

Occupational Profile for Mechanic (Hydro Power Plant)

Worker Behaviours		Related Knowledge and Skills	
<ul style="list-style-type: none"> ● Friendly ● Hardworking ● Physically fit ● Punctual ● Patient ● Sincere ● Safety conscious ● Team working ● Willingness to work ● Quality conscious ● Reading habit ● Technical oriented 		<ol style="list-style-type: none"> 1. Knowledge of Measurement units 2. Knowledge of Safety precautions 3. Knowledge of different Tools & Equipments 4. Knowledge of Company rules 5. Knowledge of Basic lubrication principles 6. Knowledge of Basic Material Science 7. Knowledge of Hoist mechanism 8. Knowledge of Technical signs & symbols 9. Knowledge of Machine & Equipment tolerance 10. Working Principles of motor, pump, gears, generator & turbine 11. Communication skills 12. Lathe & Grinding machine operation skills 13. Reading & Writing skills 14. Work planning skills 	
Tools & Equipments		Future Trends / Concerns	
<ul style="list-style-type: none"> ● Files (various types) ● Hammer (sizes) ● Hack saw blade ● Level gauge ● Measuring tape / scale ● Micrometer ● Pipe wrench ● Pliers ● Safety gears ● Spanners (various sizes) ● Screw drivers ● Spring balance ● Screw extractor ● Telescopic gauge ● Vernier calliper ● Angle grinding machine ● Bearing puller ● Crow bar ● Cir-clip remover ● Centre punch ● Drill machine / bit ● Height gauge ● Lathe machine ● Pulley (chain, max) ● Plum bob ● Ratchet ● Socket set ● Snip ● Torque wrench ● Thread tap & Die ● Try square 		<ul style="list-style-type: none"> ● Introduction of online vibration equipment ● Improvement in working condition ● Introduction of mechanised & sophisticated equipment ● Rise in number of mechanics ● Relevant trainings required ● Technological development 	

Endorsed by Technical Advisory Committee for Power Sector (TAC – PS) on 2nd March, 2007.

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DACUM Panel Members

Dujay
Turbine Maintenance Unit
CHPCL, Chhukha

Karma Jamtsho
Turbine Maintenance Unit
CHPCL, Chhukha

Tandin Zangpo
Turbine Maintenance Unit
CHPCL, Chhukha

Sonam
Generator Maintenance Unit
CHPCL, Chhukha

Rinchen Tshering
Generator Maintenance Unit
CHPCL, Chhukha

Kinley
Dam Maintenance Unit
CHPCL, Chhukha

DACUM Facilitator
Norbu Dema, DHR, MoLHR

Recorder
Wangda Dorji, DOS, MoLHR



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Royal Government of Bhutan

Produced for the

Training Providers, Employers, Employees,
Trainees and Interested General Public.

Developed by the

Department of Occupational Standards
Ministry of Labour and Human Resources
Thimphu

29 – 30 November 2006

ISCO – 88 Code: 3115
DOS Code: OP - 011

DUTIES		TASKS									
A	Maintain Generator	A1 Remove bearing from generator	A2 Remove generator cooler	A3 Clean bearing oil chamber	A4 Test oil / air cooler leakage	A5 Measure thrust spring length	A6 Overhaul brake jack				
B	Maintain Runner	B1 Replace runner blade	B2 Replace runner	B3 Conduct DPT (Dye Penetrate Test)	B4 Measure runner depth & profile	B5 Inspect corrosion on runner blade	B6 Grind runner blade	B7 Adjust runner-chamber gap			
C	Maintain Turbine	C1 Replace nozzle liner	C2 Replace spear tip	C3 Assemble / disassemble turbine guide bearing	C4 Replace labyrinth seal	C5 Overhaul deflector servo	C6 Overhaul nozzle servo	C7 Adjust guide vane			
D	Maintain Main Inlet valve [MIV] / Butterfly Valve [BFV]	D1 Replace service seal	D2 Dismantle bypass pipeline	D3 Overhaul MIV / BFV servo	D4 Overhaul MIV / BFV hydraulic circuit	D5 Flush sediment from pipeline	D6 Test MIV operating valve				
E	Maintain Cooling Water System	E1 Overhaul pump	E2 Lubricate bearing	E3 Test run the pump	E4 Replace co-axial valve	E5 Align pump & motor	E6 Overhaul duplex strainer	E7 Test hydraulic pressure	E8 Replace Non Return Valve	E9 Maintain heat exchangers	
F	Maintain Gates	F1 Replace spur gear	F2 Change gear oil	F3 Grease trunion bearing	F4 Change brake shoe	F5 Change steel wire rope in gate	F6 Check for cracks in turn buckle	F7 Change rubber seal	F8 Remove rust from roller	F9 Filter hydraulic oil	F10 Align hoisting mechanism
G	Maintain Diesel Generator	G1 Change air filter	G2 Change oil filter	G3 Replace O-ring in filter	G4 Change generator engine oil	G5 Change coolant	G6 Align motor & engine coupling				
H	Maintain Auxiliary Equipments	H1 Overhaul compressor	H2 Replace V-belt	H3 Maintain Hand Operated crane/ Electrical Operated crane/ gantry crane	H4 Maintain Central Grease Lubricating system	H5 Maintain screen cleaning machine	H6 Maintain oil filtration plant	H7 Maintain Air Condition plant	H8 Maintain Air dryer		
I	Observe Safety Precaution	I1 Store first aid kit	I2 Provide first aid	I3 Display safety signs	I4 Remove damaged material from site	I5 Identify right tools for right job	I6 Maintain clean work place	I7 Refer safety guide	I8 Wear safety gears	I9 Operate fire extinguisher	