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the pressure equipment safety authority

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ALERT

Worker Injured by Hot Water While Performing Hydrostatic Test

In a recent incident, a worker was injured by hot water while performing an inspection of a power boiler under hydrostatic test pressure.

When performing a hydrostatic test on a power boiler, it is important to follow the requirements outlined in the ASME Section I Code. Paragraph PG-99 of the Code requires the water temperature used to be at a minimum of 20°C (70°F). Paragraph PG-99.2 stipulates that the metal temperature of the boiler shall not exceed 50°C (120°F) while the inspection of the boiler is being performed.

We understand that it is not uncommon to use boiler feedwater to perform the hydro test. The advantages of using boiler feedwater are that it contains water treatment chemicals and that it has been heated and deaerated. However, most boiler feedwater coming from a deaerator may well be at a temperature of 113°C (235°F) or higher. This is where the concern arises.

With this alert, all are reminded that in performing a hydrostatic test of a boiler, and particularly so if boiler feedwater is used, the temperature of the water must be allowed to drop below 50°C (120°F) before performing inspections. If all necessary proper safety precautions are taken and Code provisions are complied with, the incident where the worker was injured as in this case, would not have happened! This is particularly the case when the inspections may involve entering the boiler or going under the boiler where there is restricted egress. Also it is important to ensure that the inspection is conducted after the hydrostatic test pressure has been lowered to the maximum allowable working pressure of the boiler.

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