

Table 9.11: Foam Sprinkler/ Deluge/ Pourer System Requirements

ITEMS	REQUIREMENTS
11. DRAINAGE	i. Facilities shall be provided for the safe removal or retention of the largest anticipated flammable liquid spill plus the free water reaching the floor from the fixed fire protection system, as well as the discharge from hose streams.
12. PRECAUTION	<p>i. Application of foam through solid streams that plunge into the flammable liquid could result as the source of ignition of the ensuing fire. The ignitions could be because of static discharges resulting from splashing and turbulence. Therefore, any application of foam to an unignited flammable liquid should be as gentle as possible. Correct application methods include a spray pattern or banking the foam stream off a backboard so that the foam flows gently onto the liquid surface.</p> <p>ii. Foam solutions are conductive and therefore not recommended for use on electrical fires. If foam is used, a spray is less conductive than a straight stream. However, because foam is cohesive and contains materials that allow water to conduct electricity, foam spray is more conductive than water spray.</p>
13. FOAM WATER SPRINKLER, PRE-ACTION, DRY PIPE SYSTEM	<p>i. The system piping shall be hydraulically designed to obtain reasonably uniform foam and water distribution and to allow for loss of head in system piping.</p> <p>ii. Sprinkler spacing shall not exceed 9.3 m<sup>2</sup> per sprinkler.</p> <p>iii. The spacing between the branch line shall not exceed 3.7 m<sup>2</sup>.</p> <p>iv. The temperature rating of the sprinklers shall be within the range of 121°C to 149°C (250°F to 300°F) where they are located at the roof or ceiling.</p> <p>v. Where sprinklers are located at an intermediate level, the temperature rating shall be within the range of 57°C to 77°C (135°F to 170°F), unless ambient conditions require a higher rating.</p> <p>vi. A minimum of 3% foam-water solution shall be discharged.</p> <p>vii. The foam sprinkler system shall also comply with <b>Section 3.5. Wet Sprinkler System.</b></p> <p>viii. The foam pre-action sprinkler System shall also comply with <b>Section 3.7. Pre-action Sprinkler System.</b></p> <p>ix. The foam dry sprinkler system shall also comply with <b>Section 3.6. Dry Sprinkler System.</b></p> <p>x. The foam system shall have a provision for manual operation.</p>

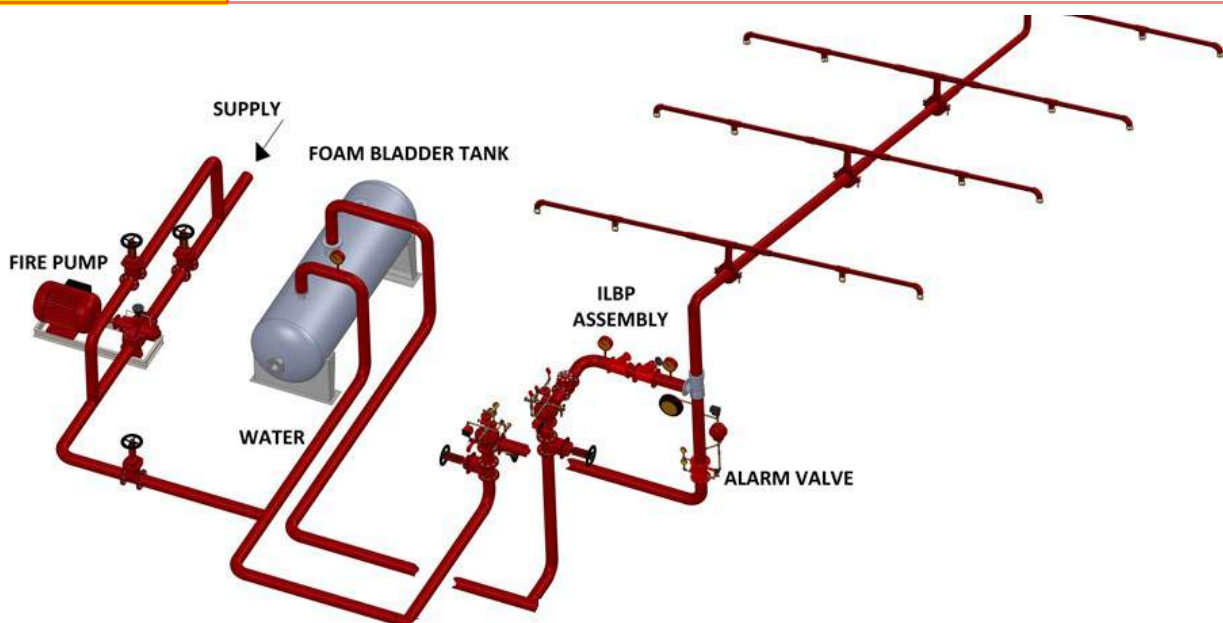


Figure 9.33.: Typical Foam Water Sprinkler System for Diesel Generator Room