OPERATIONS DOCUMENT 391

STANDARD OPERATING PROCEDURES FOR AUTONOMOUS MOBILE ROBOT DEPLOYMENT AND MAINTENANCE

Effective Date: January 1, 2024

Document Version: 3.2

Last Updated: December 15, 2023

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 274

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 secure cloud platform

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 592 for all critical temperature events

5. SAFETY AND COMPLIANCE

1. All operations must comply with:

a) Company Safety Protocol 183

b) OSHA Cold Storage Safety Requirements

c) Customer-specific safety protocols

d) Local regulatory requirements

2. Required Safety Measures

a) Maintain emergency override capabilities

b) Test thermal failsafe systems weekly

c) Conduct monthly safety audits

d) Update safety documentation quarterly

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
- Emergency response system activation times

2. Quality Assurance

a) Conduct monthly performance reviews

b) Maintain detailed operational logs

c) Review and analyze incident reports

d) Update operational parameters based on performance data

7. DECOMMISSIONING PROCEDURES

1. Standard Decommissioning

a) Follow Company Decommissioning Protocol 472

b) Secure all proprietary software and hardware

c) Remove all Company-specific configurations

d) Document final performance metrics

8. CONFIDENTIALITY AND INTELLECTUAL PROPERTY

1. All operational procedures, protocols, and technical specifications contained herein are confidential and proprietary to Polar Dynamics Robotics, Inc.

2. This Document may not be reproduced, distributed, or shared without express written consent from the Company's Legal Department.

9. 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:

a) Chief Technology Officer

b) Chief Operations Officer

c) Chief Robotics Officer

AUTHORIZATION

APPROVED AND ADOPTED by the undersigned authorized officers of Polar Dynamics Robotics, Inc.

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Date: January 1, 2024