Check your 9% Chrome valves for warming lines with 316SS

Several of our clients have major valves - Main Steam Stop, Reheat, and Bypass valves that were supplied by Crane/Pacific from about 1995 to 2003 which have an ugly problem. Valves that are 9% Chrome body were supplied with small (~3/4") 316 SS warming or lift assist lines. The incompatibility in the welding interpass temperatures of these two materials makes for a faulty weld - and cracking.

The first indication some customers found was steam leaks in the heat affected zone of the weld on the valve side; and upon further investigation, they found that all of their similar valves with this weld configuration had cracks. In an emergency situation, customers have ground out the cracks and rewelded the joint. However, the only long term fix is to replace the 316 SS material with 9% Chrome.

The word is not easily spread by the valve manufacturer as they supplied valves to OEMs or EPCs without direct knowledge of the end customer. We are told Crane has recognized the problem and changed the warming line material to 9% Chrome sometime around 2003. However, the moral of the story is to check any large Crane/Pacific 9% Chrome valves that have warming or lift assist lines for material incompatibility. If you have 316 SS warming lines - a dye penetrant check at the next available opportunity should be performed.

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