

OPERATING PARAMETERS CONTRACT - ICEPACK DISTRIBUTION

Agreement No. PDR-OPC-2024-017

THIS OPERATING PARAMETERS CONTRACT (this "Agreement") is made effective as of January 15, 2024 (the "Effective Date"), by and between:

POLAR DYNAMICS ROBOTICS, INC., a Delaware corporation with its principal place of business at 2850 Arctic Way, Suite 400, Burlington, Massachusetts 01803 ("PDR" or the "Company")

1. DEFINITIONS

1 "IcePack Distribution System" means the Company's proprietary cold-environment autonomous mobile robot system, including all hardware, software, and associated components.

2 "Operating Environment" means any temperature-controlled facility where the IcePack Distribution System is deployed.

3 "Performance Parameters" means the operational specifications and requirements set forth in Schedule A.

4 "System Components" means the individual elements of the IcePack Distribution System, including but not limited to:

- (a) Cold-resistant actuators
- (b) Thermal management systems
- (c) IceNav(TM) navigation platform
- (d) Environmental sensors
- (e) Safety systems

2. OPERATING SPECIFICATIONS

1 Temperature Range

- (a) Minimum operating temperature: -40 C (-40 F)
- (b) Maximum operating temperature: +30 C (+86 F)
- (c) Temperature transition rate: 15 C per hour

2 Humidity Parameters

- (a) Operating humidity range: 10% to 95% RH, non-condensing
- (b) Maximum condensation exposure: 30 minutes

3 Floor Conditions

- (a) Maximum slope gradient: 7%
- (b) Surface texture requirements: Non-slip, sealed concrete or equivalent
- (c) Minimum coefficient of friction: 0.4

3. PERFORMANCE REQUIREMENTS

1 Navigation Accuracy

- (a) Positional accuracy: 25mm in standard conditions
- (b) Path deviation tolerance: 50mm
- (c) Obstacle detection range: 5 meters

2 Payload Specifications

- (a) Maximum payload capacity: 1,500kg
- (b) Load distribution requirements: Even distribution within 80/20 ratio
- (c) Center of gravity height: 1.2 meters

3 Operating Speed

- (a) Maximum speed: 2.0 meters per second
- (b) Minimum speed: 0.1 meters per second
- (c) Acceleration/deceleration rate: 0.5 m/s

4. SAFETY PROTOCOLS

1 Emergency Systems

- (a) Emergency stop activation time: 100ms
- (b) Minimum sensor redundancy: Triple redundancy
- (c) Backup power duration: 30 minutes

2 Collision Avoidance

- (a) Primary detection zone: 3 meters

- (b) Secondary detection zone: 1.5 meters
- (c) Minimum stopping distance: 0.5 meters

3 System Monitoring

- (a) Health check frequency: Every 100ms
- (b) Data logging requirements: All parameters recorded at 1Hz
- (c) Remote monitoring capability: Required 24/7

5. MAINTENANCE REQUIREMENTS

1 Scheduled Maintenance

- (a) Level 1 inspection: Every 500 operating hours
- (b) Level 2 service: Every 2,000 operating hours
- (c) Full system overhaul: Every 10,000 operating hours

2 Component Replacement

- (a) Actuator replacement: Every 5,000 hours or as indicated
- (b) Sensor calibration: Every 2,000 hours
- (c) Battery replacement: Every 3,000 cycles

6. COMPLIANCE AND CERTIFICATION

1 Required Certifications

- (a) CE Marking
- (b) UL 3100 Certification
- (c) IP65 Rating for external components
- (d) ISO/TS 15066 Compliance

2 Testing Requirements

- (a) Pre-deployment validation: 100 hours minimum
- (b) Environmental stress testing: 48 hours
- (c) Safety system validation: Weekly

7. WARRANTY AND LIMITATIONS

1 The Company warrants that the IcePack Distribution System will perform within the specified parameters when operated in accordance with this Agreement.

2 This warranty shall be void if:

- (a) The system is operated outside specified parameters
- (b) Unauthorized modifications are made
- (c) Maintenance requirements are not met
- (d) Damage occurs due to operator error

8. TERM AND TERMINATION

1 This Agreement shall remain in effect for the operational lifetime of the IcePack Distribution System unless terminated earlier pursuant to Section 8.2.

2 The Company may terminate this Agreement upon:

- (a) Breach of operating parameters
- (b) Safety protocol violations
- (c) Unauthorized system modifications

9. GOVERNING LAW

1 This Agreement shall be governed by and construed in accordance with the laws of the State of Delaware, without giving effect to any choice of law or conflict of law provisions.

IN WITNESS WHEREOF, the parties have executed this Operating Parameters Contract as of the Effective Date.

POLAR DYNAMICS ROBOTICS, INC.

By:

Name: Dr. Elena Frost

Title: Chief Executive Officer

Date: January 15, 2024

SCHEDULE A

[Detailed Performance Parameters Matrix]

[Not included in this document]