a. Locked rotor

b. Running overload

c. Single phasing

d. Voltage unbalance

e. High motor ambient temperature

f. Blocked ventilation

F. Thermistors have to be connected to a separate control unit that enables tripping of the motor through the starter contactor upon change of resistance of elements in the thermistor circuit beyond pre-determined value.

G. The wiring of the relay module shall be so done, that inhibit the starting of the pumps automatically even after the temperature limit sensors have cooled and re closed the circuit. The facility shall be provided in the motor control centre to reset the control circuit manually, ensuring that a proper cause of overheating has been determined and corrected prior to the restart of the pumps in auto mode.

H. Additional to the sensing of winding temperature by the thermostat, means shall be provided to monitor the bearing temperature wherever provided by manufacturer as per requirements of motor specifications

1.3.16.6 Moisture and Mechanical Seal Leakage Protection Relay

A. All pump motors shall be provided with dedicated moisture and mechanical seal leakage protection relay as recommended by the manufacturer and/or as indicated in the particular specification.

B. The moisture sensing probes detect the presence of moisture in case of failure of outer seal of the pump.

C. The probes shall also detects water in the motor chamber and provide a warning prior to the water reaching the bearing or wound stator assemblies. The sensor leads must be connected to a moisture relay equipped with contacts for alarming and tripping.

D. The moisture detection relay shall be either supplied by the pump motor manufacturer or by the Motor Control Centre Vendor. The pump manufacturer shall provide schematic diagrams and work instructions pertaining to the mounting and location of the relay.