DRESSER Masoneilan

Date: 9/29/10

To: Documents Control Desk
United States Nuclear Regulatory Commission
Washington, DC 20555

Subject: 10 CFR Part 21 report of potential issues with certain Regulator Model 77N-40

To Whom It May Concern:

Dresser Masoneilan initiated a 10 CFR Part 21 investigation because of the failure of three (3) Air Regulators (model number 77N-40) (the "Regulators") at the PSE&G Salem Station within three months of being installed. PSE&G notified our facility of the failures on July 27, 2010.

Upon testing and evaluation, Dresser Masoneilan concluded that the internal O-ring used for pressure isolation in the Regulators were damaged during factory assembly contributing to the failure of the unit to regulate pressure. Because of the damage to the O-ring, the Regulators had excessive internal leakage which impacted the ability to maintain the set pressure, thus increasing the flow past the Relief Valve and causing an increased flow from the relief hole. The details of the evaluation and testing and the corrective action plan are described in "Attachment A" of this notification. There have been no reported failures of the Model 77N-4, but this model shares like components and processes which exposes the product to the same potential defects.

This model Regulator has been sold for use on our equipment from the mid 1980's to the present. We believe that similar model air regulators that exhibit no deterioration of the ability to regulate pressure do not have the same problems with the O-ring. This is based upon the fact that we have not received other complaints of failures and the fact that the failures that are the subject of this notification occurred in a short amount of time after installation.

In addition to the corrective action plan described in Attachment A, Dresser Masoneilan has developed a test method and acceptance criteria as described in Attachment B. Inspections can be performed on in-service Regulators to determine if the unit is experiencing pressure loss due to these described issues. Due to the volume, age and distribution of these models Dresser Masoneilan is issuing this general notice to all utilities.

Dresser Masoneilan does not have adequate knowledge of all the service applications to determine whether failure of these products could create a "substantial safety hazard" as defined by 10CFR 21.3 hence we submit this notification under the provisions of 10CFR 21.21.

If you have any questions concerning this notification, please contact Bill Comeau at (508) 941-5477.

Regards,

Frank Wheelwright
Director of Operations

CC: Anne Sparks

Dresser Masoneilan
Dresser, Inc.
85 Bodwell Street, Avon, MA 02322
Office: +1 508 586 4600 Fax: +1 508 941 5497
Email: frank.wheelwright@dresser.com www.dresser.com

IE19
NRR

Attachment A

Evaluation:

Upon notification we put a hold on all incoming orders for the models in question. We had all of the Regulators in our inventory retested and quarantined until we completed our investigation. All of the Regulators in our inventory passed our testing. At that point one sample was disassembled. No damage was found to the O-Ring or the Relief Valve Seat. PSE&G decided to have their stock returned to Dresser Masoneilan for evaluation along with a representative to witness testing, disassembly and evaluation.

It was discovered during the evaluation process that the O-ring (#8 Figure 1) which isolates the pressure chambers can become damaged during the assembly process. A review of internal procedures found that the O-ring in question was assembled in the inverted position not visible to the technician during the process. Therefore the O-Ring had the potential to be damaged by the threads of the mating part.

It was also found that the supplier of the component referred to as the "Body" (#13 Figure 1) had not properly de-burred the bore that contained the sealing surface of the O-Ring on some components. The resulting sharp edge can be another source of potential damage to the O-ring.

The Relief Valve seat had indications of damage that were found to be caused by an assembly technique referred to as "coining". In this process, the Relief Valve point is aligned with the Relief Valve seat and using mechanical impact, the seats conform to one another to provide a tight seal. Our investigation showed that if misalignment occurred during the process the seat would sustain damage causing the sealing capabilities to quickly deteriorate in service.

The Relief Valve seat may have contained burrs. Inspections of the Relief Valve seats in our inventory indicated the supplier was not properly prepared the seating surface. Approximately 30% of the inventory contained questionable seating surfaces.

Corrective actions by Dresser Masoneilan to date:

- Inspection was added to the Body bore edge in our dedication plan.
- Inspection was added to the Relief Valve seat in our dedication plan.
- Procedures and instructions were updated to ensure that the O-Ring was assembled such that the technician can visibly see the components and ensure the O-Ring is not damaged during the assembly process.
- We reviewed the use of the "coining" technique and eliminated the practice from the current process. The technician is now instructed to assemble and test the Regulator without coining. If the Regulator does not pass the required testing the Regulator will be disassembled and the relief valve components replaced until an acceptable combination passes test.
- The existing inventory was reworked to the corrective actions above.

Dresser Masoneilan
Dresser, Inc.
85 Bodwell Street, Avon, MA 02322
Office: +1 508 586 4600 Fax: +1 508 941 5497
Email: frank.wheelwright@dresser.com www.dresser.com

DRESSER Masoneilan

Figure 1

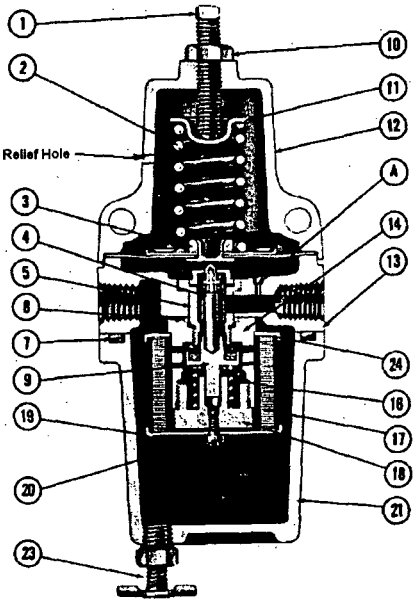
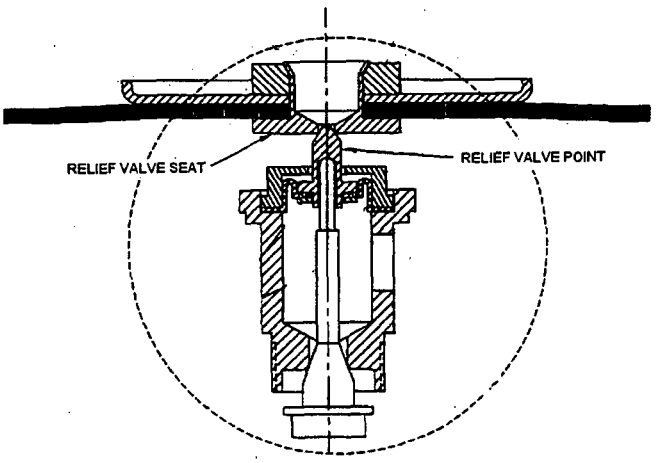


Figure 2



Ref. No.	Description	Materials
1	Adjusting Screw	Carbon Steel
1A	Hand Knob S/A	Zinc Plated Carbon Steel with Phenolic Knob
2	Range Spring	Carbon and Alloy Spring Steel
3	Diaphragm S/A	Brass Components with Buna-N and Nylon Diaphragm
4	Inlet Valve Stem	416 Stainless Steel
5	Body Insert	Brass Components with Buna-N Seal
6	Relief Valve S/A	
7	O-Ring	Buna-N Rubber
8		
9	Inlet Valve S/A	Brass Retainer with Buna-N Seat Insert
10	Locknut	Carbon Steel
11	Spring Button	
12	Spring Case	Aluminum ASTM B85 Alloy SC84B
13	Body	
14	Insert Retainer	Aluminum Alloy
16	Spring Cap	Delrin
18	Inlet Valve Spring	302 Stainless Steel
17	Filter	Resin Impregnated Cellulose Ribbon
18A	Inlet Valve Guide	Aluminum
19	Filter Plate (lower)	Brass
20	Filter Plate Screw	
21	Dripwell	Aluminum ASTM B85 Alloy SC84B
22	Body Cap	
23	Drain Cock	Brass
24	Filter Plate (upper)	
25	Orifice	
26	Nut	Carbon Steel
27	Lockwasher	
28	Assembly Bolts	

Dresser Masoneilan
Dresser, Inc.
85 Bodwell Street, Avon, MA 02322
Office: +1 508 586 4600 Fax: +1 508 941 5497
Email: frank.wheelwright@dresser.com www.dresser.com

Attachment B

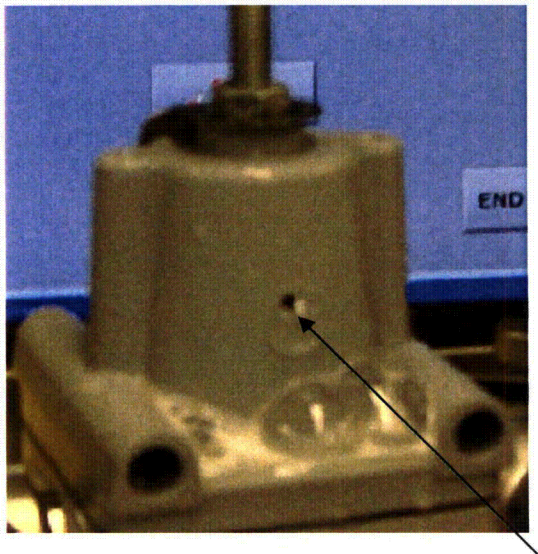
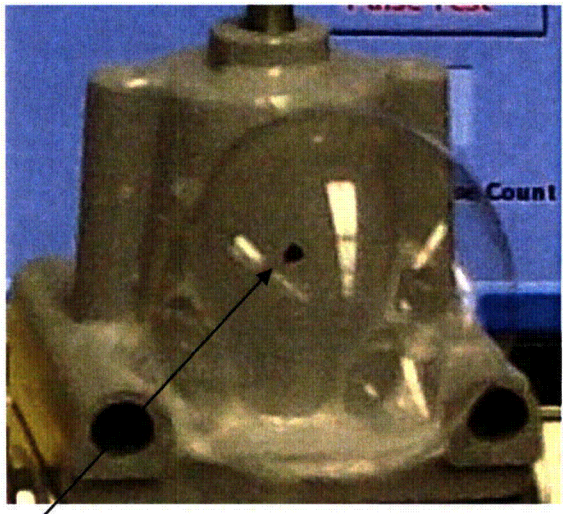


Figure 3
Acceptable



Relief Hole

Figure 4
Unacceptable

In-Service inspection:

Apply leak detection fluid to the Relief hole as shown. Acceptable bubble size is shown in Figure 4. The acceptable leak rate of the bubbles is 1 to 3 per second. Unacceptable bubble size is shown in Figure 5 or bubbles that form at a rate of more than 5 or more per second.

Off line inspection:

1. Turn the adjusting screw clockwise until 20 psig is reached for the 77N-4 air set or 40 psig is reached for the 77N-40 air set.

2. Check with a flow meter to see that the air consumption is less than 250 standard cc/min.

3. Block the relief hole by using a finger (or suitable means) and block all flow. The output pressure must not increase more than two psig in four seconds.

Dresser Masoneilan
Dresser, Inc.
85 Bodwell Street, Avon, MA 02322
Office: +1 508 586 4600 Fax: +1 508 941 5497
Email: frank.wheelwright@dresser.com www.dresser.com