

# PDR-OPS-035 ARCTIC INSTALLATION SITE PREPARATION GUIDE

## PDR-OPS-035 ARCTIC INSTALLATION SITE

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### 1. PURPOSE AND SCOPE

- 1. This Site Preparation Guide ("Guide") establishes mandatory requirements for the preparation and installation of PDR BlueCore(TM) autonomous systems in Arctic environments.
- 2. This Guide applies to all PDR BlueCore(TM)-enabled autonomous systems and personnel involved in the installation process.

- a) Cold storage facilities
- b) Arctic industrial facilities
- c) Outdoor logistics yards in extreme cold regions
- d) Temperature-controlled pharmaceutical warehouses
- e) Frozen food processing facilities

## **2. DEFINITIONS**

- 1. "Installation Zone" means the designated operational area where P
- 2. "Critical Infrastructure" means essential support systems including
- 3. "Thermal Envelope" refers to the controlled temperature zone when
- 4. "Site Certification" means the formal approval process conducted b

### **3. PRE-INSTALLATION REQUIREMENTS**

#### **1. Environmental Assessment**

- a) Temperature mapping of installation zone over 72-hour period
- b) Humidity and condensation analysis
- c) Floor surface temperature gradient measurement
- d) Air flow pattern documentation
- e) Structural load capacity verification

#### **2. Infrastructure Verification**

- a) Dedicated 480V 3-phase power supply with N+1 redundancy
- b) Emergency power backup system rated for -50 C operation
- c) Category 6A shielded ethernet cabling with cold-rated jacket
- d) Minimum 1 Gbps network backbone

- e) UPS systems with cold-start capability

## **4. SITE PREPARATION SPECIFICATIONS**

### **1. Floor Surface Requirements**

- a) Maximum slope gradient: 1.5%
- b) Minimum concrete thickness: 150mm
- c) Surface flatness tolerance: FF35/FL25
- d) Anti-slip coating with minimum 0.6 coefficient of friction
- e) Thermal break isolation from subgrade

### **2. Charging Station Infrastructure**

- a) Minimum 2.5m x 2.5m dedicated space per station
- b) 100mm raised platform with cable management system

- c) Local emergency power cutoff within 3m
- d) Temperature-monitored ventilation system
- e) Fire suppression coverage

## **5. SAFETY AND COMPLIANCE**

### **1. Emergency Systems**

- a) Emergency stop stations at 15m intervals
- b) Automated fire detection and suppression
- c) Emergency lighting rated for -50 C
- d) Backup communication system
- e) Emergency personnel refuge areas

### **2. Regulatory Compliance**

- a) Local building codes and permits
- b) Electrical safety certifications
- c) Fire marshal approval
- d) Insurance underwriter requirements
- e) OSHA workplace safety standards

## **6. VALIDATION AND CERTIFICATION**

- 1. Pre-Installation Testing
  - a) Power quality analysis
  - b) Network latency verification
  - c) Environmental control system testing
  - d) Emergency system functional testing
  - e) Floor load capacity validation

## 2. Site-Certification Process

- a) Documentation review
- b) Physical inspection
- c) Systems integration testing
- d) Safety protocol verification
- e) Final approval signoff

## 7. LEGAL DISCLAIMERS

- 1. This Guide contains confidential and proprietary information of Polara.
- 2. Compliance with this Guide does not guarantee system performance.
- 3. PDR reserves the right to modify these requirements based on site conditions.

## **8. DOCUMENT CONTROL**

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## **9. APPROVAL**

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