

OPERATIONS DOCUMENT 371

STANDARD OPERATING PROCEDURES FOR AUTONOMOUS MOBILE ROBOT DEPLOYMENT AND MAINTENANCE

Effective Date: January 1, 2024

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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 robots ("AMRs") 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 of Deployment Zone
 - b) Document all thermal zones and transition areas
 - c) Map facility layout using IceNav mapping protocols

d) Verify facility compliance with Company's Technical Specification 276-B

2. Installation Requirements

- a) Calibrate IceNav sensors for specific facility conditions
- b) Install thermal monitoring beacons at prescribed intervals
- c) Configure emergency shutdown protocols
- d) Validate wireless communication coverage throughout Deployment Zone

4. MAINTENANCE PROTOCOLS

1. Scheduled Maintenance

- a) Perform weekly diagnostic scans of IceNav System
- b) Conduct monthly physical inspection of thermal management components
- c) Calibrate sensors quarterly or after any thermal event
- d) Replace wear components according to Schedule A-1

2. Emergency Maintenance

- a) Response time requirements per severity level:
 - Level 1 (Critical): 2 hours
 - Level 2 (Serious): 4 hours
 - Level 3 (Non-critical): 24 hours
- b) Document all emergency interventions in Company's maintenance log
- c) Perform post-incident analysis within 48 hours

5. SAFETY PROTOCOLS

1. Personnel Requirements

- a) Maintain current cold-environment certification
- b) Complete Company's AMR safety training annually
- c) Wear prescribed protective equipment in Deployment Zones
- d) Carry emergency communication device at all times

2. Emergency Procedures

- a) Follow Company's Emergency Response Plan (ERP-2024)

- b) Implement immediate AMR shutdown if temperature exceeds specifications
- c) Evacuate personnel from affected areas if necessary
- d) Notify designated facility safety coordinator

6. QUALITY CONTROL

1. Performance Monitoring

- a) Track key performance indicators per Schedule B-2
- b) Conduct monthly performance reviews
- c) Document all deviations from standard operations
- d) Maintain compliance records for audit purposes

2. Documentation Requirements

- a) Maintain detailed deployment logs
- b) Record all maintenance activities
- c) Archive sensor data for minimum of 3 years
- d) Generate monthly performance reports

7. COMPLIANCE AND REPORTING

1. Regulatory Compliance

- a) Adhere to all applicable safety regulations
- b) Maintain required certifications and permits
- c) Update procedures based on regulatory changes
- d) Conduct annual compliance review

2. Internal Reporting

- a) Submit monthly operations reports to COO
- b) Report safety incidents within 24 hours
- c) Provide quarterly performance analytics
- d) Document all procedure modifications

8. PROPRIETARY INFORMATION

- 1. All information contained in this Document is confidential and proprietary to the Company.

Unauthorized disclosure is strictly prohibited.

2. This Document may not be reproduced or distributed without written authorization from the Company's Chief Operating Officer.

9. AMENDMENTS AND UPDATES

1. This Document may be amended only by written authorization from the Company's Operations Committee.

2. All amendments must be documented and distributed to relevant personnel within 5 business days.

APPROVAL AND EXECUTION

APPROVED AND ADOPTED this 1st day of January, 2024.

POLAR DYNAMICS ROBOTICS, INC.

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