
Risk Element

- Biohazard – legionella;
- Biohazard – Bird Excrement, Weils Disease;
- Access and Egress;
- Use of Access Equipment – Mobile Scaffold, Ladders (fixed / portable);
- Falling from Height;
- Lone Working;
- Manual Handling;
- Electrical Isolation;
- Electrical Tools and Equipment;
- Confined Spaces;
- Slips and Trips;
- Spillages.

Precautions to Eliminate/Reduce Risk

- Isolate pumps and fans prior to opening;
- Use of suitable PPE i.e. mask and gloves;
- Check maintenance logs for water treatment;
- Avoid water mists emanating from towers;
- Observe good personal hygiene:
 - No eating;
 - Drinking;
 - Smoking;
 - Wash hands after contact;
- Ensure suitable access and egress to and from work area;
- If access equipment is required, ensure suitable equipment is used. Inspect before use and only competent personnel are to erect and modify mobile scaffolding;
- Use of suitable PPE .i.e. harnesses if required;
- 2 Men. Second person / site to be aware of workers location. Keep in contact with colleagues / office via mobile phone;
- Use manual handling techniques;
- Isolate units at DB board and lock off if possible. Remove fuses. Use of suitable PPE;
- Ensure adequate normal and emergency lighting is available and working in bad light. Ensure work area is kept clean and tidy and free of trip hazards;
- Any spillages to be cleaned up immediately in line with current spill procedures. Large spills to be reported to your Supervisor.

Actions in an Emergency

- Remove personnel from danger area if safe to do so;
- Engineer / site to alert service office immediately;
- Service Manager / Supervisor to inform HSQE function;
- Accident / Near Miss / Dangerous Occurrence reporting procedure to be initiated if required.

Safe Working Method

- Before works carry out a suitable “Engineers Site Risk Assessment”;
- Check site documentation for suitable records of water treatments and check date of last test / treatment to ensure that records are maintained;
- When satisfied with maintenance of water cooling tower water system isolate fans and pumps prior to opening access doors;
- Ensure that no water mists are present before accessing units;
- Wear suitable PPE as directed;
- Conditions suited to the multiplication of the Legionnaires organism are water temperatures in the range of 20 °C to 45 °C with the presence of sludge, scale, rust, algae and organic matter to provide nutrient;
- Inspect the internal surfaces of the cooling tower for signs of sludge, scale, rust, algae or organic matter. If present report finding to your Manager / Supervisor;
- Use a ‘Permit to Work’ system if employed by site.

Legionella General Information

- Legionellosis is an infection caused by the bacterium named “Legionella Pneumophila”;
- Legionella are natural inhabitants of water and can be found in lakes, streams and rivers;
- Usual symptoms of the Legionnaires disease are fever, chills and a cough. On occasions sufferers have signs of muscle aches, headaches, tiredness and loss of appetite;
- People who are most at risk of contracting Legionnaires disease are:
 - Middle ages to older people;
 - Smokers, those with existing lung diseases;
 - People with lowered immune systems;
- Means of contracting Legionnaires disease is by inhaling from a source creating breathable droplets (aerosol generation);
- The disease cannot be passed from person to person;
- The Legionella bacteria can be found in cooling towers, whirlpools, showers and humidifiers;
- Legionella Bacteria is NOT found in air cooled air conditioning / refrigeration systems.

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