



S A F E T Y B U L L E T I N

SERVICE PIPE RANGES

A number of recent incidents in mines have prompted the inspectorate to issue this bulletin regarding the potential for serious injury to arise during the course of work on service pipe columns.

A great deal of energy is stored in pipe ranges when they contain fluids and gases under pressure. The sudden release of pressure in pipes has the potential to cause devastating injuries to those in the area of the release point. The following practices are recommended:

- **Isolation, bleeding and checking of service lines** prior to any work being carried out on them. A sufficient number of cut-out valves and bleed valves must be placed in lines at convenient points as they are installed or extended, to enable this precaution to be carried out readily. Special precautions should be taken to ensure effective isolation and adequate bleeding where branches in the pipe range or the use of "ring-mains" may allow a line to remain pressurised from more than one source.
- **Careful checking of the integrity of joints in pipe ranges**, prior to re-pressurising of the line, in order to ensure that couplings are not damaged and seals are adequate.
- **Regular routine checks of pipe ranges** to ensure that suspension of the line is adequate to support its weight and any additional loading which may be imposed by pressure variations in the system (eg. "water-hammer" in pump lines). Where necessary, additional suspension points should be installed. Checks should be made particularly after the suspension of one line from another using "C" hooks or similar devices, or where additional services such as cables or ventilation duct may be suspended from the original pipe-hangers.
- **Restraint of pipe ranges whenever it becomes necessary to break a line**, so as to prevent the sudden and unpredictable release of tension in the line itself with consequent "springing" of the line and the possibility of workers in the area being struck by a suddenly moving pipe. This is particularly important where work is being carried out in the vicinity of a change in the direction of the pipe range.
- **Proper installation of pipe ranges** with an adequate number of correctly angled bends to accommodate changes in the direction of the pipe run.
- **Use of pipe and fittings adequately designed for the duty they are required to perform.** Damaged or badly worn pipe or fittings should not be used.

It should be remembered that the same precautions are necessary where "poly" pipe ranges are used as for metal pipe and fittings. The long lengths of "poly" pipe which are frequently installed present an additional hazard in that, should one end of a pressurised line become detached, the line (being flexible) can escape its restraints or suspension devices and snake or whip under the action of the pressurised fluid or gas which it contains in much the same way as a hose which has burst off its fittings. Given the large amounts of energy involved, the potential for injury is extreme, both from flailing pipe and from "sand-blasting" by the released fluid or gas.

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