepared.

III.3.28 Pump Minimum Flow Line Block Valves

Stroke testing of pump min-flow line block valves depends on valve usage and configuration. Normally open motor operated line block valves that are not required to close (i.e., remain open for all modes of operation) are passive and are excluded from testing. Normally open individual min-flow line power operated block valves which are normally closed and open on pump start or normally open and are required to close shall be stroke tested quarterly. If the individual min-flow lines tie into a single discharge line with a normally open power operated valve, such that failure of the valve in the closed position could stop min-flow from all pumps, valve stroke testing will be delayed.

III.3.29 Check Valve Disassembly

Item 2 of Attachment 1 to NRC Generic Letter 89-04 preapproves the use of valve disassembly and visual inspection as an alternative for check valves where it has been determined that testing is impractical. A sampling plan is used for groups of check valves which are identical (i.e., same manufacturer, type, size, etc.) in construction and for which the system operating environment is the same. The group size has been limited to a maximum of four valves per group, such that each valve shall be disassembled at least once every six years. The sampling plan selects one valve from each group for disassembly during each refueling outage. If the selected valve passes inspection, a second valve is selected for disassembly at the next refueling, etc. until the group has been completed or until such time that sufficient

inspections have been performed to justify an alternate sampling plan. For those cases where disassembly indicates that there are no valve problems, a new relief request may be prepared to perform less frequent inspections.

Failure of the selected valve to pass inspection will initiate additional valve disassembly as specified by the appropriate Program relief request.

The sample disassembly and inspection program includes verification that the valve is capable of full-stroke operation and visual inspection for worn or corroded parts. For valves with hinge pins in the valve body, full-stroke operability is verified by manually exercising the valve through a complete cycle. For valves with hinge pins in the removable bonnet, such that the valve internals are removed from the valve body during disassembly, direct verification of full-stroke operability by manually exercising is not possible. For these valves, full-stroke operability determination will be by visual inspection of valve internals for evidence of wear, binding, etc., and by stringent valve reassembly procedures.

III.3.30 Pump Discharge Header Train Isolation Block Valves

Where safety-related pumps discharge to a common header with header power operated block valves, valve testing depends on valve safety-related function and system operating modes. If the valves are relied upon to provide train separation (i.e., close one or more valves to establish independent pump flow paths) the valves are stroke tested. If the valves are for alignment purposes only (i.e., substituting an installed spare pump in place of a normally aligned pump) the valves are for operating convenience and have been excluded from the program. If the valves require testing, an analysis was performed to determine if stroking would place the plant in an degraded condition (i.e., isolation of ECCS required flow path). If a degraded condition would result, testing will be delayed.

III.3.31 Technical Specification/Unanalyzed Condition Analysis

Each stroke tested valve has been analyzed to determine if stroking the valve would violate plant Technical Specification requirements or place the plant in an degraded condition. For example, if Technical Specifications requires that two independent flow paths be available during normal operation and stroking a valve closed would isolate one of the required flow paths, valve testing will be delayed until valve testing can be performed without violating Technical Specification requirements. In addition, if failure of a valve in a nonconservative position during test would place the plant in an unanalyzed configuration (i.e., reduce ECCS flow to below minimum required flow rates), testing will be delayed.

III.3.32 Valve Test Data Analysis - Limiting Value of Stroke Time

The valve stroke time test data will be reviewed immediately upon completion of test to determine if the individual valve limiting value of stroke time has been exceeded. If the valve stroke time data exceeds the limiting value, the effect on Technical Specification operability will be assessed immediately and actions taken as appropriate.

III.3.33 Valve Inoperability - Effect on System Operability

There are a number of valves in the test program whose failure to pass Section XI test requirements may not affect safety-related system operability. For example, a normally closed power operated pump test line valve which fails in the closed position would not prevent the system from performing its safety-related operating function(s). When a valve fails to pass Section XI test criteria an analysis will be performed to determine what effect valve inoperability has on system operability. If system operability is affected, the plant Technical Specifications provide the system operability requirements. This analysis will be performed without delay upon valve

failure and, if system operability is affected then the action statement to the applicable LCO shall be met. If valve failure does not affect safety-related system operability the valve will be declared inoperable and valve retest and/or appropriate corrective action initiated.

III.3.34 Valve Retests to Verify Operability

If a valve failed to pass Section XI test criteria and the valve has been declared inoperable a valve retest may be performed. If the valve passes the retest it will be declared operable. If the valve fails the retest then corrective action shall occur or the applicable action statements of the Technical Specification or the applicable ASME Section XI will be met.

III.3.35 NRC Information Notices and Bulletins

NRC issued Information Notices and Bulletins relating to valves were reviewed and incorporated, as applicable.

III.4

Cold Shutdown Justification

The referenced Code edition allows delay of testing to cold shutdown when testing quarterly during normal operation is not practical. Even though a relief request is not necessary, the NRC requests that a justification for delay of testing to cold shutdown condition be provided. This program provides a cold shutdown justification for each valve where testing is delayed to cold shutdown.

III.5

Generic Letter 89-04 Justifications

NRC Generic Letter 89-04 provides approval of several ASME Code alternative test requirements providing the Pump and Valve test programs are consistent with the positions taken in Attachment 1 of the Generic Letter. The Generic Letter states that these preapproved alternatives to the code should be identified for each applicable valve in the valve test program. This program identifies these valves by referencing Generic Letter 89-04 justifications. These justifications provide the basis for the need to use the Generic Letter alternative testing and reference the applicable Generic Letter preapproved alternative.

III.6

Relief Requests

Where Code specified test requirements cannot be met or

testing must be delayed to refueling outages the NRC requires that a relief request be provided. This program provides a relief request for each valve which cannot be tested in compliance with Code test requirement and/or testing is delayed to refueling outages.

III.7

Valve Test Records

A system of records of valve inservice testing will be maintained at the site in accordance with IWV-6000 of Section XI.

GENERAL RELIEF REQUESTS FOR VALVES

This section requests relief from specific requirements of Section XI found to be impractical for this site. Since they are general in nature and pertain to a number of components, this section requests general relief as presented below:

General Relief
Request:

VG-1

Components:

Valves tested at cold shutdown

Category:

A, B, C

Code Requirements: IWV-3417 states that when corrective action is required as a result of tests made during cold shutdown, the condition shall be corrected before startup. A retest showing acceptable operation shall be run following any required corrective action before the valve is returned to service.

Basis for Relief: The plant technical specifications provide the system operability requirements for plant startup and mode changes. The failure of a valve to pass Section XI test requirements may not affect system operability or prevent the system from performing its safety-related function(s). For example, failure of a normally closed power operated valve in a pump test line to open does not affect system operability and does not prevent the system from performing its safety-related function(s).

Alternate Testing: When a valve fails Section XI test criteria during cold shutdown testing an analysis will be performed to determine if the test failure results in system inoperability or would prevent the system from performing its safety-related function(s). If the analysis determines a valve test failure does not cause system to be inoperable then the plant may startup providing corrective action is being or will be performed on the valve. A retest showing acceptable operation shall be run following any required corrective action before the valve is returned to service.

General Relief

Request: VG-2

Component: Pressure Isolation Valves

Code Requirements: Section XI Category A valves will be leak tested to the requirements of IWV-3420.

Category: A, AC

Basis for Relief: Technical Specification Section 3.4.6.2 defines the limiting condition for operation and Section 4.4.6.2.2 defines the surveillance requirements for pressure isolation valves as follows:

"Each reactor coolant system pressure isolation valve specified in Table 3.4-2 shall be demonstrated operable pursuant to Specification 4.0.5 except that in lieu of any leakage testing required by Specification 4.0.5, each valve should be demonstrated operable by verifying leakage to be within the allowable leakage criteria of 1.0 gpm with an upper limit of the maximum allowable leakage in Table 3.4-2; and the measured leak rate for any given test cannot reduce the difference between the results of the previous test and the maximum allowable leakage specified in Table 3.4-2 by more than 50%.

- a. After each refueling outage
- b. Whenever the plant has been in COLD SHUTDOWN for 72 hours, or more, and if leakage testing has not been performed in the previous 9 months, and
- c. Prior to returning the valve to service following maintenance, repair, or replacement work on the valve."

Alternate Testing: The Technical Specifications-defined surveillance testing will be performed. Per WASH 1400 Event V, CF 30, CF 31, DH 76, and DH 77 will be leak tested prior to Reactor Startup when a differential pressure of 100 PSID or less has occurred across any of these check valves.

General Relief

Request: VG-3

Component: Valves required to shutdown the reactor to cold shutdown condition.

Code Requirements: The Scope of ASME, Section XI, Subsection IWV 1100 provides the rules and requirements for inservice testing to assess operational readiness of certain Class 1, 2, and 3 valves in light water cooled nuclear power plants, which are required to perform a specific function in shutting down a reactor to the cold shutdown condition, in mitigating the consequences of an accident or in providing overpressure protection.

Category: A,B,C,D

Basis for Relief: Davis-Besse Power Station defines shutting down the reactor per Section 7.4.1 of the USAR as that station condition in which the reactor is 1.0 percent subcritical and the reactor coolant system temperature and pressure are in the normal operating range. Per Davis-Besse Technical Specification this condition is defined as Mode 3, Hot Standby. A Cold Shutdown condition is not required to shutdown the reactor. The Licensing Basis for safe shutdown is Hot Standby.

Alternate Testing: No alternate testing is required. Present Inservice Testing program is limited to those systems and components to reach a safe shutdown condition. This condition is defined as Mode 3, Hot Standby per Section 1.0, Definitions for Technical Specifications. Those systems and components required to reach a Cold Shutdown conditions are addressed in an augmented valve test program.

III.9

VALVE DRAWING LIST

ASME Class 1, 2, and 3 Systems

<u>System</u>	<u>P&ID No.</u>
Reactor Coolant	M-030 A
	M-040 A
	M-040 B
Core Flood	M-033 B
	M-034
Containment Spray	M-034
Decay Heat	M-033 A
	M-033 B
	M-033 C
	M-042 C
D G Air Start	M-017 B
High Pressure Injection	M-033 A
Makeup	M-031 A
	M-031 B
	M-031 C
	M-045
Main Steam	M-003 A
	M-003 C
	M-007 A
	M-007 B
Feedwater	M-006 D
	M-007 B
Auxiliary Feedwater	M-006 D
	M-007 B
Service Water	M-006 D
	M-031 C
	M-041 A
	M-041 B
	M-041 C
Component Cooling Water	M-036 A
	M-036 B
	M-036 C
	M-040 D
Containment Vacuum Relief	M-029 B
Containment Purge	M-029 E
Containment Hydrogen Control	M-029 B
	M-029 D
Aux. Bldg. Radwaste, Fuel Handling and Access Control are HVAC	M-028 B
Nitrogen Supply	M-019
	M-036
Demineralized Water	M-010 C
	M-036 A
Sample	M-007 A
	M-040 A
Rorated Water	M-033 A
Instrument Air	M-015 A

Station Air

M-015 D

Station Drainage

M-034

Gaseous Radioactive Waste

M-046

M-038 B

M-038 C

Auxiliary Steam

M-003 C

III.10 VALVE TEST TABLE NOMENCLATURE

The following abbreviations have been used in the Valve Test Tables:

Legend for Valve Categories

<u>Category</u>	<u>Description</u>
A -	Valves for which seat leakage is limited to a specific maximum amount in the closed position for fulfillment of their function.
B -	Valves for which seat leakage in the closed position is inconsequential for fulfillment of their function.
C -	Valves which are self-actuating in response to some system characteristic.
D -	Valves which are actuated by an energy source capable of only one operations, such as rupture disks or explosive-actuated valves.
AC -	Valves which are both Category A and C.
BC -	Valves which are both Category B and C.

Legend of Valve Type

AN -	Angle Valve	TW -	Three Way
BF -	Butterfly Valve	TR -	Thermal Relief
BL -	Ball Valve	SK -	Spring Check
CK -	Check Valve	PG -	Plug
DA -	Diaphragm Valve	RG -	Regulating
GT -	Gate Valve	RD -	Rupture Disk
GL -	Globe Valve	VR -	Vacuum Relief
KL -	Safety or Pressure Relief Valve	MK -	Manual Testable Check
SC -	Stop Check Valve	TK -	Power Operated Testable Check
ND -	Needle		

Legend of Valve Actuator Type

AO -	Air Operated	SA -	Self Actuating
SO -	Solenoid	EM -	Electro-Mech
MA -	Manual	HO -	Hydraulic
MO -	Motor Operated		

Legend of Valve Positions:
Normal, Fail, or Safety-Related

AI	-	As Is	LC	-	Locked Closed
C	-	Closed	LO	-	Locked Open
O	-	Open	LT	-	Locked Throttled
O/C	-	Open or Closed			

Legend for Frequency of Test

Q - Quarterly
R - Refueling
T - Per ANSI/ASME OM-1-1981
Y - 2 Years
C - Cold Shutdown

Legend for Valve Testing Requirements

TO - Stroke and Time Open
TC - Stroke and Time Closed
FO - Fail Safe Test Open
FC - Fail Safe Test Closed
SR - Relief Valves
VR - Vacuum Relief Valves
LJ - Leak Test per Appendix J, Type C (Containment Isolation)
LP - Leak Test per Section XI (Pressure Isolation)
LC - Leak Test per both Appendix J, Type C, and Section XI
PI - Remote Position Indicator Verification
FF - Check Valve Forward Flow Closure Verification
RF - Check Valve Reverse Flow Closure Verification
MK - Testable Check Valve with Manual Exerciser
TK - Testable Check Valve with Power Operated Exerciser
SO - Stroke Open Without Timing
SC - Stroke Closed Without Timing
RD - Rupture Disk
PAS - Passive Valve
PQRM - Partial-stroke test exercised quarterly. Valve disassembled during refueling and manual stroke test exercised.
RM - Valve disassembled during refueling and manual stroke test exercised.
PQR - Partial-stroke test exercised quarterly and full-stroke test exercised during refueling.
PQCS - Partial-stroke test exercised quarterly and full-stroke test exercised during cold shutdown.
PCS - Partial-stroke test exercised during cold shutdown and full-stroke test exercised during refueling.
PCRM - Partial-stroke test exercised at cold shutdown. Valve disassembled during refueling and manual stroke test exercised.

Legend for Valve Table Headings

VALVE NO.	- Unique valve identification number.
CAT. & CL.	- Category of valve as defined in IWV-2200, and ASME Class as determined for Section XI
DRAWING NO & COORD.	- Piping and instrumentation drawing (P&ID) number, and location on P&ID where valve is shown.
SIZE & TYPE	- Nominal pipe size diameter of the valve, and type of valve (i.e., check, globe, gate).
ACT. TYPE & FAIL POS.	- Type of valve actuator (i.e., motor, air) and position to which the valve travels upon a loss-of-actuator power or air.
POS. NORMAL S. R. OP.	- Normal position of valve, and valve position & when it performs its safety related (i.e., open, closed or open/closed) function.
CODE TEST REQ.	- Section XI valve test requirements.
C.S. OR RELIEF REQUEST	- Reference number of a cold shutdown justification or relief request which are located following the valve test tables for each system.
C.S. OR ALTERNATE TEST	- Cold Shutdown or alternate testing which is being performed in lieu of Code specified quarterly testing.
DESCRIPTION NOTES	- A brief description of valve function, and applicable notes.
REV. NO.	- Revision Number.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

AUXILIARY FEEDWATER
SYSTEM

SECTION III

ATTACHMENT: III-1-1

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: AUXILIARY FEEDWATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
AP1	C 3	M-006D G-6	8 CK	SA NA	C O	Rt Q	CS-1	RF-C	CST to APW pump suction line check valve.	
AP2	C 3	M-006D J-4	8 CK	SA NA	C O	RF-Q	CS-1	RF-C	CST to APW pump suction line check valve.	
AP15	C -	M-006D E-10	2 CK	SA NA	C O	FF-Q			APW pump min. flow line check valve.	
AP16	C -	M-006D J-10	2 CK	SA NA	C O	FF-Q			APW pump min. flow line check valve.	
AP19	C 3	M-006D G-11	8 CK	SA NA	O	FF-Q		FF-Q	APW pump discharge line check valve.	
AP20	C 3	M-006D J-11	8 CK	SA NA	O	FF-Q		FF-Q	APW pump discharge line check valve.	
AP39	C 3	M-007B B-12	6 CK	SA NA	C O/C	FF-Q RF-Q	RV-1 CS-2	FF-R RF-C	APW to SG injection line check valve.	
AP43	C 3	M-007B B-4	6 CK	SA NA	C O/C	FF-Q RF-Q	RV-1 CS-2	FF-R RF-C	APW to SG injection line check valve.	
AP49	C 3	M-006D C-6	6 CK	SA NA	C O/C	RF-Q	CS-2	RF-C	Motor driven FW pump discharge to APW sys. line check valve.	
AP52	C 3	M-006D D-6	6 CK	SA NA	C O/C	RF-Q	CS-2	RF-C	Motor driven FW pump discharge to APW sys. line check valve.	
AP72	C 3	M-007B B-10	6 CK	SA NA	C O/C	FF-Q RF-Q	RV-1 CS-2	FF-R RF-C	APW pump discharge cross-tie line check valve.	
AP73	C 3	M-007B A-8	6 CK	SA NA	O	FF-Q	RV-1	FF-R	APW pump discharge cross-tie line check valve.	
AP74	C 3	M-007B A-7	6 CK	SA NA	O	FF-Q	RV-1	FF-R	APW pump discharge cross-tie line check valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: AUXILIARY FEEDWATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DMG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
AF75	C 3	M-007B B-5	6 CK	SA NA	C O/C	FF-Q RF-Q	RV-1 CS-2	FF-R RF-C	APW pump discharge cross-tie line check valve.	
AF599	B 2	M-007B B-2	6 GT	MO AI	LO O	TC-Q PI-Y			APW to SG line block valve.	
AF608	B 2	M-007B E-13	6 GT	MO AI	LO O	TC-Q PI-Y			APW to SG line block valve.	
AF3869	B 3	M-007B A-8	6 GT	MO AI	C O	TO-Q TC-Q PI-Y			APW pump discharge line isolation valve.	
AF3870	B 3	M-007B A-10	6 GT	MO AI	O O	TO-Q TC-Q PI-Y			APW pump discharge line isolation valve.	
AF3871	B 3	M-007B A-7	6 GT	MO AI	C O	TO-Q TC-Q PI-Y			APW pump discharge line isolation valve.	
AF3872	B 3	M-007B A-5	6 GT	MO AI	O O	TO-Q TC-Q PI-Y			APW pump discharge line isolation valve.	
AF4979	C 3	M-006D H-9	1 X 1 RL	SA NA	C O	SR-T			APW pump cooler line relief valve.	
AF4980	C 3	M-006D K-6	1 X 1 RL	SA NA	C O	SR-T			APW pump cooler line relief valve.	
AF6451	B 3	M-006D J-12	4 GT	SO O	O O	TO-Q FO-Q	RV-2 RV-2	SO-Q FO-Q	APW pump discharge flow control valve.	
AF6452	B 3	M-006D G-12	4 GT	SO O	O O	TO-Q FO-Q	RV-2 RV-2	SO-Q FO-Q	APW pump discharge flow control valve.	

RELIEF REQUEST

RV-1

SYSTEM: AUXILIARY FEEDPUMP
VALVE(s): AF39, AF43, AF72, AF73, AF74, AF75
CATEGORY: B
CLASS: 3
FUNCTION: Motor Driven Feedwater pump and Auxiliary
Feedwater Pump Discharge to the Steam
Generator Line Check Valves.

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

BASIS FOR RELIEF: These lines are equipped with in-line
cavitating venturis. Full-flow testing
can only be performed with the steam
generators at operating pressure. Full
flow testing at reduced pressure results
in severe multi-phase flow in the
downstream piping. Multi-phase flow at
design operating flow rates cause extreme
pipe movement similar to water hammer and
could result in extensive damage to the
pipe and pipe supports.

The only way to verify full flow
operability during normal operation is by
injecting relatively cold water into the
steam generator. The injection of cold
water into the hot steam generators would
cause unwanted thermal cycling of the
OTSG tubes. Testing with reduced flow
(less than 100 gpm) at cold shutdown
could cause excessive cooldown of the RCS
and could induce steam generator water
level and pressure transients.

ALTERNATE TESTING: Valves will be full-flow tested at
refueling

RELIEF REQUEST

RV-2

SYSTEM: AUXILIARY FEEDWATER
VALVE(s): AF6451, AF6452
CATEGORY: B
CLASS: 3
FUNCTION: Auxiliary Feedwater Pump Discharge to Steam
Generator Line Flow Control Valves.

ASME SECTION XI
QUARTERLY TEST

REQUIREMENT: Exercise, time, and fail

BASIS FOR RELIEF: These are Target Rock, solenoid operated valves with position indication from linear variable differential position transmitters. Valve position is determined by reading output voltage from the transmitter. Operability is verified by measuring voltage changes at a test panel as the valve is exercised from a different test panel. Because of the two locations and method of operability, verification is not possible to accurately measure stroke time.

ALTERNATE TESTING: Valves will be exercised and fail tested quarterly.

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: AUXILIARY FEEDWATER
VALVE(s): AF1, AF2
CATEGORY: C
CLASS: 3
FUNCTION: Condensate Storage Tank to Auxiliary Feedwater
Pump Suction Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: There are two possible methods which could be used to verify reverse flow testing. First the use of Service Water as a pressure source against the check valve which is not acceptable due to water chemistry. Second using a demineralized water source with pressure or flow instrumentation to verify reverse flow closure. This reverse flow testing would require extensive lineups causing the respective Auxiliary Feedpump inoperable. This would be in violation of Technical Specification 3.7.1.2 which requires the operability of the Auxiliary Feedwater system.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: These valves will be reverse flow tested using an external source of demineralized water and instrumentation to verify reverse flow.

COLD SHUTDOWN TEST JUSTIFICATION

CS-2

SYSTEM: AUXILIARY FEEDPUMP
VALVE(s): AF39, AF43, AF49, AF52, AF72, AF75
CATEGORY: C
CLASS: 3
FUNCTION: Steam Driven Auxiliary Feedwater Pump and
Motor Driven Feedwater Pump Discharge to Steam
Generator Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow operability.

COLD SHUTDOWN TEST

JUSTIFICATION: The only way to verify reverse flow operability could exceed the present action statement time limit for the Auxiliary feed system. A demineralized water source, valve lineups, and pressure or flow instrumentation would be required to verify no reverse flow for each check valve. Reverse flow testing would require extensive lineups and test conditions hence causing the respective Aux Feedpump inoperability time period to exceed the Technical Specification Action Statements. This would be in violation of Technical Specification 3.7.1.2 which requires the operability of the Auxiliary Feedwater system.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: These valves will be reverse flow tested using an external source of demineralized water and instrumentation to verify reverse flow. In addition during normal daily power operation, plant operators on their rounds will verify no reverse flow by physically touching the Auxiliary Feed pump to ensure no reverse flow from the steam system.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

AUXILIARY STEAM
SYSTEM

SECTION III

ATTACHMENT: III-1-2

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: AUXILIARY STEAM

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
AS274	C 3	M-003C P-4	6 CK	SA NA	C C	RF-Q	RV-1	RF-R	AS to APW pump turbine line check valve.	

RELIEF REQUEST

RV-1

SYSTEM: AUXILIARY STEAM
VALVE(s): AS274
CATEGORY: C
CLASS: 3
FUNCTION: Auxiliary Steam to Auxiliary Feedwater Turbine
Test Line Check Valve.

ASME SECTION XI
QUARTERLY TEST

REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: The only time this line is open is during modes 4, 5, and 6 for test purposes. During normal operation the inline manual isolation valve AS273 is maintained closed. The valve provides the boundary between the class 3 Auxiliary Feedwater System and the non-class Auxiliary Steam System. The only safety-related function for this valve is to remain closed on loss of Auxiliary Steam System integrity.

ALTERNATE TESTING: Valve reverse flow closure will be verified each time the isolation valve has been opened and the valve is exercised, but not more than a frequency of once every 92 days.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

BORATED WATER STORAGE
SYSTEM

SECTION III

ATTACHMENT: III-1-3

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: AUXILIARY FEEDWATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
AF1	C 3	M-006D G-6	8 CK	SA NA	C O	RF-Q	CS-1	RF-C	CST to APW pump suction line check valve.	
AF2	C 3	M-006D J-4	8 CK	SA NA	C O	RF-Q	CS-1	RF-C	CST to APW pump suction line check valve.	
AF15	C -	M-006D E-10	2 CK	SA NA	C O	FF-Q			APW pump min. flow line check valve.	
AF16	C -	M-006D J-10	2 CK	SA NA	C O	FF-Q			APW pump min. flow line check valve.	
AF19	C 3	M-006D G-11	8 CK	SA NA	O	FF-Q		FF-Q	APW pump discharge line check valve.	
AF20	C 3	M-006D J-11	8 CK	SA NA	O	FF-Q		FF-Q	APW pump discharge line check valve.	
AF39	C 3	M-007B B-12	6 CK	SA NA	C O/C	FF-Q RF-Q	RV-1 CS-2	FF-R RF-C	APW to SG injection line check valve.	
AF43	C 3	M-007B B-4	6 CK	SA NA	C O/C	FF-Q RF-Q	RV-1 CS-2	FF-R RF-C	APW to SG injection line check valve.	
AF49	C 3	M-006D C-6	6 CK	SA NA	C O/C	RF-Q	CS-2	RF-C	Motor driven FW pump discharge to APW sys. line check valve.	
AF52	C 3	M-006D D-6	6 CK	SA NA	C O/C	RF-Q	CS-2	RF-C	Motor driven FW pump discharge to APW sys. line check valve.	
AF72	C 3	M-007B B-10	6 CK	SA NA	C O/C	FF-Q RF-Q	RV-1 CS-2	FF-R RF-C	APW pump discharge cross-tie line check valve.	
AF73	C 3	M-007B A-8	6 CK	SA NA	O	FF-Q	RV-1	FF-R	APW pump discharge cross-tie line check valve.	
AF74	C 3	M-007B A-7	6 CK	SA NA	O	FF-Q	RV-1	FF-R	APW pump discharge cross-tie line check valve.	

III-1-1-1

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: AUXILIARY FEEDWATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
AF75	C 3	M-007B B-5	6 CK	SA NA	C O/C	FP-Q RF-Q	RV-1 CS-2	FF-R RF-C	APW pump discharge cross-tie line check valve.	
AF599	B 2	M-007B B-2	6 GT	MO AI	LO O	TC-Q PI-Y			APW to SG line block valve.	
AF608	B 2	M-007B B-13	6 GT	MO AI	LO O	TC-Q PI-Y			APW to SG line block valve.	
AF763	B 3	M-007B A-8	6 GT	MO AI	C O	TO-Q TC-Q PI-Y			APW pump discharge line isolation valve.	
AF3870	B 3	M-007B A-10	6 GT	MO AI	O O	TO-Q TC-Q PI-Y			APW pump discharge line isolation valve.	
AF3871	B 3	M-007B A-7	6 GT	MO AI	C O	TO-Q TC-Q PI-Y			APW pump discharge line isolation valve.	
AF3872	B 3	M-007B A-5	6 GT	MO AI	O O	TO-Q TC-Q PI-Y			APW pump discharge line isolation valve.	
AF4979	C 3	M-006D H-9	1 X 1 RL	SA NA	C O	SR-T			APW pump cooler line relief valve.	
AF4980	C 3	M-006D K-6	1 X 1 RL	SA NA	C O	SR-T			APW pump cooler line relief valve.	
AF6451	B 3	M-006D J-12	4 GT	SO O	O O	TO-Q FO-Q	RV-2 RV-2	SO-Q FO-Q	APW pump discharge flow control valve.	
AF6452	B 3	M-006D G-12	4 GT	SO O	O O	TO-Q FO-Q	RV-2 RV-2	SO-Q FO-Q	APW pump discharge flow control valve.	

RELIEF REQUEST

RV-1

SYSTEM: AUXILIARY FEEDPUMP
VALVE(s): AF39, AF43, AF72, AF73, AF74, AF75
CATEGORY: B
CLASS: 3
FUNCTION: Motor Driven Feedwater pump and Auxiliary
Feedwater Pump Discharge to the Steam
Generator Line Check Valves.

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

BASIS FOR RELIEF: These lines are equipped with in-line
cavitating venturis. Full-flow testing
can only be performed with the steam
generators at operating pressure. Full
flow testing at reduced pressure results
in severe multi-phase flow in the
downstream piping. Multi-phase flow at
design operating flow rates cause extreme
pipe movement similar to water hammer and
could result in extensive damage to the
pipe and pipe supports.

The only way to verify full flow
operability during normal operation is by
injecting relatively cold water into the
steam generator. The injection of cold
water into the hot steam generators would
cause unwanted thermal cycling of the
OTSG tubes. Testing with reduced flow
(less than 100 gpm) at cold shutdown
could cause excessive cooldown of the RCS
and could induce steam generator water
level and pressure transients.

ALTERNATE TESTING: Valves will be full-flow tested at
refueling

RELIEF REQUEST

RV-2

SYSTEM: AUXILIARY FEEDWATER
VALVE(s): AF6451, AF6452
CATEGORY: B
CLASS: 3
FUNCTION: Auxiliary Feedwater Pump Discharge to Steam
Generator Line Flow Control Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Exercise, time, and fail

BASIS FOR RELIEF: These are Target Rock, solenoid operated valves with position indication from linear variable differential position transmitters. Valve position is determined by reading output voltage from the transmitter. Operability is verified by measuring voltage changes at a test panel as the valve is exercised from a different test panel. Because of the two locations and method of operability, verification is not possible to accurately measure stroke time.

ALTERNATE TESTING: Valves will be exercised and fail tested quarterly.

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: AUXILIARY FEEDWATER
VALVE(s): AF1, AF2
CATEGORY: C
CLASS: 3
FUNCTION: Condensate Storage Tank to Auxiliary Feedwater Pump Suction Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: There are two possible methods which could be used to verify reverse flow testing. First the use of Service Water as a pressure source against the check valve which is not acceptable due to water chemistry. Second using a demineralized water source with pressure or flow instrumentation to verify reverse flow closure. This reverse flow testing would require extensive lineups causing the respective Auxiliary Feedpump inoperable. This would be in violation of Technical Specification 3.7.1.2 which requires the operability of the Auxiliary Feedwater system.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: These valves will be reverse flow tested using an external source of demineralized water and instrumentation to verify reverse flow.

COLD SHUTDOWN TEST JUSTIFICATION

CS-2

SYSTEM: AUXILIARY FEEDPUMP
VALVE(s): AF39, AF43, AF49, AF52, AF72, AF75
CATEGORY: C
CLASS: 3
FUNCTION: Steam Driven Auxiliary Feedwater Pump and
Motor Driven Feedwater Pump Discharge to Steam
Generator Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow operability.

COLD SHUTDOWN TEST

JUSTIFICATION: The only way to verify reverse flow operability could exceed the present action statement time limit for the Auxiliary feed system. A demineralized water source, valve lineups, and pressure or flow instrumentation would be required to verify no reverse flow for each check valve. Reverse flow testing would require extensive lineups and test conditions hence causing the respective Aux Feedpump inoperability time period to exceed the Technical Specification Action Statements. This would be in violation of Technical Specification 3.7.1.2 which requires the operability of the Auxiliary Feedwater system.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: These valves will be reverse flow tested using an external source of demineralized water and instrumentation to verify reverse flow. In addition during normal daily power operation, plant operators on their rounds will verify no reverse flow by physically touching the Auxiliary Feed pump to ensure no reverse flow from the steam system.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

AUXILIARY STEAM

SYSTEM

SECTION III

ATTACHMENT: III-1-2

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: AUXILIARY STEAM

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
AS274	C 3	M-003C P-4	6 CK	SA NA	C C	RF-Q	RV-1	RF-R	AS to APW pump turbine line check valve.	

RELIEF REQUEST

RV-1

SYSTEM: AUXILIARY STEAM
VALVE(s): AS274
CATEGORY: C
CLASS: 3
FUNCTION: Auxiliary Steam to Auxiliary Feedwater Turbine
Test Line Check Valve.

ASME SECTION XI
QUARTERLY TEST

REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: The only time this line is open is during modes 4, 5, and 6 for test purposes. During normal operation the inline manual isolation valve AS273 is maintained closed. The valve provides the boundary between the class 3 Auxiliary Feedwater System and the non-class Auxiliary Steam System. The only safety-related function for this valve is to remain closed on loss of Auxiliary Steam System integrity.

ALTERNATE TESTING: Valve reverse flow closure will be verified each time the isolation valve has been opened and the valve is exercised, but not more than a frequency of once every 92 days.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

BORATED WATER STORAGE
SYSTEM

SECTION III

ATTACHMENT: III-1-3

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: BORATED WATER STORAGE

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
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BW26	C	M-033A	3	SA	O/C	RF-Q				
	-	A-13	CK	NA	C					

Return line to BWST
check valve.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

COMPONENT COOLING WATER
SYSTEM

SECTION III

ATTACHMENT: III-1-4

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: COMPONENT COOLING WATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	WMG. NO. & COORD.	SIZE & TYPE	A.T. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CC17	C 3	M-036A D-5	16 CK	SA NA	O/C O/C	FF-Q RF-Q	CS-8 RV-2	PQCS RF-Q	CCW pump discharge line check valve.	
CC18	C 3	M-036A G-5	16 CK	SA NA	O/C O/C	FF-Q RF-Q	CS-8 RV-2	PQCS RF-Q	CCW pump discharge line check valve.	
CC19	C 3	M-036A J-5	16 CK	SA NA	O/C O/C	FF-Q RF-Q	CS-8 RV-2	PQCS RF-Q	CCW pump discharge line check valve.	
CC91	C 3	M-036B B-3	16 CK	SA NA	O/C C	RF-Q	CS-7	RF-C	Non-safety-related return to CCW line check valve.	
CC127	C 3	M-036B G-3	1.5 CK	SA NA	O/C C	RF-Q	CS11	RF-C	Makeup pump 1-1 non- essential isolation check valve.	
CC128	C 3	M-036B G-4	1.5 CK	SA NA	O/C C	RF-Q	CS11	RF-C	Makeup pump 1-2 non- essential isolation check valve.	
CC183	C 3	M-040D J-4	1.5 CK	SA NA	O C	RF-Q	RV-1	RF-R	CCW inlet to RCS Pump thermal barrier line check valve.	
CC283	C 3	M-040D J-4	1.5 CK	SA NA	O C	RF-Q	RV-1	RF-R	CCW inlet to RCS Pump thermal barrier line check valve.	
CC383	C 3	M-040D J-4	1.5 CK	SA NA	O C	RF-Q	RV-1	RF-R	CCW inlet to RCS Pump thermal barrier line check valve.	
CC483	C 3	M-040D J-4	1.5 CK	SA NA	O C	RF-Q	RV-1	RF-R	CCW inlet to RCS Pump thermal barrier line check valve.	
CC530	C 3	M-036B B-5	12 CK	SA NA	O/C C	RF-Q	CS-7	RF-C	Letdown Coolers return to CCW line check valve.	
CC531	C 3	M-036B B-3	16 CK	SA NA	O/C C	RF-Q	CS-7	RF-C	Non-safety-related return to CCW line check valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: COMPONENT COOLING WATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CC532	C 3	M-036A F-9	20 CK	SA NA	C C	RF-Q	CS-6	RF-C	CCW pump discharge header isolation check valve.	
CC533	C 3	M-036A H-9	20 CK	SA NA	O C	RF-Q	CS-6	RF-C	CCW pump discharge header isolation check valve.	
CC549	C 3	M-036B B-5	12 CK	SA NA	O/C C	RF-Q	CS-7	RF-C	Letdown Cooler return to CCW line check valve.	
CC1328	B 3	M-036C G-14	3 GT	MO AI	O C	TC-Q PI-Y			CCW inlet to CRDC Booster pump block valve.	
CC1338	B 3	M-036C G-11	3 GT	MO AI	O C	TC-Q PI-Y			CCW inlet to CRDC Booster pump block valve.	
CC1407A	A 2	M-036C A-11	12 BF	MO AI	O C	TC-Q LJ-R PI-Y	CS-2 --	TC-C LJ-R	CCW return from Letdown Coolers Ctmt. isolation valve.	
CC1407B	A 2	M-036C A-13	12 BF	MO AI	O C	TC-Q LJ-R PI-Y	CS-2 --	TC-C LJ-R	CCW return from Letdown Coolers Ctmt. isolation valve.	
CC1409	B 3	M-036C B-7	4 GT	MO	C/O C	TC-Q PI-Y	CS-10	TC-C	CCW to inlet of the Letdown Cooler	
CC1410	B 3	M-036C B-7	4 GT	MO	C/O C	TC-Q PI-Y	CS-10	TC-C	CCW to inlet of the Letdown Cooler	
CC1411A	A 2	M-036C E-7	12 BF	MO AI	O C	TC-Q LJ-R PI-Y	CS-2 --	TC-C LJ-R	CCW to Letdown Coolers Ctmt. isolation valve.	
CC1411B	A 2	M-036C F-7	12 BF	MO AI	O C	TC-Q LJ-R PI-Y	CS-2 --	TC-C LJ-R	CCW to Letdown Coolers Ctmt. isolation valve.	
CC1460	B 3	M-036A F-11	1.5 GL	AO C	O C	TC-Q FC-Q PI-Y	CS-1 CS-1	TC-C FC-C	CCW to Non-safety-related loads isolation valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: COMPONENT COOLING WATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CC1467	B 3	M-036B B-8	18 BF	AO O	C O	TO-Q FO-Q PI-Y			DH HX CCW outlet line isolation valve.	
CC1469	B 3	M-036B A-9	18 BF	AO O	C O	TO-Q FO-Q PI-Y			DH HX CCW outlet line isolation valve.	
CC1471	B 3	M-036B E-8	6 BF	AO O	C O	TO-Q FO-Q PI-Y			DG jacket cooling water HX CCW outlet line isolation valve.	
CC1474	B 3	M-036B G-8	6 BF	AO O	C O	TO-Q FO-Q PI-Y			DG jacket cooling water HX CCW outlet line isolation valve.	
CC1495	B 3	M-036A H-11	16 BF	AO C	O C	TC-Q FC-Q PI-Y			CCW to Non-safety-related loads isolation valve.	
CC1567A	A 2	M-036C C-12	3 GT	MO AI	C C	TC-Q LJ-R PI-Y	CS-3 --	TC-C LJ-R	CCW inlet to CRD cooling Ctmt. isolation valve.	
CC1567B	A 2	M-036C C-13	3 GT	MO AI	O C	TC-Q LJ-R PI-Y	CS-3 --	TC-C LJ-R	CCW inlet to CRD cooling Ctmt. isolation valve.	
CC1643	C 3	M-036A A-11	3 X 4 RL	SA NA	C O	SR-T			CCW Surge Tank relief valve.	
CC2645	B 3	M-036B C-3	16 GT	MO AI	O C	TC-Q PI-Y			Non-safety-related CCW return line isolation valve.	
CC2649	B 3	M-036B C-3	16 GT	MO AI	C C	TC-Q PI-Y			Non-safety-related CCW return line isolation valve.	
CC3602	C 3	M-036A A-11	3 X 4 RL	SA NA	C O	SR-T			CCW Surge Tank relief valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: COMPONENT COOLING WATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CC4100	B 3	M-040D K-3	1.5 GL	MO AI	O C	TC-Q PI-Y	CS-4	TC-C	RCS Pump CCW outlet line block valve.	
CC4200	B 3	M-040D K-3	1.5 GL	MO AI	O C	TC-Q PI-Y	CS-4	TC-C	RCS Pump CCW outlet line block valve.	
CC4300	B 3	M-040D K-3	1.5 GL	MO AI	O C	TC-Q PI-Y	CS-4	TC-C	RCS Pump CCW outlet line block valve.	
CC4400	B 3	M-040D K-3	1.5 GL	MO AI	O C	TC-Q PI-Y	CS-4	TC-C	RCS Pump CCW outlet line block valve.	
CC5095	B 3	M-036A G-9	20 GT	MO AI	O C	TC-Q PI-Y	CS-9	TC-C	CCW pump discharge header cross-tie line block valve.	
CC5096	B 3	M-036A H-9	20 GT	MO AI	C C	TC-Q PI-Y	CS-9	TC-C	CCW pump discharge header cross-tie line block valve.	
CC5097	B 3	M-036B C-5	12 GT	MO AI	O C	TC-Q PI-Y	CS-5	TC-C	Letdown Cooler return to CCW line block valve.	
CC5098	B 3	M-036B B-5	12 GT	MO AI	C C	TC-Q PI-Y	CS-5	TC-C	Letdown Cooler return to CCW line block valve.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC1460
CATEGORY: B
CLASS: 3
FUNCTION: CCW to Nonessential Loads Isolation Valve.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise, time, and fail.

COLD SHUTDOWN TEST

JUSTIFICATION: Exercising this valve closed during normal operation isolates Component Cooling Water flow to the Makeup pump gear and pump lube oil coolers. At least one makeup pump is in normal operation. Isolation of cooling water to the operating pump for more than a few minutes could result in extensive damage to the pump.

QUARTERLY PARTIAL

STROKE TESTING: Valve full-strokes on initiation and cannot be part-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise, time, and fail when the makeup pumps are secured.

COLD SHUTDOWN TEST JUSTIFICATION

CS-2

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC1407A, CC1407B, CC1411A, CC1411B
CATEGORY: A
CLASS: 2
FUNCTION: Inlet and Outlet Component Cooling Water
Containment Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: These are the containment isolation valves in the Reactor Coolant System pump motor, seal cooler and bearing coolers lines. A loss of cooling water for more than a few minutes could result in extensive damage to the reactor coolant pumps. Plant Technical Specification 3.4.1.1 requires the reactor coolant pumps and associated support equipment to be operable when the plant is in modes 1 and 2.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be part-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time at cold shutdown when all reactor coolant pumps are secured.

COLD SHUTDOWN TEST JUSTIFICATION

CS-3

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC1567A, CC1567B
CATEGORY: A
CLASS: 2
FUNCTION: Component Cooling Water to Control Rod Drives
Containment Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: These are containment isolation valves in the cooling line to the control rod drive mechanisms. A loss of cooling water for more than a few minutes could result in extensive damage to the control rod drive mechanisms. Plant operating procedure requires that these valves be maintained open during normal operation.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be part-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-4

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC4100, CC4200, CC4300, CC4400
CATEGORY: B
CLASS: 3
FUNCTION: CCW Outlet from RCP Pump Thermal Barrier Heat Exchanger Outlet Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: Exercising these valves closed during normal operation terminates cooling water to the reactor coolant pump thermal barriers. A loss of cooling water to the thermal barriers for more than a few minutes could result in extensive damage to the reactor coolant pumps. Plant Technical Specification 3.4.1.1 requires the reactor coolant pumps and associated support equipment to be operable when the plant is in modes 1 and 2.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be part-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time at cold shutdown when the associated reactor coolant pump is secured.

COLD SHUTDOWN TEST JUSTIFICATION

CS-5

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC5097, CC5098
CATEGORY: B
CLASS: 3
FUNCTION: CCW Containment Header Return Line Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: These valves are in the return line from the CCW containment header. Normally one valve is open to the operating CCW return header. The other valve is closed to the non-operating CCW return header. If the open valve is exercised closed, cooling water to the RCS pumps is terminated. Termination of cooling water to the RCS pumps for more than a few minutes could result in extensive damage to the RCS pumps. The only way to exercise these valves without terminating flow to the RCS pump would be to establish flow to the normal standby return header and exercise the open valve in the normal operating return line closed. This test procedure would violate train separation criteria and could place the plant in an unanalyzed condition.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be part-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-6

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC532, CC533
CATEGORY: C
CLASS: 3
FUNCTION: CCW Pump Discharge Header Isolation Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: These valves are in the header of the Component Cooling Water pumps. To verify reverse flow closure during normal operation would require realignment of the normal operating essential loop, standby essential loop, and nonessential normal operating headers. Realignment of these loops and headers during normal operation could result in system operational transient and could result in a forced plant shutdown.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

COLD SHUTDOWN TEST JUSTIFICATION

CS-7

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC91, CC530, CC531, CC549
CATEGORY: C
CLASS: 3
FUNCTION: CCW Return Header Cross-tie Line Isolation
Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: To verify reverse flow closure during normal operation would require opening both inline motor operated train isolation valves. Opening both inline train isolation valves at the same time would violate train separation criteria and could put the plant in an unanalyzed operation condition.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

COLD SHUTDOWN TEST JUSTIFICATION

CS-8

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC17, CC18, CC19
CATEGORY: C
CLASS: 3
FUNCTION: Component Cooling Water Pump Discharge Line
Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Verify forward flow operability.

COLD SHUTDOWN TEST

JUSTIFICATION: The only way to verify full-flow operability is by operating the associated Component Cooling Water pump at full design flow rate. The system is in normal operation supplying cooling water to normally operating equipment. System flow rate during normal operation is dependent on plant operating and climatic conditions. If the system flow rate is adjusted to full design flow to verify full-flow operability of these check valves, normal operation of the system would be disrupted and could cause system transients severe enough to result in a system trip or automatic isolation of cooling water to normally operating equipment and could result in accelerated equipment degradation or equipment damage.

QUARTERLY PART

STROKE TESTING: Valves are partial forward flow test by normal system operation and during quarterly pump testing.

COLD SHUTDOWN

TESTING: Valves will be partial forward flow tested quarterly and a full-flow test performed at cold shutdown.

COLD SHUTDOWN TEST JUSTIFICATION

CS-9

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC5095, CC5097
CATEGORY: B
CLASS: 3
FUNCTION: CCW Non-Essential Supply Line Isolation
Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: These valves are in the supply line from the CCW Pump discharge header. Normally one valve is open to the operating CCW non-essential header. The other valve is closed to the non-operating CCW non-essential header. If the open valve is exercised closed, cooling water to the RCS pumps is terminated. Termination of cooling water to the RCS pumps for more than a few minutes could result in extensive damage to the RCS pumps. The only way to exercise these valves without terminating flow to the RCS pump would be to establish flow to the normal standby return header and exercise the open valve in the normal operating return line closed. This test procedure would violate train separation criteria and could place the plant in an unanalyzed condition.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be part-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-10

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC1409, CC1410
CATEGORY: B
CLASS: 3
FUNCTION: CCW Inlet Isolation Valve to the Letdown Heat Exchanger(s).

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: Exercising these valves closed during normal operation could cause loss of letdown flow since these valves are interlocked with their respective letdown cooler inlet isolation valve. Cycling these valves would cause excessive thermal cycling and shock degradation of the letdown cooler heat exchanger. Loss of letdown flow may cause High pressurizer level per Technical Specification 3.4.4. and would result in a plant shutdown.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be partial-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-11

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC127, CC128
CATEGORY: B
CLASS: 3
FUNCTION: Isolates non-essential piping from the
essential supply for Makeup pump cooling.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify Reverse flow operability.

COLD SHUTDOWN TEST

JUSTIFICATION: Reverse flow tests of these valves during
normal operation would require swapping the
running component cooling water loop.
This component cooling water loop exchange
could cause a temperature disturbance, hence
extensive damage to the running Reactor
Coolant Pump seals. Extensive damage to the
reactor coolant pumps seals would cause a
plant shutdown. Plant Technical Specification
3.4.1.1 requires the reactor coolant pumps and
associated support equipment to be operable
when the plant is in modes 1 and 2. If the
valve failed the reverse flow test then the
associated Makeup pump would lose heat removal
ability. This would force a plant shutdown.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Reverse flow tested will be preformed at cold
cold shutdown.

RELIEF REQUEST

RV-1

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC183, CC283, CC383, CC483
CATEGORY: C
CLASS: 3
FUNCTION: CCW Inlet to RCS Thermal Barrier Heat
Exchanger Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: These tests cannot be performed quarterly during power operation because the system is in operation and cannot be isolated. Also, these valves are inside containment. These tests involve an excessive amount of time and personnel exposure to hazardous environments, potential delay of plant startup, and are too complex to be performed during cold shutdown. These valves will be scheduled for refueling outages.

ALTERNATE TESTING: Reverse flow closure will be verified during refueling.

RELIEF REQUEST

RV-2

SYSTEM: COMPONENT COOLING WATER
VALVE(s): CC17, CC18, CC19
CATEGORY: C
CLASS: 3
FUNCTION: Component Cooling Water Pump Discharge Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Verify reverse flow closure of each pump discharge valve quarterly.

BASIS FOR RELIEF: All three CCW pumps are connected to a common header. The header is normally aligned such that two pumps are aligned to one essential loop, with one pump normally in operation to supply normal operating loads. The second pump is an installed spare and only started to replace the normally operating pump. The third pump is aligned to the second essential loop and is normally in a standby mode. To test all three pump discharge check valves for reverse flow closure would require opening header isolation valves and rotating operating pumps to the common header. This system configuration would violate train separation criteria and could place the system in an unanalyzed condition.

ALTERNATE TESTING: Reverse flow closure verification is only necessary for the check valve on the non-operating pump of the two pump discharge to a common header configuration. Reverse flow closure of the normally operating and installed spare pump discharge check valves will be performed quarterly during pump testing. The discharge check valve of the normal standby pump will only be reverse flow closure verified when the system is realigned such that it and the installed spare pump are aligned to the common header.

III-1-4-17

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

CONTAINMENT HYDROGEN CONTROL
SYSTEM

SECTION III

ATTACHMENT: III-1-5

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CONTAINMENT HYDROGEN CONTROL

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DMG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL. POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CV124	AC 2	M-029B G-10	1 CK	SA NA	C O/C	FF-Q RF-Q LJ-R	-- RV-1 --	FF-Q RF-R LJ-R	Ctmt. gas analyzer return Ctmt. isolation valve. Forward flow verified by inst. operation.	
CV125	AC 2	M-029B H-10	1 CK	SA NA	C O/C	FF-Q RF-Q LJ-R	-- RV-1 --	FF-Q RF-R LJ-R	Ctmt. gas analyzer return Ctmt. isolation valve. Forward flow verified by inst. operation.	
CV186	C 3	M-029D F-11	2 CK	SA NA	C O	FF-Q			H2 dilution blower discharge line check valve.	
CV187	C 3	M-029D G-11	2 CK	SA NA	C O	FF-Q			H2 dilution blower discharge line check valve.	
CV209	AC 2	M-029D G-9	4 CK	SA NA	C O/C	FF-Q RF-Q LJ-R	-- RV-1 --	FF-Q RF-R LJ-R	H2 dilution blower discharge line Ctmt. isolation valve.	
CV210	AC 2	M-029D G-9	4 CK	SA NA	C O/C	FF-Q RF-Q LJ-R	-- RV-1 --	FF-Q RF-R LJ-R	H2 dilution blower discharge line Ctmt. isolation valve.	
CV343	A 2	M-029B G-4	8 GT	NA NA	LC C	PAS LJ-R			Ctmt. leak test line Ctmt. isolation valve.	
CV3876	C 3	M-029D G-12	RL	SA NA	C O	SR-T			H2 dilution blower moisture separator relief valve.	
CV3877	C 3	M-029D F-12	RL	SA NA	C O	SR-T			H2 dilution blower moisture separator relief valve.	
CV5010A	A 2	M-029B G-5	1 BL	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CONTAINMENT HYDROGEN CONTROL

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. WORN. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST LO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CV5010B	A 2	M-029B H-4	1 BL	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	
CV5010C	A 2	M-029B E-10	1 BL	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	
CV5010D	A 2	M-029B G-11	1 BL	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	
CV5010E	A 2	M-029B G-11	1.5 DA	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	
CV5011A	A 2	M-029B G-3	1 BL	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	
CV5011B	A 2	M-029B H-5	1 BL	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	
CV5011C	A 2	M-029B F-11	1 BL	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	
CV5011D	A 2	M-029B F-9	1 BL	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CONTAINMENT HYDROGEN CONTROL

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CV5011E	A 2	M-029B H-11	1.5 DA	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			Ctmt. H2 analyzer sample line Ctmt. isolation valve.	
CV5037	A 2	M-029D H-4	4 BF	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			H2 purge Ctmt. isolation valve.	
CV5038	A 2	M-029D H-4	4 BF	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			H2 purge Ctmt. isolation valve.	
CV5065	A 2	M-029D G-10	4 BF	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			H2 dilution Ctmt. isolation valve.	
CV5090	A 2	M-029D G-10	4 BF	MO AI	C O/C	TC-Q TO-Q LJ-R PI-Y			H2 dilution Ctmt. isolation valve.	

RELIEF REQUEST

RV-1

SYSTEM: CONTAINMENT HYDROGEN CONTROL
VALVE(S): CV124, CV125, CV209, CV210
CATEGORY: AC
CLASS: 2
FUNCTION: Containment Isolation Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse-flow closure.

BASIS FOR RELIEF: The only method available to verify reverse-flow closure is by valve leak test during Appendix J, Type C, testing at refueling.

ALTERNATE TESTING: Reverse-flow closure will be verified during Appendix J, Type C, testing at refueling.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

CONTAINMENT PURGE
SYSTEM

SECTION III

ATTACHMENT: III-1-6

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CONTAINMENT PURGE

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CV5004	B 3	M-029E F-12	42 BF	AO C	C C	TC-Q FC-Q PI-Y			Penetration room supply line isolation valve.	
CV5005	A 2	M-029E E-11	48 BF	AC C	C C	TC-Q FC-Q LJ-R PI-Y	CS-1 CS-1 --	TC-C FC-C LJ-R	Cstat. purge supply Cstat. isolation valve.	
CV5006	A 2	M-029E E-11	48 BF	AO C	C C	TC-Q FC-Q LJ-R PI-Y	CS-1 CS-1 --	TC-C FC-C LJ-R	Cstat. purge supply Cstat. isolation valve.	
CV5007	A 2	M-029E G-5	48 BF	AO C	C C	TC-Q FC-Q LJ-R PI-Y	CS-1 CS-1 --	TC-C FC-C LJ-R	Cstat. purge exhaust Cstat. isolation valve.	
CV5008	A 2	M-029E G-4	48 BF	AO C	C C	TC-Q FC-Q LJ-R PI-Y	CS-1 CS-1 --	TC-C FC-C LJ-R	Cstat. purge exhaust Cstat. isolation valve.	
CV5009	B 3	M-029E G-4	42 BF	AO C	C C	TC-Q FC-Q PI-Y			Penetration room exhaust line isolation valve.	
CV5016	B 3	M-029E G-12	42 BF	AO C	C C	TC-Q FC-Q PI-Y			Penetration room supply line isolation valve.	
CV5021	B 3	M-029E G-4	42 BF	AO C	C C	TC-Q FC-Q PI-Y			Penetration room exhaust line isolation valve.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: CONTAINMENT PURGE
VALVE(s): CV5005, CV5006, CV5007, CV5008
CATEGORY: A
CLASS: 2
FUNCTION: Containment Purge Inlet (CV5005, CV5006) and Exhaust (CV5007, CV5008) Containment Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise, time and fail.

COLD SHUTDOWN TEST

JUSTIFICATION: Valves are required to be closed and de-energized during plant operating modes 1, 2, 3 and 4 by plant Technical Specification 3.6.1.7. Valves are maintained normally closed to isolate direct flow paths from the containment atmosphere to the outside atmosphere. Valves may be opened during normal operation to purge the containment atmosphere if personnel access into the containment is required. Accumulated time for any purge supply and/or exhaust valve to be open is limited to 90 hours or less for the preceding 365 days. These valves are not to be open in Modes 1, 2, 3, or 4 as committed to the NRC.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be part-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise, time and fail.

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: CONTAINMENT PURGE
VALVE(s): CV5005, CV5006, CV5007, CV5008
CATEGORY: A
CLASS: 2
FUNCTION: Containment Purge Inlet (CV5005, CV5006) and Exhaust (CV5007, CV5008) Containment Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise, time and fail.

COLD SHUTDOWN TEST

JUSTIFICATION: Valves are required to be closed and de-energized during plant operating modes 1, 2, 3 and 4 by plant Technical Specification 3.6.1.7. Valves are maintained normally closed to isolate direct flow paths from the containment atmosphere to the outside atmosphere. Valves may be opened during normal operation to purge the containment atmosphere if personnel access into the containment is required. Accumulated time for any purge supply and/or exhaust valve to be open is limited to 90 hours or less for the preceding 365 days. These valves are not to be open in Modes 1, 2, 3, or 4 as committed to the NRC.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be part-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise, time and fail.

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CONTAINMENT SPRAY

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CS9	C 2	M-034 B-9	8 CK	SA NA	C O	PF-Q RF-Q	-- CS-1	PF-Q RF-C	CS pump discharge line check valve.	
CS10	C 2	M-034 D-9	8 CK	SA NA	C O	PF-Q RF-Q	-- CS-1	PF-Q RF-C	CS pump discharge line check valve.	
CS17	A 2	M-034 B-6	8 GL	MA NA	C C	PAS LJ-R			CS pump test line Ctmt. isolation valve. Pen. P25.	
CS18	A 2	M-034 C-6	8 GL	MA NA	C C	PAS LJ-R			CS pump test line Ctmt. isolation valve. Pen. P26.	
CS33	A 2	M-034 A-6	8 GT	MA NA	LC C	PAS LJ-R			CS pump test line Ctmt. isolation valve. Pen. P25.	
CS36	A 2	M-034 C-6	8 GT	MA NA	LC C	PAS LJ-R			CS pump test line Ctmt. isolation valve. Pen. P26.	
CS1530	A 2	M-034 D-7	8 GL	MO AI	C O/C	TO-Q TC-Q LJ-R PI-Y			CS pump discharge line Ctmt. isolation valve. Pen. P26.	
CS1531	A 2	M-034 B-7	8 GL	MO AI	C O/C	TO-Q TC-Q LJ-R PI-Y			CS pump discharge line Ctmt. isolation valve. Pen. P25.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: CONTAINMENT SPRAY
VALVE(S): CS9, CS10
CATEGORY: C
CLASS: 2
FUNCTION: Containment Spray Pump Discharge Line Check Valves.

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: To verify reverse flow closure of these valves downstream inline manual maintenance valves must be closed and an external source of water injected into the system through downstream line taps and test instrumentation installed on the system. To do this test during normal operation would disable one train of the containment spray system for an extended period of time.

QUARTERLY TEST

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

CONTAINMENT VACUUM RELIEF
SYSTEM

SECTION III

ATTACHMENT: III-1-8

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CONTAINMENT VACUUM RELIEF

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CV5070	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	
CV5071	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	
CV5072	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	
CV5073	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	
CV5074	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	
CV5075	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	
CV5076	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	
CV5077	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	
CV5078	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	
CV5079	A 2	M-029B B-5	8 BF	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. vacuum breaker isolation valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CONTAINMENT VACUUM RELIEF

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CV5080	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	
CV5081	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	
CV5082	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	
CV5083	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	
CV5084	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	
CV5085	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	
CV5086	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	
CV5087	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CONTAINMENT VACUUM RELIEF

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CV5088	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	
CV5089	AC 2	M-029B B-5	8 CK	SA NA	C C	VR-T RF-Q LJ-R	-- RV-1 --	VR-T RF-R LJ-R	Ctmt. vacuum relief valve. Set point verified as a relief valve.	

RELIEF REQUEST

RV-1

SYSTEM: CONTAINMENT VACUUM RELIEF
 VALVE(s): CV5080 THRU CV5089
 CATEGORY: AC
 CLASS: 2
 FUNCTION: Containment Vacuum Relief Containment
 Isolation Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse-flow closure.

BASIS FOR RELIEF: The only method available to verify
 reverse-flow closure is by valve leak
 testing during Appendix J, Type C,
 testing at refueling.

ALTERNATE TESTING: Reverse-flow closure will be verified
 during Appendix J, Type C, testing at
 refueling.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

CORE FLOOD

SYSTEM

SECTION III

ATTACHMENT: III-1-9

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CORE FLOOD

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DMG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CF1A	B 2	M-034 J-3	14 GT	MO AI	O C	TO-Q TC-Q PI-Y	CS-1 CS-1	TO-C TC-C	Core Flood tank to RCS line block valve.	
CF1B	B 2	M-034 J-8	14 GT	MO AI	O C	TO-Q TC-Q PI-Y	CS-1 CS-1	TO-C TC-C	Core Flood tank to RCS line block valve.	
CF2A	A 2	M-034 J-5	1 GL	MO AI	LC C	TC-Q LJ-R PI-Y			Core Flood Tank drain Ctmt. isolation valve. Pen. P47A.	
CF2B	A 2	M-034 J-6	1 GL	MO AI	LC C	TC-Q LJ-R PI-Y			Core Flood Tank drain Ctmt. isolation valve. Pen. P47A.	
CF5A	A 2	M-034 G-4	1 GL	MO AI	LC C	PAS LJ-R PI-Y			Core Flood Tank vent line Ctmt. isolation valve. Pen. P47B.	
CF5B	A 2	M-034 G-6	1 GL	MO AI	LC C	PAS LJ-R PI-Y			Core Flood Tank vent line Ctmt. isolation valve. Pen. P47B.	
CF7A	C 2	M-034 G-3	1 X 2 RL	SA NA	C O	SR-T			Core Flood Tank safety relief valve.	
CF7B	C 2	M-034 G-8	1 X 2 RL	SA NA	C O	SR-T			Core Flood Tank safety relief valve.	
CF15	AC 2	M-034 G-3	1 SC	SA NA	C C	RF-Q LJ-R	RV-1 --	RF-R LJ-R	Nitrogen and HPI Core Flood Tank fill line Ctmt. isolation valve. Pen. P44A.	
CF16	AC 2	M-034 G-9	1 SC	SA NA	C C	RF-Q LJ-R	RV-1 --	RF-R LJ-R	Nitrogen and HPI Core Flood Tank fill line Ctmt. isolation valve. Pen. P71C.	
CF28	C 1	M-033B B-3	14 CK	SA NA	C O	PF-Q	RV-2	PF-R	Core Flood Tank discharge check valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: CORE FLOOD

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
CF29	C 1	M-033B B-1	14 CK	SA NA	C O	FF-Q	RV-2	FF-R	Core Flood Tank discharge check valve.	
CF30	AC 1	M-033B B-3	14 CK	SA NA	C O/C	FF-Q RF-Q LP-R	CS-2 CS-3 --	FF-C RF-C LP-C	Core Flood Tank/LPI injection common line check valve. See Sections III.3.16. and VG-2.	
CF31	AC 1	M-033B B-2	14 CK	SA NA	C O/C	FF-Q RF-Q LP-R	CS-2 CS-3 --	FF-C RF-C LP-C	Core Flood Tank/LPI injection common line check valve. See Sections III.3.16. and VG-2.	
CF1541	A 2	M-034 E-10	1 GL	AO C	O/C C	TC-Q FC-Q LJ-R PI-Y			Nitrogen and HPI Core Flood Tank fill line Ctmt. isolation valve. Pen. P44A.	
CF1542	A 2	M-034 E-11	1 GT	AO C	C C	TC-Q FC-Q LJ-R PI-Y			Core Flood Tank vent line Ctmt. isolation valve. Pen. P47B.	
CF1544	A 2	M-034 G-10	1 GL	AO C	O/C C	TC-Q FC-Q LJ-R PI-Y			Nitrogen and HPI Core Flood Tank fill line Ctmt. isolation valve. Pen. P71C.	
CF1545	A 2	M-034 F-10	1 GL	AO C	O/C C	TC-Q FC-Q LJ-R PI-Y			Core Flood Tank vent line Ctmt. isolation valve. Pen. P47A.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: CORE FLOOD

VALVE(s): CF1A, CF1B

CATEGORY: B

CLASS: 2

FUNCTION: Core Flood Tank to RCS Line Block Valves.

ASME SECTION XI
QUARTERLY TEST
REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST
JUSTIFICATION: Each Core Flood Tank isolation valve opens automatically and is interlocked against closing whenever the Reactor Coolant System pressure exceeds 800 psig. To close these valves at power would violate Technical Specification 4.5.1.a, which requires the Core Flood isolation valves to be open.

QUARTERLY PARTIAL
STROKE TESTING: N/A

COLD SHUTDOWN
TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-2

SYSTEM: CORE FLOOD
VALVE(s): CF30, CF31
CATEGORY: AC
CLASS: 1
FUNCTION: Core Flood Tank/Low Pressure Injection Common
Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

COLD SHUTDOWN TEST

JUSTIFICATION: Verification of forward flow operability of these normally closed check valves can only be performed by injecting Decay Heat flow into the RCS. During normal operation the low discharge pressure Decay Heat pumps cannot overcome the higher pressure RCS operating pressure.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify forward flow operability during Decay Heat system operation.

COLD SHUTDOWN TEST JUSTIFICATION

CS-3

SYSTEM: CORE FLOOD
VALVE(s): CF30, CF31
CATEGORY: AC
CLASS: 1
FUNCTION: Core Flood Tank/Low Pressure Injection Common
Line Check Valves.

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: There are no system design provisions to
verify reverse flow closure of these valves
during normal operation. To verify closure
requires entry into the containment and
installation of a local pressure gauge
upstream of the check valves.

QUARTERLY PART

STROKE TESTING: N/A

COLD SHUTDOWN
TESTING:

Verify reverse flow closure during Startup
from cold shutdown when entry into the
containment is permitted.

RELIEF REQUEST

RV-1

SYSTEM: CORE FLOOD
VALVE(s): CF15, CF16
CATEGORY: AC
CLASS: 2
FUNCTION: Nitrogen and Core Flood Tank Fill Line
Containment Isolation Check Valves.

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Verify reverse-flow closure.

BASIS FOR RELIEF: The only method available to verify
reverse-flow closure is by valve leak
testing during Appendix J, Type C,
testing at refueling.

ALTERNATE TESTING: Reverse-flow closure will be verified
during Appendix J, Type C, testing at
refueling.

RELIEF REQUEST

RV-2

SYSTEM: CORE FLOOD
VALVE(s): CF28, CF29
CATEGORY: C
CLASS: 1
FUNCTION: Core Flood Tank Discharge Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

BASIS FOR RELIEF: The Core Flood Tanks are isolated from the RCS by these normally closed check valves. Each Core Flood Tank is charged with a nitrogen blanket at approximately 600 psig. This pressure is insufficient during operation to inject into the RCS. If these valves were to be exercised at cold shutdown, the contents of the tanks would be dumped into the RCS at the charged pressure which would interfere with RCS depressurization, inventory control, boron control and could result in the overpressurization of the RCS.

ALTERNATE TESTING: These valves will be forward flow operability verified at refueling when the Reactor Vessel Head is removed and the Core Flood Tanks can be dumped into the Reactor Coolant System. Flow rate is measured during the dump test to verify that the valves open sufficiently to pass full flow rate.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

DECAY HEAT REMOVAL
SYSTEM

SECTION III

ATTACHMENT: III-1-10

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: DECAY HEAT REMOVAL

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
DH1A	B 2	M-033B B-6	10 GT	MO AI	LO O/C	TC-Q TO-Q PI-Y	CS-4 CS-4	TC-C TO-C	Heat exchanger discharge line block valve.	
DH1B	B 2	M-033B D-6	10 GT	MO AI	LO O/C	TC-Q TO-Q PI-Y	CS-4 CS-4	TC-C TO-C	Heat exchanger discharge line block valve.	
DH7A	B 2	M-033A D-11	14 GT	MO AI	LO C	TC-Q PI-Y	CS-6	TC-C	BWST to DH pump suction line block valve.	
DH7B	B 2	M-033A D-10	14 GT	MO AI	LO C	TC-Q PI-Y	CS-6	TC-C	BWST to DH pump suction line block valve.	
DH9A	B 2	M-033C K-3	14 GT	MO AI	C O/C	TO-Q TC-Q PI-Y	RV-1 RV-1	TO-R TC-R	DH/LHSI Ctmt. sump block valve.	
DH9B	B 2	M-033B K-6	14 GT	MO AI	C O/C	TO-Q TC-Q PI-Y	RV-1 RV-1	TO-R TC-R	DH/LHSI Ctmt. sump block valve.	
DH11	B 1	M-033B H-3	12 GT	MO AI	C O	TO-Q TC-Q PI-Y	CS-1 CS-1	TO-C TC-C	RCS letdown to DH sys. line block valve.	
DH12	B 1	M-033B H-2	12 GT	MO AI	C O	TO-Q TC-Q PI-Y	CS-1 CS-1	TO-C TC-C	RCS letdown to DH sys. line block valve.	
DH13A	B 2	M-033C P-10	6 BF	AO C	C O/C	TC-Q PC-Q PI-Y			Heat exchanger bypass flow control valve.	
DH13B	B 2	M-033B G-12	6 BF	AO C	C O/C	TC-Q PC-Q PI-Y			Heat exchanger bypass flow control valve.	
DH14A	B 2	M-033C C-9	10 BF	AO O	LO O/C	TO-Q FO-Q PI-Y			Heat exchanger outlet flow control valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: DECAY HEAT REMOVAL

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
DH14B	B 2	M-033B E-11	10 BF	AO O	LO O/C	TO-Q FO-Q PI-Y			Heat exchanger outlet flow control valve.	
DH23	A 1	M-033B G-3	8 GT	MA NA	LC C	PAS LJ-R			Manual bypass for letdown to the DH system valve.	
DH42	C 2	M-033C F-8	10 CK	SA NA	O/C O/C	PF-Q			DH pump discharge line check valve.	
DH43	C 2	M-033B G-10	10 CK	SA NA	O/C O/C	PF-Q			DH pump discharge line check valve.	
DH63	B 2	M-033B B-12	4 GT	MO AI	C O	TO-Q TC-Q PI-Y			DH supply to HPI pump suction line block valve.	
DH64	B 2	M-033B C-9	4 GT	MO AI	C O	TO-Q TC-Q PI-Y			DH supply to HPI pump suction line block valve.	
DH76	AC 1	M-033B B-3	10 SC	SA NA	LO/C O/C	PF-Q RF-Q LP-R	CS-3 CS-3 --	PF-C RF-C LP-C	DH injection to Reactor Vessel line check valve. See Sections III.3.16 and VG-2.	
DH77	AC 1	M-033B D-2	10 SC	SA NA	LO/C O/C	PF-Q RF-Q LP-R	CS-3 CS-3 --	PF-C RF-C LP-C	DH injection to Reactor Vessel line check valve. See Sections III.3.16 and VG-2.	
DH81	C 2	M-033A H-10	14 CK	SA NA	O/C O	PF-Q			BWST to DH pump suction line check valve.	
DH82	C 2	M-033A F-11	14 CK	SA NA	O/C O	PF-Q			BWST to DH pump suction line check valve.	
DH87	A 2	M-033B D-6	8 GT	MA NA	LC C	PAS LJ-R			Ctmt. isolation valve. Pen. P49.	
DH88	A 2	M-033B D-5	8 GT	MA NA	LC C	PAS LJ-R			Ctmt. isolation valve. Pen. P49.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BRESSE NUCLEAR POWER PLANT

SYSTEM: DECAY HEAT REMOVAL

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
DH125	C 2	M-033C D-9	8 SC	SA NA	LO/C O/C	PF-Q RF-Q	CS-2 --	PF-C RF-Q	DH train cross-tie line check valve.	
DH126	C 2	M-033C D-9	8 CK	SA NA	C O	PF-Q	CS-2	PF-C	DH train cross-tie line check valve.	
DH127	C 2	M-033B F-11	8 SC	SA NA	LO/C O/C	PF-Q RF-Q	CS-2 --	PF-C RF-Q	DH train cross-tie line check valve.	
DH128	C 2	M-033B F-11	8 CK	SA NA	C O	PF-Q	CS-2	PF-C	DH train cross-tie line check valve.	
DH830	B 2	M-033C D-9	8 GT	MO AI	LC O/C	TO-Q TC-Q PI-Y			DH train cross-tie line block valve.	
DH831	B 2	M-033B F-11	8 GT	MO AI	LC O/C	TO-Q TC-Q PI-Y			DH train cross-tie line block valve.	
DH1508	C 2	M-033B J-7	.75 X 1 RL	SA NA	C O	SR-T			DH pump suction line relief valve.	
DH1509	C 2	M-033C H-4	.75 X 1 RL	SA NA	C O	SR-T			DH pump suction line relief valve.	
DH1517	B 2	M-033B C-6	12 GT	MO AI	C O/C	TO-Q TC-Q PI-Y			DH pump suction line block valve.	
DH1518	B 2	M-033C F-3	12 GT	MO AI	C O/C	TO-Q TC-Q PI-Y			DH pump suction line block valve.	
DH1529	C 2	M-033B D-8	1.5 X 2 RL	SA NA	C O	SR-T			DH pump discharge line relief valve.	
DH1550	C 2	M-033B A-11	1.5 X 2 RL	SA NA	C O	SR-T			DH pump discharge line relief valve.	
DH2733	B 2	M-033B J-8	18 GT	MO A	LO O/C	TC-Q TO-Q PI-Y			BWST to DH pump suction line block valve.	

III-1-10-3

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: DECAY HEAT REMOVAL

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
DH2734	B 2	M-033C H-6	18 GT	NO AI	LO O/C	TC-Q TO-Q PI-Y			BWST to DH pump suction line block valve.	
DH2735	A 1	M-033B A-4	1.5 GT	NO AI	LC O/C	TO-Q TC-Q LC-R PI-Y	CS-5 CS-5 --	TO-C TC-C LC-R	Aux. spray line Cmt. isolation valve. Pen. P74C.	
DH2736	A 2	M-033B B-5	1.5 GL	NO AI	LC O/C	TO-Q TC-Q LC-R PI-Y	CS-5 CS-5 --	TO-C TC-C LC-R	Aux. spray line Cmt. isolation valve. Pen. P74C.	
DH4849	C 2	M-033B H-5	4 X 6 RL	SA NA	C O	SR-T			RCS letdown line relief valve.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: DECAY HEAT

VALVE(s): DH11, DH12

CATEGORY: B

CLASS: 1

FUNCTION: RCS to Decay Heat System Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: These valves isolate the low pressure Decay Heat System from the high pressure RCS. They are interlocked to prevent opening when RCS pressure is greater than 301 psig and automatically close before RCS pressure exceeds 301 psig.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-2

SYSTEM: DECAY HEAT

VALVE(s): DH125, DH126, DH127, DH128

CATEGORY: C

CLASS: 2

FUNCTION: Decay Heat System Train Cross-Connect Line Check
Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

COLD SHUTDOWN TEST

JUSTIFICATION: In order to verify forward flow operability it is necessary to establish flow through the cross-connect line and to measure the flow rate. The only possible flow path to perform testing is into the Reactor Vessel. During normal operation the Decay Heat pumps lack sufficient head to overcome RCS operating pressure.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN TESTING: Forward flow operability will be verified at cold shutdown when flow through the cross-connect line can be initiated and the flow rate into the Reactor Coolant System measured.

COLD SHUTDOWN JUSTIFICATION

CS-3

SYSTEM: DECAY HEAT

VALVE(s): DH76, DH77

CATEGORY: AC

CLASS: 1

FUNCTION: Decay Heat to Reactor Coolant System Hot Leg
Injection Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Verify forward flow operability.

COLD SHUTDOWN TEST

JUSTIFICATION: The only possible way to verify full flow operability of these check valves is by using the Decay Heat pumps to inject into the RCS. During normal operation the Decay Heat pumps cannot overcome RCS operating pressure.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN TESTING: These valves will be forward flow operability tested with flow from the Decay Heat pumps. The design flowrate through each valve will be verified. In addition, reverse flow closure will be verified by valve seat leak testing after valve exercising at cold shutdown.

III-1-10-7

COLD SHUTDOWN TEST JUSTIFICATION

CS-4

SYSTEM: DECAY HEAT

VALVE(s): DH1A, DH1B

CATEGORY: B

CLASS: 2

FUNCTION: Decay Heat Pump Discharge to RCS Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: During normal operation these valves are aligned to their accident position which is open. To close these valves for testing purposes unnecessarily places the plant in an unsafe condition. If these valves did not reopen following testing, it would render that portion of Low Pressure Safety Injection inoperable. In addition, Technical Specification 3.5.2 requires that power be removed from these valves during power operation; therefore, they cannot be stroked quarterly.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-5

SYSTEM: DECAY HEAT

VALVE(s): DH2735, DH2736

CATEGORY: A

CLASS: 1 (DH2735) 2 (DH2736)

FUNCTION: Decay Heat Auxiliary Spray Line Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: These valves provide a boundary between the high pressure RCS and the low pressure Decay Heat System. There are no design provisions to measure line pressure between the two valves. If either valve is exercised and the other valve fails to provide a leak tight boundary, the low pressure Decay Heat System could be overpressurized or if the inline valve was inadvertently opened during testing, an inter-system-loss-of-coolant accident could occur.

QUARTERLY PARTIAL

STROKE TESTING: Partial stroke exercising is precluded for the same reasons as full-stroke exercising.

COLD SHUTDOWN

TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-6

SYSTEM: DECAY HEAT
VALVE(s): DH7A, DH7B
CATEGORY: B
CLASS: 2
FUNCTION: BWST Outlet Header Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: Exercising these valves closed during normal operation isolates Borated Water Storage Tank flow path to one train of the High Pressure Injection, Low Pressure Injection, and Makeup Systems. Blocking the BWST flow path to one train of these three safety-related systems during normal operation could place the plant in an unanalyzed condition.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be partial-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time.

RELIEF REQUEST

RV-1

SYSTEM: DECAY HEAT REMOVAL

VALVE(s): DH9A, DH9B

CATEGORY: B

CLASS: 2

FUNCTION: Decay Heat/LHI Containment Sump Block Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time.

BASIS FOR RELIEF: Exercising these valves during normal operation would require closing Borated Water Storage Tank outlet valves, DH7A and DH7B which would make the normal flowpath to Makeup and Purification, High Pressure Injection, and Low Pressure Injection Systems inoperable. In addition DH9A and DH9B provides containment integrity by being closed during normal operation. Testing of these valves would place the plant in an undesirable condition.

ALTERNATE TESTING: Exercise and time at refueling.

III-1-10-11

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

DEMINERALIZED WATER

SYSTEM

SECTION III

ATTACHMENT: III-1-11

VALVE TEST TABLE
 TOLEDO EDISON COMPANY
 DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: DEMINERALIZED WATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
DW2643	B 3	M-036A C-11	1 GL	AO C	O/C C	TC-Q PC-Q PI-Y			DW makeup to CCW Surge Tank line isolation valve.	
DW6831A	A 2	M-010C R-5	4 GT	AO C	O C	TC-Q PC-Q LJ-R PI-Y			DW supply line Ctmt. isolation valve.	
DW6831B	A 2	M-010C R-4	4 GT	AO C	O C	TC-Q PC-Q LJ-R PI-Y			DW supply line Ctmt. isolation valve.	

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

DIESEL GENERATOR AIR START
SYSTEM

SECTION III

ATTACHMENT: III-1-12

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: DIESEL GENERATOR AIR START

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION • NOTES	REV.
DA24	C 3	M-017B C-5	.75 CK	SA NA	O/C C	RF-Q			DG air start compressor to air receiver tank line check valve.	
DA25	C 3	M-017B G-5	.75 CK	SA NA	O/C C	RF-Q			DG air start compressor to air receiver tank line check valve.	
DA38	C 3	M-017B E-5	.75 CK	SA NA	O/C C	RF-Q			DG air start compressor to air receiver tank line check valve.	
DA39	C 3	M-017B J-5	.75 CK	SA NA	O/C C	RF-Q			DG air start compressor to air receiver tank line check valve.	
DA1135	C 3	M-017B C-6	.75X.75 RL	SA NA	C O	SR-T			Air start receiver tank relief valve.	
DA1138	C 3	M-017B D-6	.75X.75 RL	SA NA	C O	SR-T			Air start receiver tank relief valve.	
DA1141	C 3	M-017B G-6	.75X.75 RL	SA NA	C O	SR-T			Air start receiver tank relief valve.	
DA1144	C 3	M-017B H-6	.75X.75 RL	SA NA	C O	SR-T			Air start receiver tank relief valve.	
DA1147A	B -	M-017B D-10	-- GT	SO C	C O	TO-Q	RV-1	SO-Q	DG air start line solenoid valve.	
DA1147B	B -	M-017B E-10	-- GT	SO C	C O	TO-Q	RV-1	SO-Q	DG air start line solenoid valve.	
DA1148A	B -	M-017B H-10	-- GT	SO C	C O	TO-Q	RV-1	SO-Q	DG air start line solenoid valve.	
DA1148B	B -	M-017B J-10	-- GT	SO C	C O	TO-Q	RV-1	SO-Q	DG air start line solenoid valve.	

RELIEF REQUEST

RV-1

SYSTEM: DIESEL GENERATOR AIR START
VALVE: DA1147A, DA1147B, DA1148A, DA1148B
CATEGORY: B
CLASS: -
FUNCTION: Diesel Generator Air Start Solenoid Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Measure stroke time.

BASIS FOR RELIEF: These are three-way solenoid valves mounted on the Diesel Generator (DG) skid mounted package. They are in the DG air start line between the Air Receiver Tanks and the Air Start Manifolds. Since each generator has two tanks and two manifolds, the DG may start on air supplied by either or both tanks. The diesel generator test procedure verifies operability of each of these valves independently on an alternating basis by isolating one air start header and starting the DG from one header at a time. Stroke time cannot be measured because there are no position indicators and visual observation is not possible due to valve design. The total time from initiation to DG operation is measured such that in effect each valve's stroke time is verified as acceptable. The DG start test is performed more frequently than required by Section XI so that actual valve testing criteria is more limiting than Section XI requirements.

ALTERNATE TESTING: These valves will be tested as part of the diesel generator air start test. Acceptable diesel generator start time will be used to verify valve operability and acceptable stroke time.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

FEEI WATER

SYSTEM

SECTION III

ATTACHMENT: III-1-13

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: FEEDWATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TES* REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
FW147	C -	M-007B E-11	18 CK	SA NA	O C	RF-Q	CS-1	RF-C	FW line check valve.	
FW156	C -	M-007B E-3	18 CK	SA NA	O C	RF-Q	CS-1	RF-C	FW line check valve.	
FW601	B 2	M-007B E-2	18 GT	MO AI	O C	TC-Q PI-Y	CS-2	TC-C	FW Cstat. isolation valve.	
FW612	B 2	M-007B E-12	18 GT	MO AI	O C	TC-Q PI-Y	CS-2	TC-C	FW Cstat. isolation valve.	
SP6A	B -	M-007B E-4	16 AN	AO C	O C	TC-Q PI-Y	CS-2	TC-C	FW to SG main flow control valve.	
SP6B	B -	M-007B E-9	16 AN	AO C	O C	TC-Q PI-Y	CS-2	TC-C	FW to SG main flow control valve.	
SP7A	B -	M-007B H-4	6 GL	AO C	O C	TC-Q PI-Y	CS-3	TC-C	FW to SG line startup flow control valve.	
SP7B	B -	M-007B H-9	6 GL	AO C	O C	TC-Q PI-Y	CS-3	TC-C	FW to SG line startup flow control valve.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: FEEDWATER
VALVE(s): FW147, FW156
CATEGORY: C
CLASS: ..
FUNCTION: Feedwater to Steam Generator Line Check
Valves.

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: Verification of reverse flow closure requires termination of feedwater flow to the associated steam generator. Termination of feedwater flow to a steam generator during normal operation would cause a severe steam generator operating transient which could result in a forced plant shutdown and/or a reactor trip.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

COLD SHUTDOWN TEST JUSTIFICATION

CS-2

SYSTEM: FEEDWATER
VALVE(s): FW601, FW612, SP6A, SP6B
CATEGORY: B
CLASS: - (SP6A, SP6B)
2 (FW601, FW612)
FUNCTION: Feedwater Containment Isolation (FW601, FW612)
and Main Control (SP6A, SP6B) valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time (FW601, FW612)
Exercise, time and fail (SP6A, SP6B)

COLD SHUTDOWN TEST

JUSTIFICATION: Exercising these valves closed during normal operation would result in a loss of Feedwater to the associated Steam Generator. Isolation of Feedwater flow during normal operation would cause a severe Steam Generator operating transient which could result in a forced plant shutdown and/or Reactor trip.

QUARTERLY PARTIAL

STROKE TESTING: Valves full stroke on initiation and cannot be partial-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time (FW601, FW612).
Exercise and time (SP6A, SP6B).

COLD SHUTDOWN TEST JUSTIFICATION

CS-3

SYSTEM: FEEDWATER
VALVE(s): SP7A, SP7B
CATEGORY: B
CLASS: -
FUNCTION: Feedwater to Steam Generator Startup Control Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise, time and fail.

COLD SHUTDOWN TEST

JUSTIFICATION: These valves are maintained open during normal operation when feedwater flow is above 15% of unit full load. Exercising the valves closed at unit loads above 15% causes a system operating transient which could result in a forced plant shutdown.

QUARTERLY PARTIAL

STROKE TESTING: Valves full stroke on initiation and cannot be partial-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

GASEOUS RADIOACTIVE WASTE
SYSTEM

SECTION III

ATTACHMENT: III-1-14

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: GASEOUS RADIOACTIVE WASTE

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
WG1823	B 3	M-038B E-10	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank inlet line isolation valve.	
WG1824	B 3	M-038B E-9	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank inlet line isolation valve.	
WG1825	B 3	M-038B E-11	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank inlet line isolation valve.	
WG1826	B 3	M-038B E-12	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank inlet line isolation valve.	
WG1827	B 3	M-038B E-13	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank inlet line isolation valve.	
WG1828	B 3	M-028B E-14	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank inlet line isolation valve.	
WG1829	C 3	M-038B E-10	1.5X2 RL	SA NA	C O	SR-T			WG Decay Tank relief valve.	
WG1831	C 3	M-038B E-11	1.5X2 RL	SA NA	C O	SR-T			WG Decay Tank relief valve.	
WG1833	C 3	M-038B E-13	1.5X2 RL	SA NA	C O	SR-T			WG Decay Tank relief valve.	
WG1835	B 3	M-038C G-2	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank outlet line isolation valve.	
WG1836	B 3	M-038C G-3	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank outlet line isolation valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: GASEOUS RADIOACTIVE WASTE

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
WG1837	B 3	M-038C G-4	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank outlet line isolation valve.	
WG1838	B 3	M-038C G-5	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank outlet line isolation valve.	
WG1839	B 3	M-038C G-6	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank outlet line isolation valve.	
WG1840	B 3	M-038C G-7	1 DA	AO C	O/C C	TC-Q PC-Q PI-Y			WG Decay Tank outlet line isolation valve.	

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

HIGH PRESSURE INJECTION
SYSTEM

SECTION III

ATTACHMENT: III-1-15

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: HIGH PRESSURE INJECTION

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
HP2A	B 2	M-033A E-3	2.5 GL	MO AI	C O/C	TO-Q TC-Q PI-Y			HPI to RCS injection line isolation valve.	
HP2B	B 2	M-033A F-3	2.5 GL	MO AI	C O/C	TO-Q TC-Q PI-Y			HPI to RCS injection line isolation valve.	
HP2C	B 2	M-033A H-3	2.5 GL	MO AI	C O/C	TO-Q TC-Q PI-Y			HPI to RCS injection line isolation valve.	
HP2D	B 2	M-033A J-3	2.5 GL	MO AI	C O/C	TO-Q TC-Q PI-Y			HPI to RCS injection line isolation valve.	
HP10	C 2	M-033A H-9	6 CK	SA NA	O/C O	FF-Q RF-Q	RV-2 CS-1	PQR RF-C	BWST to HPI pump suction line check valve.	
HP11	C 2	M-033A E-11	6 CK	SA NA	O/C O	FF-Q RF-Q	RV-2 CS-1	PQR RF-C	BWST to HPI pump suction line check valve.	
HP22	C 2	M-033A H-6	4 CK	SA NA	C O	FF-Q	RV-2	PQR	HPI pump discharge line check valve.	
HP23	C 2	M-033A E-6	4 CK	SA NA	C O	FF-Q	RV-2	PQR	HPI pump discharge line check valve.	
HP31	BC 2	M-033A D-6	1.5 SC	SA MO NA	LO/C O O/C	FF-Q TC-Q PI-Y			HPI pump min. flow line stop check valve.	
HP32	BC 2	M-033A K-6	1.5 SC	SA MO NA	LO/C O O/C	FF-Q TC-Q PI-Y			HPI pump min. flow line stop check valve.	
HP33	C 2	M-033A B-8	3 CK	SA NA	C O	FF-Q			HPI pump min. flow line check valve.	
HP48	C 1	M-033A H-2	2.5 SC	SA NA	LO/C O	FF-Q	RV-1	FF-R	HPI/MU pump feed & bleed to RCS injection line manual stop check valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: HIGH PRESSURE INJECTION

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
HP49	C 1	M-033A J-2	2.5 SC	SA NA	LO/C O	PF-Q	RV-1	PF-R	HPI/MU pump feed & bleed to RCS injection line manual stop check valve.	
HP50	C 1	M-033A H-2	2.5 CK	SA NA	C O/C	PF-Q	RV-1	PF-R	HPI/MU pump feed & bleed to RCS injection line check valve.	
HP51	C 1	M-033A J-2	2.5 CK	SA NA	C O	PF-Q	RV-1	PF-R	HPI/MU pump feed & bleed to RCS injection line check valve.	
HP56	C 1	M-033A F-2	2.5 SC	SA NA	LO/C O	PF-Q	RV-1	PQR	HPI/MU pump feed & bleed to RCS inj. line manual stop check valve. Part stroke tested quarterly by normal makeup flow.	
HP57	C 1	M-033A E-2	2.5 SC	SA NA	LO/O O	PF-Q	RV-1	PF-R	HPI/MU pump feed & bleed to RCS inj. line manual stop check valve.	
HP58	C 1	M-033A F-2	2.5 CK	SA NA	C O	PF-Q	RV-1	PQR	HPI/MU pump feed & bleed to RCS injection line check valve. Part stroke tested quarterly by normal makeup flow.	
HP59	C 1	M-033A E-2	2.5 CK	SA NA	O O	PF-Q	RV-1	PF-R	HPI/MU pump feed & bleed to RCS inj. line manual stop check valve.	
HP1510	C 2	M-033A H-8	1.5X1.5 RL	SA NA	C O	SR-T			HPI pump suction line relief valve.	
HP1511	C 2	M-033A E-8	1.5X1.5 RL	SA NA	C O	SR-T			HPI pump suction line relief valve.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: HIGH PRESSURE INJECTION
VALVE(s): HP10, HP11
CATEGORY: C
CLASS: 2
FUNCTION: HPI Pump Inlet Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: To verify reverse flow closure requires isolation of one Borated Water Storage Tank header. Isolation of a Borated Water Storage Tank header isolates the normal flow paths to one loop of the High Pressure Injection, Makeup and Containment Spray Systems. Isolation of a Borated Water Storage Tank header during normal operation could place the plant in an unanalyzed condition.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

RELIEF REQUEST

RV-1

SYSTEM: HIGH PRESSURE INJECTION
VALVE(s): HP48, HP49, HP50, HP51, HP56, HP57, HP58, HP59
CATEGORY: C
CLASS: 1
FUNCTION: HPI to RCS Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Verify forward flow operability.

BASIS FOR RELIEF: Verification of forward flow operability can only be performed by injecting HPI pump flow directly into the Reactor Coolant System. The HPI pumps have insufficient head to overcome normal RCS operating pressure for a full flow test. Partial flow testing using the HPI pumps would inject cold borated water directly into the Reactor Vessel and would result in thermal shocking of the HPI nozzle thermal sleeves. Verification of full design flow rate cannot be done at cold shutdown due to back pressure from the RCS and potential for low temperature overpressurization of the RCS. Verification of full flow operability can only be done at refueling with the RCS depressurized.

ALTERNATE TESTING: Forward flow operability will be verified by full flow testing at refueling.

RELIEF REQUEST

RV-2

SYSTEM: HIGH PRESSURE INJECTION
VALVE(S): HP10, HP11, HP22, HP23
CATEGORY: C
CLASS: 2
FUNCTION: High Pressure Injection Pump Discharge Line
Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

BASIS FOR RELIEF: The only possible way to verify forward flow operability during normal operation is by flow measurement during quarterly pump testing through the orificed three-inch pump test recirculation line back to the Borated Water Storage Tank. The pump test flow rate is approximately 290 gpm. The design accident flow rate for these valves is approximately 600 gpm. the only flow path that can be used to perform a full flow test would inject HPI pump flow directly into the Reactor Coolant System. Full flow testing can only be done at refueling (see RV-1).

ALTERNATE TESTING: The valves will be partial forward flow operability verified quarterly during pump testing and full forward flow tested at refueling with the RCS depressurized.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

HVAC-RAIWASTE, FUEL HANDLING, & ACCESS C
SYSTEM

SECTION III

ATTACHMENT: III-1-16

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: HVAC-RADWASTE, FUEL HANDLING, & ACCESS CONTROL AREA

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTE	REV.
HV5439	B 3	M-028B H-5	12 BF	MO AI	O C	TC-Q PI-Y			HVAC isolation valve.	
HV5440	B 3	M-028B H-5	36 BF	MO AI	O C	TC-Q PI-Y			HVAC isolation valve.	
HV5441	B 3	M-028B H-6	20 BF	MO AI	O C	TC-Q PI-Y			HVAC isolation valve.	
HV5442	B 3	M-028B H-7	20 BF	MO AI	O C	TC-Q PI-Y			HVAC isolation valve.	

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

INSTRUMENT AIR

SYSTEM

SECTION III

ATTACHMENT: III-1-17

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: INSTRUMENT AIR

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
IA501	AC 2	M-015A P-3	1 CK	SA NA	O C	RF-Q LJ-R	RV-1 --	RF-R LJ-R	IA to Ctmt. isolation valve.	
IA2011	A 2	M-015A P-2	1 GT	AO C	O C	TC-Q FC-Q LJ-R PI-Y			IA to Ctmt. isolation valve.	

RELIEF REQUEST

RV-1

SYSTEM: INSTRUMENT AIR
VALVE(s): IA501
CATEGORY: AC
CLASS: 2
FUNCTION: Instrument Air Supply Containment Isolation
Check Valve.

ASME SECTION XI
QUARTERLY TEST
REQUIREMENTS: Verify reverse-flow closure.

BASIS FOR RELIEF: The only method available to verify
reverse-flow closure is by valve leak
testing during Appendix J, Type C,
testing at refueling.

ALTERNATE TESTING: Reverse-flow closure will be verified
during Appendix J, Type C, testing at
refueling.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

MAIN STEAM

SYSTEM

SECTION III

ATTACHMENT: III-1-18

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: MAIN STEAM

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
ICS11A	B 2	M-007A C-7	8 AN	AO C	C O/C	TC-Q TC-Q FC-Q PI-Y	CS-2 CS-2 CS-2	TC-C TC-C FC-C	MS atmospheric vent valve.	
ICS11B	B 2	M-007B C-9	8 AN	AO C	C O/C	TC-Q TC-Q FC-Q PI-Y	CS-2 CS-2 CS-2	TC-C TC-C FC-C	MS atmospheric vent valve.	
MS100	BC 2	M-003A P-7	36 SC	AO SA C	O C	TC-Q FC-Q PI-Y	CS-5 CS-5	TC-C FC-C	MS isolation valve.	
MS100-1	B 2	M-003A P-7	2 GL	AO C	C C	TC-Q FC-Q PI-Y	CS-7 CS-7	TC-C FC-C	MS isolation valve bypass line isolation valve.	
MS101	BC 2	M-003A C-7	36 SC	AO SA C	O C	TC-Q FC-Q PI-Y	CS-5 CS-5	TC-C FC-C	MS isolation valve.	
MS101-1	B 2	M-003A C-7	2 GL	AO C	C C	TC-Q FC-Q PI-Y	CS-7 CS-7	TC-C FC-C	MS isolation valve bypass line isolation valve.	
MS106	B 2	M-003C E-5	6 GT	MO AI	C O/C	TC-Q TC-Q PI-Y			MS to APW turbine line block valve.	
MS106A	B 2	M-003C P-6	6 GT	MO AI	O C	TC-Q TC-Q PI-Y			MS to APW turbine cross-tie line block valve.	
MS107	B 2	M-003C E-9	6 GT	MO AI	C O/C	TC-Q TC-Q PI-Y			MS to APW turbine line block valve.	
MS107A	B 2	M-003C P-8	6 GT	MO AI	O C	TC-Q TC-Q PI-Y			MS to APW turbine cross-tie line block valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

MAIN STEAM

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DMG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
MS209	C -	M-003A F-6	36 CK	SA NA	O C	RF-Q	CS-1	RF-C	MS non-return check valve.	
MS210	C -	M-003A C-6	36 CK	SA NA	O C	RF-Q	CS-1	RF-C	MS non-return check valve.	
MS375	B 2	M-003A G-10	1.5 GT	AO C	C C	TC-Q PC-Q PI-Y	CS-4 CS-4	TC-C PC-C	MS trap warmup drain line isolation valve.	
MS394	B 2	M-003A D-10	1.5 GT	AO C	C C	TC-Q PC-Q PI-Y	CS-4 CS-4	TC-C PC-C	MS trap warmup drain line isolation valve.	
MS603	B 2	M-007B H-1	4 GT	MO AI	C C	TC-Q PI-Y	CS-6	TC-C	SG blowdown line isolation valve.	
MS611	B 2	M-007B H-12	4 GT	MO AI	C C	TC-Q PI-Y	CS-6	TC-C	SG blowdown line isolation valve.	
MS726	C 3	M-003C F-5	6 CK	SA NA	C O/C	PF-Q RF-Q	-- GL-1	PF-Q RM	MS to APW pump turbine line check valve.	
MS727	C 3	M-003C F-9	6 CK	SA NA	C O/C	PF-Q RF-Q	-- GL-1	PF-Q RM	MS to APW pump turbine line check valve.	
MS734	C 3	M-003C F-5	6 CK	SA NA	C O/C	PF-Q RF-Q	-- CS-3	PF-Q RP-C	MS to APW pump turbine cross-tie line check valve.	
MS735	C 3	M-003C F-9	6 CK	SA NA	C O/C	PF-Q RF-Q	-- CS-3	PF-Q RP-C	MS To APW pump turbine cross-tie line check valve.	
MS5889A	B 3	M-003C G-4	4 GT	AO O	C O	TO-Q PO-Q PI-Y			APW pump turbine steam admission valve.	
MS5889B	B 3	M-003C G-9	4 GT	AO O	C O	TO-Q PO-Q PI-Y			APW pump turbine steam admission valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: MAIN STEAM

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
SP17A1	C 2	M-007A A-7	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17A2	C 2	M-007A B-7	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17A3	J 3	M-007A B-5	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17A4	C 2	M-007A A-6	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17A5	C 2	M-007A B-6	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17A6	C 2	M-007A A-6	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17A7	C 2	M-007A B-6	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17A8	C 2	M-007A B-5	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17A9	C 2	M-007A A-5	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17B1	C 2	M-007A A-9	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17B2	C 2	M-007A B-9	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17B3	C 2	M-007A B-10	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17B4	C 2	M-007A A-10	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17B5	C 2	M-007A B-9	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: MAIN STEAM

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
SP17B6	C 2	M-001A A-9	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17B7	C 2	M-007A B-9	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17B8	C 2	M-007A B-10	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	
SP17B9	C 2	M-007A A-10	6 X 6 RL	SA NA	C O	SR-T			MS safety relief valve.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: MAIN STEAM
VALVE(s): MS209, MS210
CATEGORY: C
CLASS: -
FUNCTION: Main Steam Nonreturn Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: To verify reverse flow closure of these valves during normal operation would cause a severe pressure transient in the Main Steam line which would cause a plant shutdown. Reducing power level to perform testing without causing a transient would significantly impact plant operations and power production. The side air operator is used only to open the valve at low flow conditions and cannot be used to close the valve or to verify valve reverse flow operability.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure by part-stroke exercise for the closed position.

COLD SHUTDOWN JUSTIFICATION

CS-2

SYSTEM: MAIN STEAM
VALVE(s): ICS11A, ICS11B
CATEGORY: B
CLASS: 2
FUNCTION: Main Steam Atmospheric Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Exercise, time, and fail.

COLD SHUTDOWN TEST

JUSTIFICATION: Exercising these valves during normal operation would cause a decrease in main steam line pressure and would cause a pressure transient. Failure in an open position would result in a plant shutdown due to a mismatch between feedwater and main steam flow.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Exercise, time, and fail.

COLD SHUTDOWN TEST JUSTIFICATION

CS-3

SYSTEM: MAIN STEAM
VALVE(s): MS734, MS735
CATEGORY: C
CLASS: 3
FUNCTION: Main Steam Supply (MS726, MS727) to AFWT and
Main Steam to AFWT Cross-Tie (MS734, MS735)
Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: During normal operations the upstream and
downstream line pressure are essentially the
same and there are no system design provisions
that can be used to verify reverse flow
closure of these valves.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

COLD SHUTDOWN TEST JUSTIFICATION

CS-4

SYSTEM: MAIN STEAM
VALVE(s): MS375, MS394
CATEGORY: B
CLASS: 2
FUNCTION: Main Steam Trap Warm Up Line Isolation valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise, time and fail.

COLD SHUTDOWN TEST

JUSTIFICATION: These valves are in the Main Steam trap warm up drain lines and are maintained closed during normal operation. Valves are only open during plant startup to drain condensed steam from the Main Steam traps. Opening these valves with normal operating steam conditions would result in extensive damage to the downstream line pipe which is not designed for high temperature and pressure steam flow. If the valves failed to reclose, the plant would be forced to shutdown.

QUARTERLY PART

STROKE TESTING: Valves full stroke on initiation and cannot be part stroke exercised.

COLD SHUTDOWN

TESTING: Exercise, time, fail.

COLD SHUTDOWN TEST JUSTIFICATION

CS-5

SYSTEM: MAIN STEAM
VALVE(s): MS100, MS101
CATEGORY: BC
CLASS: 2
FUNCTION: Main Steam Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise, time, and fail.

COLD SHUTDOWN TEST

JUSTIFICATION: Exercising these valves during normal operation isolates one line of steam flow to the turbine which would cause a severe pressure transient in the Main Steam lines, resulting in a forced plant shutdown. Reducing power level sufficiently to perform testing without causing a transient would significantly impact plant operations. The valves are air operated, balanced-disc stop check valves set in opposition to normal flow direction. The air operator holds the valve in the open position. On receipt of a close signal, the operator releases the disk which is forced closed by steam flow. The valves are not designed for repeated full design flow closure and valve degradation may occur upon repeated closure.

QUARTERLY PART

STROKE TESTING: The valves are equipped with slow close 10 percent partial closure test function. If the valve were to exceed the 10 percent closure point, they may be forced closed by the steam flow which would result in a forced plant shutdown and could cause valve damage.

ALTERNATE TESTING: Valves will be full stroke exercised, timed, and failed each time the plant is in hot shutdown, unless the valve has been tested in the prior three month period.

COLD SHUTDOWN TEST JUSTIFICATION

CS-6

SYSTEM: MAIN STEAM
VALVE(s): MS603, MS611
CATEGORY: B
CLASS: 2
FUNCTION: Steam Generator Blowdown Line Isolation Valves

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST
JUSTIFICATION:

These valves are in the Steam Generator blowdown lines and are maintained closed during operation when power level is above 15 percent. Opening these valves at power levels above 15 percent is not allowed since operators cannot monitor a feedwater flowrate increase if a blowdown drain line rupture occurs.

QUARTERLY PART
STROKE TESTING:

Valves full-stroke on initiation and can not be partial-stroke tested.

COLD SHUTDOWN
TESTING:

Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-6

SYSTEM: MAIN STEAM
VALVE(s): MS603, MS611
CATEGORY: B
CLASS: 2
FUNCTION: Steam Generator Blowdown Line Isolation Valves

ASME SECTION XI
QUARTERLY TEST
REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION:

These valves are in the Steam Generator blowdown lines and are maintained closed during operation when power level is above 15 percent. Opening these valves at power levels above 15 percent causes thermal shock and water hammer to the downstream piping. The downstream piping is not designed to withstand the high temperature, pressure and flow conditions of blowdown during power operation and significant damage to the downstream piping could result.

QUARTERLY PART STROKE TESTING:

Valves full-stroke on initiation and can not be partial-stroke tested.

COLD SHUTDOWN TESTING:

Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-7

SYSTEM: MAIN STEAM

VALVE(s): MS100-1, MS101-1

CATEGORY: B

CLASS: 2

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise, time, and fail.

COLD SHUTDOWN TEST

JUSTIFICATION: These valves are interlocked with the Main Steam isolation valves and cannot be opened when the Main Steam isolation valves are open during normal operation.

QUARTERLY PART
STROKE TESTING:

Valves are full-stroke on initiation and cannot be partial-stroke exercised.

COLD SHUTDOWN
TESTING:

Exercise, time, and fail.

GENERIC LETTER 89-04 JUSTIFICATION

GL-1

SYSTEM: MAIN STEAM
VALVE(s): MS726, MS727
CATEGORY: C
CLASS: 3
FUNCTION: Main Steam to Auxiliary Feedwater Pump Turbine
Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

BASIS FOR RELIEF: There are no system design provisions for verification of reverse flow closure.

ALTERNATE TESTING: Forward flow operability is verified quarterly during auxiliary feedwater pump testing. In addition, one valve will be disassembled, inspected and manually full-stroke exercised each refueling consistent with Item 2 of Attachment 1 to NRC Generic Letter 89-04.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

MAKEUP

SYSTEM

SECTION III

ATTACHMENT: III-1-19

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: MAKEUP

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
MU1A	A 2	M-31A B-4	2.5 GT	MO	O/C O C	TO-Q TC-Q PI-Y	CS-1 CS-1	TO-C TC-C	Letdown cooler isolation valve	
MU1B	A 2	M-31A A-2	2.5 GT	MO	O/C O C	TO-Q TC-Q PI-Y	CS-1 CS-1	TO-R TO-C	Letdown cooler isolation valve	
MU2A	A 2	M-031A B-4	2.5 GT	MO AI	O C	TC-Q TO-Q LJ-R PI-Y	CS-1 CS-1	TC-C TO-C LJ-R	Letdown line Ctmt. isolation valve.	
MU2B	A 2	M-31A A-2	2.5 GT	MO	O/C O	TO-Q PI-Y	CS-1	TO-C	Letdown cooler isolation valve	
MU3	A 2	M-031A B-5	2.5 GT	AO C	O C	TC-Q TO-Q FC-Q LJ-R PI-Y	CS-1 CS-1 CS-1	TC-C TO-C FC-C LJ-R	Letdown line Ctmt. isolation valve.	
MU11	B 3	M-031A H-11	2.5X3X2. TW	MO AI	O C	TC-Q PI-Y			3-way valve to align MU demins. to BAT or radwaste system.	
MU12A	C 3	M-31A J-8	2.5 GT	MO	O/C O	TO-Q PI-Y	CS-1	TO-C	Makeup filter isolation valve.	
MU12B	C 3	M-31A K-8	2.5 GT	MO	O/C O	TO-Q PI-Y	CS-1	TO-C	Make up filter isolation valve	
MU23	B 3	M-045 F-4	2 GL	AO O	O O	SO-Q			BAT pump discharge line flow control valve.	
MU38	A 2	M-031B B-7	1 GL	AO C	O C	TC-Q FC-Q LJ-R PI-Y	CS-4 CS-4	TC-C FC-C LJ-R	RC pump seal return line Ctmt. isolation valve.	
MU40	B 3	M-031A K-10	2.5 GT	MO AI	C O	TO-Q PI-Y			BAT pump to MU Tank line block valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: MAKEUP

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OF.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
MU59A	A 2	M-031B B-2	1 GL	MO AI	O C	TC-Q LJ-R PI-Y	CS-4	TC-C LJ-R	RC pump seal return line Ctmt. isolation valve.	
MU59B	A 2	M-031B C-3	1 GL	MO AI	O C	TC-Q LJ-R PI-Y	CS-4	TC-C LJ-R	RC pump seal return line Ctmt. isolation valve.	
MU59C	A 2	M-031B D-3	1 GL	MO AI	O C	TC-Q LJ-R PI-Y	CS-4	TC-C LJ-R	RC pump seal return line Ctmt. isolation valve.	
MU59D	A 2	M-031B E-3	1 GL	MO AI	O C	TC-Q LJ-R PI-Y	CS-4	TC-C LJ-R	RC pump seal return line Ctmt. isolation valve.	
MU66A	A 2	M-031B K-5	1.5 GL	AO C	O C	TC-Q FC-Q LJ-R PI-Y	CS-4 CS-4	TC-C FC-C LJ-R	RC pump seal supply line Ctmt. isolation valve.	
MU66B	A 2	M-031B J-5	1.5 GL	AO C	O C	TC-Q FC-Q LJ-R PI-Y	CS-4 CS-4	TC-C FC-C LJ-R	RC pump seal supply line Ctmt. isolation valve.	
MU66C	A 2	M-031B H-5	1.5 GL	AO C	O C	TC-Q FC-Q LJ-R PI-Y	CS-4 CS-4	TC-C FC-C LJ-R	RC pump seal supply line Ctmt. isolation valve.	
MU66D	A 2	M-031B F-5	1.5 GL	AO C	O C	TC-Q FC-Q LJ-R PI-Y	CS-4 CS-4	TC-C FC-C LJ-R	RC pump seal supply line Ctmt. isolation valve.	
MU160	C 3	M-031A K-6	3 CK	SA NA	O/C O	FF-Q	CS-6	FF-C	BAT pump to MU Tank line check valve.	
MU169	C 2	M-031C H-2	2 CK	SA NA	C O	RF-Q FF-Q	CS-2 RV-2	RF-C PQR	MU to RCS inj. line check valve. Normal makeup and feed & bleed.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: WAKEUP

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
MU176	C 3	M-031A H-6	3 CK	SA NA	O/C O	FF-Q	CS-6	FF-C	BAT pump to MU Tank line check valve.	
MU181	C 3	M-031C A-5	3 CK	SA NA	O/C O	FF-Q	CS-6	FF-C	BAT pump to MU Tank line check valve.	
MU196	C 3	M-031C H-6	2.5 CK	SA NA	O/C O/C	FF-Q RF-Q	CS-7 RV-5	PQCS RF-R	MU pump discharge line check valve.	
MU197	C 3	M-031C E-6	2.5 CK	SA NA	O/C O/C	FF-Q RF-Q	CS-7 RV-5	PQCS RF-R	MU pump discharge line check valve.	
MU204	C 3	M-031C G-7	1 CK	SA NA	O/C O/C	FF-Q RF-Q	RV-4 CS-7	FF-R RF-C	MU pump min. flow line check valve.	
MU207	C 3	M-031C F-7	1 CK	SA NA	O/C O/C	FF-Q RF-Q	RV-4 CS-7	FF-R RF-C	MU pump min. flow line check valve.	
MU242	AC 2	M-031B K-4	1.5 SC	SA NA	O C	RF-Q LJ-R	RV-1	RF-R LJ-R	RC pump seal supply line Ctmt. isolation valve.	
MU243	AC 2	M-031B J-4	1.5 SC	SA NA	O C	RF-Q LJ-R	RV-1	RF-R LJ-R	RC pump seal supply line Ctmt. isolation vcalve.	
MU244	AC 2	M-031B H-4	1.5 SC	SA NA	O C	RF-Q LJ-R	RV-1	RF-R LJ-R	RC pump seal supply line Ctmt. isolation valve.	
MU245	AC 2	M-031B F-4	1.5 SC	SA NA	O C	RF-Q LJ-R	RV-1	RF-R LJ-R	RC pump seal supply line Ctmt. isolation valve.	
MU346	C 3	M-045 H-4	2 CK	SA NA	O/C O	FF-Q RF-Q			BAT pump discharge line check valve.	
MU347	C 3	M-045 H-2	1.5 CK	SA NA	O/C O	FF-Q RF-Q			BAT pump discharge line check valve.	
MU350	C 3	M-045 H-2	2 CK	SA NA	O/C O	FF-Q	CS-6	FF-C	BAT pump discharge line check valve.	
MU361	C 3	M-045 E-4	2 CK	SA NA	O/C O	FF-Q	CS-6	FF-C	BAT pump discharge line check valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: MAKEUP

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
MU800	C 2	M-031C E-2	2.5 CK	SA	C O	RF-Q PF-Q	CS-5 RV-3	RF-C PF-R	Alternate MU to RCS inj. line check valve. Alt feed & bleed.	
MU1893	C 3	M-031C D-11	6 X 8 RL	SA NA	C O	SR-T			MU Tank to MU pump suction line system relief valve.	
MU3971	B 3	M-031C G-11	3X4X3 TW	MO AI	C O	TO-Q PI-Y	CS-8	TO-C	3-way valve to align MU pump to BWST or Makeup Tank. Open position is aligned to Makeup Tank.	
MU6405	B 3	M-031C E-10	3X4X3 TW	MO AI	C O	TO-Q PI-Y	CS-8	TO-C	3-way valve to align MU pump to BWST or Makeup Tank. Open position is aligned to Makeup Tank.	
MU6408	B 3	M-031C G-6	2 GT	MO AI	O O/C	TC-Q PI-Y	CS-9	TC-C	MU pump discharge header train isolation block valve.	
MU6409	B 3	M-031C F-6	2 GT	MO AI	O O/C	TC-Q PI-Y	CS-9	TC-C	MU pump discharge header train isolation block valve.	
MU6419	B 3	M-031C E-4	2 GL	MO AI	C O	TO-Q PI-Y			Feed & bleed line block valve.	
MU6420	B 3	M-031C J-4	2.5 GT	MO AI	C O	TO-Q PI-Y	CS-3	TO-C	Feed & bleed line block valve.	
MU6421	A 2	M-031C E-3	2.5 GL	MO AI	C O	TO-Q TC-Q LJ-R PI-Y			Feed & bleed line Ctmt. isolation valve.	
MU6422	A 2	M-031C H-3	2.5 GT	MO AI	O O	TC-Q TO-Q LJ-R PI-Y	CS-3 CS-3	TC-C TO-C LJ-R	Normal MU to RCS line Ctmt. isoaltion valve.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: MAKEUP
VALVE(s): MU1A, MU1B, MU2A, MU2B, MU3, MU12A, MU12B
CATEGORY: A
CLASS: 2
FUNCTION: RCS Letdown Line Containment Isolation Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time (MU1A, MU1B, MU2A, MU2B, MU12A, MU12B).
Exercise, time and fail (MU3).

COLD SHUTDOWN

TEST

JUSTIFICATION: These valves are in the normal letdown line from the RCS. Exercising during normal operation would disrupt normal RCS letdown flow which could decrease significantly the capability of the MU system to provide the proper boration ratio. Failure of each valve in the closed position coincident with normal Makeup flow could result in a high RCS water level trip.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on actuation and cannot be partial-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time (MU1A, MU1B, MU2A, MU2B MU12A, MU12B).
Exercise, time and fail (MU3).

COLD SHUTDOWN TEST JUSTIFICATION

CS-2

SYSTEM: MAKEUP

VALVE(s): MU169

CATEGORY: C

CLASS: 2

FUNCTION: Makeup to RCS Injection Line Check Valve.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: This valve is in the normal makeup line to the Reactor Coolant System. To verify reverse flow closure requires termination of the normal makeup flow. Termination of normal makeup flow during normal operation could decrease significantly the capability of the makeup system to provide the proper boration ratio or will cause loss of pressurizer level resulting in undesirable low pressurizer level and violation of Technical Specification 3.4.4. In addition, isolation of all makeup flow would be required causing thermal shock to high pressure injection nozzle thermal sleeve.

QUARTERLY PART

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

COLD SHUTDOWN TEST JUSTIFICATION

CS-3

SYSTEM: MAKEUP
VALVE(s): MU6420, MU6422
CATEGORY: A (MU6422)
B (MU6420)
CLASS: 2 (MU6422)
3 (MU6420)
FUNCTION: Normal Makeup Line to RCS Block Valve (MU6420)
and Containment Isolation Valve (MU6422).

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: MU 6422 is the Block valve to the normal makeup flow to the RCS. MU 6420 is the bypass valve around MU 32, RCS Makeup Control Valve. Exercising normally closed MU 6420 open would bypass this normal Pressurizer level control valve and inject full RCS flow into the RCS. This full makeup flow would result in an undesirable condition and may cause high pressurizer level per Technical Specification 3.4.4. Exercising MU 6422 would terminate normal makeup flow to the RCS which again would violate minimum pressurizer levels per Technical Specification 3.4.4. In addition, closing MU 6422 would isolate all makeup flow causing thermal shock degradation of the high pressure injection nozzle. Failure of the valve in the closed position coincident with normal letdown would result in a plant shutdown.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be partial-stroke exercised.

COLD SHUTDOWN

TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-4

SYSTEM: MAKEUP
VALVE(S): MU38, MU59A, MU59B, MU59C, MU59D, MU66A,
MU66B, MU66C, MU66D
CATEGORY: A
CLASS: 2
FUNCTION: RC Pump Seal Supply (MU66A,B,C,D) and Return
(MU38, MU66A,B,C,D) Line Containment Isolation
Valves.

ASME SECTION QUARTERLY TEST

REQUIREMENTS: Exercise and time (MU59A,B,C,D).
Exercise, time and fail (MU38, MU66A,B,C,D).

COLD SHUTDOWN TEST

JUSTIFICATION: Exercising these valves during normal operation or at cold shutdown when the RCS is pressurized results in a loss of normal seal water to the RCS pump seals. If seal water is terminated, reactor coolant is forced from the high pressure RCS into the seals. Reactor coolant normally contains a high particulate matter concentration which is carried with the reactor coolant in leakage and contaminates the seals and may cause extensive damage to the seals.

QUARTERLY PARTIAL

STROKE TESTING: Valves full-stroke on initiation and cannot be partial-stroke tested.

COLD SHUTDOWN TESTING:

Exercise, time and fail (as appropriate) at cold shutdown when the RCS is open or vented to the atmosphere.

COLD SHUTDOWN TEST JUSTIFICATION

CS-5

SYSTEM: MAKEUP

VALVE(s): MU800

CATEGORY: C

CLASS: 2

FUNCTION: Alternate Makeup to RCS Injection Line Check Valve.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: This valve is in the alternate makeup line to the Reactor Coolant System. During testing the alternate Makeup injection line would be inoperable for a significant length of time rendering Emergency Feed and Bleed inoperable. In addition to verify reverse flow closure would require opening HP2C, High Pressure Injection line to the RCS and increasing line pressure. This test could cause possible lifting of the two in series stop check valves which may not reseal. If water does enter the RCS then thermal shock to high pressure injection nozzle thermal sleeve could occur.

QUARTERLY PART

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

COLD SHUTDOWN TEST JUSTIFICATION

CS-6

SYSTEM: MAKEUP
VALVE(s): MU160, MU176, MU181, MU350, MU361
CATEGORY: C
CLASS: 3
FUNCTION: BAT Pump to MU Tank Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability

COLD SHUTDOWN TEST

JUSTIFICATION: The only way to verify forward flow operability is by measuring design flow rate using the BAT pump flow and the pump discharge header flow instrument. Full flow testing into the MU Tank during alternate operation would have an adverse effect on RCS boron concentrations.

QUARTERLY PARTIAL

STROKE TESTING: Partial forward flow operability is verified quarterly during alternate operation of the system.

COLD SHUTDOWN

TESTING: Verify full forward flow operability.

COLD SHUTDOWN TEST JUSTIFICATION

CS-7

SYSTEM: MAKEUP
VALVE(s): MU196, MU197, MU204, MU207
CATEGORY: C
CLASS: 3
FUNCTION: Makeup Pump Discharge Check Valves (MU196, MU197).
Makeup Pump Minimum Flow Line Check Valves (MU204, MU207).

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: The only way to verify reverse flow closure involves closing pump suction line manual valves MU190 and MU191. These valves are in the low pressure pump inlet lines. If either valve is closed with the other makeup pump in normal operation and the idle pump check valves fail to close, or leak excessively, the pump seals and low pressure pump inlet piping will be overpressurized. Exposing the pump seals and low pressure pump suction piping to normal Makeup pump discharge pressure could cause extensive damage to the Makeup pump seals and low pressure pump suction piping.

QUARTERLY PART

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

COLD SHUTDOWN TEST JUSTIFICATION

CS-8

SYSTEM: MAKEUP
VALVE(s): MU3971, MU6405
CATEGORY: B
CLASS: 3
FUNCTION: Three valve for normal Makeup pump suction supply from the Makeup Storage Tank, when open pump suction swaps to the BWST.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: MU3971 and MU6405 are in the closed position which allows the Makeup Pump to take suction on the Makeup Tank. To cycle these valves would allow the Makeup Pumps to take suction on the BWST. This would cause cold highly borated water to enter as normal makeup flow to the RCS. This makeup flow would result in an undesirable condition and would cause power a reduction transient. In addition this cold Borated water would cause thermal shock degradation of the high pressure injection nozzle. Failure of the valves in the close (return to the Makeup Tank) would result in a plant shutdown.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-9

SYSTEM: MAKEUP
VALVE(s): MU6408, MU6409
CATEGORY: A
CLASS: 2
FUNCTION: Cross connect lines for Makeup Trains

ASME SECTION XI
QUARTERLY TEST

REQUIREMENTS: Exercise and time.

COLD SHUTDOWN TEST

JUSTIFICATION: MU6408 and MU6409 are cross connect lines for Makeup Pump 1-1 or 1-2 to RCP seal and Makeup Train 2 or 1 Flowpath. Exercising MU6408 or MU6409 would terminate normal makeup flow to the RCS which would violate minimum pressurizer levels per Technical Specification 3.4.4. In addition, closing MU6408 or MU6409 would isolate all makeup flow causing thermal shock degradation of the high pressure injection nozzle. Failure of the valve in the closed position coincident with normal letdown could result in a plant shutdown.

QUARTERLY PARTIAL
STROKE TESTING:

Valves will be stroked timed if the flowpath is not inservice.

COLD SHUTDOWN
TESTING:

Exercise and time.

RELIEF REQUEST

RV-1

SYSTEM: MAKEUP
VALVE(s): MU242, MU243, MU244, MU245
CATEGORY: AC
CLASS: 2
FUNCTION: RCS Pump Seal Supply Line Containment
Isolation Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

BASIS FOR RELIEF: The only method available to verify reverse flow closure is by valve leak testing during Appendix J, Type C, testing at refueling.

ALTERNATE TESTING: Reverse flow closure will be verified during Appendix J, Type C, testing at refueling.

RELIEF REQUEST

RV-2

SYSTEM: MAKEUP
VALVE(s): MU169
CATEGORY: C
CLASS: 2
FUNCTION: Normal Makeup To RCS Line Check Valve.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

BASIS FOR RELIEF: During normal operation makeup flow to the RCS is automatically regulated in response to RCS conditions by upstream flow control valve MU32. To inject full flow into the RCS during normal operation would result in undesirable RCS boron concentrations, system temperature and level transients and could result in thermal shock to the high pressure injection nozzle thermal sleeve. In addition, the MU pumps are incapable of overcoming RCS operating conditions sufficiently to inject full feed and bleed design flow rate. The Makeup pumps cannot be run at full feed and bleed flow rate at cold shutdown with the reactor vessel head in place due to the inability to letdown that full flow. This could result in a low temperature overpressurization of the RCS.

ALTERNATE TESTING: This valve will be partial-stroke exercised quarterly utilizing normal makeup flow and full-stroke exercised at refueling outages by verifying that the valve opens to pass full forward flow rate.

RELIEF REQUEST

RV-3

SYSTEM: MAKEUP

VALVE(s): MU800

CATEGORY: C

CLASS: 2

FUNCTION: MU to RCS Feed and Bleed Line Check Valve.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

BASIS FOR RELIEF: This line is isolated during all modes of operation except during the MU system feed and bleed mode of operation. To test the valve by injecting makeup flow into the RCS during normal operation would result in undesirable RCS boron concentrations, system temperature and level transients and could result in thermal shock to the high pressure injection nozzle thermal sleeve. In addition, the MU pumps are incapable of overcoming RCS operating conditions sufficiently to inject full feed and bleed design flow rate. The Makeup pumps cannot be run at full feed and bleed flow rate at cold shutdown with the reactor head in place due to the inability to letdown that full flow. This would result in a low temperature overpressurization of the RCS.

ALTERNATE TESTING: This valve will be full-stroke exercised during refueling outages by verifying that the valve opens to pass full forward flow rate.

RELIEF REQUEST

RV-4

SYSTEM: MAKEUP
VALVE(s): MU204, MU207
CATEGORY: C
CLASS: 3
FUNCTION: Makeup Pump Minimum Flow Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

BASIS FOR RELIEF: Forward flow operability of these valves cannot be verified by line flow rate due to lack of installed instrumentation. Flow rate can only be obtained by using the Borated Water Storage Tank as the makeup pump supply and measuring a known volume increase over time in the Makeup Tank.

ALTERNATE TESTING: These valves will be forward flow tested each refueling by measuring a volume increase on the Makeup tank over time.

RELIEF REQUEST

RV-5

SYSTEM: MAKEUP
VALVE(s): MU196, MU197
CATEGORY: C
CLASS: 3
FUNCTION: Makeup Pump Discharge Line Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify forward flow operability.

BASIS FOR RELIEF: During normal operation makeup flow to the RCS is automatically regulated in response to RCS conditions by upstream flow control valve MU32. To inject full flow into the RCS during normal operation would result in undesirable RCS boron concentrations, system temperature and level transients and could result in thermal shock to the high pressure injection nozzle thermal sleeve. In addition, the MU pumps are incapable of overcoming RCS operating conditions sufficiently to inject full feed and bleed design flow rate. The Makeup pumps cannot be run at full feed and bleed flow rate at cold shutdown with the reactor vessel head in place due to the inability to letdown that full flow. This could result in a low temperature overpressurization of the RCS.

ALTERNATE TESTING: These valves will be partial-stroke exercised quarterly utilizing normal makeup flow and full-stroke exercised at refueling outages by verifying that the valve opens to pass design flow.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

NITROGEN

SYSTEM

SECTION III

ATTACHMENT: III-1-20

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: NITROGEN

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
NN58	AC 2	M-019 B-3	1 CK	SA NA	O C	RF-Q LJ-R	RV-1 --	RF-R LJ-R	Nitrogen supply to Pressurizer Quench Tank Ctmt. isolation Valve. Pen. P44B.	
NN236	A 2	M-019 B-5	1 GT	AO C	O C	TC-Q FC-Q LJ-R PI-Y			Nitrogen supply to Pressurizer Quench Tank Ctmt. isolation valve. Pen. P44B.	

RELIEF REQUEST

RV-1

SYSTEM: NITROGEN
VALVE: NN58
CATEGORY: AC
CLASS: ?
FUNCTION: Nitrogen System Containment Isolation Check Valve.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse-flow closure.

BASIS FOR RELIEF: The only method available to verify reverse-flow closure is by valve leak testing during Appendix J, Type C, testing at refueling.

ALTERNATE TESTING: Reverse-flow closure will be verified during Appendix J, Type C, testing at refueling.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

REACTOR COOLANT
SYSTEM

SECTION III

ATTACHMENT: III-1-21

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: REACTOR COOLANT

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
RC2A	BC 1	M-030A A-3	2.5X4 GT	EM SA C	C O/C	TO-Q TC-Q PC-Q PI-Y	RV-1 RV-1 RV-1 RV-1	SO-R SC-R PC-R	Electrically controlled pilot valve operated relief valve. (PORV)	
RC10	B 1	M-030A C-9	2.5 GT	MO AI	O C	TC-Q PI-Y	CS-1	TC-C	Press. spray line block valve.	
RC11	B 1	M-030A B-3	2.5 GT	MO AI	O C	TO-Q TC-Q PI-Y			Press. PORV line block valve.	
RC13A	C 1	M-030A B-7	4 X 6 RL	SA NA	C O	SR-T			Press. safety relief valve.	
RC13B	C 1	M-030A B-5	4 X 6 RL	SA NA	C O	SR-T			Press. safety relief valve.	
RC51	C 1	M-030A C-9	1.5 CK	SA NA	C O	FF-Q	CS-2	FF-C	Decay Heat Sys. Aux. spray to Press. line check valve.	
RC113	AC 2	M-040A F-3	2 CK	SA NA	O/C C	RF-Q LJ-R	RV-2 --	RF-R LJ-R	Press. Quench Tank inlet line Ctmt. isolation valve. Pen. P41.	
RC200	B 1	M-030A B-3	1 GT	MO AI	C O/C	TO-Q TC-Q PI-Y	CS-3 CS-3	TO-C TC-C	Press. vent line block valve.	
RC229A	A 2	M-040A H-4	3 GL	AO C	O C	TC-Q PC-Q LJ-R PI-Y			Press. Quench Tank cooling line Ctmt. isolation valve. Pen. P48.	
RC229B	A 2	M-040A H-3	3 GL	AO C	O C	TC-Q PC-Q LJ-R PI-Y			Press. Quench Tank cooling line Ctmt. isolation valve. Pen. P48.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: REACTOR COOLANT

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
RC239A	B 1	M-030A B-3	1 GT	NO AI	C O/C	TO-Q PI-Y			Press. vent line block valve.	
RC240A	A 1	M-030A B-2	1 GT	NO AI	O/C O/C	TC-Q LJ-R PI-Y			RCS sample header Ctmt. isolation valve. Pen. P1.	
RC240B	A 2	M-030A B-1	1 GT	NO AI	O/C O/C	TC-Q LJ-R PI-Y			RCS sample header Ctmt. isolation valve. Pen. P1.	
RC1719A	A 2	M-040A K-7	3 DA	AO C	O C	TC-Q FC-Q LJ-R PI-Y			RCS vent header Ctmt. isolation valve. Pen. P16.	
RC1719B	A 2	M-040A K-8	3 DA	AO C	O C	TC-Q FC-Q LJ-R PI-Y			RCS vent header Ctmt. isolation valve. Pen. P16.	
RC1773A	A 2	M-040A C-10	3 DA	AO C	O C	TC-Q FC-Q LJ-R PI-Y			RCS drain header Ctmt. isolation valve. Pen. P32.	
RC1773B	A 2	M-040A D-10	3 DA	AO C	O C	TC-Q FC-Q LJ-R PI-Y			RCS drain header Ctmt. isolation valve. Pen. P32.	
RC4608A	B 1	M-030A D-11	1 GT	SO C	C O/C	TO-Q TC-Q FC-Q PI-Y	RV-3 RV-3 RV-3	TO-R TC-R	Post Accident RCS loop vent valve.	
RC4608B	B 1	M-030A D-11	1 GT	SO C	C O/C	TO-Q TC-Q FC-Q PI-Y	RV-3 RV-3 RV-3	TO-R TC-R	Post Accident RCS loop vent valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: REACTOR COOLANT

DOCUMENT REVISION: 0

VALVE NO.	CAT. CL.	DWG. NO. COORD.	SIZE TYPE	ACT. TYPE FAIL POS.	POS. NORM. S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
RC4610A	B 1	M-030A E-2	1 GT	SO C	C O/C	TO-Q TC-Q PC-Q PI-Y	RV-3 RV-3 RV-3	TO-R TC-R	Post Accident RCS loop vent valve.	
RC4610B	B 1	M-030A G-2	1 GT	SO C	C O/C	TO-Q TC-Q PC-Q PI-Y	RV-3 RV-3 RV-3	TO-R TC-R	Post Accident RCS loop vent valve.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: REACTOR COOLANT
VALVE(s): RC10
CATEGORY: B
CLASS: 1
FUNCTION: RC Pressurizer Spray Line Block Valve.

ASME SECTION XI
QUARTERLY TEST
REQUIREMENTS:

Exercise and time.

COLD SHUTDOWN TEST
JUSTIFICATION:

Failure of this valve in the closed position during normal operation would result in loss of normal pressurizer control function and could result in a forced plant shutdown.

QUARTERLY PARTIAL
STROKE TESTING:

Valve full-strokes on actuation and cannot be partial-stroke exercised.

COLD SHUTDOWN
TESTING:

Exercise and time.

COLD SHUTDOWN TEST JUSTIFICATION

CS-2

SYSTEM: REACTOR COOLANT
VALVE(s): RC51
CATEGORY: C
CLASS: 1
FUNCTION: RC Pressurizer Auxiliary Spray Line Check Valve.

ASME SECTION XI
QUARTERLY TEST
REQUIREMENTS:

Verify forward flow operability.

COLD SHUTDOWN TEST
JUSTIFICATION:

The only way to verify forward flow operability is by injecting Decay Heat System flow into the RCS pressurizer. The Decay Heat System pumps lack sufficient head to overcome RCS operating pressure and inject flow into the Pressurizer.

QUARTERLY PARTIAL
STROKE TESTING:

N/A

COLD SHUTDOWN
TESTING:

Verify forward flow operability.

COLD SHUTDOWN TEST JUSTIFICATION

CS-3

SYSTEM: REACTOR COOLANT
VALVE(s): RC200
CATEGORY: B
CLASS: 1
FUNCTION: Pressurizer Vent Line Block Valve.

ASME SECTION XI
QUARTERLY TEST
REQUIREMENTS:

Exercise and time.

COLD SHUTDOWN TEST
JUSTIFICATION:

This valve is the second normally closed boundary valve between the Reactor Coolant System and the low pressure Gaseous Radwaste System. It is maintained closed during normal operation to maintain Reactor Coolant System Integrity. The only time this valve is opened is during startup to vent the pressurizer. If the valve is exercised during normal operation and fails in the open position a single upstream valve provides Reactor Coolant System integrity and the plant will be forced to shutdown.

QUARTERLY PARTIAL
STROKE TESTING:

Valve full-stroke on initiation and can not be partial-stroke exercised.

COLD SHUTDOWN
TESTING:

Exercise and fail.

RELIEF REQUEST

RV-1

SYSTEM: REACTOR COOLANT
VALVE(s): RC2A
CATEGORY: BC
CLASS: 1
FUNCTION: Pressurizer Power Operated Relief Valve.

ASME SECTION XI
QUARTERLY TEST
REQUIREMENT: Stroke and time.

BASIS FOR RELIEF: Full stroking and timing cannot be visually verified or measured on this valve since the valve mechanisms are internal. Only indication in the control room is an electrical signal to RC2A's pilot valve which does not indicate true valve position but only the open demand signal. Acoustic monitors provide flow indication, however these are independent of the valve. There is no fail position for this valve.

System testing at normal pressure and temperature cannot occur since this would cause a large pressure drop in the RCS hence causing a pressure transient with a possible Low Pressure Reactor Protection Trip. Valve testing with the PORV Block Valve (RC 11) closed cannot occur since system pressure is the motive force for opening the valve.

Valve testing cannot occur at cold shutdown because the correct conditions for the testing may not be present. Testing can only occur during a defined RCS pressure band to ensure the valve has sufficient force to stroke open, to limit system pressure transients and limit generation of radwaste.

ALTERNATE TESTING: Valve will be fully stroked at refueling per DB-SP-03366, Pressurizer Powered Operated Relief Valve Cycle Test. This will measure acceptable flow through the PORV by timing pressure drop from 200 psig to 190 psig or from 100 psig to 90 psig. This drop in pressure is correlated to flow and must occur in a set time period. RCS pressure must be at approximately 200 psig to meet prerequisites for this test, hence the test will occur during refueling.

Channel calibration of PORV setpoint occurs every refueling per Channel Calibration of 58A-ISPRCO2B2, RCS Pressure to RPS Channel 1. Present setpoint as allowed by Technical Specification is less than 2355 psig. This test verifies the solenoid associated with RC2A will energize at the system setpoint.

RELIEF REQUEST

RV-2

SYSTEM: REACTOR COOLANT
VALVE(s): RC113
CATEGORY: AC
CLASS: 2
FUNCTION: Pressurizer Quench Tank Inlet Line Containment
Isolation Check Valve.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENT: Verify reverse flow closure.

BASIS FOR RELIEF: The only method available to verify
reverse flow closure is by valve leak
testing during Appendix J, Type C,
testing at refueling.

ALTERNATE TESTING: Reverse flow closure will be verified
during Appendix J, Type C, testing at
refueling.

III-1-21-9

RELIEF REQUEST

RV-3

SYSTEM: REACTOR COOLANT
VALVE(s): RC4608A, RC4608B, RC4610A, RC4610B
CATEGORY: B
CLASS: 1
FUNCTION: Post Accident RCS Loop Vent Valves

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Exercise, time and fail.

BASIS FOR RELIEF: These post-accident RCS loop vent valves are Valcor solenoid operated valves with magnetic position switches integral to the valve. This valve design is susceptible to line pressure surges and will open if subjected to a pressure surges. If the valves are cycled at system pressure the closed valve may be forced open and could result in a significant RCS leak.

ALTERNATE TESTING: These valves will be full-stroke exercised and flow path verified operable at refueling or at least once every 18 months as required by the Plant Technical Specifications.

III-1-21-10

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

SAMPLE

SYSTEM

SECTION III

ATTACHMENT: III-1-22

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: SAMPLE

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
SS235A	A 2	M-040A E-4	1 GL	AO C	O/C C	TC-Q FC-Q LJ-R PI-Y			Quench Tank vapor sample Ctmt. isolation valve.	
SS235B	A 2	M-040A E-3	1 GL	AO C	O/C C	TC-Q FC-Q LJ-R PI-Y			Quench Tank vapor sample Ctmt. isolation valve.	
SS598	B 2	M-007A H-3	.75 GL	AO C	O C	TC-Q FC-Q PI-Y			SG sample line Ctmt. isolation valve.	
SS607	B 2	M-007A H-9	.75 GL	AO C	O C	TC-Q FC-Q PI-Y			SG sample line Ctmt. isolation valve.	

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

SERVICE WATER

SYSTEM

SECTION III

ATTACHMENT: III-1-23

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

DOCUMENT REVISION: 0

SYSTEM: SERVICE WATER

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
SW17	C 3	M-041A G-3	20 CK	SA NA	O O/C	FF-Q RF-Q	CS-2 RV-1	PQCS RF-Q	SW pump discharge line check valve.	
SW18	C 3	M-041A G-10	20 CK	SA NA	O O/C	FF-Q RF-Q	CS-2 RV-1	PQCS RF-Q	SW pump discharge line check valve.	
SW19	C 3	M-041A G-7	20 CK	SA NA	O O/C	FF-Q RF-Q	CS-2 RV-1	PQCS RF-Q	SW pump discharge line check valve.	
SW57	C 3	M-041A A-7	20 CK	SA NA	O C	RF-Q	CS-1	RF-C	Return from cooling water HX. to SW line check valve.	
SW1356	B 2	M-041C C-2	8 BL	AO O	O O/C	TO-Q TC-Q FO-Q PI-Y			Ctmt. Air Cooler return to SW line isolation valve.	
SW1357	B 2	M-041C C-9	8 BL	AO O	O O/C	TO-Q TC-Q FO-Q PI-Y			Ctmt. Air Cooler return to SW line isolation valve.	
SW1358	B 2	M-041C C-5	8 BL	AO O	C O/C	TO-Q TC-Q FO-Q PI-Y			Ctmt Air Cooler return to SW line isolation valve.	
SW1366	B 3	M-041C H-5	8 BL	MO AI	O O/C	TO-Q TC-Q PI-Y			SW supply to Ctmt. Air Coolers line isolation valve.	
SW1367	B 3	M-041C H-12	8 BL	MO AI	O O/C	TO-Q TC-Q PI-Y			SW supply to Ctmt. Air Coolers line isolation valve.	
SW1368	B 3	M-041C H-8	8 BL	MO AI	O O/C	TO-Q TC-Q PI-Y			SW supply to Ctmt. Air Coolers line isolation valve.	
SW1379	B 3	M-041A H-4	4 GT	MO AI	O/C O	TO-Q			SW pump strainer blowdown line block valve.	

III-1-23-1

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: SERVICE WATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	WCG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
SW1380	B 3	M-041A H-11	4 GT	MO AI	O/C O	TO-Q			SW pump strainer blowdown line block valve.	
SW1381	B 3	M-041A H-7	4 GT	MO AI	O/C O	TO-Q			SW pump strainer blowdown line block valve.	
SW1382	B 3	M-041C J-4	6 BF	MO AI	C O	TO-Q PI-Y			SW to APW pump suction line block valve.	
SW1383	B 3	M-041C K-9	6 BF	MO AI	C O	TO-Q PI-Y			SW to APW pump suction line block valve.	
SW1395	B 3	M-041A D-10	20 BF	MO AI	O C	TC-Q PI-Y			SW supply to nonessential components line isolation valve.	
SW1399	B 3	M-041A D-8	20 BF	MO AI	C C	TC-Q PI-Y			SW supply to nonessential components line isolation valve.	
SW1424	B 3	M-041B C-7	16 BF	AO O	O/C O	TO-Q FO-Q PI-Y			CCW HX SW outlet line temperature control valve.	
SW1429	B 3	M-041B C-9	16 BF	AO O	O/C O	TO-Q FO-Q PI-Y			CCW HX SW outlet line temperature control valve.	
SW1434	B 3	M-041B C-11	16 BF	AO O	O/C O	TO-Q FO-Q PI-Y			CCW HX SW outlet line temperature control valve.	
SW2927	B 3	M-041B F-7	1.5 GT	MO AI	C O	TO-Q PI-Y			Control Room Emerg. Cond. SW supply line isolation valve.	
SW2928	B 3	M-041B G-11	1.5 GT	MO AI	C O	TO-Q PI-Y			Control Room Emerg. Cond. SW supply line isolation valve.	
SW2929	B 3	M-041C A-4	20 BF	MO AI	O/C O	TO-Q TC-Q PI-Y			SW discharge to Intake Structure isolation valve.	

III-1-23-2

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: SERVICE WATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
SW17	C 3	M-041A G-3	20 CK	SA NA	O O/C	FF-Q RF-Q	CS-2 RV-1	PQCS RF-Q	SW pump discharge line check valve.	
SW18	C 3	M-041A G-10	20 CK	SA NA	O O/C	FF-Q RF-Q	CS-2 RV-1	PQCS RF-Q	SW pump discharge line check valve.	
SW19	C 3	M-041A G-7	20 CK	SA NA	O O/C	FF-Q RF-Q	CS-2 RV-1	PQCS RF-Q	SW pump discharge line check valve.	
SW57	C 3	M-041A A-7	20 CK	SA NA	O C	RF-Q	CS-1	RF-C	Return from cooling water HX. to SW line check valve.	
SW1356	B 2	M-041C C-2	8 BL	AO O	O O/C	TO-Q TC-Q FO-Q PI-Y			Ctmt. Air Cooler return to SW line isolation valve.	
SW1357	B 2	M-041C C-9	8 BL	AO O	O O/C	TO-Q TC-Q FO-Q PI-Y			Ctmt. Air Cooler return to SW line isolation valve.	
SW1358	B 2	M-041C C-5	8 BL	AO O	C O/C	TO-Q TC-Q FO-Q PI-Y			Ctmt Air Cooler return to SW line isolation valve.	
SW1366	B 3	M-041C H-5	8 BL	MO AI	O O/C	TO-Q TC-Q PI-Y			SW supply to Ctmt. Air Coolers line isolation valve.	
SW1367	B 3	M-041C H-12	8 BL	MO AI	O O/C	TO-Q TC-Q PI-Y			SW supply to Ctmt. Air Coolers line isolation valve.	
SW1368	B 3	M-041C H-8	8 BL	MO AI	O O/C	TO-Q TC-Q PI-Y			SW supply to Ctmt. Air Coolers line isolation valve.	
SW1379	B 3	M-041A H-4	4 GT	MO AI	O/C O	TO-Q			SW pump strainer blowdown line block valve.	

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: SERVICE WATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
SW1380	B 3	M-041A H-11	4 GT	MO AI	O/C O	TO-Q			SW pump strainer blowdown line block valve.	
SW1381	B 3	M-041A H-7	4 GT	MO AI	O/C O	TO-Q			SW pump strainer blowdown line block valve.	
SW1382	B 3	M-041C J-4	6 BF	MO AI	C O	TO-Q PI-Y			SW to APW pump suction line block valve.	
SW1383	B 3	M-041C K-9	6 BF	MO AI	C O	TO-Q PI-Y			SW to APW pump suction line block valve.	
SW1395	B 3	M-041A D-10	20 BF	MO AI	O C	TC-Q PI-Y			SW supply to nonessential components line isolation valve.	
SW1399	B 3	M-041A D-8	20 BF	MO AI	C C	TC-Q PI-Y			SW supply to nonessential components line isolation valve.	
SW1424	B 3	M-041B C-7	16 BF	AO O	O/C O	TO-Q FO-Q PI-Y			CCW HX SW outlet line temperature control valve.	
SW1429	B 3	M-041B C-9	16 BF	AO O	O/C O	TO-Q FO-Q PI-Y			CCW HX SW outlet line temperature control valve.	
SW1434	B 3	M-041B C-11	16 BF	AO O	O/C O	TO-Q FO-Q PI-Y			CCW HX SW outlet line temperature control valve.	
SW2927	B 3	M-041B F-7	1.5 GT	MO AI	C O	TO-Q PI-Y			Control Room Emerg. Cond. SW supply line isolation valve.	
SW2928	B 3	M-041B G-11	1.5 GT	MO AI	C O	TO-Q PI-Y			Control Room Emerg. Cond. SW supply line isolation valve.	
SW2929	B 3	M-041C A-4	20 BF	MO AI	O/C O	TO-Q TC-Q PI-Y			SW discharge to Intake Structure isolation valve.	

III-1-23-2

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: SERVICE WATER

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. NORM. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
SW2930	B 3	M-041C A-5	30 BF	MO AI	O/C O	TO-Q TC-Q PI-Y			SW discharge to Intake Forebay isolation valve.	
SW2931	B 3	M-041C A-6	30 BF	MO AI	O/C O	TC-Q PI-Y			SW discharge to Cooling Tower Makeup line block valve.	
SW2932	B 3	M-041C A-8	30 BF	MO AI	O/C C	TC-Q PI-Y			SW discharge to Collection Box line block valve.	
SW3962	C 3	M-041A E-5	6 X 8 RL	SA NA	C O	SR-T			SW supply header relief valve.	
SW3963	C 3	M-041A E-10	6 X 8 RL	SA NA	C O	SR-T			SW supply header relief valve.	
SW5067	B 3	M-041C J-6	1 GT	MO AI	O O	TO-Q PI-Y			SW to H2 Dilution Blower line isolation valve.	
SW5068	B 3	M-041B J-4	1 GT	MO AI	O O	TO-Q PI-Y			SW to H2 Dilution Blower line isolation valve.	

COLD SHUTDOWN TEST JUSTIFICATION

CS-1

SYSTEM: SERVICE WATER
VALVE(s): SW57
CATEGORY: C
CLASS: 3
FUNCTION: Return From Cooling Water Heat Exchangers
to Service Water Line Check Valve.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

COLD SHUTDOWN TEST

JUSTIFICATION: To verify reverse flow closure during normal operation would require isolating the cooling water heat exchangers. The cooling water heat exchangers are in service during normal operation to remove heat from the turbine condenser. Isolation of the cooling water heat exchangers during normal operation could result in a turbine trip and forced plant shutdown.

QUARTERLY PARTIAL

STROKE TESTING: N/A

COLD SHUTDOWN

TESTING: Verify reverse flow closure.

COLD SHUTDOWN TEST JUSTIFICATION

CS-2

SYSTEM: SERVICE WATER
VALVE(s): SW17, SW18, SW19
CATEGORY: C
CLASS: 3
FUNCTION: Forward flow operability is required to provide full opening of the check valve.

ASME SECTION XI
QUARTERLY TEST
REQUIREMENTS: Verify forward flow.

COLD SHUTDOWN TEST
JUSTIFICATION: Quarterly forward flow testing cannot occur because system flow is dependent on climatic conditions. Changing the flow using additional flow paths causes excessive temperature transients and degradation on standby equipment which are required for safe shutdown. This places equipment in unanalyzed conditions. Upon actuation this standby equipment may not function as required.

QUARTERLY PARTIAL
STROKE TESTING: Valves will be partial forward flow tested quarterly.

COLD SHUTDOWN
TESTING: Verify full forward flow.

RELIEF REQUEST

RV-1

SYSTEM: SERVICE WATER
VALVE(s): SW17, SW18, SW19
CATEGORY: C
CLASS: 3
FUNCTION: Service Water Pump Discharge Check Valves.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse flow closure.

BASIS FOR RELIEF: During normal operation two of the three Service Water pumps are in operation. The third pump is an installed spare and is aligned to the Essential Service Water train. The two trains are isolated from each other by normally closed manual cross-tie valves. The nonessential train supplies Service Water to nonessential loads and the essential train supplies Service Water to the essential loads. To perform reverse flow closure verification on all three pump discharge check valves during normal operation would require realigning both the manual cross-tie header valves and the nonessential loads. Realignment of the loads with pump rotation during normal operation could result in temperature and pressure transients which could result in equipment damage or a forced plant shutdown.

ALTERNATE TESTING: Reverse flow closure will be verified only for the idle service water pump. Verification will be performed during pump switching and pump shutdown unless reverse flow closure has been verified within the previous 90 days.

III-1-23-6

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

STATION AIR

SYSTEM

SECTION III

ATTACHMENT: III-1-24

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: STATION AIR

DOCUMENT REVISION: 0

VALVE NO.	CAT. & CL.	DWG. NO. & COORD.	SIZE & TYPE	ACT. TYPE & FAIL POS.	POS. & S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION & NOTES	REV.
SA502	AC 2	M-015D G-8	1.5 CK	SA NA	C C	RF-Q LJ-R	kV-1 --	RF-R LJ-R	SA to Ctmt. isolation valve.	
SA532	A 2	M-034 B-4	2 GL	MA NA	C C	PAS LJ-R			Ctmt. isolation manual.	
SA533	A 2	M-034 C-5	2 GL	MA NA	C C	PAS LJ-R			Ctmt. isolation manual.	
SA535	A 2	M-034 C-5	2 GT	MA NA	LC C	PAS LJ-R			Ctmt. isolation manual locked closed valve.	
SA536	A 2	M-034 A-4	2 GT	MA NA	LC C	PAS LJ-R			Ctmt. isolation manual locked closed valve.	
SA2010	A 2	M-015D F-8	1.5 GT	AO C	C C	TC-Q PC-Q LJ-R PI-Y			SA to Ctmt. isolation valve.	

RELIEF REQUEST

RV-1

SYSTEM: STATION AIR
VALVE(s): SA502
CATEGORY: AC
CLASS: 2
FUNCTION: Station Air Containment Isolation Check Valve.

ASME SECTION XI

QUARTERLY TEST

REQUIREMENTS: Verify reverse-flow closure.

BASIS FOR RELIEF: The only method available to verify reverse-flow closure is by valve leak testing during Appendix J, Type C, testing at refueling.

ALTERNATE TESTING: Reverse-flow closure will be verified during Appendix J, Type C, testing at refueling.

VALVE TEST PROGRAM
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

VALVE TEST TABLES FOR

STATION DRAINS

SYSTEM

SECTION 111

ATTACHMENT: 111-1-25

VALVE TEST TABLE
TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER PLANT

SYSTEM: STATION DRAINS

DOCUMENT REVISION: 0

VALVE NO.	CAT. CL.	DWG. NO. COORD.	SIZE TYPE	ACT. TYPE FAIL POS.	POS. NORM. S-R OP.	CODE TEST REQ.	C.S. OR RELIEF REQUEST NO.	C.S. OR ALTERNATE TEST PERFORMED	DESCRIPTION NOTES	REV.
DR2012A	A 2	M-046 C-9	4 GT	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. normal sump isolation valve.	
DR2012B	A 2	M-046 C-10	4 GT	MO AI	O C	TC-Q LJ-R PI-Y			Ctmt. normal sump isolation valve.	