Implementation Timeline - FreezePack Storage Integration

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1. Purpose and Scope

This Implementation Timeline document ("Timeline") outlines the planned deployment schedule and integration milestones for Polar Dynamics Robotics, Inc.'s ("PDR") FreezePack Storage solution at customer facilities. This Timeline serves as the master schedule template for all FreezePack Storage implementations and may be modified based on specific customer requirements through written amendment.

2. Implementation Phases

2.1 Pre-Implementation (Weeks 1-2)

- Site survey and environmental assessment
- Facility mapping and digital twin creation
- Network infrastructure evaluation
- Temperature zone identification and validation
- Initial IceNav calibration parameters setup
- Safety protocol documentation review

2.2 Phase I - Infrastructure Preparation (Weeks 3-4)

- Installation of charging stations in designated zones
- Network connectivity enhancement implementation
- Environmental sensors deployment
- Emergency stop system installation
- Thermal monitoring system setup
- Navigation beacon placement and calibration

2.3 Phase II - System Integration (Weeks 5-6)

- AMR deployment and initial programming
- IceNav system configuration

- WMS integration testing
- Temperature monitoring system validation
- Safety system verification
- Initial route mapping and optimization

2.4 Phase III - Testing and Validation (Weeks 7-8)

- Comprehensive system testing in all temperature zones
- Performance validation under various load conditions
- Emergency response protocol verification
- Integration testing with existing facility systems
- User acceptance testing
- Safety compliance verification

3. Key Milestones and Deliverables

3.1 Documentation Deliverables

- Site readiness assessment report
- Network infrastructure modification plan
- Safety compliance documentation
- Standard operating procedures
- Training materials and user guides
- System validation reports

3.2 Technical Milestones

- Successful completion of cold environment stress testing
- Achievement of 99.9% navigation accuracy in sub-zero conditions
- Integration with customer WMS completed and verified
- All safety systems tested and certified
- Training program completed for facility personnel
- System performance metrics meeting or exceeding specifications

4. Timeline Dependencies

4.1 Customer Requirements

- Facility access during implementation hours (0600-1800)
- Network infrastructure meeting minimum specifications
- Completion of required facility modifications
- Availability of designated personnel for training
- Access to WMS API endpoints
- Necessary permits and approvals obtained

4.2 Environmental Conditions

- Stable temperature conditions during calibration
- Minimum floor condition requirements met
- Adequate lighting in all operational areas
- Proper ventilation systems functioning
- Clear navigation paths maintained

5. Risk Management

5.1 Implementation Risks

- Temperature fluctuation impact on calibration
- Network connectivity interruptions
- Integration complications with legacy systems
- Personnel availability constraints
- Equipment delivery delays
- Regulatory compliance issues

5.2 Mitigation Strategies

- Redundant system architecture implementation
- Backup calibration protocols
- Alternative network connectivity options
- Flexible scheduling options
- Local inventory of critical components
- Regular stakeholder communication

6. Quality Assurance

6.1 Testing Requirements

- Full system performance testing in all temperature zones
- Load capacity verification
- Navigation accuracy validation
- Safety system functionality verification
- Integration testing with all connected systems
- User interface validation

6.2 Acceptance Criteria

- System uptime exceeding 99.5%
- Navigation accuracy within 5mm tolerance
- Temperature operating range compliance
- Safety system response time under 100ms
- WMS integration latency under 200ms
- All regulatory requirements met

7. Legal Notices

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8. Approval and Authorization

APPROVED AND ACCEPTED:

Polar Dynamics Robotics, Inc.

By:

Name: Katherine Wells

Title: Chief Financial Officer

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Customer Acknowledgment:

By:

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