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	STANDARD: **NFPA 70 (National Electrical Code) & OSHA 29 CFR 1910.303**	AUDIT FREQUENCY: **Monthly Pre-Season & Operational Audit**

Farm Irrigation Pump Electrical Inspection Inspection Checklist

Operational Scope: This operational checklist establishes standardized verification protocols for agricultural irrigation pump electrical installations to prevent shock, electrocution, and pump failure. Compliance with this directive mitigates catastrophic electrical faults and ensures adherence to national electrical safety standards in wet agricultural environments.

MANDATORY PPE:	Arc Flash Face Shield (NFPA 70E), Dielectric Rubber Insulated Gloves with Leather Protectors, NFPA 70E Compliant Long-Sleeve Flame-Resistant Shirt, ANSI Z87.1 Approved Safety Glasses, ASTM F2413 Electrical Hazard (EH) Rated Steel-Toe Boots, High-Visibility Safety Vest
PREREQUISITES:	Verify adherence to Lockout/Tagout (LOTO) protocols prior to removing any control cabinet covers. | Ensure the immediate working platform is dry, free of standing water, and clear of slip or trip hazards. | Confirm functioning communication devices are present when performing standalone remote field pump checks.

MAIN DISCONNECT, ENCLOSURE & GROUNDING SYSTEMS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
1	**Outdoor Electrical Enclosure**	Enclosure is rated NEMA 4X or equivalent for wet/corrosive environments, securely latched, and free of rust penetration or insect nesting.	Warning	[ ] PASS [ ] FAIL [ ] N/A
2	**Equipment Grounding & Bonding**	Ground rod clamp, copper grounding conductor, and motor frame bonding jumpers are securely fastened, uncorroded, and mechanically sound.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A
3	**Main Disconnect Handle & Mechanism**	Disconnect switch operates smoothly without binding, clearly indicates ON/OFF positions, and accepts lockout padlocks.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A
4	**Lightning & Surge Protection**	Surge protection device (SPD) status indicator lights show normal operation with no signs of thermal degradation or cracking.	Warning	[ ] PASS [ ] FAIL [ ] N/A

CONTROL PANEL, STARTERS & WIRING INTEGRITY

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
5	**Motor Starter & Contactors**	Contactor points show no excessive pitting, carbon buildup, or arc burning; overload relays are correctly sized for motor FLA.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A
6	**Terminal Blocks & Internal Wiring**	All power and control wiring terminals are torqued to manufacturer specifications with no signs of thermal discoloration or insulation fraying.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A
7	**Control Circuit Transformers & Fuses**	Fuses match specified amperage ratings with no bypass jumpers installed; control transformer shows no signs of overheating.	Warning	[ ] PASS [ ] FAIL [ ] N/A
8	**Emergency Stop (E-Stop) & Safety Interlocks**	E-stop push button successfully trips control power instantly when engaged; pressure/flow interlocks function correctly.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A

PUMP MOTOR, CABLING & FIELD CONDITIONS

#	COMPONENT / ITEM	VERIFICATION CRITERIA & ACCEPTANCE STANDARD	SEVERITY	STATUS
9	**Submersible / Surface Motor Power Cable**	Power drop cable is free of abrasions, tension strain, cracking, or exposed conductors along its entire visible run.	Critical (Immediate Out of Service)	[ ] PASS [ ] FAIL [ ] N/A
10	**Motor Junction Box & Conduits**	Conduit fittings are watertight with proper sealing washers; motor connection box cover is tightly gasketed and secured.	Warning	[ ] PASS [ ] FAIL [ ] N/A
11	**Operational Voltage & Current Balance**	Running voltage across all three phases is within +/- 5% and current draw matches motor nameplate specifications under load.	Standard	[ ] PASS [ ] FAIL [ ] N/A

Certified Electrical Technician / Lead Operator Signature: _____	**Date / Time:** _____	**Badge / Cert #:** _____
Site Safety Supervisor / Operations Manager Sign-off: _____	**Review Date:** _____	**Audit Status:** [ ] Approved [ ] Rectify

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