Some Acceptable Desuperheater Spraywater Protection Device Arrangements

Administrative Jurisdiction and Technical Responsibilities

- Boiler Proper—The ASME Boiler and Pressure Vessel Code (BPVC) has total administrative jurisdiction and technical responsibility (refer to Section I Preamble).

- Boiler External Piping and Joint—The ASME BPVC has total administrative jurisdiction (mandatory certification by stamping the Certification Mark with appropriate Designator, ASME Data Forms, and authorized inspection) of Boiler External Piping and Joint. The ASME Section Committee B31.1 has been assigned technical responsibility.

- Non-Boiler External Piping and Joint—Not Section I jurisdiction (see applicable ASME B31 Code)

Note to Editor: For consistency, please change the line weight and scale for all circled lines to match that used in illustration (c) for the drain pot assembly and line entering the reheater.

Spraywater line type to be changed to dashed line to reflect NBEP as passed in 05-186.
PHRSG-YYY Desuperheater Drain Pots
Where desuperheater spray water is injected into superheater or re heater piping as a means to control steam temperature the following shall be provided:

(a) Drain pots to detect and remove unvaporized spray water shall be installed in the boiler proper or boiler external piping either upstream or downstream of the desuperheater to ensure malfunctions of these devices will not allow water to enter hot boiler components. Drain pots shall include automatic detection of water and automatic operation of the drain pot valves as shown in Fig. PHRSG-YYY. Piping from the drain pot shall conform to the requirements of PHRSG-XXX (Requirements for Superheater and Reheater Condensate Removal Connections).

(b) Drain pot connection size shall be no smaller than one NPS less than the pipe it is attached to, except it need not be greater than NPS 12 (DN 300).

(c) Drain pots, with single element level control with time delay to close, are an acceptable method of detecting and removing unvaporized spray water.

(d) Piping layouts shall be sloped in all operating conditions so that unvaporized spray water from the desuperheater can not bypass the drain pot.

(e) All desuperheater drain piping shall be routed to a blowdown or flash tank, manifold or other collection device. The collection device shall not operate at a higher pressure than the space being drained.
FIG. PHRSG-YYY SOME ACCEPTABLE DESUPERHEATER SPRAYWATER PROTECTION DEVICE ARRANGEMENTS

ADMINISTRATIVE JURISDICTION & TECHNICAL RESPONSIBILITIES

- Boiler Proper – The ASME Boiler and Pressure Vessel Code (ASME BPVC) has total administrative jurisdiction and technical responsibility (refer to Section I Preamble)

- Boiler External Piping and Joint – The ASME BPVC has total administrative jurisdiction (mandatory certification by Code Symbol stamping, ASME Data Forms, and Authorized inspection) of Boiler External Piping and Joint. The ASME Section Committee B31.1 has been assigned technical responsibility

- Non-Boiler External Piping and Joint – Not Section I jurisdiction (See applicable ASME B31 Code).

Note that spraywater line is shown dashed.