



**TECHNICAL BULLETIN**

**Subject: Defence Estate Fire Mains**

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**This Technical Bulletin is to be read by the following so appropriate action can be taken:**

**1. All Designers, Installers, and maintainers of Fire Mains on the Defence Estate**

**Others interested in the content of this Safety Alert might include:**

Prime Contractors, Private Finance Initiatives, Public-Private Partnership and other traditionally procured contracts, Infrastructure Managers and Property Managers with responsibility for MOD projects and Property Management Works Services (including the legacy work of EWCs/WSMs), Health & Safety Advisors

**When it takes effect:** Immediately

**When it is due to expire:** When updated or rescinded.

Fire Safety

This Technical Bulletin does not necessarily cover all aspects of the subject matter and readers should make themselves aware of other potential issues. Readers should also not rely on DIO publications as their only means of becoming aware of safety, operational or technical issues, but they should consult widely across other media to maintain awareness.

**Aim:**

The aim of this bulletin is to ensure that the Defence Estate has suitable and safe Fire Mains Systems for asset and property protection.

**Applicable to:**

All designers and installers of fire mains of the Defence Estate

**Situation:**

Designers and installers of fire water mains for the Defence Estate are incorrectly interpreting the MoD requirement resulting in incorrect pressures/flows and hardware for MoD purposes.

**Immediate Action Required by:**

All designers and installers are to be informed immediately by the relevant Defence demanders, DIO MPP, Aquatrine and other TLBs, to ensure that systems in design or construction that fire water systems are in accordance with this TB. All future requirements must be in accordance with this TB.

**Action Required:**

Follow direction below for specific guidance in designing fire mains for the Defence Estate in conjunction with the mandated Defence Infrastructure Fire Standards (DIFS).

On the Defence Estate:

- New Fire Mains are **not to exceed 5.0 Bar** pressure at any time during use.
- Fire Hydrants should be fitted to a ring main; a spur shall only be used when approved by the DIFS Technical Authority.
- In such cases where spurs are approved, only one hydrant shall be fitted to that spur.
- Fire Hydrants shall conform to BS750 or BSEN14384.
- Fire water mains shall be sized to achieve the required flow rates in DIFS and in all cases a minimum of 100mm internal diameter on connection to the Fire Hydrant in accordance with BS9990.
- Fire Hydrant pit covers shall conform to BS EN 124 and be suitable for location and service e.g., weight loading and be designed for one-person opening without specialist equipment. Any sizes other than 380mm x 230mm standard UK size shall require approval by the DIFS Technical Authority.
- Fire Hydrants shall be located in positions to meet Defence requirements and should not be placed in roadways or loading areas where likely to be obstructed. Siting requirements should be approved by the DIFS Technical Authority at design stage in consultation with any on Site fire service
- Fire Hydrants shall be protected from frost, either situated underground or fitted with trace heating if necessary.
- Fire mains shall be supplied from town mains if suitable flow rates are available, or supplied from Site located, interconnected tanks of required and nominal equal capacity with suitable arrangements (gravity/pumps) to produce the required flow rates IAW DIFS
- Fire ring mains shall be supplied from two connections from a pump set supply for redundancy purposes
- Fire mains shall be fitted with an arrangement of isolation valves to facilitate repairs and minimise the loss of functionality and to ensure that a suitable quantity of Fire Hydrants remain in service at all times.
- Fire pump control systems shall be fitted with auto stop and reset facility when Fire Hydrant demand ceases.

- Fire pump sets are to be fitted with dry-run protection
- For tank supplied systems, unless approved by the DIFS Technical Authority as impractical, an arrangement shall be provided to minimise water consumption when the system is under test conditions (to reduce water consumption and flooding of the Estate)
- Fire pump set enclosures are to be fitted with suitably sized vents to prevent any excessive temperature build-up
- Fire pump sets should be designed to rule out single point of failure and use minimal mechanical components where possible e.g., pressure reducing valves.
- If required, electrical systems and pumps for fire mains are to be fitted IAW BS9990 Sec 6.3 (pumps for wet fire mains requirements) with enhanced flow rates IAW DIFS whilst maximum pressures are **NOT** to exceed 5.0 Bar

For further advice please contact:

DIO TS Senior Fire Safety Manager