

VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261

March 5, 2001

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

Serial No. 01-107  
NL&OS/GDM R1  
Docket Nos. 50-280, 281  
License Nos. DPR-32, 37

Gentlemen:


**VIRGINIA ELECTRIC AND POWER COMPANY**  
**SURRY POWER STATION UNITS 1 AND 2**  
**ASME SECTION XI RELIEF REQUESTS**  
**SR-004, SR-021, SR-022, SR-027 AND SR-028**

In conference calls with the NRC on February 1 and 2, 2001, Virginia Electric and Power Company (Dominion) discussed certain partial weld examinations associated with the Surry Units 1 and 2 safety injection and outside recirculation spray pumps. In these calls we agreed to provide relief requests for the subject partial weld examinations associated with these pumps in a timely manner.

Pursuant to 10 CFR 50.55a(g)(5)(iii), relief is requested from certain requirements of the ASME Section XI Code associated with the partial weld examinations recently conducted on the Surry Units 1 and 2 safety injection and outside recirculation spray pumps. The examinations were conducted in accordance with the requirements of the 1989 Edition of ASME Section XI. Revised relief request SR-004 and new relief requests SR-021 and SR-022 for Surry Unit 1 are provided in Attachment 1, and revised relief request SR-004 and new relief requests SR-027 and SR-028 for Surry Unit 2 are provided in Attachment 2. The attached relief requests have been reviewed and approved by the Station Nuclear Safety and Operating Committee.

If you have any questions or require additional information concerning these requests, please contact us.

Very truly yours,



L. N. Hartz  
Vice President - Nuclear Engineering and Services

Attachments

A047

Commitments contained in this correspondence:       None.

cc:    U.S. Nuclear Regulatory Commission  
        Region II  
        Atlanta Federal Center  
        61 Forsyth Street, SW, Suite 23T85  
        Atlanta, Georgia 30303

        Mr. R. A. Musser  
        NRC Senior Resident Inspector  
        Surry Power Station

        Mr. R. Smith  
        Authorized Nuclear Inspector  
        Surry Power Station

**ATTACHMENT 1**

**ASME SECTION XI RELIEF REQUESTS**  
**SR-004, REV.1, SR 021 AND SR-022**

**SURRY POWER STATION UNIT 1**

**DOMINION**

**DOMINION**  
**SURRY POWER STATION UNIT 1**  
**THIRD TEN YEAR INTERVAL**

**REQUEST FOR RELIEF NO. SR-004, REV.1**

I. IDENTIFICATION OF COMPONENTS

Systems: Outside Recirculation Spray (RS) and Safety Injection (SI)

Components: Pump casing welds identified below

<u>Component</u>	<u>Weld</u>	<u>Drawing #</u>	<u>Class</u>
1-RS-P-2A	2-01	11448-WMKS-RS-P-2A	2
1-RS-P-2A	2-02	11448-WMKS-RS-P-2A	2
1-RS-P-2A	2-03	11448-WMKS-RS-P-2A	2
1-RS-P-2A	2-04	11448-WMKS-RS-P-2A	2
1-RS-P-2A	0-12*	11448-WMKS-RS-P-2A	2
1-RS-P-2B	2-01	11448-WMKS-RS-P-2B	2
1-RS-P-2B	2-02	11448-WMKS-RS-P-2B	2
1-RS-P-2B	2-03	11448-WMKS-RS-P-2B	2
1-RS-P-2B	2-04	11448-WMKS-RS-P-2B	2
1-RS-P-2B	0-12*	11448-WMKS-RS-P-2B	2
1-SI-P-1A	2-01	11448-WMKS-SI-P-1A	2
1-SI-P-1A	2-02	11448-WMKS-SI-P-1A	2
1-SI-P-1A	2-03	11448-WMKS-SI-P-1A	2
1-SI-P-1A	2-04	11448-WMKS-SI-P-1A	2
1-SI-P-1A	0-13*	11448-WMKS-SI-P-1A	2
1-SI-P-1B	2-01	11448-WMKS-SI-P-1B	2
1-SI-P-1B	2-02	11448-WMKS-SI-P-1B	2
1-SI-P-1B	2-03	11448-WMKS-SI-P-1B	2
1-SI-P-1B	2-04	11448-WMKS-SI-P-1B	2
1-SI-P-1B	0-13*	11448-WMKS-SI-P-1B	2

\*Since large areas of the pump casing surface are inaccessible or extremely difficult to inspect due to surrounding interferences, welds 0-12 on 1-RS-P-2A and 2B and 0-13 on 1-SI-P-1A and 1B have not been verified to exist. The construction technique used on the pump casing in areas that are accessible for inspection would indicate these welds do exist. Furthermore, this weld has been verified to exist on the casing of pump 2-SI-P-2B, which is of similar design. When these pumps are removed for maintenance in the future, an inspection of the areas

from the ID of the pump will be performed to confirm the presence or absence of the welds and this relief request will be amended at that time if required.

## II. IMPRACTICAL CODE REQUIREMENTS

Category C-G, Item C6.10, Pump Casing Welds, requires that a surface examination be performed on 100% of the welds each interval. The examination can be limited to one pump in the case of multiple pumps of similar design, size, function, and service in a system.

## III. BASIS FOR RELIEF

The Outside Recirculation Spray and the Low Head Safety Injection pumps are vertical, two-stage, centrifugal pumps, with an extended shaft and casing to allow suction from the containment sump. The motor and mechanical seals of the pumps are located at approximately the 12-foot elevation, and the bottom of the casing is located at approximately the -30 foot elevation. The welds identified are at the bottom of the pump casing, and are embedded within the concrete building structure. This makes the welds inaccessible from the outside diameter. The small diameter of the casing (24 inch. OD) and the pump shaft prevent examination from the inside diameter.

## IV. ALTERNATE REQUIREMENTS

A visual examination (VT-1) of the accessible portions of the I.D. of the pump casing welds will be performed only if the pumps are disassembled and the pump shaft removed for maintenance.

**DOMINION**  
**SURRY POWER STATION UNIT 1**  
**THIRD TEN YEAR INTERVAL**

**REQUEST FOR RELIEF NO. SR-021**

**I. IDENTIFICATION OF COMPONENTS:**

<u>Weld No.</u>	<u>Mark No.</u>	<u>Drawing No.</u>	<u>Class</u>
2-05	1-SI-P-1A	11448-WMKS-SI-P-1A	2
0-10	1-SI-P-1A	11448-WMKS-SI-P-1A	2
0-12	1-SI-P-1A	11448-WMKS-SI-P-1A	2

**II. CODE REQUIREMENTS:**

The 1989 Edition of ASME Section XI, Table IWC-2500-1, examination category C-G, item number C6.10, requires a surface examination of 100% of pump casing welds each inspection interval. In the case of multiple pumps of similar design, size, function and service in a system, the examination of only one pump is required.

**III. CODE REQUIREMENT FROM WHICH RELIEF IS REQUESTED:**

Relief is requested from fully performing the Code-required surface examination on the above identified pump casing welds.

**IV. BASIS FOR RELIEF:**

The welds listed above have been examined to the extent possible by the Code. Full surface examination coverage could not be achieved due to the interference of the support structure and the close proximity to the adjacent wall, which renders portions of the welds inaccessible. Figure 1 provides details of the weld locations. Welds 2-06 and 0-11 on 1-SI-P-1A were 100% surface examined with no indications found. The accessible portions of similar welds on pump 1-SI-P-1B were also surface examined with no indications found. A summary of the partial exams is provided in the following table:

### 1-SI-P-1A

Weld	Percent Coverage Achieved	Reason for Limitation
2-05	67%	Obstruction due to vibration plate
0-10	65%	Obstruction due to vibration plate
0-12	0%	Proximity to wall and interference of vibration plate

### V. PROPOSED ALTERNATIVE EXAMINATION

We propose that the examinations already completed at the reduced coverage be counted as meeting the Code requirements, as obstructions rendered portions of the welds inaccessible. Similar welds for the alternate pump of similar design, size, function and service were also examined. These examinations were also limited for similar reasons. The results for 1-SI-P-1B are summarized in the following table:

### 1-SI-P-1B

Weld	Percent Coverage Achieved	Reason for Limitation
2-06	83%	Obstruction due to vibration plate
2-05	67%	Obstruction due to vibration plate
0-10	63%	Obstruction due to vibration plate
0-11	71%	Obstruction due to vibration plate
0-12	0%	Proximity to wall and interference of vibration plate

In addition, both pumps receive a periodic and interval VT-2 examination for external leakage in accordance with ASME Section XI, Category C-H, Items C7.50 and C7.60.

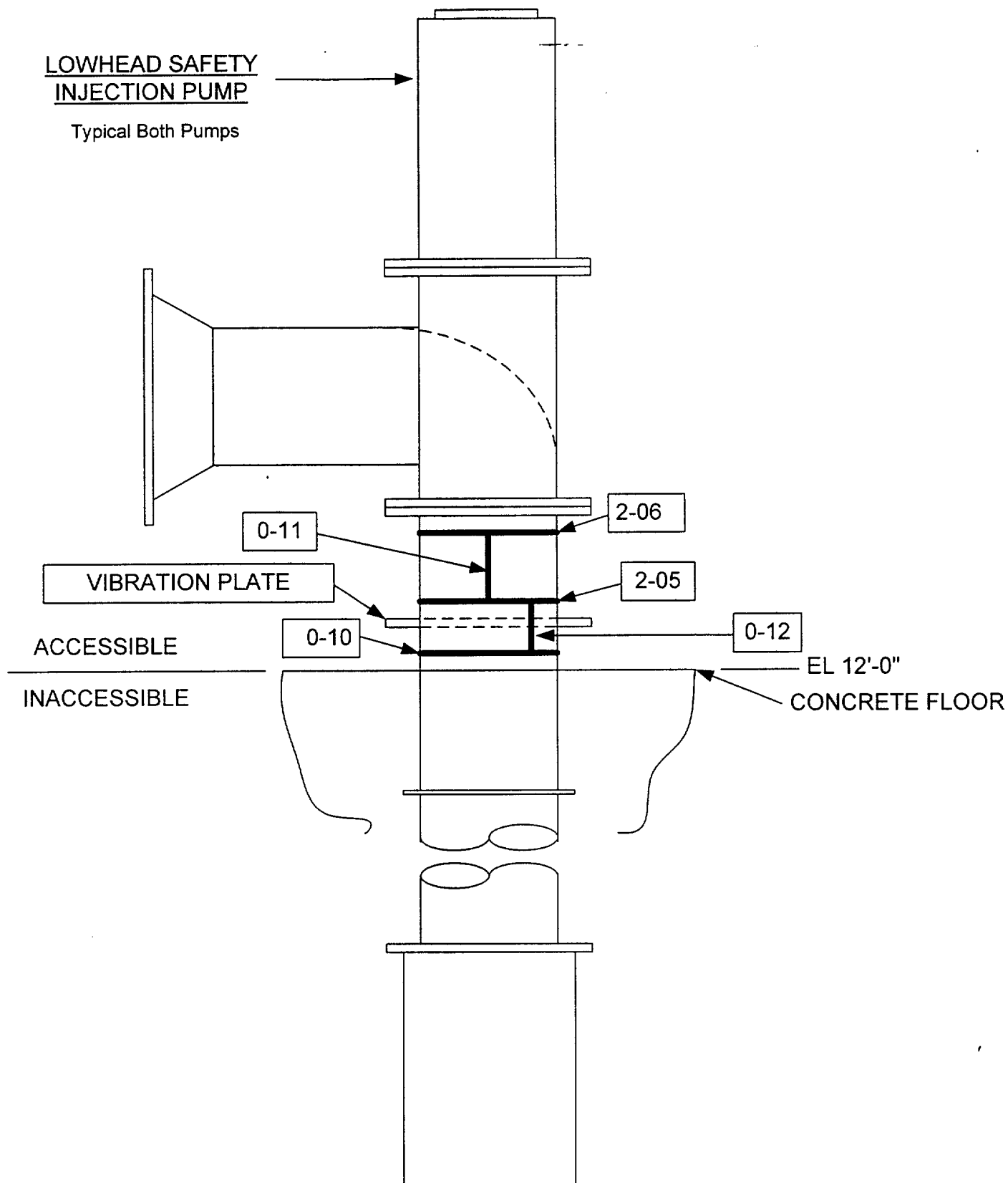


Figure 1



**DOMINION**  
**SURRY POWER STATION UNIT 1**  
**THIRD TEN YEAR INTERVAL**

**REQUEST FOR RELIEF NO. SR-022**

I. IDENTIFICATION OF COMPONENTS:

<u>Weld No.</u>	<u>Mark No.</u>	<u>Drawing No.</u>	<u>Class</u>
2-05	1-RS-P-2A	11448-WMKS-RS-P-2A	2
0-11	1-RS-P-2A	11448-WMKS-RS-P-2A	2

II. CODE REQUIREMENTS:

The 1989 Edition of ASME Section XI, Table IWC-2500-1, examination category C-G, item number C6.10, requires a surface examination of 100% of pump casing welds each inspection interval. In the case of multiple pumps of similar design, size, function and service in a system, the examination of only one pump is required.

III. CODE REQUIREMENT FROM WHICH RELIEF IS REQUESTED:

Relief is requested from fully performing the Code-required surface examination on the above identified pump casing welds.

IV. BASIS FOR RELIEF:

The welds listed above have been examined to the extent possible by the Code. Full surface examination coverage could not be achieved due to the interference of the support structure and the close proximity to the adjacent wall, which renders portions of the welds inaccessible. Weld 2-06 was 100% examined on 1-RS-P-2A with no indications found. Figure 1 provides details of the weld locations. The accessible portions of the similar welds on pump 1-RS-P-2B were also surface examined with no indications found. A summary of the partial exams is provided in the following table:

### 1-RS-P-2A

Weld	Percent Coverage Achieved	Reason for Limitation
2-05	67%	Obstruction due to vibration plate
0-11	77%	Obstruction due to vibration plate

## V. PROPOSED ALTERNATIVE EXAMINATION

We propose that the examinations already completed at the reduced coverage be counted as meeting the Code requirements, as obstructions rendered portions of the welds inaccessible. Similar welds for the alternate pump of similar design, size, function and service were also examined. These examinations were limited for similar reasons. The results for 1-RS-P-2B are summarized in the following table:

### 1-RS-P-2B

Weld	Percent Coverage Achieved	Reason for Limitation
2-06	84%	Obstruction due to vibration plate
2-05	69%	Obstruction due to vibration plate
0-11	80%	Obstruction due to vibration plate

In addition, both pumps receive a periodic and interval VT-2 examination for external leakage in accordance with ASME Section XI, Category C-H, Items C7.50 and C7.60.

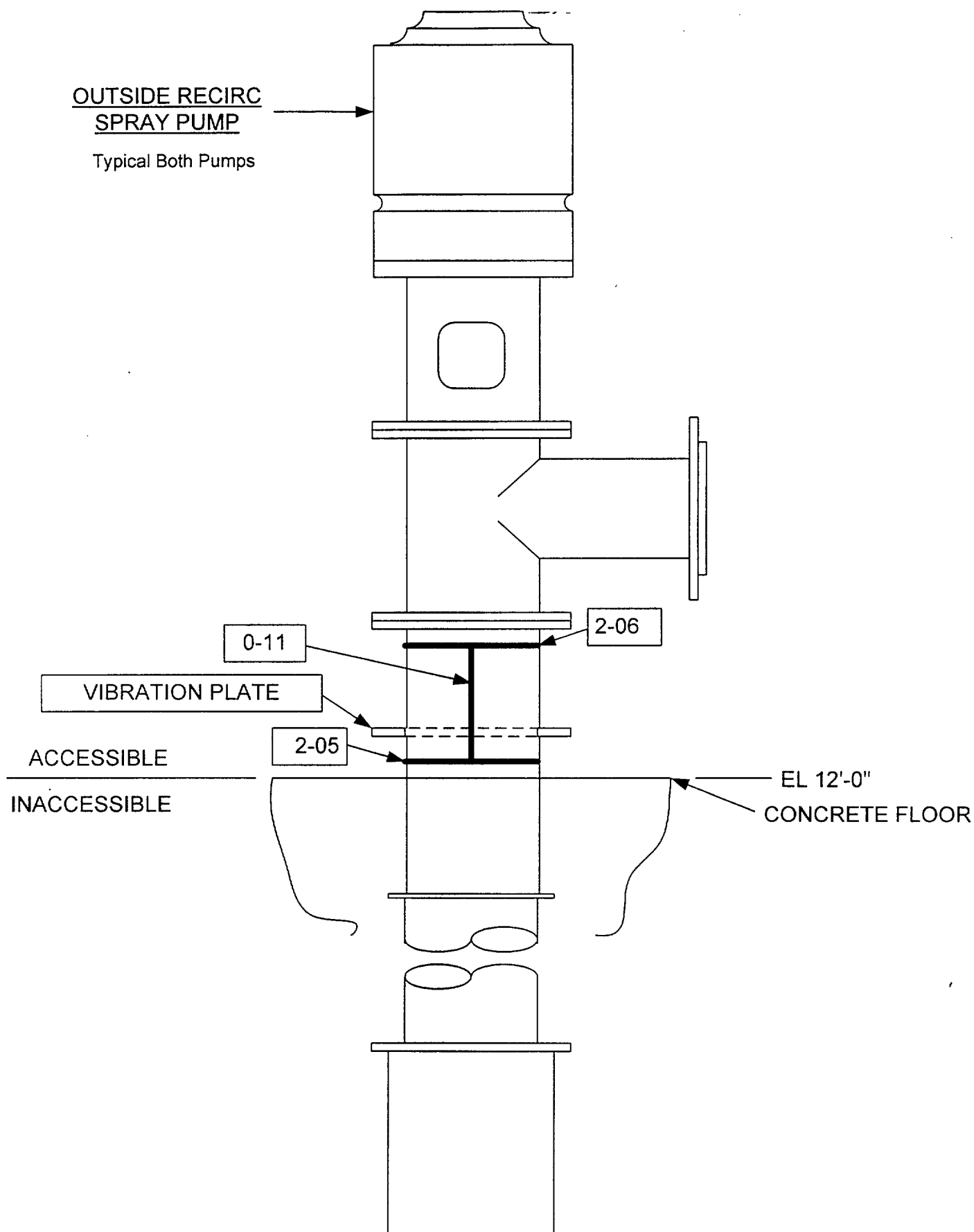


Figure 1

**ATTACHMENT 2**

**ASME SECTION XI RELIEF REQUESTS**  
**SR-004, REV.1, SR 027 AND SR-028**

**SURRY POWER STATION UNIT 2**

**DOMINION**

**DOMINION**  
**SURRY POWER STATION UNIT 2**  
**THIRD TEN YEAR INTERVAL**

**REQUEST FOR RELIEF NO. SR-004, REV.1**

I. IDENTIFICATION OF COMPONENTS

Systems: Outside Recirculation Spray (RS) and Safety Injection (SI)

Components: Pump casing welds identified below

<u>Component</u>	<u>Weld</u>	<u>Drawing #</u>	<u>Class</u>
2-RS-P-2A	2-01	11548-WMKS-RS-P-2A	2
2-RS-P-2A	2-02	11548-WMKS-RS-P-2A	2
2-RS-P-2A	2-03	11548-WMKS-RS-P-2A	2
2-RS-P-2A	2-04	11548-WMKS-RS-P-2A	2
2-RS-P-2A	0-12*	11548-WMKS-RS-P-2A	2
2-RS-P-2B	2-01	11548-WMKS-RS-P-2B	2
2-RS-P-2B	2-02	11548-WMKS-RS-P-2B	2
2-RS-P-2B	2-03	11548-WMKS-RS-P-2B	2
2-RS-P-2B	2-04	11548-WMKS-RS-P-2B	2
2-RS-P-2B	0-12*	11548-WMKS-RS-P-2B	2
2-SI-P-1A	2-01	11548-WMKS-SI-P-1A	2
2-SI-P-1A	2-02	11548-WMKS-SI-P-1A	2
2-SI-P-1A	2-03	11548-WMKS-SI-P-1A	2
2-SI-P-1A	2-04	11548-WMKS-SI-P-1A	2
2-SI-P-1A	0-13*	11548-WMKS-SI-P-1A	2
2-SI-P-1B	2-01	11548-WMKS-SI-P-1B	2
2-SI-P-1B	2-02	11548-WMKS-SI-P-1B	2
2-SI-P-1B	2-03	11548-WMKS-SI-P-1B	2
2-SI-P-1B	2-04	11548-WMKS-SI-P-1B	2
2-SI-P-1B	0-13	11548-WMKS-SI-P-1B	2

\*Since large areas of the pump casing surface are inaccessible or extremely difficult to inspect due to surrounding interferences, welds 0-12 on 2-RS-P-2A and 2B and 0-13 on 2-SI-P-1A have not been verified to exist. The construction technique used on the pump casing in areas that are accessible for inspection would indicate these welds do exist. Furthermore, this weld has been verified to exist on the casing of pump 2-SI-P-2B, which is of similar design. When these

pumps are removed for maintenance in the future, an inspection of the areas from the inside diameter of the pump will be performed to confirm the presence or absence of the welds and this relief request will be amended at that time if required.

## II. IMPRACTICAL CODE REQUIREMENTS

Category C-G, Item C6.10, Pump Casing Welds, requires that a surface examination be performed on 100% of the welds each interval. The examination can be limited to one pump in the case of multiple pumps of similar design, size, function, and service in a system.

## III. BASIS FOR RELIEF

The Outside Recirculation Spray and Low Head Safety Injection pumps are vertical, two-stage, centrifugal pumps, with an extended shaft and casing to allow suction from the containment sump. The motor and mechanical seals of the pumps are located at approximately the 12-foot elevation, and the bottom of the casing is located at approximately the -30 foot elevation. The welds identified are at the bottom of the pump casing and are embedded within the concrete building structure. This makes the welds inaccessible from the outside. The small diameter of the casing (24-inch outer diameter) and the pump shaft prevent examination from the inside diameter.

## IV. ALTERNATE REQUIREMENTS

A visual examination (VT-1) of the accessible portions of the inside diameter of the pump casing welds will be performed only if the pump is disassembled and the pump shaft removed for maintenance.

**DOMINION**  
**SURRY POWER STATION UNIT 2**  
**THIRD TEN YEAR INTERVAL**

**REQUEST FOR RELIEF NO. SR-027**

**I. IDENTIFICATION OF COMPONENTS:**

<u>Weld No.</u>	<u>Mark No.</u>	<u>Drawing No.</u>	<u>Class</u>
2-05	2-SI-P-1A	11548-WMKS-SI-P-1A	2
0-10	2-SI-P-1A	11548-WMKS-SI-P-1A	2
0-12	2-SI-P-1A	11548-WMKS-SI-P-1A	2

**II. CODE REQUIREMENTS:**

The 1989 Edition of ASME Section XI, Table IWC-2500-1, examination category C-G, item number C6.10, requires a surface examination of 100% of pump casing welds each inspection interval. In the case of multiple pumps of similar design, size, function, and service in a system the examination of only one pump is required.

**III. CODE REQUIREMENT FROM WHICH RELIEF IS REQUESTED:**

Relief is requested from fully performing the Code-required surface examination on the above identified pump casing welds.

**IV. BASIS FOR RELIEF:**

The welds listed above have been examined to the extent possible by the Code. Full surface examination coverage could not be achieved due to interference of the support structure and close proximity to the adjacent wall, which renders portions of the welds inaccessible. Figure 1 provides details of weld locations for pump 2-SI-P-1A, and Figure 2 provides details of weld locations for pump 2-SI-P-1B. Welds 2-06 and 0-11 for both pumps were 100% surface examined with no indications found.

The accessible portions of similar welds on both pumps were also surface examined with no indications found. The 9 inches of weld 0-13 on pump 2-SI-P-1B that was accessible above the concrete floor was also examined with no indications. Weld 0-13 was not identified or located during examination as existing on pump 2-SI-P-1A.

A summary of the partial exams follows:

#### 2-SI-P-1A

Weld	Percent Coverage Achieved	Reason for Limitation
2-05	87%	Obstruction due to vibration plate
0-10	87%	Obstruction due to vibration plate
0-12	60%	Proximity to wall and interference of vibration plate

#### V. PROPOSED ALTERNATIVE EXAMINATION

We propose that the examinations already completed at the reduced coverage be counted as meeting the Code requirements, as obstructions rendered portions of the welds inaccessible. Similar welds for the alternate pump of similar design, size, function and service were also examined. These examinations were limited for similar reasons. Results are summarized in the following table:

#### 2-SI-P-1B

Weld	Percent Coverage Achieved	Reason for Limitation
2-05	87%	Obstruction due to vibration plate
0-10	87%	Obstruction due to vibration plate
0-12	57%	Obstruction due to vibration plate
0-13	Examined 9 inches, total unknown	Encased in concrete

In addition, both pumps receive a periodic and interval VT-2 examination for external leakage in accordance with ASME Section XI, Category C-H, Items C7.50 and C7.60.



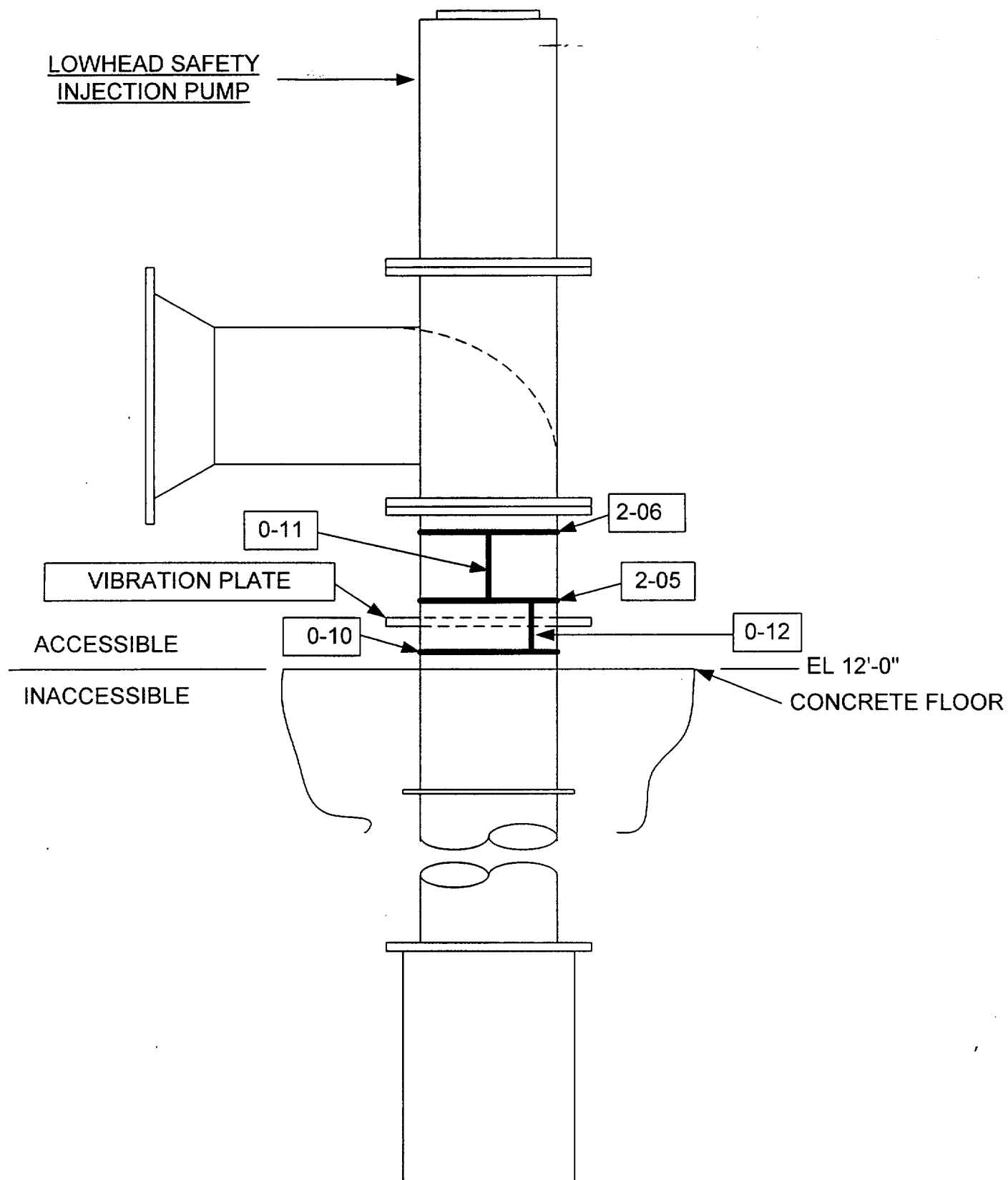


Figure 1  
2-SI-P-1A

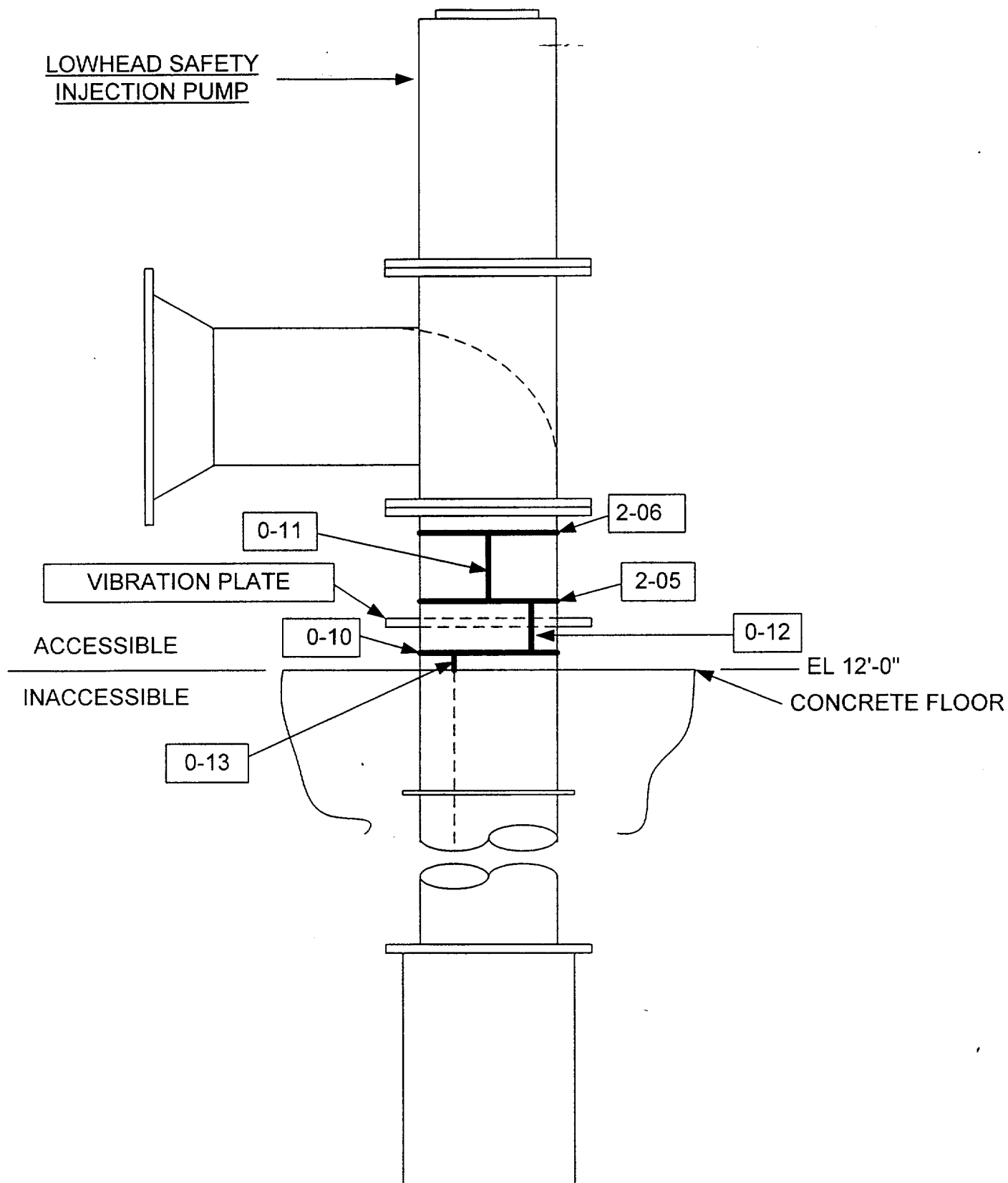


Figure 2  
2-SI-P-1B

**DOMINION**  
**SURRY POWER STATION UNIT 2**  
**THIRD TEN YEAR INTERVAL**

**REQUEST FOR RELIEF NO. SR-028**

**I. IDENTIFICATION OF COMPONENTS:**

<u>Weld No.</u>	<u>Mark No.</u>	<u>Drawing No.</u>	<u>Class</u>
2-05	2-RS-P-2A	11548-WMKS-RS-P-2A	2
0-11	2-RS-P-2A	11548-WMKS-RS-P-2A	2

**II. CODE REQUIREMENTS:**

The 1989 Edition of ASME Section XI, Table IWC-2500-1, examination category C-G, item number C6.10, requires a surface examination of 100% of pump casing welds each inspection interval. In the case of multiple pumps of similar design, size, function and service in a system, the examination of only one pump is required.

**III. CODE REQUIREMENT FROM WHICH RELIEF IS REQUESTED:**

Relief is requested from fully performing the Code-required surface examination on the above identified pump casing welds.

**IV. BASIS FOR RELIEF:**

The welds listed above have been examined to the extent possible by the Code. Full surface examination coverage could not be achieved due to the interference of the support structure and the close proximity to the adjacent wall, which renders portions of the welds inaccessible. Figure 1 provides details of these limitations. The accessible portions of similar welds on pump 2-RS-P-2B were also surface examined with no indications found, and weld 2-06 was 100% examined on both pumps with no indications found. A summary of the partial exams follows:

### 2-RS-P-2A

Weld	Percent Coverage Achieved	Reason for Limitation
2-05	81%	Obstruction due to vibration plate
0-11	78%	Obstruction due to vibration plate

### V. PROPOSED ALTERNATIVE EXAMINATION

We propose that the examinations already completed at the reduced coverage be counted as meeting the Code requirements, as obstructions rendered portions of the welds inaccessible. Similar welds for the alternate pump of similar design, size, function and service were also examined. These examinations were limited for similar reasons. The examination results for 2-RS-P-2B are summarized in the following table:

### 2-RS-P-2B

Weld	Percent Coverage Achieved	Reason for Limitation
2-05	96%	Obstruction due to vibration plate
0-11	80%	Obstruction due to vibration plate

In addition, both pumps receive a periodic and interval VT-2 examination for external leakage in accordance with ASME Section XI, Category C-H, Items C7.50 and C7.60.

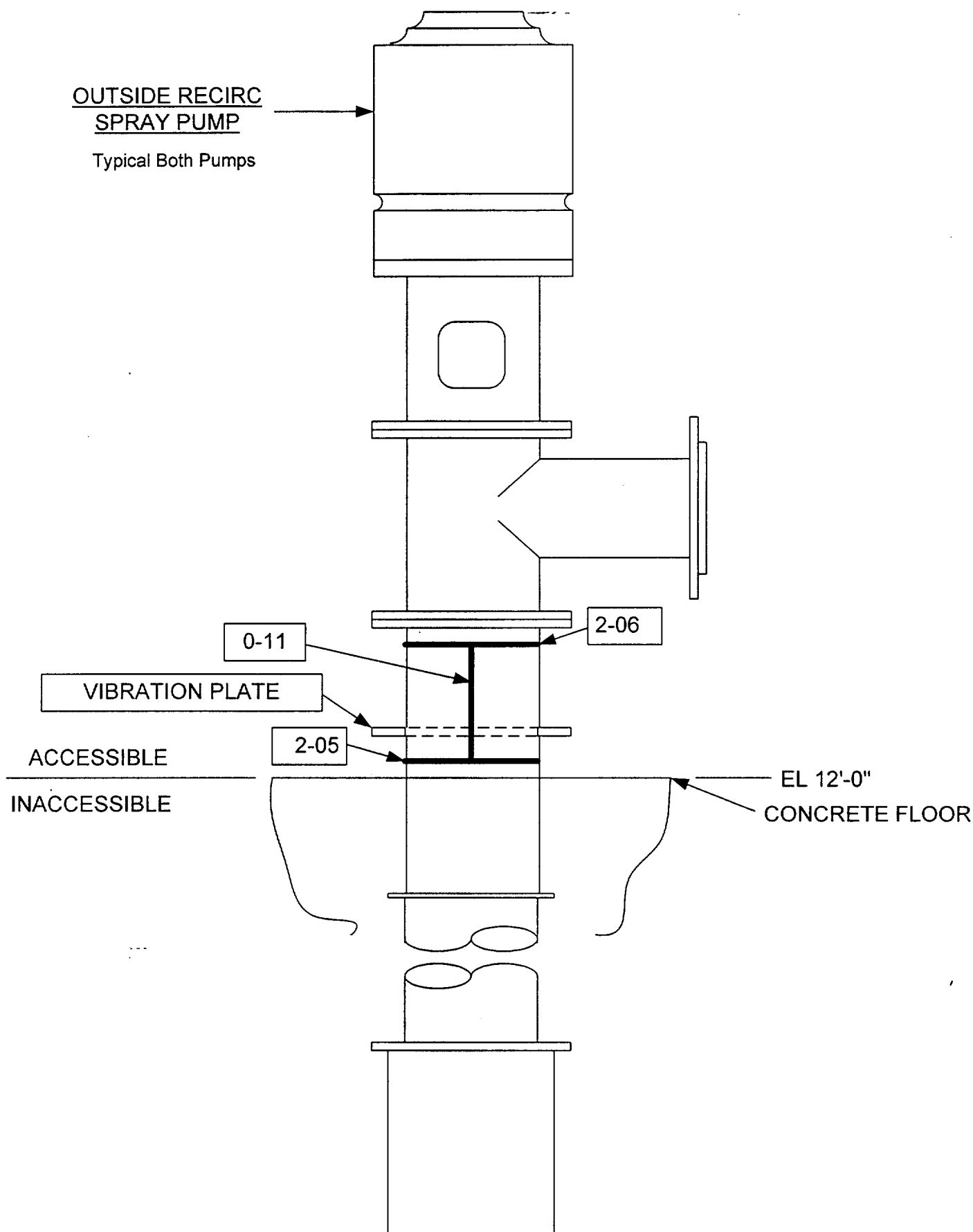


Figure 1