

Document Owner: Manager Network Management Group Treatment Plant

## Water Treatment Plant - Hoist & Crane - Planned Maintenance

Planned maintenance procedures for inspection and maintenance on Water Treatment Plant - Hoist & Crane.

### Health & Safety and Operational Information

#### Hazard Indicators



#### Personal Protection



#### Health and Safety Information

- Health and Safety documentation.
- Working at Heights
- LOTO (Lock Out Tag Out)
- Traffic control – or site traffic management
- Induction by duty controller

#### Operation's & Maintenance Documentation

- Design drawings
- Site plans
- Previous Service Report
- Electrical control panel – line diagrams
- Isolation switches accessible and labelled

#### Emergency Procedure / Escalation

##### Emergency

- Make "Site Safe" and isolate risks to people or property with resources at hand

##### Escalate if extra resources required or problems occur!

- Escalate to Team Leader and inform of the issues faced and/or expected resources required if necessary.

#### Additional Documentation

- 3800 compliant operator
- Qualified Mechanical Fitter
- Qualified Electrician
- Qualified IQP
- SiteSafe ID
- Machinery compliant (Scissor and Snorkel Lifts)
- Portable Scaffold
- Safety procedures

### Required Skills, Competencies (Qualifications and/or Certifications)

Mechanical Fitter  
 Plant Technician/Operator  
 Electrician  
 Licensed Service Agent  
 Independent Qualified Person (IQP)

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### Standard Operating Procedure

#### Required Equipment

Equipment and Information	Details
Fully Equipped Vehicle	Ensure vehicle, plant, equipment and materials appropriate to the day's work schedule is available.
Specialist Equipment	Ensure specialist equipment required is available for utilisation.
Specialist Materials & Parts	Ensure you have loaded up all the required parts and materials required to undertake the maintenance work to be completed.
Specialist Equipment	Should specialist equipment be required.
Specialist Equipment	Safety Barriers, Safety Cones with Barrier Bar, and Hazard tape. Body harness and safety ropes & lanyards

#### Prepare to do the work

Action	Action Details
Pre Start Process	Complete the Daily Pre Start - Planning Reactive Maintenance <ul style="list-style-type: none"> <li>- Include Hazard ID</li> <li>- Include Pre-Start Tailgate Meeting</li> </ul> Undertake all tasks required in the Generic Planned Maintenance SOP.
Compliance	<b>Compliance Hoist &amp; Crane inspections</b> – All Treatment Plants, Pumping Stations and associated building or structures that have overhead cranes, gantries, hoist and monorails require inspection and maintenance enabling them to be used safely by compliant operators. All overhead cranes, gantries, hoist and monorails need to be certified and display current certificates.
Compliance	<b>Traffic Management Plan</b> - Where required, TMP to be in place prior to work starting. TMP to be accessible on site. Cones and barriers in place when working overhead inside of a building
Compliance	<b>LOTO</b> -Lock Out, Tag out when working on powered cranes or hoists.
Compliance	If working overhead, pull the control pendant up to the work site
Compliance	If working at height, use either portable scaffolding, a Scissor Lift or Snorkel Lift, inclusive of harness and lanyards. Harnesses and lanyards to be compliant and not pass expiry date
Notifications	Notify Treatment plant staff (and supervisors) prior to all crane inspections or maintenance.
Notifications	Photograph all aspects of the inspection
Organise Inspection	Organise for internal resources to perform required tasks as per PM
Organise Inspection	Organise for Service Agent to perform inspection as per PM
Organise Maintenance	Organise for Independently Qualified Person (IQP) to perform full service. As per PM

#### Perform the work

Action	Trade	Action Details
Inspect from Ground level	Mechanical Fitter and/or IQP	All Functional Mechanisms - for maladjustment interfering with proper operation, test crane functions and the controls for speed, smoothness of operation and limits of motion.
Inspect from Ground level	Mechanical Fitter or IQP	Inspect and test Limit Switches - for operation without a load on the hook. Run the gantry the full length of the building ensuring the wheels run free on the rails and that there isn't any crabbing or interference with long travel and cross travel.
Inspect from Ground level	Mechanical Fitter or IQP	Inspect and check that End Buffers, End Stops and Anti-Derailment plates are fixed correctly.
Inspect from Ground level	Mechanical Fitter or IQP	Load Hooks - for deformation and cracks Hoist or Load Attachment Chains - including end connections for excessive wear, twist, distorted or stretched links interfering with proper function.
Inspect from Ground level	Mechanical Fitter or IQP	Wire Ropes and Rope Slings - for excessive wear, broken wires, stretch, kinking, or twisting of ropes and rope slings, including End Stop connections. A torch maybe required for better visibility when looking at end stops overhead.
Inspect from	Mechanical Fitter	Check and lubricate chain drives and chain hoists. Chain links must be within a

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Ground level	or IQP	tolerance range for its size-Refer to operator's manual of the particular crane. Check end connections for installed End Stops. A torch maybe required for better visibility when looking at end stops overhead.
Inspect at Height	Mechanical Fitter or IQP	Ensure all bolted fixings have been checked with a spanner. Check all structural welds for any sign of fatigue or cracks. Welded braces and supports must be visible for inspection. Notify an Engineer of any corrosion. Scaffolding to suit the site will be required. Height safety gear to be worn and used correctly
Inspect from Ground level	Mechanical Fitter or IQP	Ensure SWL on all parts of crane, gantry and hoist are rated the same. Asset ID labels and current inspection certificate are all visible
Inspect at Height	Mechanical Fitter ,Electrician and/or IQP	Ensure all mechanical and electrical parts are in a 'Fit state of use'. E.g. Bearings, Wheels, Drive Shafts, Motor, Gearbox, Brakes, Pinions, Gears, Couplings, Keyways, Electrical Connections, Traverse Conductors, Pendant, Pendant Track, Pendant Cable and connections. Platforms, Access Ladders, Safety Handrails and Crane Rails.
Inspect at Height	Electrician and/or IQP	Electrical apparatus and signs of pitting or any deterioration of controller contractors, limit switches and pushbutton stations. Check all electrical conduits, cables and junction boxes for any damage.
Inspect from Ground level	Electrician and/or IQP	Operate the Isolation switch and try operating the crane. Ensure Isolation switch and signage is clearly visible.
Maintenance at Height	Mechanical Fitter	Grease hoist bearings, gears etc. on crane.
Maintenance at Height	IQP	Replace oil in the drive unit gearboxes as per PM or to manufacturers guidelines
Inspect at Height	Licensed Service Agent	Inspect Crane to NZ ACOP and ensure current certification is visible and located on the site