PDR-INV-2024-031: Critical Parts Inventory Management Protocol

Polar Dynamics Robotics, Inc.

Effective Date: January 15, 2024

Document Version: 1.0

1. PURPOSE AND SCOPE

1. This Critical Parts Inventory Management Protocol ("Protocol") establishes mandatory procedures and controls for the management of mission-critical components used in the manufacture and maintenance of Polar Dynamics Robotics, Inc.'s ("Company") autonomous mobile robot systems designed for sub-zero environments.

2. This Protocol applies to all Company facilities, employees, contractors, and suppliers involved in the procurement, storage, handling, and deployment of critical parts designated under Section 3 herein.

2. DEFINITIONS

1. "Critical Parts" means components essential to the core functionality of the Company's autonomous mobile robots, including but not limited to:

a) Proprietary cold-resistant actuators

b) Thermal management system components

c) IceNav(TM) sensor arrays

d) Mission-critical control boards

e) Specialized low-temperature lubricants and sealants

2. "Minimum Stock Level" means the predetermined quantity of each Critical Part that must be maintained in inventory at all times to ensure continuous manufacturing operations.

3. "Safety Stock" means the additional buffer inventory maintained above the Minimum Stock Level to account for supply chain disruptions, demand fluctuations, and lead time variations.

3. CRITICAL PARTS DESIGNATION AND CLASSIFICATION

1. The Company's Engineering and Operations departments shall maintain and regularly update the Critical Parts Master List ("CPML"), which must include:

a) Part number and description

b) Criticality classification (A, B, or C)

c) Lead time requirements

d) Approved suppliers

e) Minimum Stock Level and Safety Stock requirements

2. All parts designated as Critical Parts must undergo annual review and re-certification by the Chief Robotics Officer or their designee.

4. INVENTORY MANAGEMENT REQUIREMENTS

1. Monitoring and Reporting

a) Daily inventory level monitoring for all Class A Critical Parts

b) Weekly inventory level monitoring for Class B Critical Parts

c) Monthly inventory level monitoring for Class C Critical Parts

d) Real-time automated alerts when inventory falls below Safety Stock levels

2. Storage Requirements

a) Critical Parts must be stored in temperature-controlled environments meeting specifications detailed in Appendix A

b) Access to Critical Parts storage areas shall be restricted to authorized personnel

c) Implementation of FIFO (First-In-First-Out) inventory management system

d) Regular audits of storage conditions and compliance with handling procedures

5. SUPPLIER MANAGEMENT

1. The Company shall maintain at minimum two (2) qualified suppliers for each Critical Part where technically and commercially feasible.

2. Supplier Qualification Requirements:

a) ISO 9001:2015 certification

b) Demonstrated financial stability

c) Successful completion of Company's supplier audit program

d) Execution of supply agreement including quality requirements

6. CONTINGENCY PLANNING

1. The Company shall maintain and regularly update contingency plans for:

a) Supply chain disruptions

b) Quality issues requiring part quarantine

c) Unexpected demand spikes

d) Supplier bankruptcy or force majeure events

2. Quarterly review and testing of contingency plans shall be conducted by the Operations department.

7. COMPLIANCE AND AUDIT

1. The Quality Assurance department shall conduct quarterly audits of compliance with this Protocol.

2. Audit findings shall be reported to the COO and Chief Robotics Officer within 15 business days of completion.

8. PROTOCOL MAINTENANCE

1. This Protocol shall be reviewed and updated annually or more frequently as required by:

a) Changes in manufacturing processes

b) New product introductions

c) Regulatory requirements

d) Risk assessment findings

9. ENFORCEMENT

1. Failure to comply with this Protocol may result in disciplinary action up to and including termination of employment or supplier relationships.

APPROVAL AND EXECUTION

APPROVED AND ADOPTED by the undersigned duly authorized officers of Polar Dynamics Robotics, Inc. on January 15, 2024.

Dr. Elena Frost

Chief Executive Officer

Sarah Nordstrom

Chief Operating Officer

Dr. James Barrett

Chief Robotics Officer

REVISION HISTORY

Version 1.0 - January 15, 2024 - Initial Protocol Implementation

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