

Revision 14 to the
CPS Inservice Testing Program
Appendix III

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PDR ADDCK 05000461
P PDR

Revision 14

Date 2/8/93

APPENDIX III

RELIEF REQUEST LISTING

Revision 14 is to revise Relief Request 4001 and to substitute better quality drawings for existing drawings in numerous Relief Requests.

Submitted By: B. A. Puchette

Approved By: Stanley R. Bell

ILLINOIS POWER COMPANY
CLINTON POWER STATION
GENERAL RELIEF REQUEST INDEX

Relief Request Number	Description	Date Submitted	Date Approved	Remarks
1001	Maximum allowable extension for test frequency of valves and pumps.	6-15-92	6-15-92	(Revision 2) Revised per SER
1002	Deleted			

ILLINOIS POWER COMPANY
CLINTON POWER STATION
VALVE RELIEF REQUEST INDEX

Relief Request Number	Description	Date Submitted	Date Approved	Remarks
2001	Deleted			
2002	Test frequency for valve 1C11-F122	3-09-88	9-30-91	(Revision 1)
2003	Deleted			
2004	Test frequency for valves 1SX016 A/B	6-30-87	9-30-91	
2005	Deleted			
2006	Deleted			
2007	Deleted			
2008	Test method for water leg keep fill check valves.	4-23-92	9-25-92	(Revision 3)
2009	Test frequency for the Manual Deluge Valves listed in Table 2009-1.	6-15-92	6-15-92	(Revision 2) Revised per SER
2010	Deleted			
2011	Leak rate testing, differential test pressure, analysis of leakage rate and corrective action for containment isolation valves.	12-13-88	9-30-91	(Revision 1)
2012	Test frequency for ADS valves 1B21-F041 B/C/D/F, F047 A/C and F051G. Stroke time evaluation.	3-15-92	Note 1	(Revision 2)
2013	Stroke time trending of the solenoid operated valves listed in Table 2013-1.	6-15-92	Note 1	(Revision 3)
2014	Full-stroke exercising of check valves 1E12-F041 A/B/C, 1E21-F006 and 1E22-F005.	4-23-92	9-25-92	(Revision 3)
2015	Deleted			
2016	Deleted			
2017	Deleted			
2018	Test frequency for valve 1E12-F475.	3-09-88	9-30-91	(Revision 1)
2019	Deleted			
2020	Deleted			
2021	Deleted			

Note 1: Acceptable per Generic Letter 89-04, Attachment 1, Position 6

WP:APP3TAB

ILLINOIS POWER COMPANY
CLINTON POWER STATION
VALVE RELIEF REQUEST INDEX

Relief Request Number	Description	Date Submitted	Date Approved	Remarks
2022	Exercise test for valve 11A175.	3-09-88	9-30-91	
2023	CRD valve 112.	2-10-88	9-30-91	
2024	CRD valves 126, 127, 139 and 114.	3-15-92	Note 2	(Revision 1)
2025	CRD valve 138.	2-10-88	9-30-91	
2026	DG valves 1DG008A-K.	3-15-92	Note 2	(Revision 1)
2027	Deleted			
2028	1C41-F336 Exercise	12-13-88	9-30-91	(Revision 1)
2029	Alt. Leak Rate Testing to allow pressure drop tests.	5-27-88	9-30-91	
2030	Deleted			
2031	Deleted			
2032	Stroke time trending of the air operated valves listed in Table 2032-1.	6-15-92	Note 3	(Revision 2)
2033	Test frequency and testing method for valves 1G33-F051 and 1G33-F052A,B.	11-30-92	Note 5	(Revision 1)
2034	Leak rate testing in groups.	6-15-92	9-25-92	
2035	Relief valve test supervisor requirements.	11-30-92	Note 4	

Note 2: Augmented testing requirements which are beyond the scope of 10CFR50.55a as these components are not ASME Class 1, 2 or 3. No NRC approval required.

Note 3: Acceptable per Generic Letter 89-04, Attachment 1, Positions 5 and 6.

Note 4: Pending NRC review.

Note 5: Previously approved by 9-30-91 NRC SER.

ILLINOIS POWER COMPANY
CLINTON POWER STATION
PUMP RELIEF REQUEST INDEX

Relief Request Number	Description	Date Submitted	Date Approved	Remarks
3001	Annual measurement of pump bearing temperatures.	8-20-87	9-30-91	(Revision 1)
3002	Flow rate measurement of pumps 1D001PA, 1D001PB and 1D001PC.	11-30-92	Note 5	(Revision 3)
3003	Flow rate measurement of pumps 1C41-C001A and C001B.	3-09-88	9-30-91	(Revision 1)
3004	Deleted			
3005	Time for pumps 1C41-C001A and C001B to run prior to measuring/observing pump parameters.	6-30-87	9-30-91	
3006	Ranges for pump flow rates and differential pressure.	4-23-92	9-25-92	(Revision 1)

Note 5: Previously approved by 9-25-92 NRC SER.

WP:APP3TAB

ILLINOIS POWER COMPANY
CLINTON POWER STATION
NDE RELIEF REQUEST INDEX

Relief Request Number	Description	Date Submitted	Date Approved	Remarks
4001	Weld examination of Class 2 lines which are open-ended.	2-08-93	Note 6	(Revision 2)
4002	Deleted			
4003	Perform VT-3 examinations per 83WB4 Code in lieu of all VT-3 and VT-4 examinations.	7-29-88	7-9-92	(Revision 1)
4004	Hydraulic and Mechanical Snubbers; Frequency of Inspection, Testing, and Corrective Action	12-28-88	7-9-92	(Revision 1)

Note 6: Previously approved by 7-9-92 NRC SER.

WP:APP3TAB

ILLINOIS POWER COMPANY
CLINTON POWER STATION
REPAIR/REPLACEMENT RELIEF REQUEST INDEX

Relief Request Number	Description	Date Submitted	Date Approved	Remarks
5001	Replacement bolting material	10-20-87	--	Disapproved
5002	Replacement parts for components	10-20-87	--	Disapproved
5003	Deleted			
5004	Deleted			

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 1001 (Revision 2)

COMPONENT INFORMATION

All pumps and valves that are required to perform a specific function in shutting down the reactor or in mitigating the consequences of an accident and are listed in Table I and Table II of the IST Program except safety and relief valves and valves not tested at three (3) month or shorter intervals.

CODE REQUIREMENTS

The ASME Code Section XI, Subsection IWP-3400 requires performing an inservice test on each pump nominally every three (3) months. Subsection IWV-3411 requires that valves be exercised and stroke timed at least once every three (3) months. Subsection IWV-3521 requires that check valves be exercised at least once every three (3) months.

RELIEF REQUEST/JUSTIFICATION

The ASME Code Section XI, various subsections mentioned above, specify the test frequency interval but do not specify any allowable extension. Often there are operational constraints or other valid concerns that make it impractical to perform testing within the Code specified interval. It would be impractical and burdensome for CPS to strictly follow the Code testing intervals without extensions to cover necessary deviations. Clinton Power Station Technical Specification 4.0.2 specifies a maximum allowable extension not to exceed 25% of the surveillance interval. CPS proposes to have a 25% extension which is reasonable for most Code specified testing and provides an acceptable level of quality and safety. This is consistent with Technical Specification 4.0.5.c.

ALTERNATE TESTING PROPOSED

Illinois Power Company will utilize CPS Technical Specification 4.0.2 allowable extension with the specified interval for all pumps and valves except safety and relief valves and valves not tested at three (3) month or shorter intervals.

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 2002 (Revision 1)

COMPONENT INFORMATION

This Control Rod Drive (CRD) Water Header Check Valve (1C11-F122) is a containment isolation valve and prevents the back flow of reactor water when the CRD Pumps are secured. It is an ASME Section III Code Class 2, Section XI Category A/C valve. It is a 2 inch check valve and is highlighted on the attached drawing.

CODE REQUIREMENT

The ASME Code Section XI, Subarticle IWV-3521 requires that this valve be exercised every three (3) months.

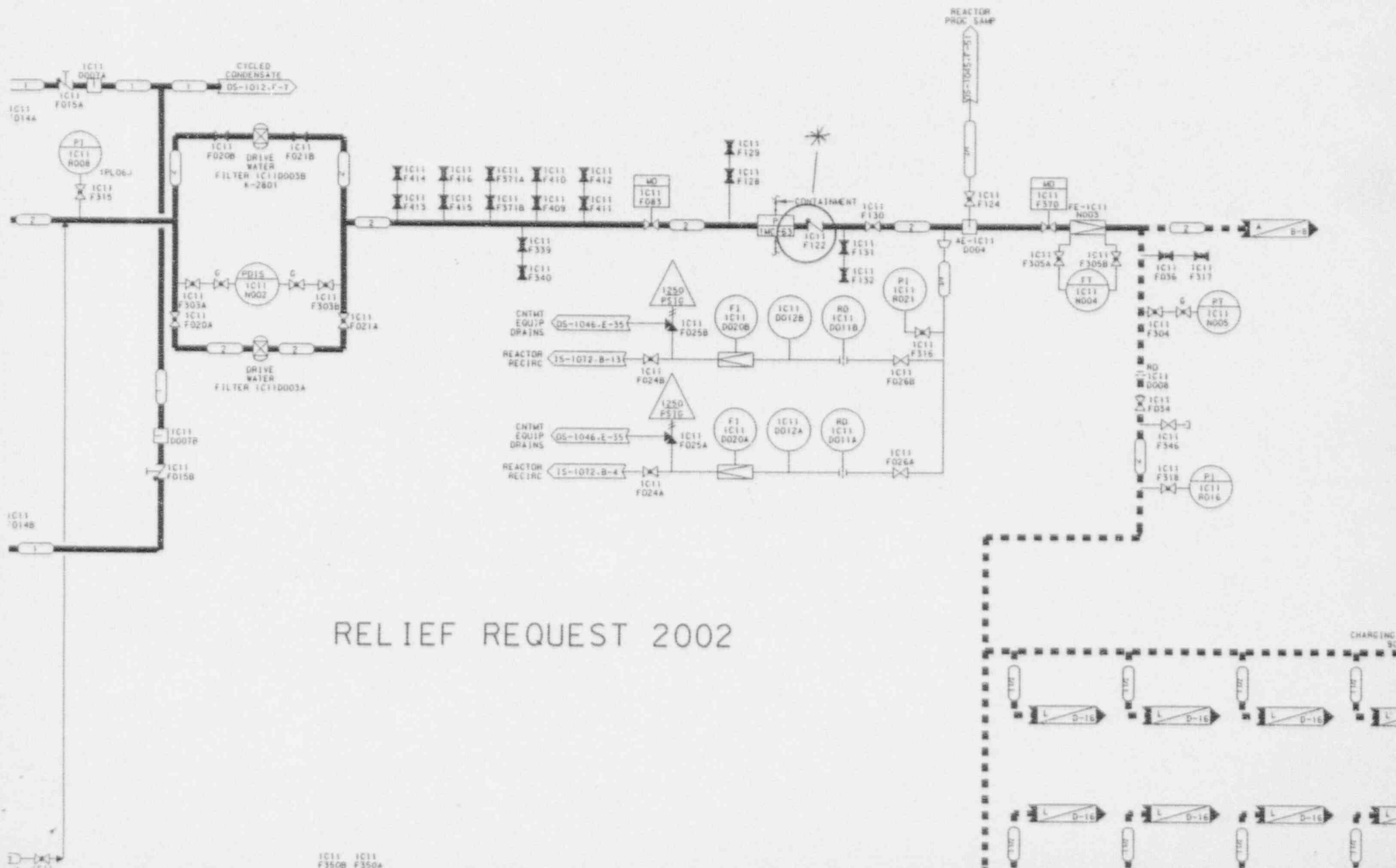
RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements for the following reasons:

This check valve is a containment isolation valve which provides drive water to the hydraulic control units and seal flow to the reactor recirculation pumps. This is a normally open valve and cannot be tested during normal plant operation or cold shutdowns since testing this valve requires that the CRD system be shutdown causing the control rods' motion to be prevented and stopping seal flow to the reactor recirculation pumps. Although the reactor recirculation pumps are not required for safe shutdown of the plant, these pumps are used to assure uniform temperatures are maintained in the vessel during cold shutdowns. Exercising this valve would also allow air to enter the CRDs which would require substantial venting of the system to remove.

ALTERNATE TESTING PROPOSED

Illinois Power Company will exercise this valve during refueling outages.



ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 2004

COMPONENT INFORMATION

The Fuel Pool Emergency Makeup Valves (1SX016A/B) provide emergency makeup water to the Fuel Pools from the lake. They are ASME Section III Code Class 3, Section XI Category B valves. They are 2½ inch motor operated gate valves and are highlighted on the attached drawings.

CODE REQUIREMENT

The ASME Code Section XI, Subsection IWV-3411 requires that these valves be exercised and stroke timed every three (3) months.

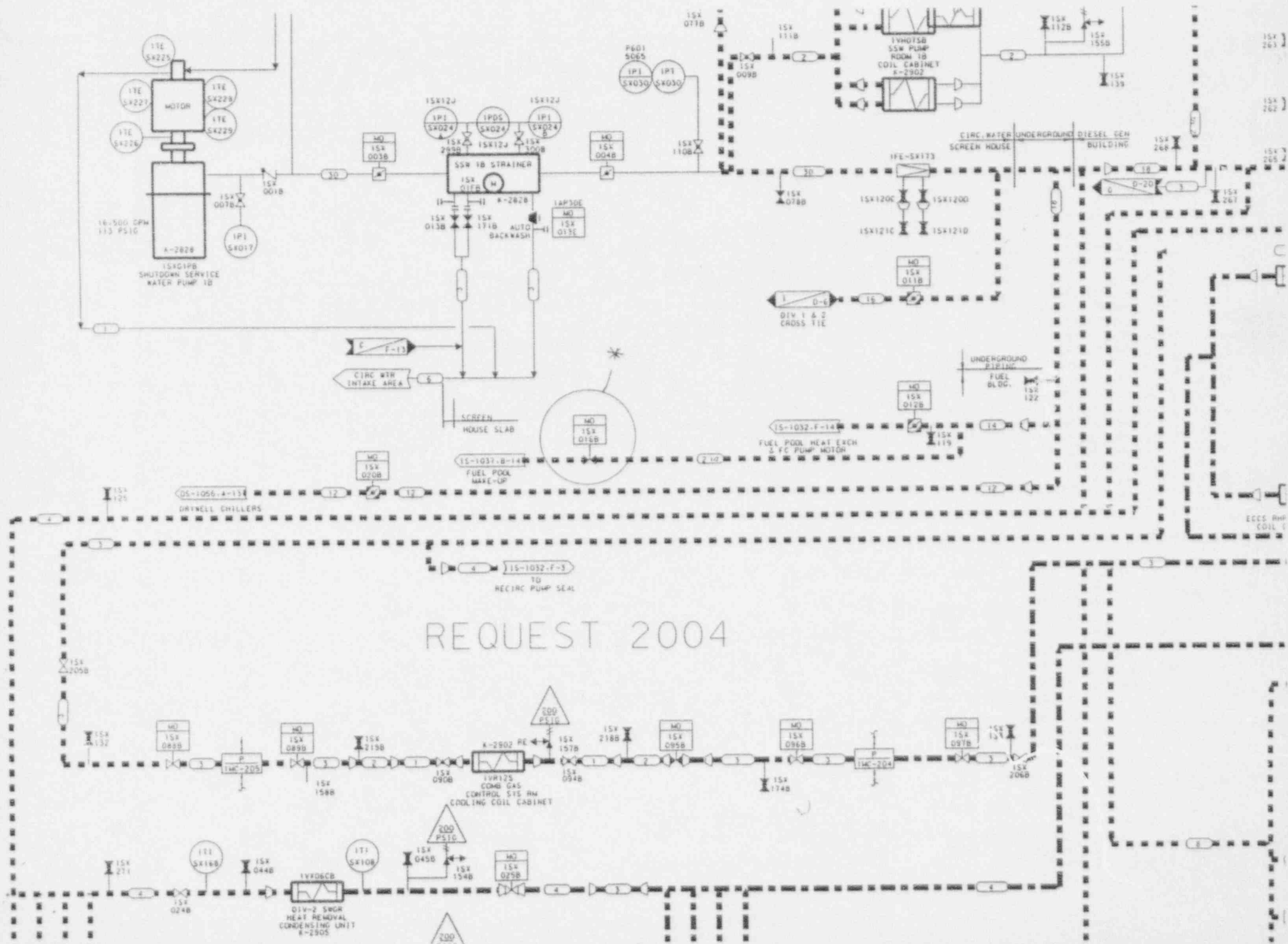
RELIEF REQUEST/JUSTIFICATION

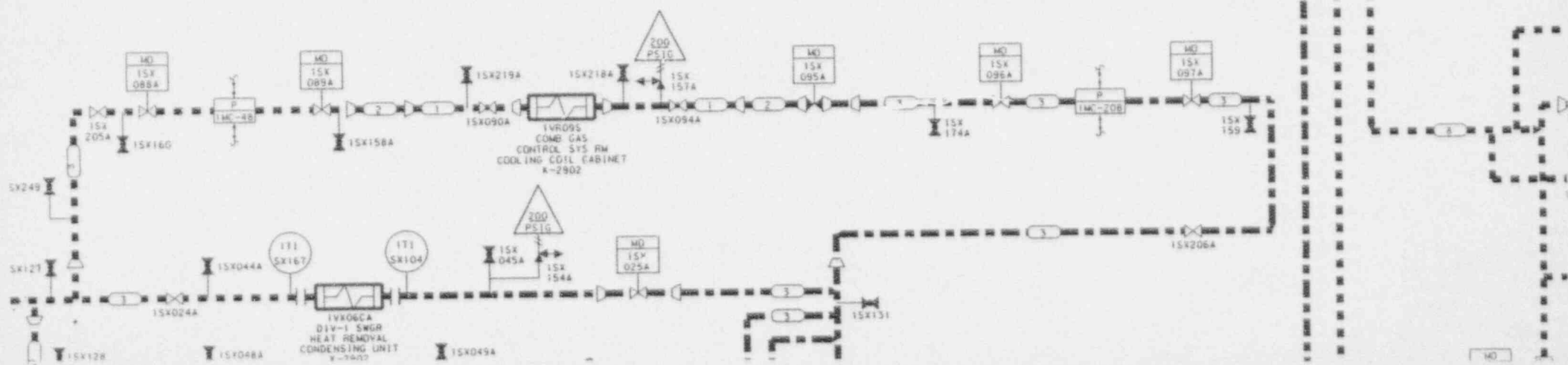
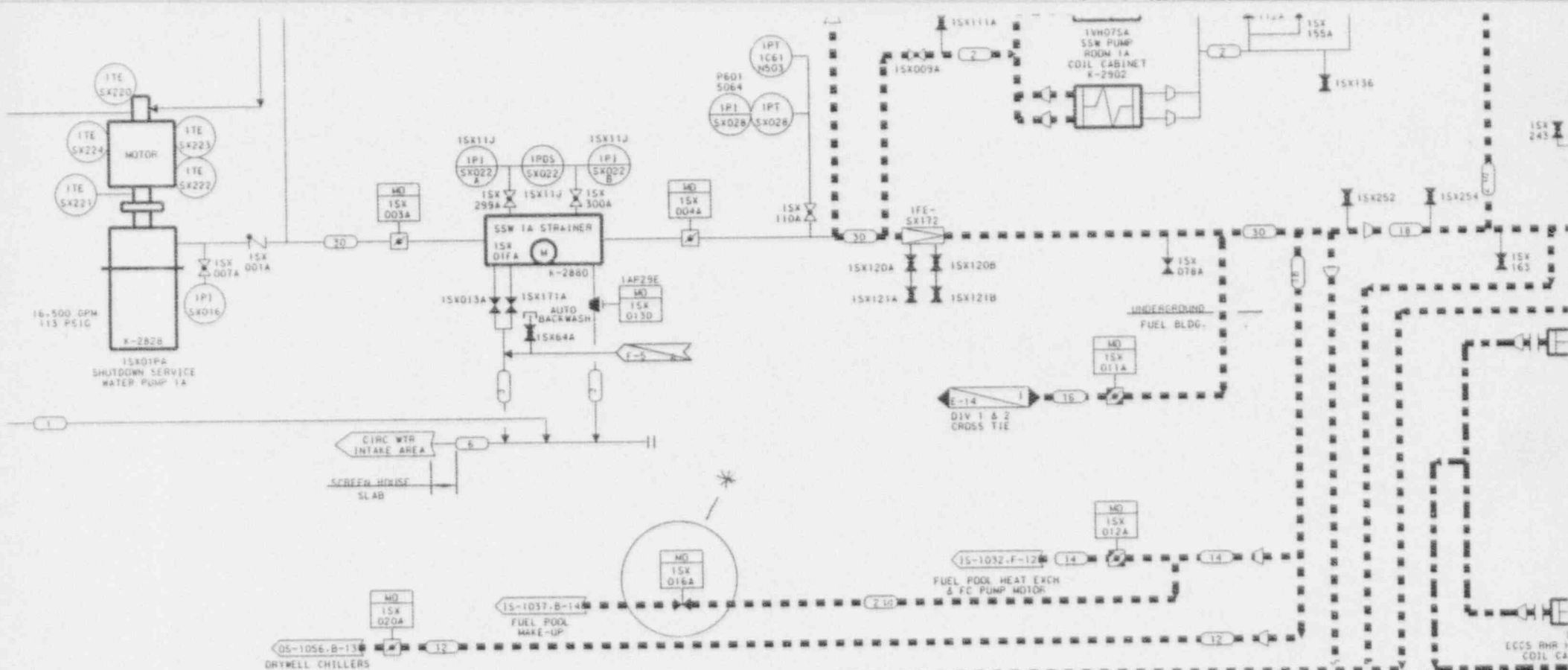
Illinois Power Company requests relief from the Code requirements for the following reasons:

Testing these valves will allow lake water into the fuel pools thereby affecting the chemistry of a large quantity of water in the pools. Cleanup of the fuel pool water will generate additional solid radwaste and delay the plant startup. Testing these valves during refueling outages will ensure that there is sufficient time to accomplish these activities.

ALTERNATE TESTING PROPOSED

Illinois Power Company will exercise and stroke time these valves during refueling outages.





ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2008 (Revision 3)

COMPONENT INFORMATION

Valve 1E22-F006 is located between High Pressure Core Spray (HP) water-leg pump and the main HP injection line. It is a 2-inch stop-check valve, ASME Section III Class 2, Section XI Category C. It is circled on the attached drawing "A".

Valves 1E12-F085A,B,C and 1E21-F034 are located between the water-leg pumps and their respective injection lines (Residual Heat Removal (RHR) and Low Pressure Core Spray (LP)). They are ASME Section III Class 2, Section XI Category C valves. They are 2-inch stop-check valves of identical design. As their piping configuration is similar, only 1E21-F034 is circled on the attached drawing "B".

CODE REQUIREMENTS

The ASME Code, Section XI, Subarticle IWV-3520 requires that these valves be full-stroke exercised individually every three (3) months.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements for the following reasons:

The above groups of valves, although located in separate systems, have similar configurations; they are check valves located in series with other check valves and no test connections provided between them to permit individual valve testing.

Each of these valves has a separate check valve in series. The two check valves in series, although not required by design or safety analysis, provide an added assurance that the high pressure Emergency Core Cooling System (ECCS) line will not damage the lower pressure water-leg piping. Illinois Power Company considers these two check valves in series as a single entity and will test them as such.

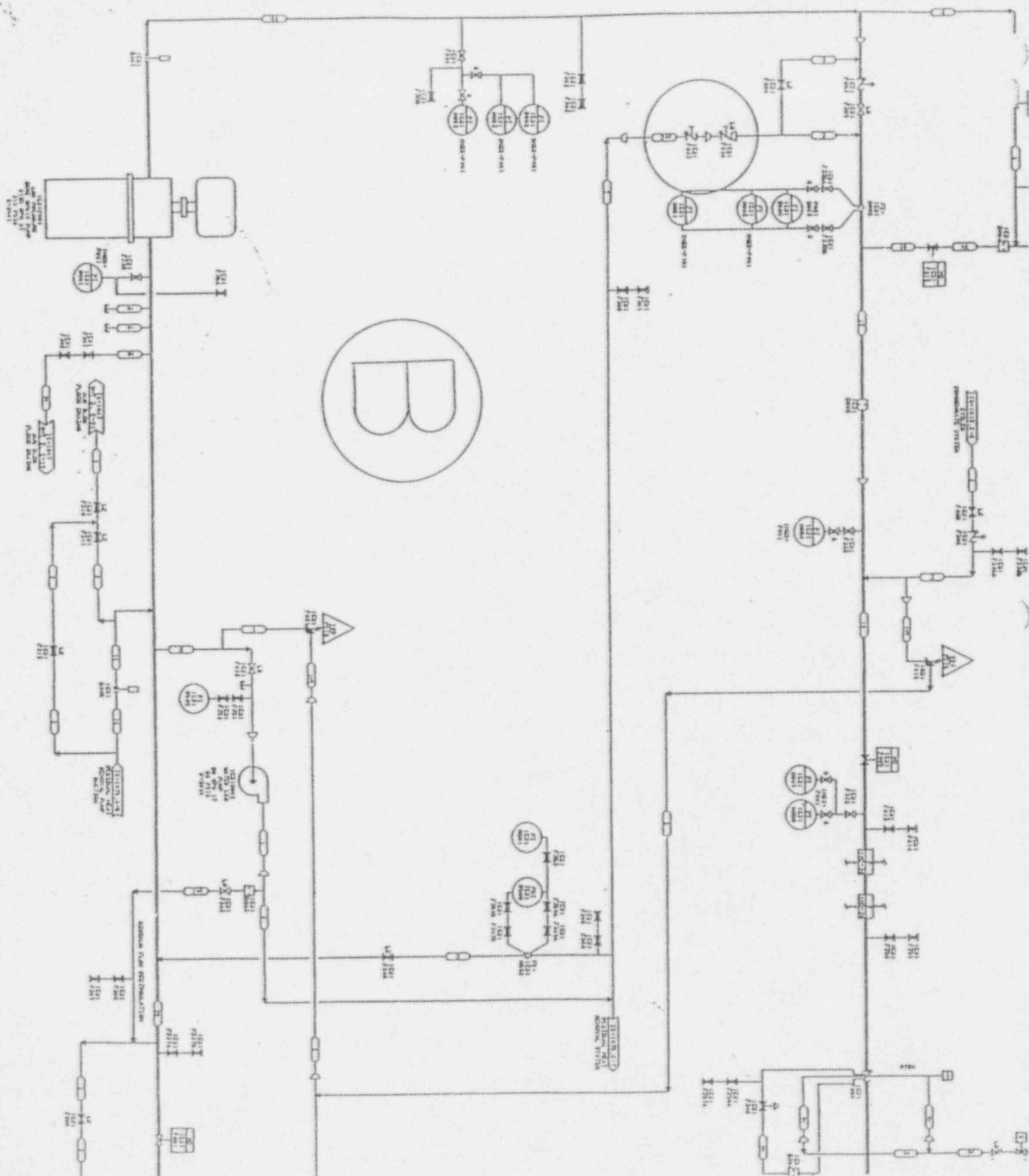
ALTERNATE TESTING PROPOSED

Illinois Power Company considers these two check valves in series a single entity and will perform the closure test every three (3)

months as a single unit. Acceptance criteria will be established and in the event of not meeting this criteria, appropriate action will be initiated for the entity and the deficiency will be corrected.

The open exercise of these valves will also be performed every three (3) months.





ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2C09 (Revision 2)

COMPONENT INFORMATION

These Manual Deluge Valves (see Table 2009-1) provide shutdown service water to the Standby Gas Treatment Charcoal Beds, the Makeup Air Filter Package, and the Supply Air Filter Package. They are all ASME Section III Code Class 3 valves. Valves 1SX071A/B, 073A/B, 074A/B, 076A/B, 105A/B, and 107A/B are ASME Section XI Category B, 3 inch motor operated gate valves. These valves are highlighted on the attached drawing.

CODE REQUIREMENTS

The ASME Code Section XI, Subarticle IWV-3411 and IWV-3521 require that these valves be exercised and stroke timed every three (3) months.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements for the following reasons:

Testing these valves will flood the charcoal beds of the Control Room HVAC System. This would cause these trains to become inoperable and would require replacement of the charcoal.

In order to avoid flooding the charcoal beds or removal of the charcoal, the Shutdown Service Water System main header would be required to be drained and declared inoperable. The Shutdown Service Water System provides cooling water to ECCS systems and various other systems required to be operable in all modes of operation.

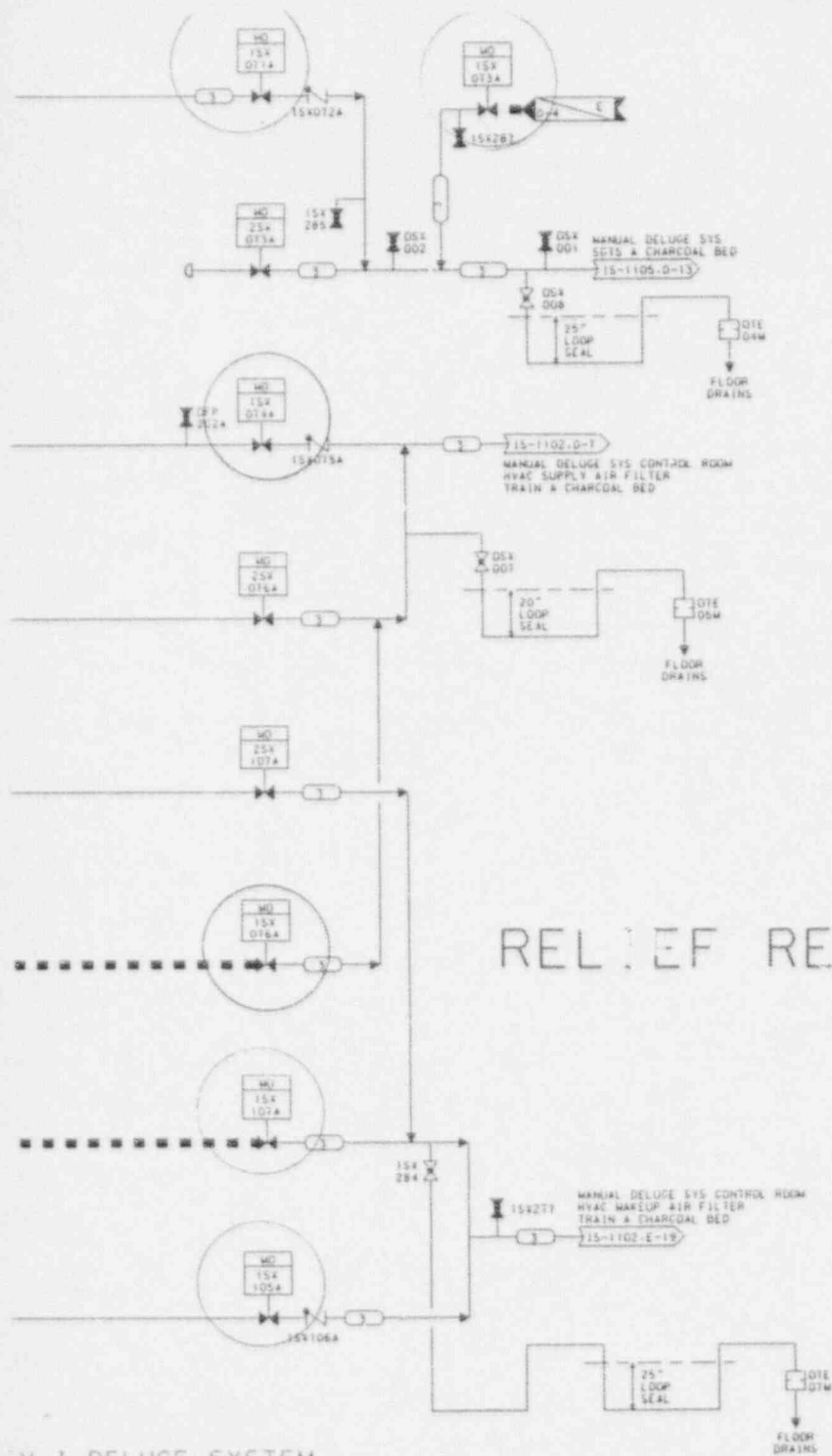
Both of the above options are not possible during cold shutdown testing. The first option would damage the charcoal beds which would require the charcoal to be removed and replaced. This testing would require the Control Room HVAC system to be declared inoperable. The second option is not possible because the plant must be shut down if the Shutdown Service Water header is drained.

ALTERNATE TESTING PROPOSED

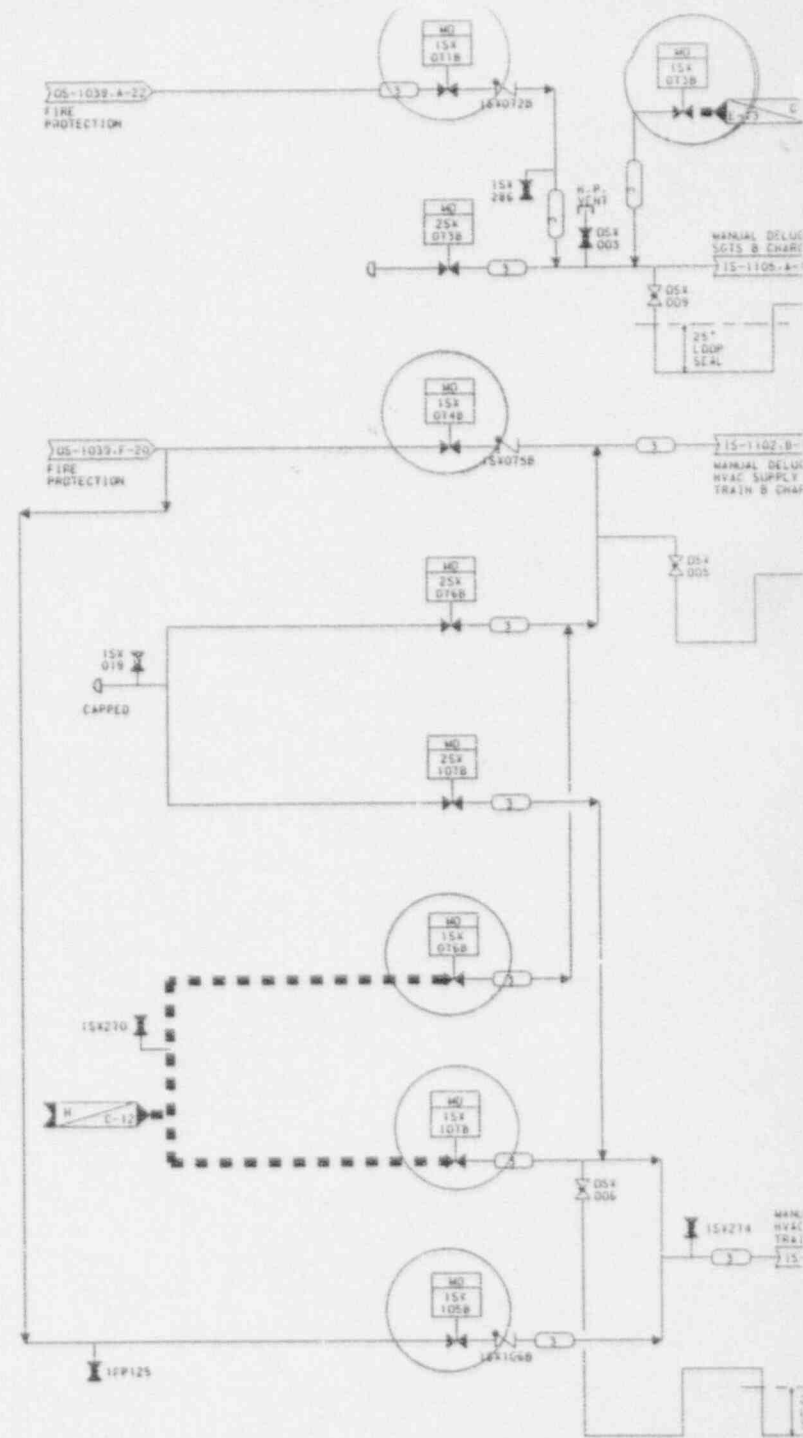
Illinois Power Company will perform the required tests during refueling outages.

Table 2009-1

<u>Valve Number</u>	<u>Size</u>
1SX071A	3
1SX071B	3
1SX073A	3
1SX073B	3
1SX074A	3
1SX074B	3
1SX076A	3
1SX076B	3
1SX105A	3
1SX105B	3
1SX107A	3
1SX107B	3



RELIEF REQUEST 2009



ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 2011 (Revision 1)

COMMITTEE INFORMATION

All Section XI, Category A and A/C valves which require a leakage test per IWV-3420 as identified in Illinois Power's Pump & Valve Testing Program Plan.

CODE REQUIREMENT

The ASME Code Section XI, Subsection IWV-3420, Valve Leak Rate Testing, requires leak rate testing for valves where leakage is limited to a specific amount in fulfillment of their safety function. Subsection IWV-3423, Differential Test Pressure, requires leak rate testing be performed with the system pressure differential in the same direction as it is when the valve is performing its function. Subsections IWV-3426, Analysis of Leakage Rate, and IWV-3427, Corrective Action, require establishing the maximum permissible leakage rate and evaluating the test results for individual valves.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements for the following reasons:

For all valves except Excess Flow Check Valves:

The Nuclear Regulatory Commission has concluded that the applicable leak rate test procedures and requirements for containment isolation valves are determined by 10CFR50, Appendix J. The ASME Code requires individual valve leak rate tests, while 10CFR50, Appendix J allows testing of valves in groups. In many cases, there are no provisions to leak rate test inboard and outboard containment isolation valves individually. Therefore, the maximum permissible leakage rate for individual valves cannot be specified. As the purpose of these valves is to isolate the containment, testing in groups, i.e., by containment penetration, would verify the integrity of the containment boundary.

Also, Section XI, IWV-3427(b), specifies additional requirements for valve sizes of six inches and larger, beyond the requirements of IWV-3427(a). These requirements involve the use of leak rate trending in determining subsequent test intervals. However, industry data has shown that the trending of leak rates is not a meaningful way to predict failure.

For Excess Flow Check Valves

Excess Flow Check Valves are not required to be individually leak rate tested (Type B or Type C) per Clinton Power Station (CPS) Technical Specification or 10CFR50, Appendix J. However, excess flow check valves are included within the Integrated Leak Rate Test (ILRT) boundaries. Although the ILRT does not measure individual valve leakage rates, the satisfactory completion of the ILRT verifies the overall function of these valves.

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 2011 (Continued)

ALTERNATE TESTING PROPOSED

For all valves except Excess Flow Check Valves

Illinois Power Company will utilize 10CFR50, Appendix J and CPS Technical Specifications to determine the differential test pressure for these containment isolation valves. The maximum permissible leakage rate for a specific containment penetration (inboard and outboard isolation valves combined) will be specified instead of a leakage rate for individual valves as required by IWV-3426, Analysis of Leakage Rates. The evaluation of test results will be based on the penetration leakage rate (inboard and outboard isolation valves combined) instead of on the individual valve leakage rate as required by IWV-3427, Corrective Action.

The trending requirements of IWV-3427(b) will not be implemented since meaningful trends cannot be established.

For Excess Flow Check Valves

No separate test or evaluation either by individual valve or by penetration will be performed on excess flow check valves. These valves are included within the Integrated Leak Rate Test (ILRT) boundaries.

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2012 (Revision 2)

COMPONENT INFORMATION

These Automatic Depressurization System valves (1B21-F041B/C/D/F, 1B21-F047A/C, 1B21-F051G) depressurize the Reactor Pressure Vessel to allow Low Pressure Core Spray and Low Pressure Coolant Injection Systems to inject water into the reactor. They are ASME Section III Code Class 1, Section XI Category B/C valves. They are 8 in. x 10 in. safety/relief valves.

CODE REQUIREMENTS

The ASME Code Section XI, Subsection IWV-3411 requires that these valves be exercised and stroke timed every three (3) months. Section XI, Subsection IWV-3417(a) requires trending the stroke time test results and taking appropriate corrective action.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements for the following reasons:

These valves cannot be exercised quarterly during power operations because failure of a valve in the open position would place the plant in a LOCA condition. These valves should not be exercised during cold shutdowns in order to reduce the number of challenges to safety/relief valves as recommended by NUREG-0737 and a recent study on the subject (BWR Owner's Group Evaluation of NUREG-0737 Item II.K.3.16, Reduction of Challenges and Failures of Relief Valves).

The reactor pressure is not utilized when testing these valves. A handswitch is utilized with a special tool which reduces the valve speed to avoid damaging the seating surfaces and the disk. Based upon CPS operating experience, Illinois Power Company will consider these valves as rapid acting valves. As these valves stroke rapidly, measurement of the stroke time of these valves to the nearest second per IWV-3413(b) means that a very small increase in stroke time could result in an extremely large percentage of change. The verification that these valves meet a specified maximum stroke time of a relatively short duration provides adequate assurance of operability of these valves.

ALTERNATE TESTING PROPOSED

Illinois Power Company will exercise and stroke time these valves during refueling outages.

Illinois Power Company will assign a maximum stroke time of two (2) seconds for these valves. If this limiting stroke time is exceeded, the valve will be declared inoperable and corrective action will be taken. This is in conformance with NRC Generic Letter 89-04, Attachment 1 Position 6.

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2013 (Revision 3)

COMPONENT INFORMATION

These valves are various rapid acting valves (see Table 2013-1) with various functions. They are ASME Section III Code Class 2 and 3, Section XI Category A and B valves. It should be noted that changes to plant design may result in revisions to Table 2013-1. These changes may be implemented prior to submittal of the revised table to the NRC.

CODE REQUIREMENTS

The ASME Code, Section XI, Subarticle IWV-3417(a) requires trending the stroke time results for these valves and taking appropriate corrective action.

RELIEF REQUEST/JUSTIFICATION

Per Generic Letter 89-04, these valves are defined as rapid acting, where measurement of the stroke time of these valves to the nearest second per IWV-3413(b) means that a very small increase in stroke time would result in an extremely large percentage of change. The verification that these valves meet a specified maximum stroke time of a relatively short duration provides adequate assurance of operability of these valves.

ALTERNATE TESTING PROPOSED

Illinois Power Company will assign a maximum stroke time of two (2) seconds for these valves. If this limiting stroke time is exceeded, the valve will be declared inoperable and corrective action will be taken.

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2014 (Revision 3)

COMPONENT INFORMATION

These testable check valves (1E12-F041 A/B/C, 1E21-F006, and 1E22-F005) provide isolation from the reactor coolant system and the emergency core cooling systems (Residual Heat Removal, Low Pressure Core Spray, High Pressure Core Spray). These valves are ASME Section III Code Class 1, Section XI Category A/C valves. Valves 1E12-F041 A,B, and C are 12" diameter and valves 1E21-F006 and 1E22-F005 are 10" diameter. All of these valves are non-slam check valves. One of these valves (1E12-F041A), which is typical of the group, is circled on the attached drawing.

CODE REQUIREMENTS

The ASME Code, Section XI, Subsection IWV-3520 requires that these valves be exercised every three (3) months unless such operation is not practical during plant operation. In this situation, the valves may be part-stroke exercised during plant operation and full-stroke exercised during cold shutdown.

RELIEF REQUEST/JUSTIFICATION

Exercising these valves on a three month frequency using the emergency core cooling system pumps to inject water into the reactor is not in the interest of plant safety, because this cooler water would create an undesirable power transient. In addition, neither the Low Pressure Core Spray nor Residual Heat Removal pumps are capable of opening their injection valves against full reactor pressure. Mechanically exercising these valves during reactor operation is not practical because they are located inside the drywell and access is restricted due to radiation conditions.

Mechanically exercising these valves on a cold shutdown frequency as allowed by the ASME Code is not practical because the air operator is not designed to perform a full stroke test. Although the air operator can be removed to perform the full stroke test, this is a significant maintenance activity and could interfere with work which is necessary to restore the plant to service. This would create an unreasonable hardship for Illinois Power Company.

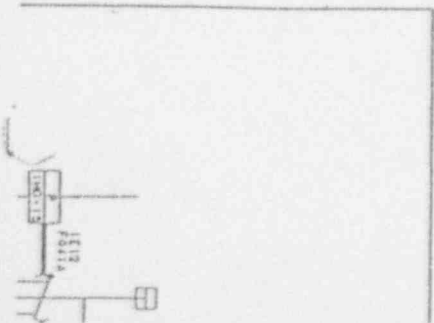
Using pump pressure to exercise these valves during cold shutdown is also not in the interest of plant safety. Although temperature could be matched fairly closely between the injection source (emergency core cooling systems) and the reactor, a minor thermal mismatch between these temperatures creates an undesirable effect on the fatigue life of the reactor nozzles.

In addition, the injection lines associated with the residual heat removal system nozzles are not equipped with internal spargers. General Electric Service Information Letter 401 identifies problems in injecting water through this flow path and the potential damage to nuclear instrumentation or fuel assemblies which could occur if this flow path were used for other than emergency conditions.

ALTERNATE TESTING PROPOSED

Illinois Power Company will full stroke exercise the valves during refueling by measuring the torque required to lift the

disc and then move the disc through a full stroke.



ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 2018 (Revision 1)

COMPONENT INFORMATION

Reverse flow check valve 1E12-F475 is a containment isolation valve and provides necessary thermal relief for the Residual Heat Removal System piping between valves 1E12-F008 and 1E12-F009. It is an ASME Section III Code Class 2, Section XI Category A/C valve. It is a one inch check valve and is highlighted on the attached drawing.

CODE REQUIREMENT

The ASME Code Section XI, Subarticle IWV-3521 requires that this valve be exercised every three (3) months.

RELIEF REQUEST/JUSTIFICATION

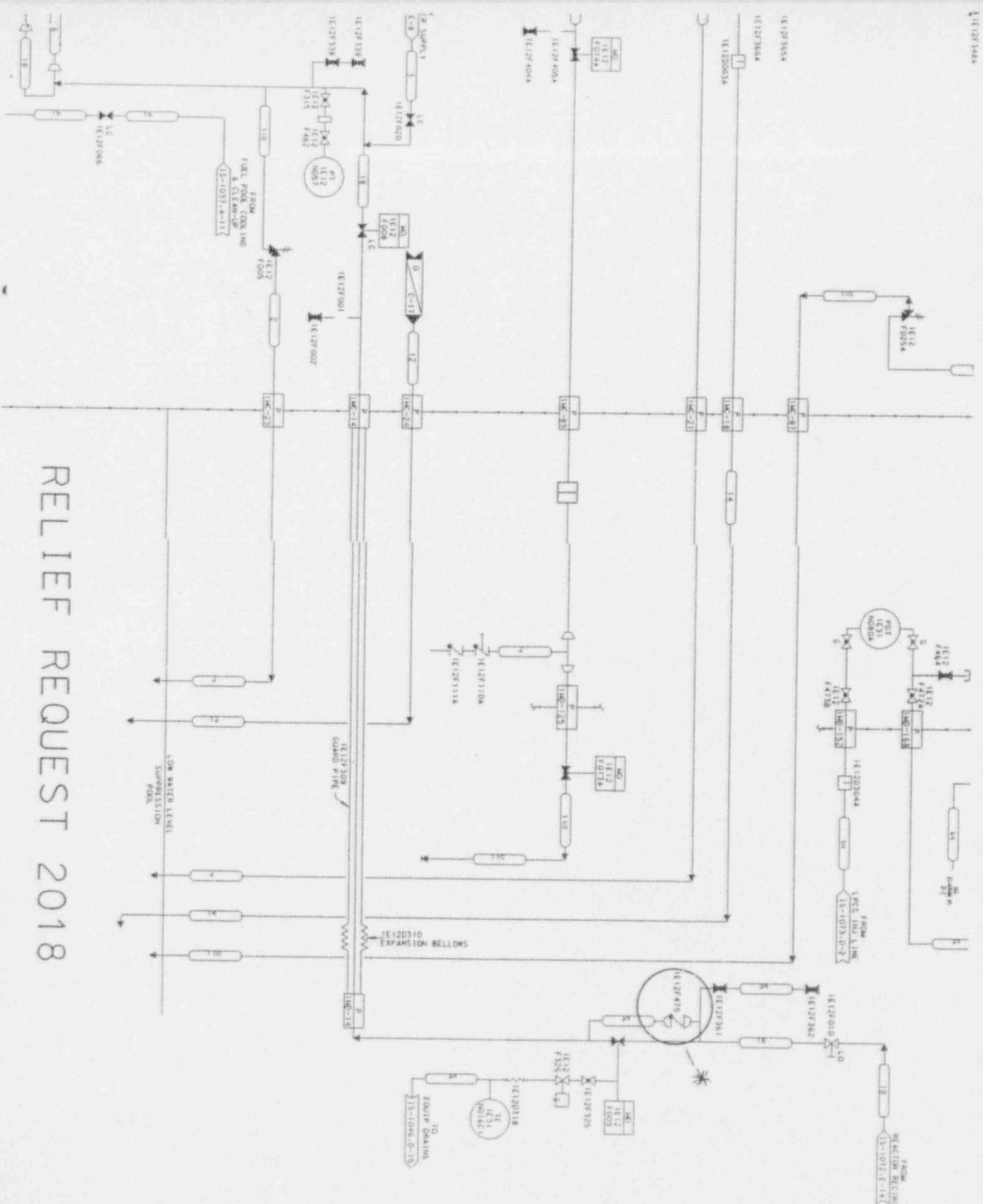
Illinois Power Company requests relief from the Code requirements for the following reasons:

This valve is installed in the piping of the shutdown cooling mode of operation of the Residual Heat Removal System and is located inside the drywell. During normal operation, this line is pressurized by the reactor recirculation system. The valve is not designed to open against this pressure. Therefore, this valve cannot be exercised quarterly.

This valve cannot be exercised during cold shutdowns since the shutdown cooling mode of the Residual Heat Removal System will be inservice. As this line is pressurized at all times during the cold shutdowns, an exercise test is not feasible. In refueling outages, the shutdown cooling and reactor recirculation can be isolated prior to reactor startup to facilitate the operating of this valve.

ALTERNATE TESTING PROPOSED

Illinois Power Company will exercise this valve during refueling outages.



RELIEF REQUEST 2018

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 2022

COMPONENT INFORMATION

Valve 11A175 is a $\frac{1}{2}$ inch check valve which functions as a containment isolation valve. The attached P&ID depicts the configuration of this valve in the system.

CODE REQUIREMENT

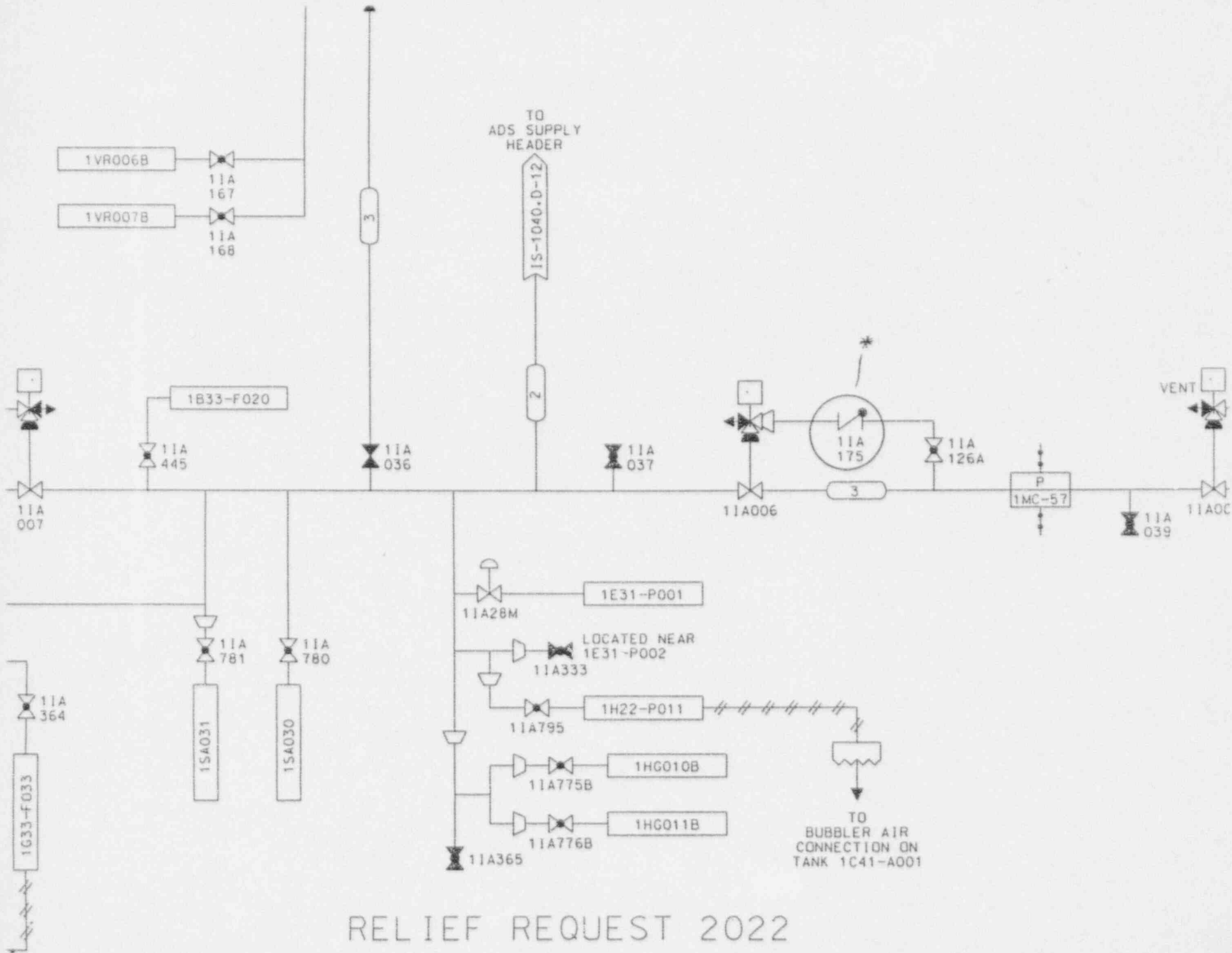
The ASME Code Section XI, Subarticle IWV-3521 requires check valves to be exercised to their safety position every three (3) months.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements because there is no way to functionally test this valve without performing a leak rate test. No direct containment leakage path is available through this valve. The leakage path through this valve is limited by the pipe cap and the piping connections to the actuator. As the probability for leakage through these connections is small, it appears to be excessive to leak test this penetration on a quarterly or cold shutdown basis.

ALTERNATE TESTING PROPOSED

Illinois Power Company will satisfy the exercise requirement for this $\frac{1}{2}$ inch check valve upon performance of the leak rate test. The frequency of the exercise test will be revised to coincide with the leak rate frequency, i.e., 2 years.



ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI. RELIEF REQUEST

RELIEF REQUEST NO. 2023

COMPONENT INFORMATION

^{ICU-}
Valve, 115 (typical of 145 each) is the control rod drive accumulator supply check valve; refer to attached drawing. These are Category A/C $\frac{1}{2}$ -inch check valves. These valves allow the individual accumulators to be charged with sufficient pressure to scram the appropriate control rod drive upon loss of CRD header pressure. With a loss of header pressure, these valves must close to maintain enough pressure in the accumulator to insert the CRDs.

CODE REQUIREMENT

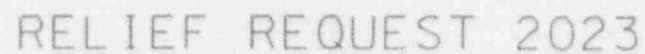
Section XI, Subarticle IWV-3521 requires check valves to be exercised to their safety position every three (3) months. IWV-3420 requires Category A valves to be leak tested every 2 years to verify the component's ability to perform its safety function.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the above Code requirements because it is not feasible to individually exercise these valves without securing the CRD pumps. The reverse flow exercising and leakage tests of these check valves will be satisfied by the performance of an accumulator pressure drop test, with the pumps secured, during refueling outages. This test will verify the valve is closed by monitoring the accumulator pressure which would indicate any leakage past the check valve.

ALTERNATE TESTING PROPOSED

Illinois Power Company will satisfy the leakage and exercise tests for these valves upon performance of the accumulator pressure drop test on a refueling outage frequency.



ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2024 (Revision 1)

COMPONENT INFORMATION

Valves 1C11-126, 127 and 139 (typical of 145 each) are power operated valves which actuate (open) to scram the control rod drives. Valve 1C11-114 (typical of 145 each) is the scram discharge check valve. Refer to the attached schematic drawing for the system.

Valve 126 is a power operated, Category B, 1" diaphragm operated control valve. This valve opens to allow flow to scram the control rod drive. Valve 127 is a power operated, Category B, 3/4" diaphragm operated control valve. This valve opens to allow flow to exhaust from the control rod drive to the scram discharge volume. Valve 139 is a power operated, Category B, pilot air valve. This valve opens to relieve pressure to valves 126 and 127 which causes them to open. Valve 114 is a 3/4" check valve, Category C. This valve opens to allow flow to the scram discharge volume.

CODE REQUIREMENTS

ASME Section XI, Subarticles IWV-3411 and IWV-3413 require power operated valves to be exercised and stroke time tested every 3 months. IWV-3521 requires check valves to be exercised on a 3 month frequency, as well. These valves are not ASME Class 1, 2, or 3, but are included in the CPS Inservice Testing Program since the system performs a safety function. This relief request does not require NRC approval.

RELIEF REQUEST/JUSTIFICATION

These valves operate simultaneously when a scram signal is present. As these valves are skid mounted with no provisions for testing, it is not practical to individually test each valve without extensive modifications, which would create a financial hardship to Illinois Power Company. The current testing, per Technical Specification 4.1.3.2, monitors individual rod scram time. This testing does not measure stroke time for the power operated valves or provide specific exercising verification for either the power operated or check valves. However, it does assure that each valve functions properly to allow the rod to move to its safety position in the required time.

ALTERNATE TESTING PROPOSED

Testing of the control rod drive per Technical Specification 4.1.3.2 will be performed in lieu of the Code requirements. The Technical Specifications

require all rods to be tested following any core alterations and any prolonged outages (120 days). Ten percent of the rods are tested on a rotating basis every 120 days and any rod requiring maintenance is tested upon completion of the work. This is in accordance with NRC Generic Letter 89-04, Attachment 1, Item 7.

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 2025

COMPONENT INFORMATION

Valve 138 (typical of 145 each) is a $\frac{1}{2}$ " Category C check valve on the CRD hydraulic control units. Valve 138 is the CRD cooling water check valve which must close upon reverse flow to allow the CRD to insert. Reverse flow through this check valve could impair the function of the CRD. See attached drawing.

CODE REQUIREMENT

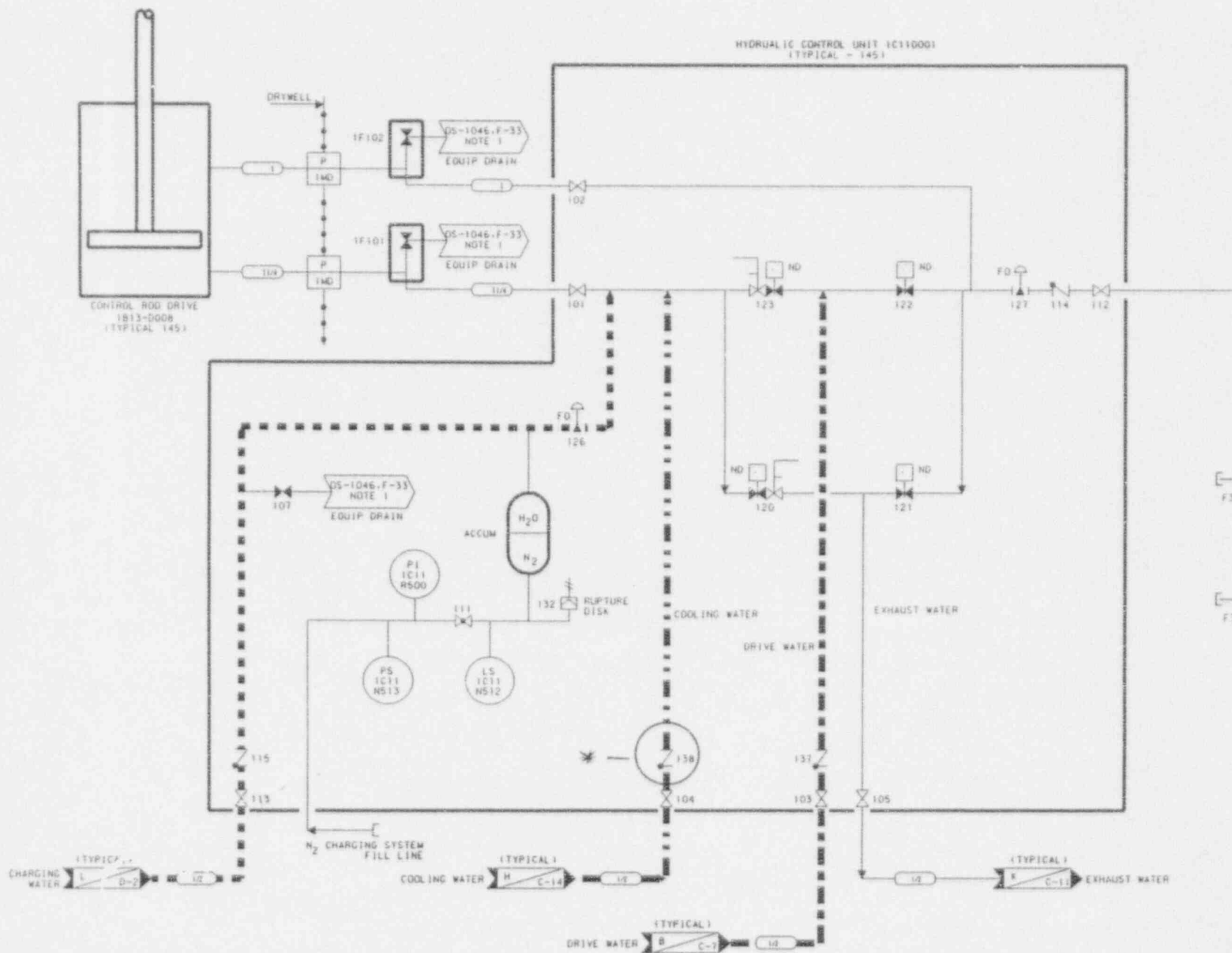
Section XI, Subarticle IWV-3521 requires check valves to be exercised to their safety position every three (3) months.

RELIEF REQUEST/JUSTIFICATION

Failure of these valves to reverse flow exercise would be identified by performing a "notch" test. The notch test is required per Technical Specification 4.1.3.1.2 which moves each withdrawn CRD one notch every 7 days and every 24 hours if one CRD is immovable as a result of friction. The failure of valve 138 would be determined by the inability to meet the acceptance criteria of this surveillance. The CRD would "double-notch" if valve 138 did not properly exercise. A "double-notch" is where the CRD would not be able to move one notch at a time.

ALTERNATE TESTING

Exercise valves by performing a "notch" test as described above (i.e., complying with Technical Specification 4.1.3.1.2).



RELIEF REQUEST 2025

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2026 (Revision 1)

COMPONENT INFORMATION

Diesel generator (DG) air start valves, 1DG008A-K are 1.5" power operated, Category B valves required to open to allow air to flow to the air motors which start the emergency Diesel Generators to supply back-up power for the plant.

CODE REQUIREMENTS

ASME Section XI, Subarticles IWV-3411 and IWV-3413 require power operated valves to be exercised and have their stroke time measured every three (3) months. These valves, however, are not ASME Class 1, 2, or 3, but are included in the CPS Inservice Testing Program since the system performs a safety function. This relief request does not require NRC approval.

RELIEF REQUEST/JUSTIFICATION

These valves are totally enclosed solenoid valves with no positive means of determining valve position. It is not practical to record individual stroke time for these valves without extensive modifications, which would create a financial hardship to Illinois Power Company. Technical Specification 4.8.1.1.2 requires each diesel generator to be tested at least every 31 days. These tests are designed to test the diesel generator as a unit, but do not specifically verify actuation of each individual valve.

ALTERNATE TESTING PROPOSED

No stroke time testing of these air start valves will be performed. The air gauge upstream of each valve will be monitored to verify that a pressure drop has occurred which indicates that the valves have opened. In addition, diesel generator start times are monitored closely. This test will be performed on a monthly frequency.

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST
RELIEF REQUEST NO. 2028 (REVISION 1)

COMPONENT INFORMATION

Valve 1C41-F336 is a check valve downstream of the Standby Liquid Control (SC) pump and is physically located inside the drywell. This is an ASME Section III Class 1, Section XI Category A/C, 4-inch check valve. The valve is circled on the attached drawing.

CODE REQUIREMENT

The ASME Code, Section XI, Subarticle IWV-3521 requires that this check valve be full stroke exercised every three (3) months.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirement for the following reasons:

This check valve is downstream of the explosive injection valves which are only required to be opened during refueling outages.

The check valve is totally enclosed without any provisions for exercising the valve externally.

ALTERNATE TESTING PROPOSED

Illinois Power Company will full stroke exercise this check valve every refueling outage. The open direction exercise will be verified with system flow and the closed direction exercise will be verified with a leakage test.

PISTON TYPE
PUMP IC41C001A



ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 2029

COMPONENT INFORMATION

Various Category A/C check valves whose function is to hold pressure for a specified time in an air accumulator/receiver. See attached list.

CODE REQUIREMENT

The ASME Code Section XI, Subarticle IWV-3424, specifies the methodology to be used for leakage testing.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements for the following reasons:

The design of these piping systems does not facilitate the measuring of actual leak rate through these check valves.

ALTERNATE TESTING PROPOSED

Illinois Power Company will leak test these check valves as follows:

In lieu of monitoring actual leakage rates through each check valve, a pressure drop test over a specified time will be performed. This pressure drop test will not only verify the check valve has seated but will also verify the integrity of the piping system.

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 2029
Attachment 1

1B21-F039B
1B21-F039C
1B21-F039D
1B21-F039E
1B21-F039H
1B21-F039K
1B21-F039S

1DG168
1DG169
1DG170
1DG171
1DG172
1DG173

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2032 (Revision 2)

COMPONENT INFORMATION

This Relief Request refers to Power (Air) Operated valves with a stroke time of 10 seconds or less (see Table 2032-1). It

should be noted that changes to plant design may result in revisions to Table 2032-1. These changes may be implemented prior to submittal of the revised table to the NRC.

CODE REQUIREMENTS

The ASME Code Section XI, Subarticle IWV-3417(a) requires increasing the testing frequency to monthly for a 50% increase

from the previous stroke time test.

RELIEF REQUEST/JUSTIFICATION

Per Generic Letter 89-04 these valves are defined as rapid acting (with a normal stroke time of less than 10 seconds),

where a 2 second increase can cause the testing frequency for the valves to be increased from quarterly to monthly. CPS's operating experience has shown that when placed on increased frequency for minor increases in stroke time (1 - 2 seconds), none of these valves were found to have a physical problem and all were subsequently returned to normal frequency.

ALTERNATE TESTING PROPOSED

Illinois Power Company proposes to evaluate the test results for the air-operated valves on Table 2032-1 in accordance with

Generic Letter 89-04, Positions 5 and 6, and the Minutes of the Public Meetings on Generic Letter 89-04, page 26, Response to Question 40. Specifically, CPS has established a reference value for each valve in Table 2032-1 based upon each valve's performance history and average stroke time when it is in good condition and operating properly. Should any valve's stroke time increase by more than 50% from the valve's reference value, CPS will consider this to be an indication of potential valve degradation and increase the valve's testing frequency.

Should any valve's stroke time increase beyond the valve's limiting stroke time value, the valve will be declared inoperable.

As this position is in accordance with the positions stated in NRC Generic Letter 89-04, no further NRC approval is required.

Table 2032-1

EIN:

0RA026
0RA027
0RA028
0RA029
0VC010A
0VC010B
0VC022A
0VC022B
1B33-F019
1B33-F020
1C11-F010
1C11-F011
1E51-F004
1E51-F005
1E51-F025
1E51-F026
1FC023
1RE019
1RE020
1RE021
1RE022
1RF019
1RF020
1RF021
1RF022
1SA030
1SA031
1SX010A
1SX010B
1SX010C
1SX023A
1SX023B
1SX027A
1SX027B
1SX027C
1SX029A

Table 2032-1 (cont.)

EIN:

1SX029B

1SX029C

1SX033

1SX037

1SX041A

1SX041B

1SX181A

1SX181B

1SX185A

1SX185B

1SX189

1SX193A

1SX193B

1SX197

1SX209

1VQ002

1VQ003

1VQ004A

1VQ004B

1VQ005

1VR001A

1VR001B

1VR006A

1VR006B

1VR007A

1VR007B

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2033 (Revision 1)

COMPONENT INFORMATION

Valves 1G33-F051 and 1G33-F052A/B are the injection check valves which complete the flow path between the Reactor Water Cleanup (RT) System and the Reactor Pressure Vessel. These valves are ASME Section III Code Class 2, Section XI Category B valves. They are 4-inch check valves of identical design and are circled on the attached drawing.

CODE REQUIREMENTS

The ASME Code, Section XI, Subarticle IWV-3520 requires that these valves be full-stroke exercised individually every three (3) months.

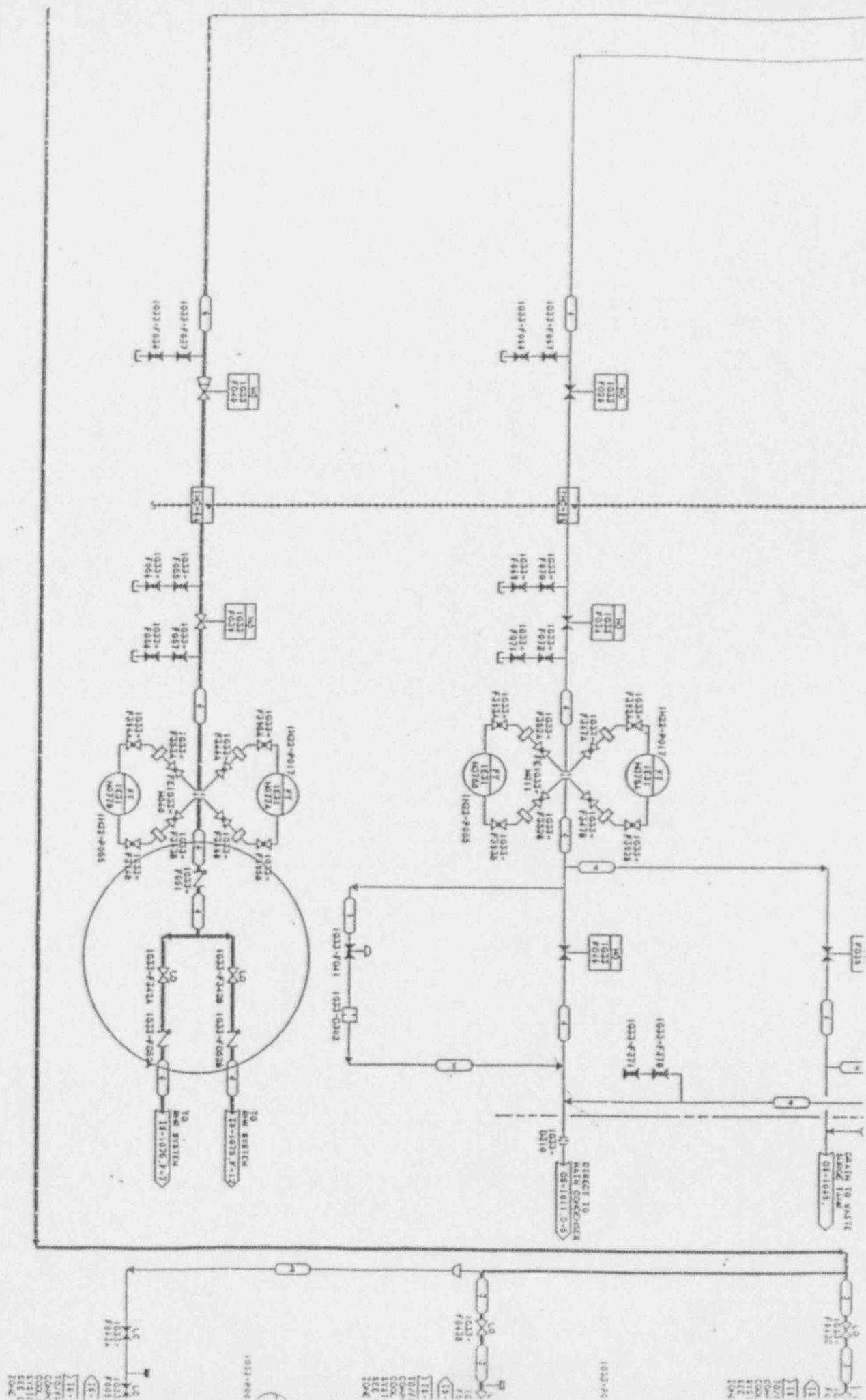
RELIEF REQUEST/JUSTIFICATION

1G33-F052A/B are parallel valves in the piping system and both of these valves are in series with 1G33-F051. These valves are located in series with no test connections provided between them to permit individual valve testing.

These valves cannot be individually exercised every three (3) months since they are located in the Steam Tunnel and physical access is restricted during normal plant operation due to the high radiation field in this area. Testing these valves during cold shutdown will either require the Reactor Water Cleanup (RT) System to be out of service or will require flow to be bypassed to the condenser. Testing these valves with RT system flow bypassed to the condenser may create spurious differential flow signals and may cause containment isolation valves in this system to isolate and subsequently trip the RT pumps, which will likely require filing a Licensee Event Report (LER). Either method will cause the RT system to be out of service and create potential delay for plant startup. This will cause unnecessary hardship for Illinois Power Company without any significant gain in safety.

ALTERNATE TESTING PROPOSED

Illinois Power will test these valves on a refueling frequency using either a sample disassembly and inspection program or a non-intrusive method.



ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2034

COMPONENT INFORMATION

All Section XI, Category A containment isolation valves which require a leakage test per IWV-3420 as identified in

Illinois Power's Pump & Valve Testing Program Plan.

CODE REQUIREMENTS

The ASME Code Section XI, Subsection IWV-3420, Valve Leak Rate Testing, requires leak rate testing for valves where leakage

is limited to a specific amount in fulfillment of their safety function. Subsection IWV-3423, Differential Test Pressure, requires leak rate testing be performed with the system pressure differential in the same direction as it is when the valve is performing its function.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements for the following reasons:

The Nuclear Regulatory Commission has concluded that the applicable leak rate test procedures and requirements for containment isolation valves are determined by 10CFR50, Appendix J. The ASME Code requires individual valve leak rate tests, while 10CFR50, Appendix J allows testing of valves in groups. By establishing conservative acceptance criteria for a valve group (containment penetration) such that none of the valves can be significantly degraded, considerable savings in personnel radiation exposure and scheduling flexibility can be achieved. This approach is of benefit to Illinois Power and provides equivalent levels of quality and safety to those achieved through individual testing. As the purpose of these valves is to isolate the containment, testing in groups, i.e., by containment penetration, would verify the integrity of the containment boundary. By establishing conservative acceptance criteria, the condition of the valves within reasonable limits can also be established by this method.

ALTERNATE TESTING PROPOSED

The maximum permissible leakage rate for a specific containment penetration (inboard and outboard isolation valves

combined) will be specified utilizing conservative acceptance criteria which allows for detection of valve degradation within

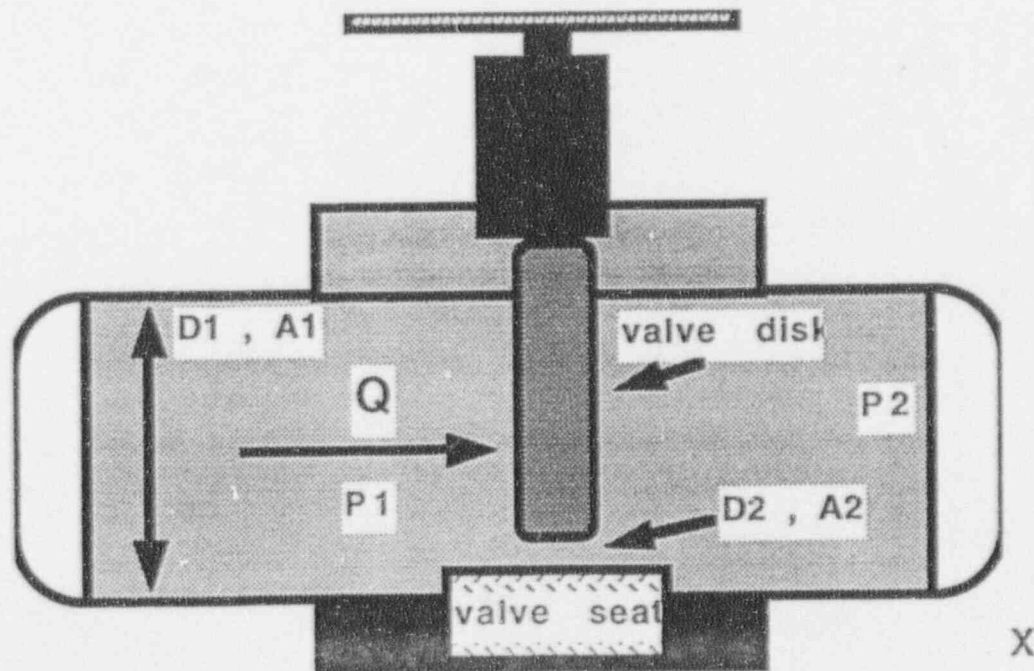
reasonable limits instead of a leakage rate for individual valves as required by IWV-3426, Analysis of Leakage Rates. Attachment 1 to this relief request provides a technical basis for the acceptance criteria. The evaluation of test results will be based on the penetration leakage rate (inboard and outboard isolation valves combined) instead of on the individual valve leakage rate as required by IWV-3427, Corrective Action.

Relief Request 2034 - Attachment 1

The following is an idealized model of valve leakage as diagramed in Figure 1. The purpose of this model is to demonstrate that leakage, typical of the type of leakage which would be created by abrasive particles being ground across the valve seat, can be measured prior to component degradation using an acceptance criteria of 20,000 standard cubic centimeters per minute (sccm). Using this acceptance criteria, leakage path size is calculated using a given differential pressure. This is typical of a problem encountered in the field when performing local leak rate testing (LLRT).

For the purpose of this calculation, the leakage path is assumed to be a square edged orifice. This assumption is representative of a scratch across a valve seat made by an abrasive particle or the type of leakage path which an LLRT is designed to measure. Using the Reactor Coolant System as an example, the normal or average particle size is 18 microns ϕ , or 7.1×10^{-4} inches. As the calculation will demonstrate, 20,000 sccm is a conservative acceptance criteria which will allow adequate monitoring of component degradation prior to failure. Further, a valve which fails to fully seat will produce leakage rates which are several orders of magnitude greater than the acceptance criteria used for valve testing.

FIGURE 1



Where:

Q = flowrate in standard cubic centimeters per minute (sccm)

(for this calculation the flowrate is 20000 sccm)

(P₁-P₂) = pressure differential in pounds per square inch (psid)

(for this calculation the differential pressure is 9 psid)

X = the density of the medium in pounds_{mass} per cubic foot (lbs_m/ft³)

(for this calculation the test medium is air with an assumed density of

0.076 lbs_m/ft³)

D₁ = the full diameter of the test or component body

D₂ = the orifice or corrosive particle diameter

A₁ = the cross-sectional area of the test or component body

A₂ = the cross-sectional area of the orifice

pi = the numerical constant 3.1415927.....

Using the Bernoulli obstruction theory₃ for a generalized flow obstruction, which can be written as follows:

$$\frac{Q}{A_2} = \sqrt{\frac{2(P_1 - P_2)}{X \left[1 - \frac{D_2^4}{D_1^4} \right]}}$$

This theory is based on the assumptions of incompressible, steady, frictionless, flow. The validity of these simplifying assumptions for the range of test parameters of concern for valve testing (small differential pressures and low flow rates) was verified via experimentation using an LLRT machine and precisely machined orifices of various sizes. The results of this experimentation are tabulated in Table 1 of this discussion and are compared with calculated values using the same flowrates and differential pressures.

Solving for D₂² one obtains the following expression:

$$D_2^2 = \frac{4}{\pi} A_2 = \frac{4}{\pi} \left[\frac{Q}{\sqrt{\frac{2(P_1 - P_2)}{X \left[1 - \frac{D_2^4}{D_1^4} \right]}}} \right]$$

Because the orifice diameter D_2 is very small in relation to the component diameter D_1 the term

$$\left[1 - \frac{D_2^4}{D_1^4} \right] \text{ can be considered approximately equal to 1.}$$

This further simplifies the expression for D_2^2 to the following:

$$D_2^2 = \frac{4}{\pi} \frac{Q}{\sqrt{\frac{2(P_1 - P_2)}{X}}}$$

Inserting numerical values and the appropriate conversion factors yields:

$$D_2^2 = \frac{4}{\pi} \left[\frac{20,000 \frac{\text{cm}^3}{\text{min}} \left(\frac{1 \text{ in}}{2.54 \text{ cm}} \right)^3}{\sqrt{\frac{2 \left(9 \frac{\text{lbs}}{\text{in}^2} \right) \left(\frac{32.2 \text{ ft}}{\text{sec}^2} \right) \left(\frac{12 \text{ in}}{1 \text{ ft}} \right) \left(\frac{60 \text{ sec}}{1 \text{ min}} \right)^2}}{0.076 \frac{\text{lbs}}{\text{ft}^2} \left(\frac{1 \text{ ft}}{12 \text{ in}} \right)^3}} \right]$$

$$D_2^2 = 2.06 \times 10^{-3} \text{ in}^2$$

$$D_2 = \underline{0.045 \text{ in. or slightly under } 3/64 \text{ "}}$$

An orifice of this size is approximately equal to the size of the maximum leakage path allowed using an acceptance criteria of 20,000 sccm. This is equivalent to 100 scratches of "normal" 18 micron size, which would represent valve wear over many cycles, or a significant leakage path 100 times the size of a path created by one 18 micron abrasive particle. Thus, a 20,000 sccm criteria can be utilized to monitor for degradation of several valves in the penetration group and is sensitive enough to identify significant problems.

Table 1

flow (sccm) ± 3 %	diff.press.(psid) ± 3 %	test dia. (in) ± .02 %	calc. dia. (in)	%diff.
1950	9.48	0.0156	0.0139	11.4
7000	9.45	0.0313	0.0263	16.0
94000	5.00*	0.125	0.113	9.76

* this was the highest differential pressure the LLRT stand could maintain at this large of an orifice size.

** nitrogen testing medium - density = $0.07307 \text{ lb}_m/\text{ft}^3$

As Table 1 shows, the error between the calculated data and the experimentally measured data is acceptable. The Bernoulli model used in this calculation may be considered ideal and is not necessarily identical to what is encountered in the field. However, for the range of values required, the additional effects of non-ideal conditions, friction and compressibility, etc. are negligible when compared to field conditions and instrument accuracies.

Reference 1: CPS Plant Modification RT-029 FECN 24600

Reference 2: CRC Handbook of Tables for Applied Engineering Science

Reference 3: Fluid Mechanics Second Ed.; White F. M.; McGraw Hill

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 2035

DISCUSSION

This Relief Request pertains to the qualification of personnel performing supervision of safety valve and relief valve testing.

CODE REQUIREMENTS

The ASME Code, Section XI, Subarticle IWV-3512, requires safety valve and relief valves to be tested in accordance with

ASME PTC 25.3-1976. ASME PTC 25.3-1976, Subsection 3.02, Qualification of Person Supervising the Test, states that a person who has obtained a degree in a branch of Engineering from a recognized school of Engineering and in addition, has had at least two years practical experience in fluid flow measurement, may be considered qualified to supervise the test.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests using OM-1 for qualification of relief valve test supervisor in lieu of ASME PTC 25.3-1976.

The 1989 Edition of ASME Section XI has been incorporated by rulemaking into 10CFR50.55a. IWV specifies that, for inservice testing of valves, OM-10 provides the requirements. OM-10, Subsection 4.3.1, states that safety and relief valves shall meet test requirements of OM-1. OM-1 places the responsibility on the Owner for qualification of personnel who perform maintenance and testing and requires that testing activities be conducted in accordance with the Owner's Quality Assurance Manual.

PROPOSED ALTERNATE
REQUIREMENTS

Illinois Power will qualify safety/relief valve test supervisors in accordance with the Illinois Power Quality Assurance Manual.

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 3001 (Revision 1)

COMPONENT INFORMATION

These pumps (see Table 3001-1) are to safely shutdown the reactor or to mitigate the consequences of an accident. They include all of the pumps in the IST Program except the RCIC Pump. These pumps are identified in Table 3001-1 by their Equipment Identification Number, Name, and ASME Section III Code Class.

CODE REQUIREMENT

The ASME Code Section XI, Subsection IWP-4310 requires the measurement of these pumps' bearing temperature annually.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements for the following reasons:

The measurement of these pumps' bearing temperature annually does not increase any confidence in the reliability of the pumps because bearing temperature rises just minutes prior to failure of the pump bearing. In order to measure this parameter, bearing temperature is required to be stabilized per IWP-3500(b), which requires the pump to be running at least an hour. Since this bearing temperature measurement does not increase any confidence in the pumps' reliability and will reduce the pumps' life due to the time required to run the pump, this measurement does not provide meaningful data. Therefore, measurement of these pumps' bearing temperatures annually as required by the Code will not be performed.

ALTERNATE TESTING PROPOSED

None.

Table 3001-1 (Revision 1)

Identification Number	Pump Name	ASME Section III Code Class
1C41-C001A	Standby Liquid Control (SLC) Pump A	2
1C41-C001B	Standby Liquid Control Pump B	2
1D001PA	Diesel Oil Transfer Pump A	3
1D001PB	Diesel Oil Transfer Pump B	3
1D001PC	Diesel Oil Transfer Pump C	3
1E12-C002A	Residual Heat Removal (RHR) Pump A	2
1E12-C002B	Residual Heat Removal Pump B	2
1E12-C002C	Residual Heat Removal Pump C	2
1E12-C003	Waterleg Pump	2
1E21-C001	Low Pressure Core Spray (LPCS) Pump	2
1E21-C002	Waterleg Pump	2
1E22-C001	High Pressure Core Spray (HPCS) Pump	2
1E22-C003	Waterleg Pump	2
1E51-C003	Waterleg Pump	2
1FC02PA	Fuel Pool Cooling and Clean-Up Pump A	3
1FC02PB	Fuel Pool Cooling and Clean-Up Pump B	3
1SX01PA	Shutdown Service Water Pump A	3
1SX01PB	Shutdown Service Water Pump B	3
1SX01PC	Shutdown Service Water Pump C	3
OVC08PA	Control Room HVAC Chilled Water Pump A	3
OVC08PB	Control Room HVAC Chilled Water Pump B	3

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 3002 (Revision 3)

COMPONENT INFORMATION

This relief request refers to three (3) Diesel Fuel Oil (DO) transfer pumps (1D001PA, 1D001PB, and 1D001PC). These pumps are used to transfer diesel fuel from the diesel storage tanks to the diesel fuel day tanks. The pumps are ASME Section III, Code Class 3. All of the pumps are Delaval IMO type N3DBS-137. CPS tests the pumps at a fixed differential pressure (DP) of 13 psid, with baseline flow rates ranging from 16.424 to 18.13 gpm.

CODE REQUIREMENTS

The ASME Code, Section XI, Subsection IWP-3210 tabulates the allowable ranges of inservice test quantities (flow rate) in relation to the reference or baseline values. Table IWP-3100-2 requires an acceptable flow rate range of 0.94 to 1.02 of baseline flow rate, and an Alert range of 0.9 to 1.03 of baseline flow rate.

RELIEF REQUEST/JUSTIFICATION

These pumps do not have flow rate instrumentation installed. A calculation is used to determine a flow rate.

Because the DO pumps operate at a low flow and the Code specified acceptable ranges are based upon a percentage of the baseline, an increase in flow of less than 0.5 gpm ($1.02 \times$ baseline flow rate) is sufficient to force any of the pumps into the Required Action range. (SEE GRAPH 1)

The design-required fuel delivery rates for each of the diesel generators (supplied by the day tanks which the DO pumps maintain) is considerably less than the rated fuel delivery of any of the three DO pumps. The diesel engines are equipped with skid mounted pumps which supply fuel oil at a rate of 4 gpm per engine. The engines consume less than 3 gpm per engine with the excess routed back to the day tank. Pumps 1D001PA and 1D001PB supply 2 engines each and therefore 8 gpm has been determined to be the limiting flow rate required for these pumps to ensure adequate fuel delivery. Pump 1D001PC supplies only 1 engine and therefore has a limiting flow rate of 4 gpm.

CPS believes that due to the low flow characteristics of the DO pumps and the significant margin of safety between the flow

requirements of the diesel generator and the baseline flow rate provided by the DO pumps, compliance with the Code requirements constitute a hardship with no appreciable gain in safety.

ALTERNATE TESTING PROPOSED

Illinois Power will calculate the flow rate (Q) of the Diesel Fuel Oil Transfer Pumps by dividing the change in level of

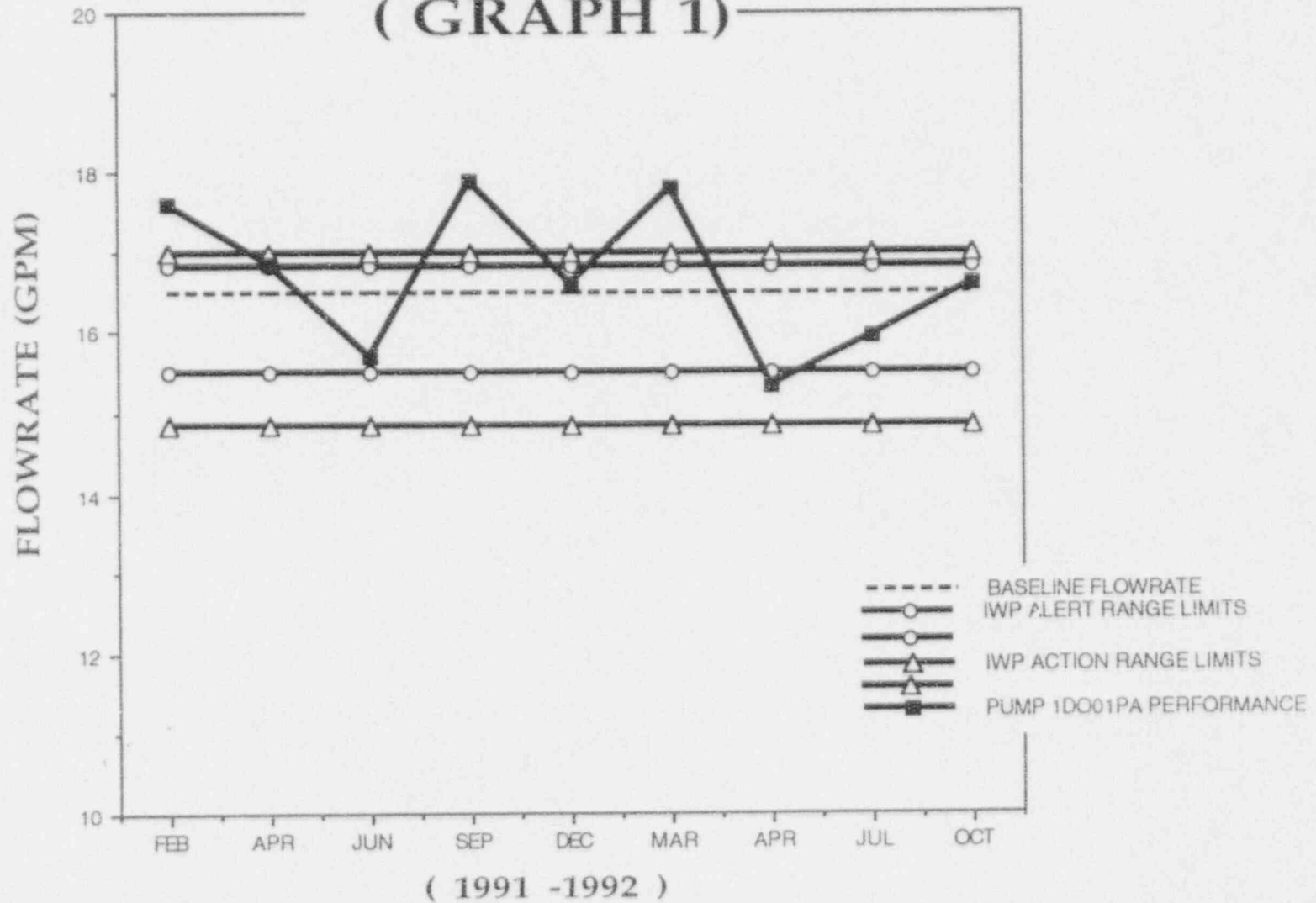
the diesel fuel day tank by the time the Diesel Fuel Oil Transfer Pump is in operation.

Illinois Power will utilize the following Allowable, Alert, and Action ranges for Diesel Oil pump flowrates.

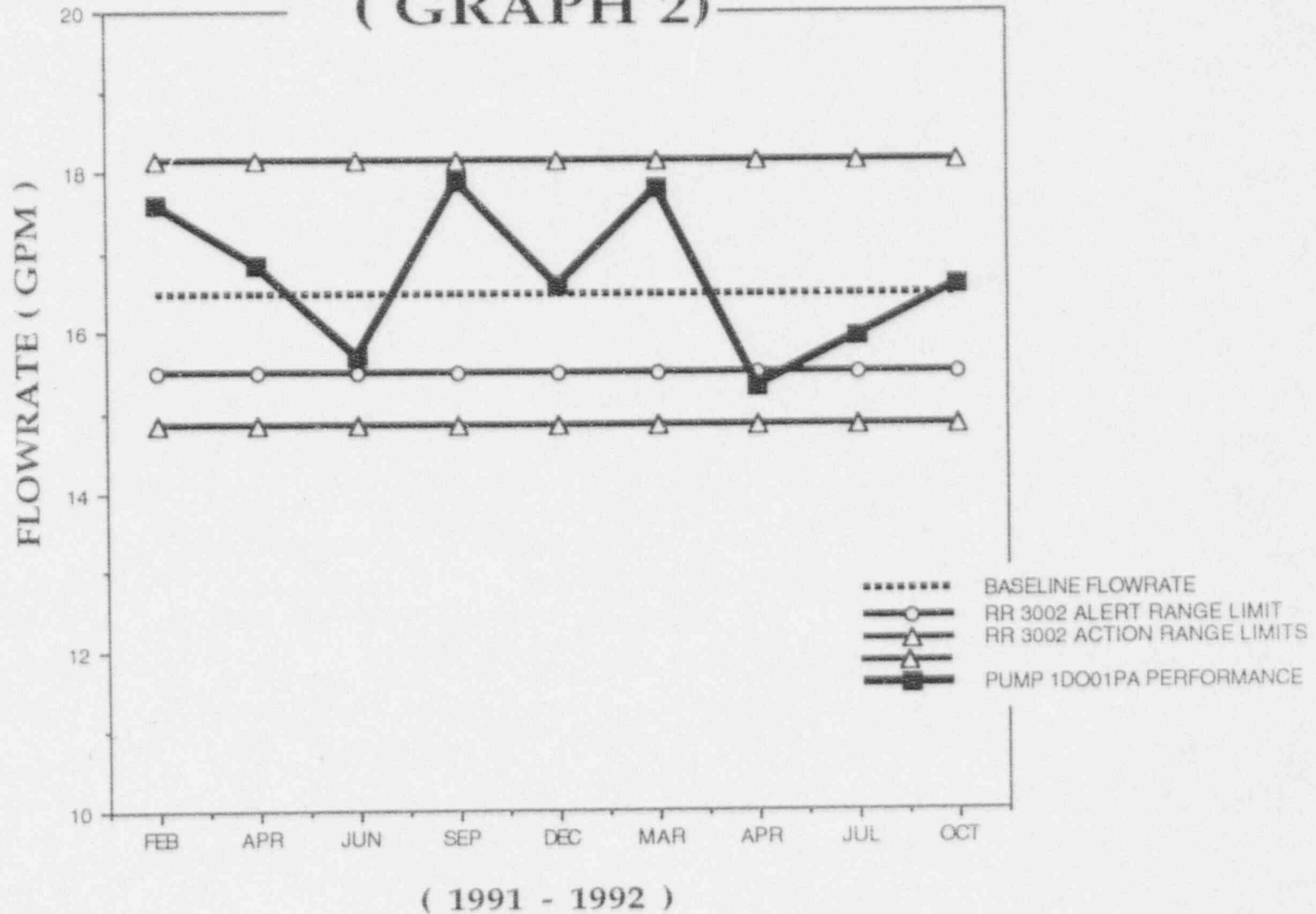
Acceptable Range	$\geq .94$ and ≤ 1.10 of baseline flow
Alert Range	$\geq .90$ and $< .94$ of baseline flow
Action Range	$< .90$ of baseline flow > 1.10 of baseline flow

Based upon CPS's operating experience, Illinois Power believes that the revised upper ranges will provide good indication of pump degradation without the unnecessary burden of requiring the pumps to be tested on an increased frequency or declared inoperable for minor (< 0.5 gpm) variations in flowrates. (SEE GRAPH 2)

PUMP 1DO01PA (GRAPH 1)



PUMP 1DO01PA (GRAPH 2)



ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 3003 (Revision 1)

COMPONENT INFORMATION

The Standby Liquid Control (SLC) Pumps (1C41-C001A and C001B) supply a neutron absorbing solution into the reactor in sufficient concentration and quantity to overcome the maximum positive reactivity. They are ASME Section III Code Class 2 pumps. These are positive displacement pumps which are highlighted on the attached drawing.

CODE REQUIREMENT

The ASME Code Section XI, Subarticle IWP-4600 requires measuring the pump's flow rate. Subarticle IWP-4100 specifies the requirements for instrument accuracies, ranges, etc.

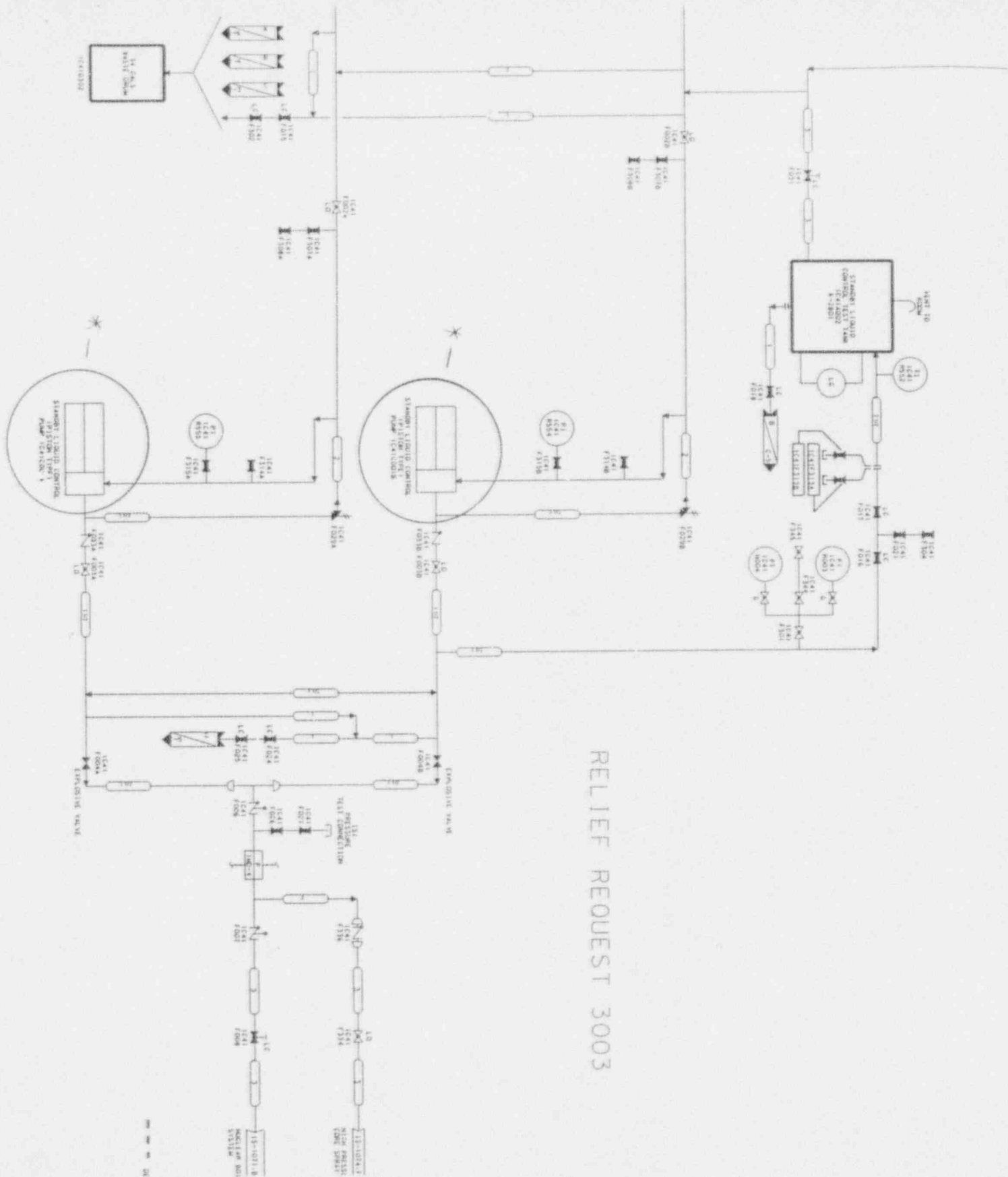
RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the Code requirements for the following reason:

These pumps do not have a flow rate measuring instrument installed which meets the above Code requirements.

ALTERNATE TESTING PROPOSED

Illinois Power Company will calculate the flow rate (Q) of the SLC pump by dividing the change in level of the SLC test tank by the time the SLC pump is in operation.



RELIEF REQUEST 3003

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST

RELIEF REQUEST NO. 3005

COMPONENT INFORMATION

The Standby Liquid Control Pumps (1C41-C001A and C001B) supply a neutron absorbing solution into the reactor in sufficient concentration and quantity to overcome the maximum positive reactivity. These pumps are ASME Section III Code Class 2 and are highlighted on the attached drawing.

CODE REQUIREMENT

The ASME Code Section XI, Subsection IWP-3500(a) requires that when measurement of the bearing temperature is not required, these pumps shall be run at least five (5) minutes under conditions as stable as the system permits. At the end of this time, at least one measurement or observation of each of the quantities specified shall be made and recorded.

RELIEF REQUEST/JUSTIFICATION

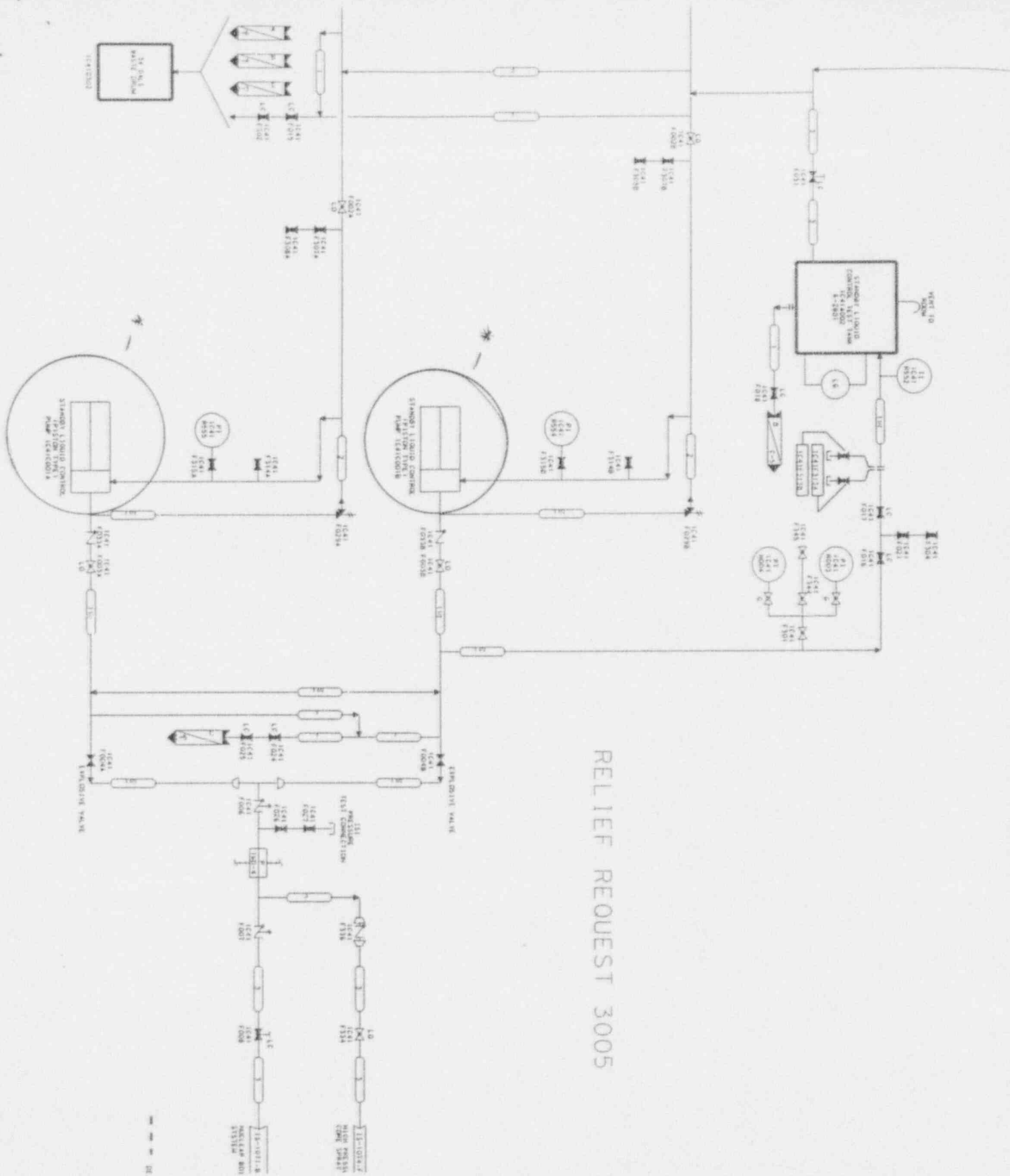
Illinois Power Company requests relief from the Code requirements for the following reasons:

Plant demineralized water is utilized to perform the quarterly tests for these pumps. The discharge of these pumps is collected in the Test Tank. The capacity of the Test Tank does not permit running these pumps for five (5) minutes.

Since these pumps are positive displacement type pumps and the inlet water is at a constant temperature, the flow conditions will be stabilized within a few seconds of starting the pumps. Letting the pumps run one (1) minute before measuring/observing the required parameters will ensure the flow conditions are stabilized.

ALTERNATE TESTING PROPOSED

Illinois Power Company will perform the required testing quarterly and all of the required parameters will be observed/measured and recorded after the pumps have been running at least one minute but prior to running for five minutes.



RELIEF REQUEST 3005

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST 3006 (Revision 1)

COMPONENT INFORMATION

This relief request pertains to the four (4) water-leg pumps (1E12-C003, 1E21-C002, 1E22-C003, and 1E51-C003) in the CPS

IST program. These pumps are required to maintain the water level in the associated ECCS systems to ensure the prevention of a water-hammer transient in the event of an ECCS initiation. In addition, these pumps have similar characteristics. All four are Gould model 3196 ST, with the primary difference being impeller diameter. They are tested at flows ranging from 50 to 64.5 gpm with baseline differential pressures (DP) ranging from 44.4 to 48.3 psid for the 1E12-C003, 1E21-C002, and 1E22-C003 pumps and 29.4 psid for 1E51-C003. All pumps are ASME Code Class 2.

CODE REQUIREMENTS

The ASME Code Section XI, Subsection IWP-3210 tabulates the allowable and alert ranges of inservice test quantities

(differential pressure (DP)) in relation to the reference, or baseline, values. Table IWP-3100-2 requires an acceptable DP range of 0.93 baseline DP to 1.02 baseline DP and an alert range of 0.9 baseline DP to 1.03 baseline DP.

RELIEF REQUEST/JUSTIFICATION

Because the water-leg pumps operate at a low DP and the Code specified acceptable ranges are based on a percentage of the

baseline, a small increase in DP can result in the pump reaching the alert or action range when the pump is operating within design parameters.

Using data for the HPCS water-leg pump (1E22-C003) as a representative example, which has a baseline DP of 48.5 psid, the Code-required acceptable range varies from 45.1 to 49.5 psid, or less than 4.4 psid (SEE GRAPH 1). Likewise the Code-required alert range for 1E22-C003 varies from 43.7 to 50 psid, for a range of 6.3 psid.

CPS believes the lower acceptable and alert range boundaries (0.93 and 0.9 of baseline DP) are achievable without undue hardship. However, based upon the Code required upper acceptable and alert range boundaries of 1.02 and 1.03 baseline DP) a deviation of only 1.0 psid above baseline DP is sufficient to force any of the CPS waterleg pumps onto increased frequency, and an increase greater

than 1.5 psid above the baseline DP will place the pumps in the action range.

ALTERNATE TESTING PROPOSED

Illinois Power will utilize the following allowable, alert, and action ranges for water-leg pump differential pressure.

Acceptable Range	$(0.93 \text{ to } 1.05) \times (\text{baseline dp value})$
Alert Range	$(0.90 \text{ to } 1.10) \times (\text{baseline dp value})$
Action Range	$< (0.90) \times (\text{baseline dp value})$ $> (1.10) \times (\text{baseline dp value})$

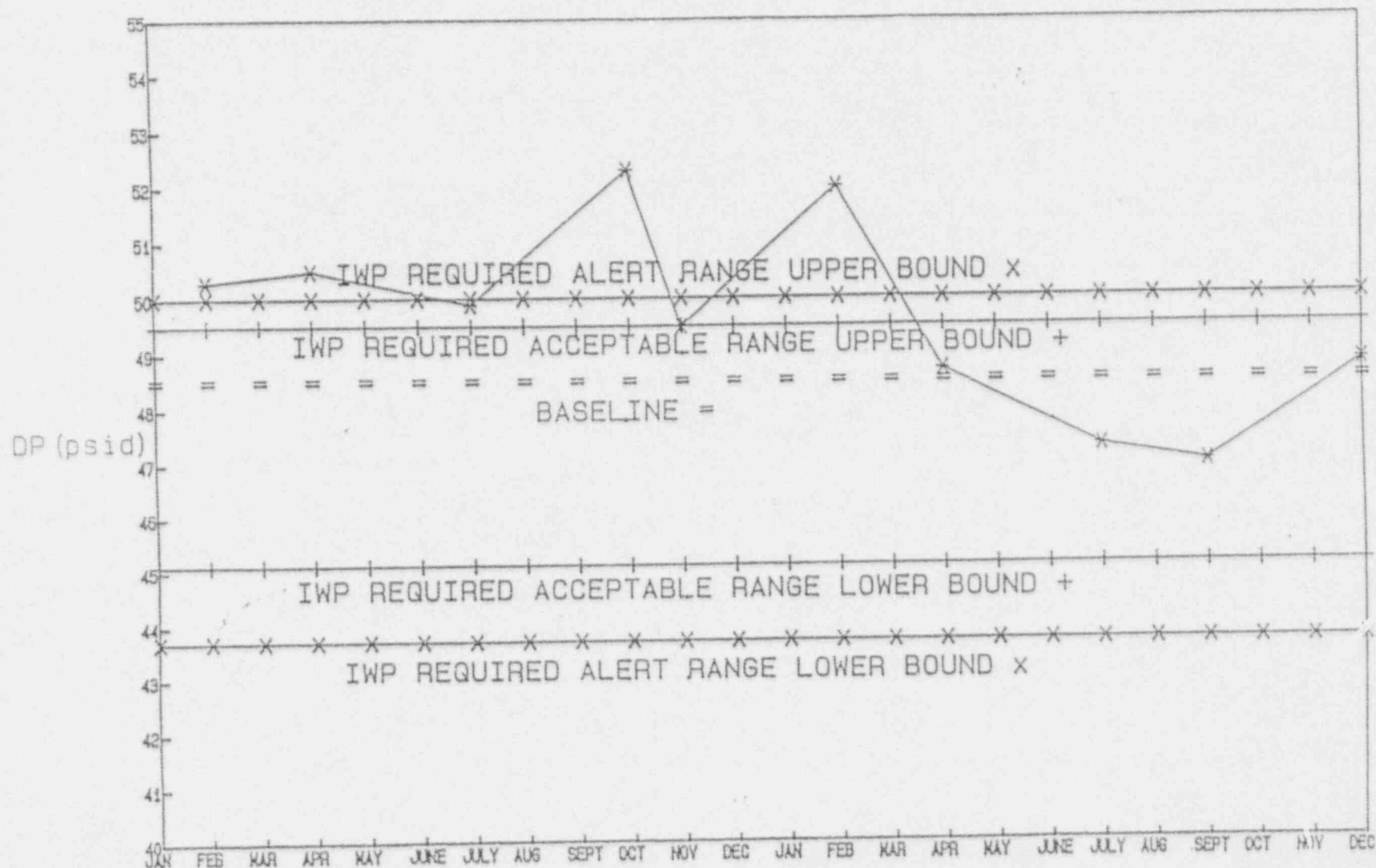
Based upon CPS's operating experience, CPS feels that the revised upper ranges will provide good indications of pump degradation without the unnecessary burden of requiring the pumps to be tested on increased frequency or declaring them inoperable for minor (1 to 2 psid) variations in DP (SEE GRAPH 2). CPS has evaluated minor fluctuations of this type and has determined that this performance is not an indication of pump degradation, and the pumps are operating within design allowable limits.

In addition, as these pumps are normally running, line pressure is continually monitored via pressure transmitters by the Main Control Room and any failure will be immediately observed by Control Room personnel.

PUMP 1E22-C003

(GRAPH 1)

BASED UPON A FLOW RATE (Qr) OF 64.5 gpm

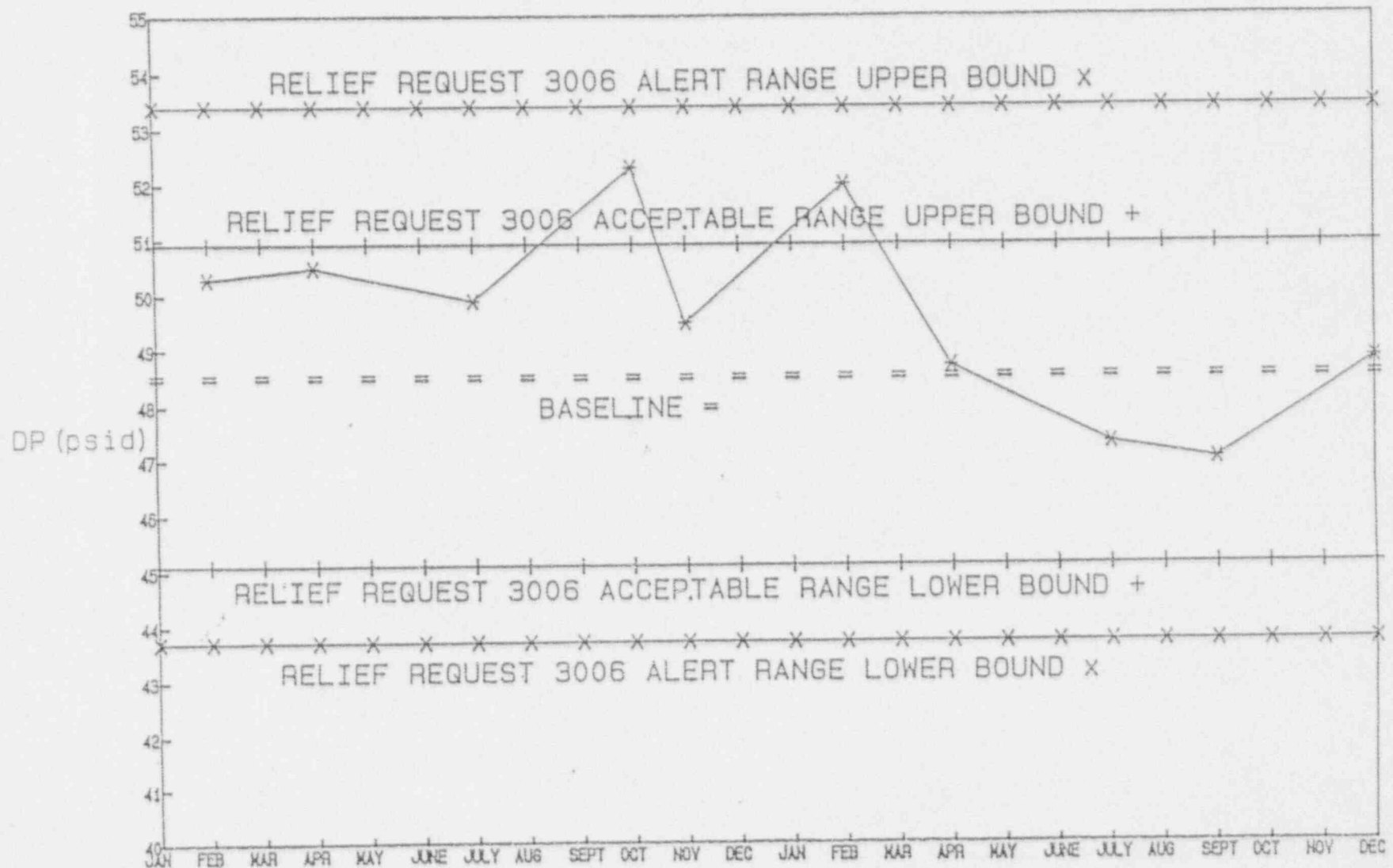


19 - 1991

PUMP 1E22-C003

(GRAPH 2)

BASED UPON A FLOW RATE (Qr) OF 64.5 gpm



19 - 1991

ILLINOIS POWER COMPANY
Clinton Power Station

ASME Section XI Relief Request

RELIEF REQUEST NO. 4001 (Revision 2)

COMPONENT INFORMATION

Several ASME Class 2 lines are open-ended as defined by Code Case N-408. These lines meet the Code Case requirements of not containing water during normal plant operating conditions. Page 2 of this request lists each line for which relief from examination is requested.

CODE REQUIREMENTS

The ASME Code Section XI, Subsection IWC-1220, IWC-2500 and Table IWC-2500-1 require that welds in Class 2 piping systems be selected for examination. Subsection IWF-2510(a) and Table IWF-2500-1 require selection of component supports for those components required to be examined under Subsection IWC-2500.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests that the lines on page 2 and associated component supports be exempt from the Code requirements for the following reasons:

Each of these lines is open-ended beyond the last shutoff valve and does not contain water during normal plant operating conditions. Code Case N-408, (a)(6) and (b)(4), allows lines meeting the above conditions to be exempt from the Code requirements of IWC-2500. Although Illinois Power does not intend to invoke this Code Case in its entirety, this relief request is based on the Code Case's exemption from examining certain open-ended pipes and the fact that leakage from any of the associated welds on these pipes would be insignificant and would have no adverse safety impact on the plant.

ALTERNATE TESTING PROPOSED

None

Class 2 Open-Ended Lines

The following lines are in open-ended systems and require relief from examination:

1HG05AA-6"
1HG05AB-6"
1HG05BA-6"
1HG05BB-6"
1HG05CA-6"
1HG05CB-6"
1HG06AA-10"
1HG06AB-10"
1HG06AC-10"
1HG06AD-10"

1RH30BA-12"
1RH30BB-12"
1RH30CA-12"
1RH30CB-12"
1RH30DA-12"
1RH30DB-12"

1RI08B-12"
1RI08C-12"

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST
RELIEF REQUEST NO. 4003 (Revision 1)

COMPONENT INFORMATION

All component supports requiring VT-3 and/or VT-4 examinations.

CODE REQUIREMENT

Subarticle 1WF-2500 and Table 1WF-2500-1 require that a visual examination, VT-3 and/or VT-4, be performed each inspection interval for the supports described above.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from performing any VT-4 examinations for the following reasons:

1. The definition of VT-4 examination in the 80W81 Code does not clearly identify the attributes to be considered in developing the inspection criteria.
2. Functional testing of snubbers required by Clinton Power Station (CPS) Technical Specifications is more stringent than this Code requirement.
3. The 83W84 Code has been clarified by combining the Visual Examinations VT-3 and VT-4.

If relief is granted, Illinois Power will update the applicable procedures to not only delete the references to VT-4, but to include the revised VT-3 examination requirements from the 83W84 Code in our program.

ALTERNATE TESTING PROPOSED

Illinois Power will perform VT-3 examinations using the definition from the 83W84 Code in lieu of performing VT-3 and VT-4 examinations in accordance with 80W81 requirements. Functional testing will be performed in accordance with CPS Technical Specifications.

ILLINOIS POWER COMPANY
CLINTON POWER STATION
SECTION XI RELIEF REQUEST
RELIEF REQUEST NO. 4004 (REV. 1)

COMPONENT INFORMATION

Hydraulic and mechanical snubbers associated with the piping lines included in the Clinton Power Station (CPS) Inservice Examination Program Plan.

CODE REQUIREMENT

The ASME Code specifies visual inspection frequencies for the above supports in Table IWF-2500-1 and functional testing frequencies in Subarticle IWF-5400. In addition, corrective actions with regard to selecting additional supports are specified in IWF-2420, IWF-2430, and IWF-5500.

RELIEF REQUEST/JUSTIFICATION

Illinois Power Company requests relief from the requirements identified above with regard to frequency of inspection and testing, and corrective action.

This relief request is justified because the CPS Technical Specification 4.7.4 specifies inspection and testing frequencies for these supports which are generally more restrictive than the Code requirements. Tracking the completion of inspection and testing activities with regard to both ASME Code and technical specification requirements creates additional administrative work without significant benefit in snubber reliability.

ALTERNATE TESTING PROPOSED

Visual inspection and functional testing frequencies and corrective action for selecting additional or successive supports for testing will be as specified by CPS Technical Specifications. Visual inspection of those snubbers initially selected for functional testing during each outage will be performed in accordance with ASME Code requirements for VT-3 inspection. All other visual inspections will be performed in accordance with CPS Technical Specification requirements.