



**Department of Mechanical  
Engineering  
Faculty of Industrial Technology  
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## STANDARD OPERATING PROCEDURE

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### Operation of Kaplan Turbine

Laboratory : Fluid Mechanics and Machineries \_\_\_\_\_

<b>HAZARD POTENTIALS</b>	Electric shock Cuts/Scratches
<b>PERSONAL PROTECTIVE EQUIPMENT (PPE)</b>	Eye protection (safety glasses, goggles) Glove Mask Safety shoes. First aid kit.
<b>BEFORE OPERATING THE MACHINE</b>	Ensure that the practical equipment and work area are clean, and all personal protective equipment (PPE) is worn. Sleeves must be securely rolled up. Ensure there is no damage to the electrical installation. Make sure the water level is filled to the appropriate limit.
<b>NEVER</b>	Operate the machine without wearing PPE. Ignore damaged or exposed electrical wiring. Touch the turbine while it is spinning.
<b>STEPS FOR USING THE EQUIPMENT</b>	<ol style="list-style-type: none"><li>1. Turn on the MCB (Miniature Circuit Breaker) to the ON position.</li><li>2. Unlock the Panic Switch by twisting the red knob.</li><li>3. Press Run to start the motor.</li><li>4. Press Run on the inverter.</li><li>5. Adjust the frequency on the inverter to control the motor speed.</li><li>6. Observe the Forcemeter, Pressure Gauge, and Tachometer.</li><li>7. Apply a load to the turbine shaft and analyze the data displayed.</li><li>8. Conduct data analysis according to theoretical principles.</li></ol>
<b>AFTER USE</b>	Disconnect all electrical installations. Clean and organize the machine and tools.