MSSV

Cataldo, Paul C

From: Dignam, John M
Sent: Tuesday, November 03, 2009 5:19 PM
To: Cataldo, Paul C
Cc: Faughnan, Philip J; Dinelli, John; Anderson, Harry R
Subject: FW: MSSV Rattle

Hi Paul,

Based on communications with Engineering, the ringing of the Main steam safeties is a known, documented and monitored issue. See below.

John

From: Koutsakos, Michael
Sent: Tuesday, November 03, 2009 3:00 PM
To: Dignam, John M
Cc: Vasely, Michael J; Faughnan, Philip J; Koutsakos, Michael; Manzione, Stephen J
Subject: MSSV Rattle

John,

Rattling of the Main Steam Safety Valves (MSSVs) is a known phenomenon that is caused by flow induced vibrations of the spindle assembly. Some of the MSSVs are rattling to some degree. This condition has been documented in historical CRs. In responding to these CRs, Engineering contacted the MSSV OEM who stated that the rattling noise is not uncommon, and that it could potentially result in slight wear on the valve spindle. This slight wear would not impact the ability of the MSSV of performing its function to lift and relieve its respective Main Steam header. A possible, long term condition is that its setpoint could drift upward, however, this increase should not challenge the 3% set point range. Most of the vibration is seen at the top of the spindle. This is not uncommon since the top of the spindle is unsupported.

MS-47-2 was identified in CR IP3-2006-00434 as rattling more than other MSSVs, passed its "As-Found" surveillance test 3PT-R6A on 3/8/07. This reinforces the OEMs position that the rattling noise from the MSSVs will not adversely affect the ability of the MSSV to perform its function. After the satisfactory as-found surveillance test, MS-47-2 was disassembled during 3R14 and minor degradation of the spindle was found. The MSSVs are on an 8 year PM where they are disassembled and inspected. In addition to the 8 year PM frequency, at least 50% of the MSSVs are tested each refueling outage to verify their lift settings.

Monitoring of the MSSVs is performed by both Component & System Engineers who perform routine walk downs in the vicinity of the MSSVs. These walk downs include visual inspections as well as listening for unusual sounds that may be indicative of potential equipment degradation. In addition to the Engineering walk downs,

A-9

Operators walk down these areas on a daily basis and perform the same monitoring functions. A good example of this was captured in CR IP2-2008-01021 where an NPO noted a tapping noise emanating from MSIV MS-1-22. Investigation into this CR during 2R18 found a degraded condition internal to the valve.

Specifically, MSSVs MS-46-2 and MS-48-2 lift set points were tested on 3/6/07. Both valves passed their respective As-Found and As-Left lift set point Acceptance Criteria. They also were disassembled and inspected by procedure with the vendor during 3R15. Lapping of disc and nozzle was performed. Some indications on the spindle were found that were blended. No other issues were found and both were returned for service.

Recently performed walk downs of the MSSVs did not indicate any visible adverse wear conditions or rattling step change increases.
Michael Koutsakos

From: Dignam, John M
Sent: Tuesday, November 03, 2009 11:39 AM
To: Koutsakos, Michael
Cc: Vasely, Michael J; Faughnan, Philip J
Subject: FW: EBR & More

Hi Mike,

I am assuming you are the system engineer for main steam, please let me know if I have that wrong. Anyway the NRC (Cataldo) asked about the 'ringing' of the unit 3 safeties, specifically MS 48-2 & 46-2. After searching PCRS I was able to give him the CRs below which were all dispositioned as there is no problem, nor do I believe we have anything new going on, but I told him I'd ask engineering to follow up and have a look to make sure there is nothing new, nothing specific to 48-2 or 46-2. Please check these out at your earliest opportunity so I can get back to the NRC with it.

Thanks

John

Ref. Unit 3 CRs 2006-00434, 2007-03059 & 2008-01234