□ Pre-Maintenance Safety Steps (Mandatory)

- ☐ Isolate power from **substation drawer**
- ☐ Apply **Lockout/Tagout (LOTO)** at substation
- ☐ Isolate **local station controller**
- ☐ Verify zero energy state using a voltage tester
- ☐ Wear appropriate **PPE**

□ 1. Visual Inspection

- ☐ Check for **physical damage**: housing, terminal box, cooling fins, fan cover, and cable gland
- ☐ Inspect for signs of **overheating**, **corrosion**, **dirt buildup**, or **oil leaks**
- ☐ Check wiring for **loose connections** or **discoloration**

□ 2. Retightening Connections

- ☐ Open terminal box and verify tightness of all terminals
- ☐ Retighten if looseness or oxidation is observed

□ 3. Continuity & Phase Resistance Test

Tool: Digital Multimeter
Procedure:

- ☐ Remove connection bars (U–V–W)
- ☐ Measure continuity across windings (U–V–W)
- ☐ Measure resistance across each phase (U–V, V–W, U–W)
- ☐ Confirm resistance values are **within ±10%** of each other
- ☐ Record measured values:

Phase Pair	Measured Resistance (Ω)
U – V	
V – W	
U – W	

□ 4. Insulation Resistance Test

Tool: Megger (500V or 1000V)
Procedure:

- ☐ Ensure motor is **completely disconnected and discharged**
- ☐ Measure resistance between windings and earth (U-E, V-E, W-E)
- ☐ Measure resistance between phases (U–V, V–W, U–W)
- ☐ Acceptable value: **> 1 MΩ**
- ☐ Record values:

Test Point	Measured Resistance (MΩ)
U – E	
V – E	
W – E	
U – V	
V – W	
U – W	

□ 5. Earth Resistance Testing

Tool: Clamp Earth Tester

- ☐ Measure and record earth resistance value:
  Measured Earth Resistance: _____ Ω
- ☐ Confirm it is **within site standard limits** (typically < 5 Ω)

□ 6. Substation Drawer – Protection & Control Circuit Test

- ☐ Test **motor overload relays** and **contactors**
- ☐ Verify **trip settings** according to motor full-load current
- ☐ If safe, simulate **fault conditions** to test protection response
- ☐ Check control circuit logic and interlocks

□ 7. Post-Maintenance Reconnection

- ☐ Remove all locks/tags only after verification
- ☐ Reconnect terminals and control wiring properly
- ☐ Restore power and test run motor
- ☐ Observe for **abnormal noise**, **vibration**, or **heat**

□ 8. Lubrication

- ☐ Check motor manufacturer's grease schedule
- ☐ Apply **correct grease type** if needed
- ☐ Wipe off excess and seal grease nipple

□ 9. Temperature and Thermal Scan (Optional if Loaded)

Tool: Infrared Thermal Camera

- ☐ Scan motor surface, bearings, and terminal box
- ☐ Record any hot spots or abnormal temperatures

□ Remarks/Findings

Signature (Technician): _____
Signature (Supervisor): _____