## PDR-OPS-017 PRODUCTION LINE WINTERIZATION GUIDELINES

# **PDR-OPS-017 PRODUCTION LINE WINTERIZ**

Effective Date: January 15, 2024

**Document Version: 3.1** 

**Classification: Confidential - Internal Use Only** 

#### 1. PURPOSE AND SCOPE

- 1. This document establishes mandatory guidelines and procedures for
- 2. These guidelines apply to all production facilities operated by the C

#### 2. DEFINITIONS

- 1. "Critical Temperature Threshold" (CTT): The minimum temperature
- 2. "Winterization Period": The period between October 15 and March
- 3. "BlueCore(TM) Components": Proprietary cold-resistant navigation

#### 3. PRODUCTION LINE REQUIREMENTS

- 1. Temperature Control Systems
- 3.1.1. Primary HVAC systems must maintain ambient temperature be
- 3.1.2. Backup heating systems must activate automatically if primary

2 - 3.1.3. Temperature monitoring devices must be calibrated quarterly
2. Material Storage
- 3.2.1. Cold-sensitive components must be stored in temperature-cont
3.2.2. Lithium-ion batteries must be maintained at temperatures abov
3.2.3. Thermal insulation materials must be stored according to manu
4. WINTERIZATION PROCEDURES
1. Pre-Winter Preparation
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4.1.1. Complete facility inspection by September 15 annually
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4.1.2. Test all heating systems and backup generators
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4.1.3. Verify integrity of building insulation and seals
2. Daily Operations
4.2.1. Monitor temperature logs every 4 hours
4.2.2 Maintain detailed records of any temperature evaluations
4.2.2. Maintain detailed records of any temperature excursions
4.2.3. Implement corrective actions within 30 minutes of any CTT viol
5. QUALITY CONTROL MEASURES

1. Testing Requirements
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5.1.1. Conduct cold-start testing on all BlueCore(TM) components
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5.1.2. Perform thermal cycling tests on finished AMR units
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5.1.3. Document all test results in the quality management system
2. Non-Conformance Handling
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5.2.1. Quarantine any products exposed to temperatures below CT
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5.2.2. Conduct full inspection of affected production batches
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5.2.3. Obtain Quality Director approval before releasing quarantined

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## 6. EMÉRGENCY RESPONSE

1. In the event of heating system failure:
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6.1.1. Activate backup heating systems immediately
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6.1.2. Notify Facility Manager and Production Supervisor
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6.1.3. Implement emergency production shutdown if temperature can
2. Documentation Requirements
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6.2.1. Record all emergency incidents in facility log
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6.2.2. Submit incident reports within 24 hours

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6.2.3. Maintain records for minimum of 3 years

### 7. TRAINING AND COMPLIANCE

1. Personnel Requirements

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7.1.1. All production staff must complete winterization training annual

7.1.2. Maintain current training records for all relevant personnel

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7.1.3. Conduct quarterly emergency response drills

2. Audit Procedures

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7.2.1. Conduct monthly internal audits during Winterization Period
- 7.2.2. External audit required annually
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7.2.3. Address audit findings within 14 days
8. DOCUMENT CONTROL
This document is controlled by the Quality Management System.
2. Reviews and updates must be approved by:
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<ul><li>2. Reviews and updates must be approved by:</li><li>Chief Operations Officer</li></ul>
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- Chief Operations Officer
- Chief Operations Officer

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**Facility Manager** 

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APPROVAL AND VERSION CONTROL

Document Owner: Sarah Nordstrom, COO

Last Review Date: January 10, 2024

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Approved by:

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Sarah Nordstrom

**Chief Operations Officer** 

Date: January 15, 2024

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