



Role: Solar PV Maintenance Technician



This document provides a comprehensive set of inspection, troubleshooting, and safety questions for the role of Solar PV Maintenance Technician, ensuring thorough preparation for the position.

1. Role-Specific Questions

Q: What are the primary responsibilities of a Solar PV Maintenance Technician?

A: Responsibilities include inspecting solar PV systems, performing routine maintenance, diagnosing and repairing faults, ensuring system efficiency, and adhering to safety standards.

Q: How do you ensure the optimal performance of a solar PV system during maintenance?

A: Optimal performance is ensured by cleaning panels, checking electrical connections, testing system components, and replacing damaged parts as needed.

Q: What are the common maintenance tasks for solar PV systems?

A: Tasks include panel cleaning, inspecting wiring and connections, testing inverters and batteries, and ensuring proper grounding.

2. System Inspection

Q: What steps do you follow during a solar PV system inspection?

A: Steps include visually inspecting panels for damage, checking wiring for wear or corrosion, testing electrical components, and verifying system output against expected performance.

Q: How do you identify potential issues in a solar PV system?

A: Issues are identified by monitoring system performance, conducting visual inspections, and using diagnostic tools to detect faults in electrical components.

Q: What tools do you use for inspecting solar PV systems?

A: Common tools include multimeters, clamp meters, thermal imaging cameras, and insulation testers for diagnosing faults and verifying system performance.

3. Troubleshooting & Repairs

Q: How do you troubleshoot a solar PV system with low energy output?

A: Troubleshooting involves checking for shading, inspecting panel cleanliness, testing electrical connections, and verifying inverter functionality.

Q: What steps do you take to repair a damaged solar panel?

A: Steps include assessing the extent of the damage, replacing broken glass or cells, and ensuring proper sealing to prevent water ingress.

Q: How do you resolve inverter faults in a solar PV system?

A: Resolution involves checking input and output voltages, inspecting wiring connections, resetting the inverter, and replacing faulty components if necessary.

4. Preventive Maintenance

Q: What is the importance of preventive maintenance in solar PV systems?

A: Preventive maintenance reduces the risk of system failures, extends the lifespan of components, and ensures consistent energy production.

Q: How often should solar panels be cleaned to maintain efficiency?

A: Cleaning frequency depends on the location and environmental conditions, but panels should typically be cleaned every 3-6 months to remove dirt and debris.

Q: What are the key components to check during routine maintenance?

A: Key components include solar panels, inverters, batteries, wiring, and mounting structures.

5. Safety Standards

Q: What safety precautions must be taken during solar PV system maintenance?

A: Precautions include de-energizing circuits before work, using insulated tools, wearing protective gear, and adhering to electrical and structural safety standards.

Q: How do you ensure compliance with safety standards during maintenance?

A: Compliance is ensured by following industry guidelines, using certified tools and equipment, and conducting regular safety training.

Q: What are the risks of improper maintenance in solar PV systems?

A: Risks include reduced system efficiency, component damage, electrical hazards, and shortened system lifespan.

6. Battery & Energy Storage Maintenance

Q: How do you maintain batteries in a solar PV system?

A: Maintenance involves checking charge and discharge cycles, inspecting connections, cleaning terminals, and ensuring proper ventilation.

Q: What are the signs of a failing battery in a solar PV system?

A: Signs include reduced capacity, slow charging, overheating, and visible damage to the casing or terminals.

Q: How do you safely replace a battery in a solar PV system?

A: Safety involves de-energizing the system, using insulated tools, ensuring proper polarity, and following manufacturer guidelines for installation.

7. Solar Domain Knowledge

Q: How does shading affect the performance of solar PV systems?

A: Shading reduces energy production by blocking sunlight from reaching the panels. Regular inspections and proper panel placement minimize shading impacts.

Q: What is the importance of monitoring systems in solar PV maintenance?

A: Monitoring systems provide real-time data on energy production, system efficiency, and faults, enabling proactive maintenance and troubleshooting.

Q: How do you calculate system losses during maintenance?

A: Losses are calculated by comparing actual energy output to expected performance, considering factors like shading, temperature effects, and component inefficiencies.