

U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

June 27, 1978

IE Bulletin No. 78-10

BERGEN-PATERSON HYDRAULIC SHOCK SUPPRESSOR ACCUMULATOR SPRING COILS

Description of Circumstances:

During the conduct of hydraulic shock suppressor (snubber) functional testing and seal replacement programs at several licensed facilities, a number of broken accumulator spring coils have been found in early model Bergen-Paterson hydraulic snubbers. The attached extract from a Bergen-Paterson advisory letter, dated April 6, 1978, states that a broken accumulator spring alone would not render the snubber incapable of performing its design function; however, the broken spring could cause internal damage to the accumulator which could result in unit inoperability.

The subject snubbers are of the external pipe design with serial numbers 487,000 to 515,000 and F60,635 through F75,000. The accumulator springs in these snubbers are basically carbon steel and were coated with a petro-chemical rust preventative by the vendor. Despite this initial protective coating, those springs found broken exhibited advanced stages of corrosion. The factors which caused the spring corrosion are undetermined.

Bergen-Paterson has recommended that corrosion susceptible accumulator spring coils be replaced with teflon coated or stainless steel coils during the next refueling shutdown.

Action to be Taken by Licensees:

For all power reactor facilities with an operating license or a construction permit:

1. If you have received the enclosed Bergen-Paterson letter addressing the accumulator spring problem, and if you have these units installed or in ready spares at your facility, it is requested that you describe what corrective action you have taken or plan to take to assure that the operability of snubbers in safety related systems is not impaired. It is also requested that you describe the condition of any springs that were observed during the performance of the corrective action.

2. If you have not received the enclosed Bergen-Paterson letter, it is requested that you describe what action you plan to take if the subject snubbers are installed or in ready spares at your facility to assure that the operability of snubbers in safety related systems is not impaired.
3. If the snubbers are currently installed in safety related systems, it is requested that you identify their location in your response to this bulletin.
4. Report in writing within 45 days for facilities with an operating license and within 60 days for facilities with a construction permit, your plan of action and schedule with regard to Items 1 and 2. Reports should be submitted to the Director of the appropriate NRC Regional Office and a copy should be forwarded to the NRC Office of Inspection and Enforcement, Division of Reactor Operations Inspection, Washington D. C. 20555.

Approved by GAO, B180225 (R0072); clearance expires 7-31-80. Approval was given under a blanket clearance specifically for identified generic problems.

Attachment:
Extract from Bergen-Paterson
letter dated April 6, 1978

Attachment

Extract from Bergen-Paterson Advisory Letter

**SUBJECT: B/P Hydraulic Snubbers
HSSA Accumulator Spring
Advisory Letter**

Gentlemen:

Bergen-Paterson advises that broken accumulator spring coils have been found in a number of early model hydraulic snubbers at the time when units were being disassembled for seal replacement purposes. The early models noted are identified as being the external pipe design having serial numbers between 487,000 and 515,000 and F60,635 through F75,000. These units were initially furnished with music wire or chrome silicone spring material both coated with a rust preventative. All later external pipe design units were initially furnished with springs having the same material as noted above; however, all coils were teflon coated. Our current model units are furnished with stainless steel coils. Both the teflon coated and stainless coils have been found to give satisfactory service.

It is specifically pointed out that a unit remains functional even with a broken spring; however, the possibility does exist that the debris from a broken spring coil could in fact cause damage to the Accumulator Piston U-Cup Seal resulting in possible leakage of fluid. The remote possibility for the Accumulator Piston to become jammed in the tube also exists although, however, this has not been experienced.

Bergen-Paterson has issued this advisement to make users aware of the possibility of broken accumulator springs and recommends that units having uncoated coils be refitted with either teflon coated or stainless steel coils at the next refueling shutdown.

Very truly yours,

BERGEN-PATERSON PIPESUPPORT CORP.

LISTING OF IE BULLETINS
ISSUED IN 1978

Bulletin No.	Subject	Date Issued	Issued To
78-01	Flammable Contact - Arm Retainers in G.E. CR120A Relays	1/16/78	All Power Reactor Facilities with an OL or CP
78-02	Terminal Block Qualification	1/30/78	All Power Reactor Facilities with an OL or CP
78-03	Potential Explosive Gas Mixture Accumula- tions Associated with BWR Offgas System Operations	2/8/78	All BWR Power Reactor Facilities with an OL or CP
78-04	Environmental Quali- fication of Certain Stem Mounted Limit Switches Inside Reactor Containment	2/21/78	All Power Reactor Facilities with an OL or CP
78-05	Malfunctioning of Circuit Breaker Auxiliary Contact Mechanism-General Model CR105X	4/14/78	All Power Reactor Facilities with an OL or CP
78-06	Defective Cutler- Hammer, Type M Relays With DC Coils	5/31/78	All Power Reactor Facilities with an OL or CP

LISTING OF BULLETINS
ISSUED IN 1978

Bulletin No.	Subject	Date Issued	Issued To
78-07	Protection afforded	6/12/78	All Power Reactor Research Reactors with an OL, all Fuel Cycle Facilities with an OL, and all Priority 1 Material Licensees
78-08	Radiation Levels from Fuel Element Transfer Tubes	6/12/78	All Power and Research Reactor Facilities with a Fuel Element transfer tube and an OL.
78-09	BWR Drywell Leakage Paths Associated with Inadequate Drywell Closures	6/14/78	All BWR Power Reactor Facilities with an OL or CP