

HEALTH & SAFETY POLICY

A) ACCESS

Only persons authorised by the Board should enter the area of the pumping station.

B) STATION ATTENDANTS

The attendants should be adequately trained and fully conversant with the safety and proper operation of the particular plant involved. Only suitably competent personnel should be allowed access to the interior of control panels except for the purpose of resetting overloads where the opened cabinet is automatically isolated (see also Electricity - Item C)vi).

Mobile attendants must carry an adequate first aid kit. They should also carry washing equipment and water (if not available at the stations they attend), as an alternative wipes and creams not requiring water may be used. A suitable fire extinguisher should also be carried in their vehicles.

Instructions and training details etc. given to the attendants should be recorded in a log book at the pumping station or an appropriate office file.

C) INSIDE THE PUMP HOUSE OR SWITCHGEAR HOUSE

- i) **Cleanliness** The building should be kept clean and tidy with plant and floor areas clear of obstructions, oil and grease.
- ii) **Insurance** Liability insurance is essential. An up to date copy of the Board's compulsory liability insurance should be readily available.
- iii) **Factories Act** Factory Act (1961) placard must be displayed if there are workshop facilities in the station.
- iv) **First Aid** At manned stations an adequate first aid kit must be provided and maintained in a readily available position clearly displayed. Employees should have received emergency first aid awareness training as a minimum.
- v) **Washing Facilities** Adequate washing and toilet facilities must be available at manned stations. Where the attendant lives in an immediately adjacent house, the house facilities will suffice if available to all concerned.
- vi) **Electricity** Posting of an electric shock resuscitation placard is recommended where electric plant is involved.

New cabinets should have all controls, including re-set buttons, located on the outside.

Use of a safe system of work is required where maintenance is undertaken inside the control panel, incorporating at least a method statement and preferably a permit to work. All control panels must be fitted with lock off devices so that power cannot be restored accidentally.

- vii) **Fire** An appropriate number of suitable fire fighting appliances must be provided and properly maintained depending on the size of the station and the type of plant involved.

All personnel must be properly instructed in the use of the fire fighting equipment provided and the course of action to be taken in the event of

a fire. Appropriate 'Tire Action' notices should be posted in a prominent position.

Smoking must be prohibited where there is a possibility of inflammable vapour being present.

- viii) **Guarding of Machinery** All moving parts such as valve gears, fly-wheels, belts, pulley wheels, shafts, shaft ends and couplings etc. must be properly guarded or enclosed in accordance with BS5304 -1975. 'Distance' fencing, if not close meshed, must be more than an arm's reach away from any moving parts and is not adequate where close access is necessary for oiling purposes etc. while the plant is in motion. Signs must be installed to warn against operation of the plant while guards are out of position and forbidding entry through 'distance' fencing while the plant is in motion. Manual starting and oiling procedures etc. must be such that there is no danger of the attendant coming in contact with any moving machinery. Hinged apertures should be provided where necessary for oiling whilst the plant is in motion, etc.

Where guards are removed for maintenance work, the power must be isolated and a safe system of work adopted.

Screw pumps are a particular hazard and each site should be carefully assessed. As a minimum it is suggested that access to the top of the screw should be protected by means of a substantial mesh screen.

- ix) **Air Vessels** Air vessels must have a test certificate and be examined by a suitably qualified engineer at intervals not exceeding 26 months but a much shorter period of, say 12 months is recommended by many inspectors in view of the high rate of corrosion which can occur. The tests and examinations must be recorded in a 'Register'.

D) OUTSIDE THE STATION BUILDING

- i) **Tidiness** The pumping station working areas and surrounds should be kept clear, clean and tidy with paths and steps etc. in good repair. Good house keeping reduces the risk of slips, trips and falls.
- ii) **Steps** Steps with a hand rail on one side should be provided for access up and down slopes.
- iii) **Drainage of Working Areas** Working areas, and in particular weedscreen decks, should be well drained to eliminate slippery conditions, ice etc. as far as possible. Properly maintained wire netting fastened down to timber decks is a cheap and effective way to eliminate the danger of slipping.
- iv) **Open Edges** Adequate protection should be provided to ensure workers and other persons are not able to fall off open edges in to the drains/watercourses or onto the ground below. Open edges, other than the weedscreen can be protected by the installation of permanent two rail Kee Klamp or similar type fencing. See also section G where members of the public have access.

Above the edge of the weedscreen a single permanent rail or removable chain approximately 0.9m high (depending on the screen design and method of clearance), together with a kicker of at least 200mm (an equivalent height raised screen will act in the same way) is suggested.

This should be considered as a minimum requirement. Each installation should be individually assessed and should circumstances dictate more stringent measures should be taken.

The single rail arrangement will normally allow unobstructed clearance of a screen manually with a rake without the necessity for the workman to wear a harness secured to a safety line. Attendants are known to ignore instructions concerning the use of harnesses while working on the open weedscreen deck and the following additional items are eliminated by the single rail arrangements :-

- a) Instruction notes re. use of harness.
- b) Temporary fencing and the inconvenience of its removal before and replacement after clearing the screen.

A single chain arrangement is suggested for easy removal and replacement if harnesses or machine clearance are used.

- v) **Escape Ladders** Escape ladders should be installed where there are deep vertical sides to intakes, discharge bays, channels etc. and there is no other readily available means of escape if someone does fall in the water. One ladder should suffice where an intake is relatively narrow. Fixed vertical ladders extending above 2m require hoops as fall arrest, unless some other fall arrest systems is in place. Grab chains should also be provided, where long lengths of retaining wall are involved.
- vi) **Life Saving Equipment** Lifebelts or throwing lines should be provided in appropriate locations.
- vii) **Ladders to Overhead Equipment** Suitably designed ladders and fixings should be provided for safe access to overhead equipment such as fuel tank filling points etc. Permanently fixed ladders with handrails are ideal at manned stations with an adequate degree of security against unofficial access but these can be a temptation to children etc.

Removable ladders should therefore be provided at unmanned and less secure installations and kept always, when not in use, under lock and key. Timber ladders should also be kept under cover where they will not deteriorate. Ladders should be inspected before use and faulty ladders replaced.

- viii) **Roofs** Pump and switchgear house roofs should be properly maintained, in particular against the ingress of water. Where roofs are fragile, appropriate warning notices should be installed advising the use of crawling boards when carrying out repairs etc.
- ix) **Lighting & Power Tools** Adequate lighting must be provided inside and out. Where vandalism is a problem low voltage portable lighting could be considered for use outside in preference to vulnerable permanent lights. Hand lamps should be operated at a maximum of 50 volts and power tools at 110 volts max. If 240 volt power tools are used residual current circuit breakers with an appropriate tripping rating must be incorporated in the circuits. All portable electrical equipment should be subjected to an annual Electrical Safety Test.

E) OVERHEAD CRANES, CHAINS, ROPES AND OTHER LIFTING TACKLE

The Board must be in possession of a test certificate for each item of lifting equipment and ensure that the mandatory examinations are carried out by an Engineer qualified to do so. Cranes, which are no longer required must be immobilised if testing is not continued.

Under the Factories Act 1961 all lifting equipment must be tested before being taken into use and after any major repair which would be likely to impair its integrity. The statutory examination requirements are as follows:-

Cranes, pulley blocks and winches etc. - after testing and every 14 months

Chains, ropes, rings, hooks, shackles etc. - after testing and every 6 months

The test and examinations must be recorded in a Register.

It is convenient to arrange testing and examinations through insurance Companies.

F) HAZARDOUS OPERATIONS & CONFINED SPACES

Confined spaces are dangerous because they may contain either toxic gas or an irrespirable atmosphere. Confined spaces should be identified and classified accordingly. Entry into a confined space should only be made by appropriately qualified employees or contractors wearing the required protective clothing. An attendant must under no circumstances carry out operations deemed to be of a hazardous nature, including the lifting of manholes or access covers, unless accompanied by a second competent person fully conversant with the necessary safety procedures involved.

Such operations are best listed on a safety notice board within the pumping station building or switchgear house and the necessary safety equipment, such a buoyancy aids (life jackets, life lines, etc.) must be available for use as the safe working procedures demand.

G) PUBLIC SAFETY

To prevent unauthorised access a secure fence with locking gates is ideal. Open edges, which are accessible to the public, should be protected by the installation of permanent two rail Kee Klamp or similar type fencing infilled with mesh panels.

Warning signs should be erected notifying the public of site hazards.

H) EXPLANATORY NOTE

The word 'must' has generally been used where there is a specific statutory requirement. The word 'should' has been used in respect of items, which are a general obligation under the Health and Safety at Work Act.