

PDR-OPS-016 COLD ROOM TESTING FACILITY OPERATIONS MANUAL

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Classification: CONFIDENTIAL - Internal Use Only

1. PURPOSE AND SCOPE

1. This Operations Manual ("Manual") establishes the standard operating procedures for the Cold Room Testing Facility.
2. This Manual applies to all personnel conducting testing, maintenance, and safety protocols within the facility.

2. DEFINITIONS

1. "BlueCore(TM) Testing Zone" refers to the designated -40 C to -10 C
2. "Critical Safety Systems" include emergency power systems, temperature
3. "Qualified Personnel" means individuals who have completed PDR

3. FACILITY SPECIFICATIONS

1. Temperature Zones

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Zone A: Preparation Area (18 C to 22 C)

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Zone B: Transition Chamber (-5 C to 5 C)

- - 2 -

Zone C: Primary Testing Chamber (-40 C to -10 C)

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Zone D: Extreme Testing Chamber (-60 C to -40 C)

2. Safety Systems

-

Redundant temperature monitoring systems

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Emergency power backup (capable of 72-hour operation)

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Multiple emergency exits with panic hardware

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Two-way communication system in all chambers

-

Visual and audible alarm systems

4. OPERATING PROCEDURES

1. Pre-Entry Requirements

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Complete daily facility inspection checklist (Form PDR-OPS-016A)

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Verify functioning of all Critical Safety Systems

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Ensure proper personal protective equipment (PPE) availability

-

Confirm minimum two-person team presence

2. Testing Protocol

a) Robot Preparation

-

Execute pre-test checklist (Form PDR-OPS-016B)

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Verify BlueCore(TM) system initialization

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Confirm battery charge levels exceed 85%

b) Chamber Entry Sequence

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Acclimate in Zone B for minimum 15 minutes

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Verify communication systems

-

Log entry in facility management system

3. Emergency Procedures

-

Immediate evacuation if temperature variance exceeds 3 C

-

Follow Emergency Response Plan PDR-SAF-103

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Contact Facility Manager and Safety Officer

5. MAINTENANCE AND CALIBRATION

1. Scheduled Maintenance

-

Daily system checks per Schedule A

-

Weekly calibration of temperature sensors

- - 6 -

Monthly emergency systems testing

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Quarterly full facility shutdown and inspection

2. Documentation Requirements

-

Maintain maintenance logs for 3 years

-

Record all calibration activities

-

Document any system anomalies

-

Update digital facility management system

6. SAFETY PROTOCOLS

1. Personal Safety Requirements

-

Mandatory use of approved cold-weather PPE

-

Maximum exposure times per Zone (Schedule B)

-

Regular vital sign monitoring

-

Buddy system enforcement

2. Equipment Safety

-

Robot emergency shutdown procedures

- - 8 -

Battery thermal management protocols

-

Tool and equipment certification requirements

7. COMPLIANCE AND DOCUMENTATION

1. Required Records

-

Daily operation logs

-

Temperature monitoring data

-

Personnel entry/exit records

-

Incident reports

-

Maintenance records

2. Regulatory Compliance

-

OSHA cold stress guidelines

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EPA refrigerant management requirements

-

State-specific safety regulations

8. REVISION AND CONTROL

1. This Manual shall be reviewed annually and updated as necessary

2. All revisions must be approved by:

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Chief Technology Officer

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Facility Manager

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Safety Officer

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Quality Assurance Manager

9. AUTHORIZATION

This Manual is hereby authorized and made effective as of January 1,

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''' - 12 -

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PDR-OPS-016-V3.2

