

~~0801.15~~0801.15

0801.15

---

10CFR50.92

---

10CFR50.55a(a)(3)(i)

~~January~~December 26~~XX~~, 2000~~1999~~  
NRC-0099-0001~~101~~

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington D C 20555-0001

References: 1) ~~1)~~ Fermi 2  
NRC Docket No. 50-341  
NRC License No. NPF-43

- 2) Detroit Edison Letter to NRC, "Proposed Technical Specification Change (License Amendment) to Relax Surveillance Testing Requirements for Excess Flow Check Valves and Submittal of Pertinent IST Relief Request", NRC-99-0101, dated December 17, 1999
- 3) BWR Owners Group Letter to NRC, "BWR Owners Group Generic Response to NRC Request for Additional Information on Lead Plant Technical Specification Change Request Regarding Excess Flow Check Valve Surveillance Requirements", BWROG-00001, dated January 6, 2000

Subject: ~~Additional Information Related to the Proposed Technical Specification Change (License Amendment) to Relax Surveillance Testing Requirements~~  
to Relax Surveillance Testing Requirements for Excess Flow Check Valves (TAC No. MA7373) and Submittal of Pertinent IST Relief Request

In Reference 2, Detroit Edison proposed to amend the Fermi 2 Operating License NPF-43, Appendix A, Technical Specifications (TS) to modify TS Surveillance Requirement (SR) 3.6.1.3.9 to relax the SR frequency by allowing a representative

sample of Excess Flow Check Valves (EFCVs) to be tested every 18 months, such that each EFCV will be tested at least once every ten years. The basis for this TS amendment is consistent with that described in the Boiling Water Reactor Owners' Group (BWROG) Report B21-00658-01, dated November 1998. This report was submitted to the NRC with Duane Arnold Energy Center (Docket No. 50-331) proposed TS amendment, as a lead BWR plant, on April 12, 1999. Generic responses to the NRC staff questions posed to the lead plant have been submitted by the BWROG to the NRC in Reference 3.

In Reference 2, Detroit Edison addressed plant-specific questions asked by the NRC staff of the lead plant; however, generic questions related to the BWROG Report B21-00658-01 were not specifically addressed. Detroit Edison has reviewed the responses provided by BWROG in Reference 3 and concludes that the responses are valid for the Fermi 2 plant. The BWROG response to question 5 calculates the release frequency initiated by an instrument line break for a plant with 94 instrument lines with two year surveillance intervals while Fermi 2 has 93 instrument lines and 18 month surveillance intervals; however, Detroit Edison has determined that the BWROG conclusion that releases would be infrequent remains applicable to Fermi 2. Pursuant to 10CFR50.90 and 10CFR50.55a(a)(3)(i), Detroit Edison hereby proposes to amend the Fermi 2 Plant Operating License NPF-43, Appendix A, Technical Specifications (TS) and requests the approval of Inservice Testing (IST) relief request number VRR-011. The proposed changes will modify TS Surveillance Requirement (SR) 3.6.1.3.9 to relax the SR frequency by allowing a "representative sample" of Excess Flow Check Valves (EFCVs) to be tested every 18 months, such that each EFCV will be tested at least once every ten years (nominal). The SR reflected in the current Improved Technical Specifications requires testing all EFCVs every 18 months. The IST relief request will match the IST program requirements to those of the SR in the proposed amendment.

The basis for this TS amendment is consistent with that described in a Boiling Water Reactor Owners' Group (BWROG) report, B21-00658-01, dated November 1998, and the NRC review of this report and a similar TS amendment for the Duane Arnold Energy Center.

Enclosure 1 provides a description and evaluation of the proposed TS changes. Enclosure 2 provides an analysis of the issue of significant hazards consideration using the standards of 10CFR50.92. Enclosure 3 provides marked up pages of the existing TS to show the proposed changes and a typed version of the affected TS pages with the proposed changes incorporated. Enclosure 4 provides IST relief request number VRR-011 for the second 120-month interval for NRC approval. Upon approval of this TS amendment and relief request VRR-011, refueling outage justification number ROJ-005, in the second 120-month interval IST program revision, will be replaced with relief request VRR-011.

~~Detroit Edison has reviewed the proposed TS changes against the criteria of 10CFR51.22 for environmental considerations. The proposed changes do not involve a significant hazards consideration, nor significantly change the types or significantly increase the amounts of effluents that may be released offsite, nor significantly increase individual or cumulative occupational radiation exposures. Based on the foregoing, Detroit Edison concludes that the proposed TS change meet the criteria provided in 10CFR51.22(c)(9) for a categorical exclusion from the requirements for an Environmental Impact Statement or an Environmental Assessment.~~

~~Detroit Edison requests that the NRC approves and issues the TS amendment and approve the relief request by February 29, 2000, with a 60-day implementation time. The proposed amendment is needed to minimize personnel radiation exposure during the upcoming seventh refueling outage scheduled to start on March 31, 2000.~~

Should you have any questions or require additional information, please contact Mr. Norman K. Peterson of my staff at (734) 586-4258.

Sincerely,

~~D. R. Gipson /s/~~ **D. R. Gipson /s/**

Enclosures

cc: A. J. Kugler  
~~A. Vogel~~ **M. A. Ring**  
NRC Resident Office  
Regional Administrator, Region III  
Supervisor, Electric Operators,  
Michigan Public Service Commission



I, ~~DOUGLAS R. GIPSON~~, do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.

\_\_\_\_\_/s/\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
DOUGLAS R. GIPSON  
Senior Vice President, Nuclear Generation

On this ~~17th~~ day of ~~December~~ December, 1999 before me personally appeared Douglas R. Gipson, being first duly sworn and says that he executed the foregoing as his free act and deed.

\_\_\_\_\_  
\_\_\_\_\_  
Rosalie Armetta /s/  
Notary Public

bcc: G. D. Cerullo  
J. W. Davis  
P. Fessler  
D. R. Gipson  
K. J. Hlavaty  
K. E. Howard  
R. W. Libra  
~~W. T. O'Connor~~  
N. K. Peterson  
J. H. Plona

Electronic Licensing Library (ELL)  
Information Management (140 NOC)  
**Dave Minnaar, Nuclear Facilities Unit (MDEQ)**  
~~Chief, Nuclear Facilities Unit, (MDEQ)~~  
NSRG Secretary/ISEG Coordinator (220 TAC)  
NRR Chron File  
R. D. Breymaier  
A. I. Hassoun  
  
B. J. Sheffel

**ENCLOSURE 1**

**FERMI 2 NRC DOCKET NO. 50-341  
OPERATING LICENSE NO. NPF-43**

**REQUEST TO REVISE TECHNICAL SPECIFICATIONS:**

**REVISION OF SURVEILLANCE REQUIREMENT FOR THE  
EXCESS FLOW CHECK VALVES**

**DESCRIPTION AND EVALUATION OF  
THE PROPOSED CHANGES**

## **DESCRIPTION AND EVALUATION OF THE PROPOSED CHANGES**

### **DESCRIPTION**

Fermi 2 Technical Specifications (TS) Surveillance Requirement (SR) 3.6.1.3.9 currently requires verification of the actuation capability of each reactor instrumentation line Excess Flow Check Valve (EFCV) every 18 months. This SR demonstrates that each reactor instrumentation line EFCV is OPERABLE by verifying that the valve restricts flow on a simulated instrument line break downstream of the valve. The 18 month frequency is based on the typical performance of this surveillance under the conditions that apply during a plant outage and the potential for an unplanned transient if the surveillance were performed with the reactor at power. Since testing requires the reactor to be pressurized to near normal operating pressure, this SR is normally performed during the reactor pressure vessel system leakage test, which is performed near the end of each refueling outage. EFCVs are tested by opening a downstream test drain valve from each EFCV and verifying proper operation.

All Instrument lines connected to the Reactor Coolant Pressure Boundary (RCPB) are equipped with a 0.25-inch flow-restricting orifice located as close as practical to the point of connection to the RCPB except for the jet pump flow instrument lines and the feedwater pressure-sensing lines. The jet pump lines are 0.25-inch in diameter from the RPV nozzles to the jet pump taps, and the feedwater pressure-sensing lines tap in outside the containment; therefore, the inboard isolation check valve (B2100F010A/B), located inside the containment, serves the function of the restricting orifice. Additionally, the main body orifice of EFCVs at Fermi 2 is 0.25-inch in size; therefore, it acts as another restricting orifice. A manual shutoff valve is located outside the containment and is located as close as practical to the containment wall or pipe (in the case of feedwater lines). The EFCV is located immediately downstream of the manual valve. This design and installation follows the guidance of Regulatory Guide 1.11. EFCVs at Fermi 2 have the same design, configuration and application. All are of the same type, size, make and model.

The proposed change is to relax the surveillance requirement frequency by allowing a "representative sample" of EFCVs to be tested every 18 months, such that each EFCV will be tested at least once every ten years (nominal). The proposed change is being requested to minimize personnel radiation exposure during refueling outages; cut down on outage critical path time without significantly impacting the risk to the general public, and increase the availability of instrumentation during outages.



The Boiling Water Reactor Owners' Group (BWROG) has issued a report that provides a basis for this request. This report (B21-00658-01, dated November 1998) provides justification for the relaxation in the SR frequency as described above. The report demonstrates, through operating experience, a high degree of reliability with the EFCVs and the low consequences of an EFCV failure. A similar TS amendment has been approved for the Duane Arnold Energy Center.

Reliability data shown in the BWROG report documents no EFCV failures at Fermi 2. Any future EFCV failure would be evaluated per the Fermi 2 Corrective Action program. Additionally, as part of the implementation of this TS amendment, the 10CFR50.65 Maintenance Rule program will be revised to include EFCVs. A performance acceptance criteria of less than or equal to one failure per year on a three-year rolling average will be utilized.

EFCVs are included in the Fermi 2 Inservice Testing (IST) program. For the second 120-month interval, which will start on February 17, 2000, Refueling Outage Justification number ROJ-005 is included in the program revision to justify testing these valves at each refueling outage instead of the quarterly test requirement for check valves per the ASME Code. A new relief request number VRR-011 is included with this submittal for NRC approval. This proposed relief request will match the IST program requirements to those of the surveillance requirement in the proposed TS amendment. As part of the implementation of the proposed TS change, ROJ-005 will be superseded and replaced with VRR-011 for the second interval IST program.

### **EVALUATION OF THE PROPOSED CHANGES**

The proposed changes to the Technical Specifications (TS) Surveillance Requirement (SR) 3.6.1.3.9 will relax the SR frequency by allowing a "representative sample" of EFCVs to be tested every 18 months, such that all EFCVs will be tested at least once every ten years (nominal). This evaluation discusses the basis for the requested change.

Industry experience with EFCVs indicate that they have very low failure rates. There have been no failures associated with EFCV isolation testing at Fermi 2 (zero failures in 387 tests to date). There are no other valves similar to EFCVs at Fermi 2. The high reliability of these valves and the low risk significance associated with an EFCV failure to isolate an instrument line break, are the primary bases for this change as documented in the BWROG report mentioned above. A large portion of the reported test failures at other plants was related to test methodologies and not actual valve failures. As stated previously, the instrument lines at Fermi 2 include a flow-restricting orifice (or a 0.25-inch diameter line) upstream of each EFCV to limit reactor water leakage in the event of a rupture. The exception is the two feedwater

~~pressure-sensing lines that tap into the feedwater lines outside of containment between the inboard and outboard containment isolation valves. In this configuration, the inboard isolation valve serves the function of the restricting orifice.~~

~~The postulated break of an instrument line attached to the RCPB is discussed and evaluated in the Updated Final Safety Analysis Report (UFSAR), Subsection 15.6.2. Leakage from such a rupture upstream of the excess-flow check valve is minimized by the line size or the restricting orifice in the line. The integrity and functional performance of the secondary containment and standby gas treatment system are not impaired by this event, and the calculated potential offsite exposures are substantially below the guidelines of 10CFR100. Therefore, a failure of an EFCV, though not expected as a result of this TS change, is bounded by the previous evaluation of an instrument line break. The radiation dose consequences of such a break are not impacted by this proposed change.~~

~~The reduced testing associated with this proposed change will result in an increase in the availability of the instrumentation during the outages, a significant saving in outage critical-path time and cost without significantly impacting the health and safety of the general public and significant dose savings.~~

**ENCLOSURE 2**

**FERMI 2 NRC DOCKET NO. 50-341  
NRC LICENSE NO. NPF-43**

**REQUEST TO REVISE TECHNICAL SPECIFICATIONS:**

**REVISION OF SURVEILLANCE REQUIREMENT FOR THE  
EXCESS FLOW CHECK VALVES**

**10CFR50.92 SIGNIFICANT HAZARDS CONSIDERATION**

### ~~10CFR50.92 SIGNIFICANT HAZARDS CONSIDERATION~~

~~In accordance with 10CFR50.92, Detroit Edison has made a determination that the proposed amendment involves no significant hazards consideration. The proposed Technical Specification (TS) change described above does not involve a significant hazards consideration for the following reasons:~~

~~1. The change does not involve a significant increase in the probability or consequences of an accident previously evaluated.~~

~~— The current SR frequency requires each reactor instrumentation line EFCV to be tested every 18 months. The EFCVs at Fermi 2 are designed to close automatically in the event of a line break downstream of the valve. Indicating lights on a control room panel monitor EFCV positions. These valves may be reopened by actuation of a solenoid valve, which is operated from a local control panel. EFCVs at Fermi 2 are designed and installed following the guidance of Regulatory Guide 1.11. This proposed change allows a reduced number of EFCVs to be tested every 18 months. Industry operating experience, documented in BWR0G report B21-00658-01, demonstrates a high level of reliability for these valves. A failure of an EFCV to isolate cannot initiate previously evaluated accidents; therefore, there can be no increase in the probability of occurrence of an accident as a result of this proposed change.~~

~~— Each instrument line connected to the RCPB, except for the feedwater pressure-sensing line, is equipped with a flow-restricting orifice located as close as practical to the point of connection to the RCPB. The feedwater pressure-sensing lines tap in the feedwater lines outside the primary containment between the inboard and outboard containment isolation valves. In this configuration, the inboard isolation valve (check valve located inside containment) serves the function of a restricting orifice. The jet pump lines are 0.25-inch in diameter from the RPV nozzles to the jet pump taps. A manual shutoff valve is located outside the primary containment and is installed as close as practical to the containment wall or pipe (in the case of feedwater). An EFCV is provided immediately downstream of the manual valve. This design and installation follows the guidance of Regulatory Guide 1.11.~~

~~— Fermi 2 UFSAR, Subsection 15.6.2 evaluates an instrument line pipe break within secondary containment. The evaluation assumes that a small instrument line instantaneously and circumferentially breaks at a location where it may not be possible to isolate it and where immediate detection is not automatic or apparent. The evaluation concluded that pressurization of the secondary~~

~~containment will not result from an instrument line break and a failure of the associated EFCV to isolate the ruptured line. The standby gas treatment system is not impaired by this event, and the calculated offsite exposure is substantially below the guidelines of 10CFR100. Additionally, coolant lost from such a break is inconsequential when compared to the makeup capabilities of the feedwater or RCIC system.~~

~~Although not expected to occur as a result of this change, the postulated failure of an EFCV to isolate as a result of reduced testing is bounded by the analysis in the UFSAR. Therefore, there is no increase in the previously evaluated consequences of the rupture of an instrument line and there is no potential increase in the radiological consequences of an accident previously evaluated as a result of this change.~~

~~2. The change does not create the possibility of a new or different kind of accident from any accident previously evaluated:~~

~~This proposed change allows a reduced number of EFCVs to be tested each operating cycle. No other changes in requirements are being proposed. Industry operating experience demonstrates the high reliability of these valves. The potential failure of an EFCV to isolate as a result of the proposed reduction in test frequency is bounded by the evaluation of an instrument line pipe break described in Subsection 15.6.2 of the UFSAR. This change is not a physical alteration of the plant and will not alter the operation of the structures, systems and components as described in the UFSAR. Therefore, a new or different kind of accident will not be created.~~

~~3. The change does not involve a significant reduction in the margin of safety:~~

~~The consequences of a postulated instrument line pipe break have been evaluated in Subsection 15.6.2 of the UFSAR. The evaluation assumed the line instantaneously and circumferentially breaks at a location where it may not be possible to isolate it and that the EFCV fails to isolate the break. Therefore, any potential failure of an EFCV as a result of the reduced testing frequency is bounded by this evaluation and does not involve a significant reduction in the margin of safety.~~

**ENCLOSURE 3**

**FERMI 2**

**NRC DOCKET NO. 50-341  
OPERATING LICENSE NPF-43**

**~~REQUEST TO REVISE TECHNICAL SPECIFICATIONS~~**

**~~REVISION OF SURVEILLANCE REQUIREMENT FOR THE  
EXCESS FLOW CHECK VALVES~~**

~~Attached is a mark-up of the existing Technical Specifications (TS) and TS Bases, indicating the proposed changes (Part 1), and a typed version of the TS and Bases incorporating the proposed changes (Part 2) with a list of included pages.~~

**ENCLOSURE 3 - PART 1**

**~~PROPOSED TECHNICAL SPECIFICATIONS MARK-UP PAGE~~  
(INCLUDING TS BASES)**

**INCLUDED PAGES:**

3.6-16

~~B-3.6.1.3-15~~

~~B-3.6.1.3-16~~

~~B-3.6.1.3-18~~

## Inserts to BASES for SR 3.6.1.3.9

### **Insert 1:**

~~The representative sample consists of an approximately equal number of EFCVs (about 15), from different plant locations and operating environments, such that each EFCV is tested at least once every ten years (nominal). The representative sample testing reflects the operability status of all EFCVs in the plant.~~

### **Insert 2:**

~~The nominal ten-year maximum limit is based on performance testing. An EFCV failure will be evaluated per the Corrective Action and the Maintenance Rule programs to determine if additional testing is warranted to ensure overall reliability is maintained. Operating experience has demonstrated that these components are highly reliable and that failures to isolate are very infrequent. Therefore, testing of a representative sample was concluded to be acceptable from a reliability standpoint (Reference 6).~~



**ENCLOSURE 3 - PART 2**

**PROPOSED TECHNICAL SPECIFICATIONS REVISED PAGE  
(INCLUDING TS BASES)**

**INCLUDED PAGES:**

3.6-16

B 3.6.1.3-15

B 3.6.1.3-16

B 3.6.1.3-17

B 3.6.1.3-18

**ENCLOSURE 4**

**FERMI-2**

**NRC DOCKET NO. 50-341  
OPERATING LICENSE NPF-43**

**~~REQUEST TO REVISE TECHNICAL SPECIFICATIONS~~**

**~~REVISION OF SURVEILLANCE REQUIREMENT FOR THE  
EXCESS FLOW CHECK VALVES~~**

**~~INSERVICE TESTING (IST) RELIEF REQUEST VRR-011  
FOR THE SECOND 10-YEAR INTERVAL~~**

**VALVE RELIEF REQUEST VRR-011**

**SYSTEM:** ~~NUCLEAR BOILER, REACTOR RECIRCULATION,  
 REACTOR CORE ISOLATION COLLING, CORE  
 SPRAY, HIGH PRESSURE COOLANT INJECTION,  
 REACTOR WATER CLEANUP, AND REACTOR  
 FEEDWATER~~

**VALVES:** \_\_\_\_\_

<b>Valve PIS No.</b>	<b>Code Class</b>	<b>Category</b>	<b>ISI Drawing</b>
B21F501A	†	A/C	6M721-5808-1
B21F501B	†	A/C	6M721-5808-1
B21F501C	†	A/C	6M721-5808-1
B21F501D	†	A/C	6M721-5808-1
B21F502A	†	A/C	6M721-5808-1
B21F502B	†	A/C	6M721-5808-1
B21F502C	†	A/C	6M721-5808-1
B21F502D	†	A/C	6M721-5808-1
B21F503A	†	A/C	6M721-5808-1
B21F503B	†	A/C	6M721-5808-1
B21F503C	†	A/C	6M721-5808-1
B21F503D	†	A/C	6M721-5808-1
B21F504A	†	A/C	6M721-5808-1
B21F504B	†	A/C	6M721-5808-1
B21F504C	†	A/C	6M721-5808-1
B21F504D	†	A/C	6M721-5808-1
B21F506	†	A/C	6M721-5808-2
B21F507	†	A/C	6M721-5808-2
B21F508	†	A/C	6M721-5808-2
B21F509	†	A/C	6M721-5808-2
B21F510	†	A/C	6M721-5808-2
B21F511	†	A/C	6M721-5808-2
B21F512	†	A/C	6M721-5808-2
B21F513A	†	A/C	6M721-5808-2
B21F513B	†	A/C	6M721-5808-2
B21F513C	†	A/C	6M721-5808-2
B21F513D	†	A/C	6M721-5808-2
B21F514A	†	A/C	6M721-5808-2
B21F514B	†	A/C	6M721-5808-2
B21F514C	†	A/C	6M721-5808-2
B21F514D	†	A/C	6M721-5808-2
B21F515A	†	A/C	6M721-5808-2

Enclosure 4 to  
NRC-99-0101  
Page 2

<b>Valve PIS No.</b>	<b>Code Class</b>	<b>Category</b>	<b>ISI Drawing</b>
B21F515B	†	A/C	6M721-5808-2
B21F515C	†	A/C	6M721-5808-2
B21F515D	†	A/C	6M721-5808-2
B21F515E	†	A/C	6M721-5808-2
B21F515F	†	A/C	6M721-5808-2
B21F515G	†	A/C	6M721-5808-2
B21F515H	†	A/C	6M721-5808-2
B21F515L	†	A/C	6M721-5808-2
B21F515M	†	A/C	6M721-5808-2
B21F515N	†	A/C	6M721-5808-2
B21F515P	†	A/C	6M721-5808-2
B21F515R	†	A/C	6M721-5808-2
B21F515S	†	A/C	6M721-5808-2
B21F515T	†	A/C	6M721-5808-2
B21F515U	†	A/C	6M721-5808-2
B21F516A	†	A/C	6M721-5808-2
B21F516B	†	A/C	6M721-5808-2
B21F516C	†	A/C	6M721-5808-2
B21F517A	†	A/C	6M721-5808-2
B21F517B	†	A/C	6M721-5808-2
B21F517C	†	A/C	6M721-5808-2
B21F517D	†	A/C	6M721-5808-2
B31F501A	†	A/C	6M721-5809
B31F501B	†	A/C	6M721-5809
B31F501C	†	A/C	6M721-5809
B31F501D	†	A/C	6M721-5809
B31F502A	†	A/C	6M721-5809
B31F502B	†	A/C	6M721-5809
B31F502C	†	A/C	6M721-5809
B31F502D	†	A/C	6M721-5809
B31F503A	†	A/C	6M721-5809
B31F503B	†	A/C	6M721-5809
B31F504A	†	A/C	6M721-5809
B31F504B	†	A/C	6M721-5809
B31F505A	†	A/C	6M721-5809
B31F505B	†	A/C	6M721-5809
B31F506A	†	A/C	6M721-5809
B31F506B	†	A/C	6M721-5809
B31F510A	†	A/C	6M721-5809

<b>Valve PIS No.</b>	<b>Code Class</b>	<b>Category</b>	<b>ISI Drawing</b>
B31F510B	†	A/C	6M721-5809
B31F511A	†	A/C	6M721-5809
B31F511B	†	A/C	6M721-5809
B31F512A	†	A/C	6M721-5809
B31F512B	†	A/C	6M721-5809
B31F515A	†	A/C	6M721-5809
B31F515B	†	A/C	6M721-5809
B31F516A	†	A/C	6M721-5809
B31F516B	†	A/C	6M721-5809
E21F500A	†	A/C	6M721-5814
E21F500B	†	A/C	6M721-5814
E41F500	†	A/C	6M721-5815
E41F501	†	A/C	6M721-5815
E41F502	†	A/C	6M721-5815
E41F503	†	A/C	6M721-5815
E51F503	†	A/C	6M721-5816
E51F504	†	A/C	6M721-5816
E51F505	†	A/C	6M721-5816
E51F506	†	A/C	6M721-5816
G33F583	†	A/C	6M721-5818
N21F539A	†	A/C	6M721-5821
N21F539B	†	A/C	6M721-5821

**FUNCTIONS:**

Excess flow check valves are provided in each instrument process line that is part of the reactor coolant pressure boundary. The excess flow check valve is designed so that it will not close accidentally during normal operation, will close if a rupture of the instrument line occurs downstream of the valve, can be reopened when appropriate after closure from a local panel, and has its position indicated in the control room.

As detailed in the Fermi 2 UFSAR, Detroit Edison has incorporated into the design of each excess flow check valve source line the equivalent of a 0.25-inch restricting orifice. This was done by either the installation of a 0.25-inch orifice, the tap size of the source line being a 0.25-inch or in the case of the Feedwater pressure-sensing lines, taking credit for and inboard containment isolation valve. Additionally, the design of each excess flow check valve contains an internal 0.25-inch main body orifice. The restrictions in the source lines of the excess flow check valves limit leakage, in case of a failure to close, to a level where the integrity and functional performance of secondary containment and associated safety systems are maintained.

~~The coolant loss is well within the capabilities of the reactor coolant makeup system, and the potential offsite exposure is substantially below the guidelines of 10CFR100.~~

~~Additionally, the design and installation of the excess flow check valves at Fermi 2 follow the guidance of Regulatory Guide 1.11.~~

**~~OM-10 CODE REQUIREMENTS FOR WHICH RELIEF IS REQUESTED:~~**

~~OM-10 Section 4.3.2.1 requires that check valves, category C valves, be exercised every 3 months to verify they fulfill their safety function.~~

**~~BASIS FOR RELIEF:~~**

~~Excess flow check valves are reliable devices, the major components are a poppet and spring. The spring holds the poppet open only under static conditions, such that the valve will close upon sufficient differential pressure across the poppet. Functional testing of the valve is accomplished by venting the instrument side of the valve. The resultant increase in flow imposes a differential pressure across the poppet which compresses the spring and closes off flow through the valve.~~

~~Excess flow check valves have been extremely reliable throughout the industry. Of the 837 tests performed in the first ten years of operation, no excess flow check valve isolation failures have been recorded. The Fermi 2 Technical Specifications detail what frequency is required to maintain a high degree of reliability and availability, and provide an acceptable level of quality and safety. Therefore, the Detroit Edison requests relief pursuant to 10CFR50.55a(a)(3)(i) to test excess flow check valves at the frequency specified in Fermi 2 Technical Specifications Surveillance Requirements (SR) 3.6.1.3.9. As discussed in the Bases for this SR, this test verifies that each valve restricts flow on a simulated instrument line break.~~

**~~ALTERNATE TESTING:~~**

~~Excess flow check valves will be tested at the frequency specified in Technical Specifications Surveillance Requirement 3.6.1.3.9.~~