



**MECHANICAL SOP**

Issue No. 01	Rev. No: 02	Effective Date: 17.10.2017	SOP/MEC/021
Issued By: M.R		Approved By: HOD-Mechanical	
WTP WATER PUMPS			

**Scope:** Maintenance of water pump

**Responsibility:** Engineer/SH

**PPE:**

1. Safety helmet
2. Safety shoe
3. Mask
4. Safety goggles
5. Gloves

**TOOLS:**

1. Screw driver
2. spanner set
3. Pipe Wrench

**Hazard Analysis:**

**Risks associated:**

Pressurized water.

**Mitigating Measures**

Isolate all the relative valves with LOTO.

**Procedure:**

**SOP FOR MAINTENANCE OF WATER PUMP AT WTP.**

1. Pump delivery wall is to be fully closed and suction wall to be closed.
2. LOTO has to be taken from CCR and electrical departments.
3. Motor connection and earthing tables to be disconnected
4. Motor base bolts has to be removed and coupling spider to be removed.
5. Pump shaft coupling hub to be removed.
6. Pump suction and delivery line flange bolts to be removed and pump to be taken out from dismantling and inspection.



# DALMIA CEMENT (B) LIMITED – ARIYALUR



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- Remove drive end bearing, housing end covers.
- Inspect bearings and oil seal.
- Remove impeller lock nut, take out impeller and inspect and clean impeller for coatings /scale and also inspect the spacer and shaft seal for any damage.
- Remove non drive bearing housing end cover and inspect seal and bearing.
- Replace bearings, seals etc. if found defective of work out.
- Re-assemble pump elements in reverse sequence and tightened all mounting bolts.
- Do the correct alignment and inspect coupling spider, tighten all base bolts of motor.
- Clear the LOTO.
- open suction valve and take trail run of pump and slowly open delivery valve

### Emergency / Emergency Shut OFF:

- If any injury takes place, provide First aid and inform to the Safety department or Call Emergency number 3108/9865152222

### Annexure:

JSA is enclosed below / Isolation Matrix

SL N O	Activity	Isolation Matrix for Utility & General Equipment.			
		Isolation Type			
				<b>Electrical Energy</b>	<b>Other Energy</b>

8	<b>Maintenance of Water Pump</b>	Name and Tag for the Equipment	<b>Drive for the PUMP</b>					<b>Close, Drain &amp; put LOTO for all the inlet &amp; outlet</b>	<b>Priming Line</b>		
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### **JOB SAFETY ANALYSIS :( JSA)**

<b>Job Safety Analysis</b>	Job: Cooler water spray nozzle cleaning	Date: 01 – 09 - 2012	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job : Water Pump Maintenance.	Supervisor: Section Engineer	Department: Mechanical	Section: Utility	Approved by: HOD Mech.

Reqd./recommended PPE's : Safety Helmet, Safety shoe, Hand Gloves, Safety goggles. Nose mask.

Sl. No	Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What could go wrong	Corrective action
1	Drain The water in the lines	Slippery	Use Gum Shoes during working at water	Water pressure	Drain slowly.
2	Pump & Motor handling	Injury during handling the Equipment	Use proper tools & Lifting tackles	Failure of lifting tackles	Check thoroughly once again just before use also