OPERATIONS DOCUMENT 376

STANDARD OPERATING PROCEDURES FOR AUTONOMOUS MOBILE ROBOT DEPLOYMENT AND MAINTENANCE

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1. PURPOSE AND SCOPE

1. This Operations Document ("Document") establishes binding operational procedures and protocols for the deployment, maintenance, and decommissioning of Polar Dynamics Robotics, Inc. ("Company") Autonomous Mobile Robot ("AMR") systems in temperature-controlled environments.

2. This Document applies to all Company personnel involved in AMR operations, including but not limited to field technicians, deployment specialists, maintenance engineers, and operational supervisors.

2. DEFINITIONS

1. "IceNav System" means the Company's proprietary cold-environment navigation and operation platform.

2. "Critical Operating Temperature" means any ambient temperature below -30 C (-22 F).

3. "Deployment Zone" means any customer facility where Company AMRs are installed and operational.

4. "Thermal Management Protocol" or "TMP" means the Company's standardized procedures for maintaining optimal AMR operating temperatures.

3. DEPLOYMENT PROCEDURES

1. Pre-Deployment Assessment

a) Conduct comprehensive site survey including thermal mapping

b) Verify facility compliance with Company's Technical Specification Document 284

c) Document all thermal transition zones and temperature gradients

d) Validate IceNav System compatibility with facility layout

2. Installation Requirements

a) Follow Company's Cold Environment Installation Protocol (CEIP-2023)

b) Calibrate thermal sensors according to Specification Sheet 147

c) Install redundant emergency stop systems at prescribed intervals

d) Verify charging station thermal management systems

4. MAINTENANCE PROTOCOLS

1. Scheduled Maintenance

a) Perform weekly diagnostic scans of IceNav System

b) Conduct monthly actuator performance assessments

c) Execute quarterly thermal management system calibration

d) Document all maintenance activities in Company's central database

2. Emergency Maintenance

a) Response time requirements:

- Critical failures: 2 hours
- Non-critical failures: 8 hours
- System warnings: 24 hours

b) Follow Emergency Response Protocol 92 for thermal system failures

c) Maintain minimum spare parts inventory per Appendix A

5. SAFETY AND COMPLIANCE

1. Safety Requirements

a) Maintain current safety certification for all operational personnel

b) Conduct monthly safety audits of Deployment Zones

c) Update emergency protocols quarterly

d) Document all safety incidents within 24 hours

2. Regulatory Compliance

a) Adhere to all applicable OSHA cold storage workplace standards

b) Maintain compliance with ISO 10218-2 robotic safety standards

c) Follow ANSI/RIA R15.06 safety requirements

d) Update compliance documentation annually

6. QUALITY CONTROL

1. Performance Metrics

a) Monitor and document:

- Navigation accuracy in sub-zero environments
- Battery performance at Critical Operating Temperatures
- Thermal management system efficiency
- Mean time between failures

2. Quality Assurance

a) Conduct weekly performance reviews

b) Maintain calibration records

c) Perform monthly system optimization

d) Document all quality-related incidents

7. PROPRIETARY INFORMATION

1. All procedures, specifications, and protocols contained herein constitute confidential and proprietary information of the Company.

2. Disclosure of any portion of this Document to third parties is strictly prohibited without prior written authorization from the Company's Legal Department.

8. AMENDMENTS AND UPDATES

1. This Document may be amended or updated by the Company at any time, with notice to relevant personnel.

2. All amendments must be approved by the Chief Operations Officer and Chief Technology Officer.

9. EXECUTION AND ACKNOWLEDGMENT

IN WITNESS WHEREOF, the undersigned acknowledges receipt and understanding of this

Operations Document.

Date: _

Signature: _

Name: _

Title: _

Polar Dynamics Robotics, Inc.

APPROVED BY:

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Chief Operations Officer

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