PCS-9567 Power Conversion System Vulnerability Disclosure Policy

1. Introduction

NR Electric Co., Ltd. (hereinafter "the Company") formulates this summary to clarify core operation, maintenance and safety info of the PCS-9567, helping personnel grasp essentials for safe, stable equipment operation.

2. Scope

Applies to the Company’s PCS-9567 Power Conversion System, covering product overview, core functions, operation procedures, maintenance and safety precautions.

3. Product Overview

- Core Function: Acts as a flexible interface between energy storage units and the grid, enabling bidirectional AC/DC energy flow via integrated charging/discharging design.
- Key Parameters: DC voltage 1050~1500V, nominal AC output 1750kVA, max altitude 5000m (derating >3000m), operating temp -40~60℃ (derating >45℃), IP65 protection, forced air cooling, transformerless isolation.
- Compatibility: Supports lithium-ion, sodium-ion, lead-acid and lead-carbon batteries.

4. Core Functions

- Charging/Discharging Control: Supports constant current/voltage/power modes; auto-switches to constant voltage at charge/discharge end.
- Dual Modes: Free switch between "grid-following" (bidirectional grid energy exchange) and "grid-forming" (simulates virtual synchronous generator for isolated grid support).
- Grid Regulation: Impact-free soft grid-connection (THD <3%); coordinates with AGC/PMS for frequency regulation, AVC for reactive power/voltage control.
- Protection & Recording: Comprehensive protections (overvoltage/undervoltage/overcurrent/over-temperature/islanding/communication failure); fault recording in COMTRADE format.
- Communication: CAN/RS-485/RJ45/optical fiber ports; supports Modbus/IEC 61850/IEC 60870-5-103/GOOSE, delay <2ms.

5. Operation Procedures

- Grid-Following Startup: Power on upstream transformer → Close 1K MCB → Turn on NR1301 power → Power on battery → Close DC switch via EMS → Confirm no alarms/grid conditions met → Start PCS.
- Grid-Following Shutdown: Stop PCS via EMS → Open DC switch (confirm voltage 0) → Power off battery → Turn off 1K MCB → Trip HV breaker.
- Emergency Stop: Press "EMERGENCY STOP" button (for emergencies only).

6. Maintenance Requirements

- Preventive: Weekly (appearance, LEDs, air inlets/outlets); monthly (fixation, grounding); clean filters regularly; twice-yearly comprehensive check (clean components, cable insulation, grounding resistance).
- Fault Handling: Stop equipment/power off → Check components (modules, sensors, cables) per prompts; contact after-sales for unrepairable faults.

7. Safety Precautions
- Personnel: Only certified personnel allowed; trained in safety ops, first aid and safety gear (shoes, gloves, glasses, head protection) use.
- Electrical: No touch on energized terminals (DC voltage remains post-power-off); no PCB plug/unplug when energized; separate power/communication cables.
- Operation: No unauthorized parameter modification; no arbitrary AC/DC switch disconnection; no long-term overload.

8. Manufacturer Information
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