PDR-OPS-032 ICE PREVENTION SYSTEMS MAINTENANCE GUIDE

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1. PURPOSE AND SCOPE

- 1. This Ice Prevention Systems Maintenance Guide ("Guide") establis
- 2. This Guide applies to all Series X200 and X300 Units equipped with

2. DEFINITIONS

- 1. "Critical Components" means the following ice prevention system e
- a) Thermal management modules
- b) Anti-icing coating surfaces
- c) Temperature monitoring sensors
- d) Defrost activation circuits
- e) Environmental condition detectors
- 2. "Maintenance Interval" means the prescribed period between requi
- 3. "Qualified Personnel" means technicians certified by the Company

3. SAFETY REQUIREMENTS

All maintenance procedures must be performed by Qualified Person
a) OSHA Standard 1910.147 (Lock-out/Tag-out)
b) Company Safety Protocol CSP-201
c) Applicable facility-specific safety requirements
2. Required Personal Protective Equipment:
Insulated gloves rated for -40 C
- Safety glasses with side shields
ESD-compliant footwear
- Cold environment protective clothing

4. MAINTENANCE SCHEDULES

1. Daily Inspection Requirements:		
-		
Visual inspection of thermal coating integrity		
-		
Sensor calibration verification		
-		
Operating temperature log review		
-		
Ice accumulation monitoring		
-		
System diagnostic report analysis		
2. Weekly Maintenance Tasks:		

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Thermal module efficiency testing

-

Defrost cycle validation

-

Environmental seal inspection

-

Control system optimization

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Performance data backup

3. Monthly Service Requirements:

-

Complete system calibration

-

Coatinggreapplication as needed

-

Sensor replacement evaluation

-

Software update implementation

-

Comprehensive diagnostic testing

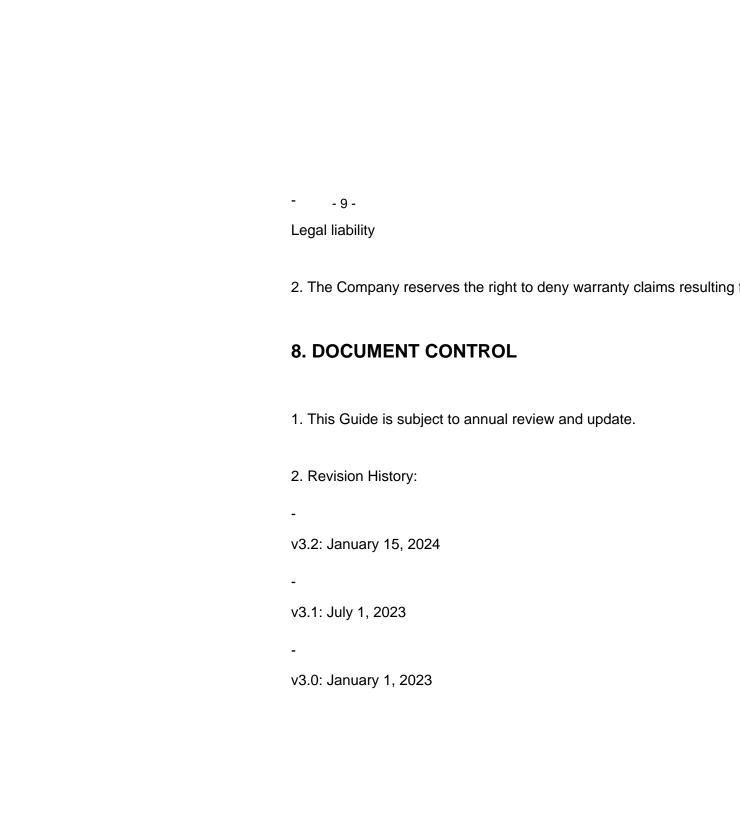
5. PROCEDURAL REQUIREMENTS

- 1. Pre-Maintenance Procedures:
- a) Verify Unit power-down sequence
- b) Document current operating parameters
- c) Secure maintenance authorization

- d) Establish controlled environment conditions
- e) Verify tool calibration status
- 2. Maintenance Execution:
- a) Follow procedure-specific checklists
- b) Record all component replacements
- c) Document calibration adjustments
- d) Maintain environmental controls
- e) Verify work quality at each step
- 3. Post-Maintenance Validation:
- a) System reactivation sequence
- b) Performance verification testing
- c) Documentation completion

d) Supe r visor sign-off
e) Return-to-service authorization
6. QUALITY CONTROL
1. All maintenance activities must be documented in the Company's N
-
Technician identification
-
Date and time of service
-
Parts utilized
-
Test results
-

Verification signatures
2. Quality assurance reviews must be conducted monthly by authorize
7. COMPLIANCE AND LIABILITY
1. Failure to follow this Guide may result in:
- Equipment damage
- Warranty invalidation
- Safety hazards
- Operational failures



9. AUTHORIZATION

This Guide is authorized and approved by:

/s/ Dr. James Barrett

Dr. James Barrett

Chief Robotics Officer

Polar Dynamics Robotics, Inc.

Date: January 15, 2024

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