

TECHNICAL BULLETIN

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Reference: Three Piece MSIV Stem	

Subject: Three Piece MSIV Stem Issues

Bulletin No. 10.0 08/10

PROBLEM

The three piece MSIV stem has been an issue since the original design of the MSIV. The original design incorporated a stem with a threaded on top spring seat with tack welds at the interface of the two parts. When it was discovered that the tack weld cracked, a dowel pin and then a taper pin was used to lock the two parts together. These too have failed with the result of the top spring holder coming loose and loosening the solid connection between the poppet and stem. The two pictures below illustrate the results of the parts separating.



This is not a safety issue as the valve will still close and seat tightly, but it does allow for accelerated internal wear.

SOLUTION

The solution to the problem was to manufacture the stem from a one piece forging. This eliminated the screwed and pined connection, which completely eliminates the possibility of the spring holder loosening. This redesign also incorporates the anti-rotation lugs as part of the forging, which also eliminates the past practice of welding them on the edge of the spring holder.

The appearance and shape of the new redesigned stem is identical to the old fabricated stem and the form, fit and function are unchanged.

This is now a proven design enhancement and has been in service for many years with no problems. This design is in use in most of the valves in the U.S. and is now our standard offering for the latest ABWR MSIV design.

Due to the vastly improved design of the one piece forged stem and its continued successful service life, we have decided that we will no longer manufacture or supply the three piece fabricated MSIV stem after March 31, 2007.

This decision was made when we were informed this fall that for the second outage in a row a plant found that the spring holders on their MSIVs were loose. This was discovered by the unusual stroke characteristics exhibited during valve testing which necessitated disassembly of the valves.

Should your valve still use the three piece stem assembly and you wish to continue with that design we will accept orders for them until the March deadline, therefore you must order the stems that you feel will be consumed for the life of the valve before that cut-off date.

Should you wish to change the stems in your valves to this proven design we will work with and assist you in any way possible with the engineering evaluations required completing the design change.

If you have any questions or require more information, please contact us at 978-744-5690.