



## FESHM 5032.3: TRANSPORTING GASES IN BUILDING ELEVATORS

### Revision History

| Author            | Description of Change   | Revision Date |
|-------------------|---|---------------|
| Michael Geynisman | <p>Incorporated comments from experts and includes minor editorial changes.</p> <ol style="list-style-type: none"><li>1. Remove “fully empty” condition from definition</li><li>2. Include “all dewars” in scope</li><li>3. Remove list of dewar types</li><li>4. Added “personnel not permitted to ride in elevator with dewars”</li><li>5. Restricted number of dewars in elevator to two at a time</li><li>6. Included requirements for properly parking the cart where dewar is seated</li><li>7. Added a statement related to no stopping at intermediate floors</li></ol> | December 2013 |
| Akadiy Klebaner   | <p>Incorporated comments from experts and includes minor editorial changes.</p> <ol style="list-style-type: none"><li>1. Changed Division/Section to Division/Section/Center</li><li>2. Changed Laboratory Safety Committee to FESHCom</li></ol>  | February 2011 |



## TABLE OF CONTENTS

|     |                                     |   |
|-----|-------------------------------------|---|
| 1.0 | INTRODUCTION.....                   | 2 |
| 2.0 | DEFINITIONS.....                    | 2 |
| 3.0 | RESPONSIBILITIES.....               | 2 |
| 4.0 | PROCEDURE FOR CRYOGENIC DEWARs..... | 2 |
| 4.1 | Scope.....                          | 2 |
| 4.2 | Inspection.....                     | 2 |
| 4.3 | Moving the dewar.....               | 3 |
| 5.0 | PROCEDURES FOR GAS CYLINDERS.....   | 3 |
| 5.1 | Scope.....                          | 3 |
| 5.2 | Moving the cylinders.....           | 3 |



## 1.0 INTRODUCTION

Transporting cryogenic dewars and room temperature gas cylinders in enclosed building elevators could be hazardous to passengers under certain conditions. This chapter defines procedures to be used for this operation at Fermilab.

## 2.0 DEFINITIONS

A building elevator is an enclosed car which has only a fan for ventilation when the door is closed.

Platform lifts with no sides or roof are not included in this chapter.

## 3.0 RESPONSIBILITIES

The Division/Section/Center head who controls the operation using the dewar or gas cylinder is responsible for carrying out the requirements of this chapter. The Cryogenic Safety Subcommittee will serve the Division/Section/Center head as consultant in all matters concerning this chapter. The ESH&Q Section shall audit divisions/sections for compliance to this chapter.

## 4.0 PROCEDURE FOR CRYOGENIC DEWARS

### 4.1 Scope

This procedure is to be followed when transporting all dewars, whether open or closed mouthed dewars, in enclosed elevators.

Open-flask style dewars are not to be used for transporting liquid in elevators.

### 4.2 Inspection

Before a dewar is placed on the elevator, it is to be inspected for the following:

- a. No frost, sweating, or venting of dewar contents may be present to transport a dewar.
- b. The pressure building valve(s) must be closed on any dewar transported in an elevator.
- c. The pressure of any dewar to be loaded into an elevator must be less than 1/2 of the pressure setting of the dewar's main relief valve.



### 4.3 Moving the dewar

The dewar must be moved according to the following:

- a. Personnel is not permitted to ride in elevator with dewars.
- b. Not more than two dewars may be moved on an elevator at a time.
- c. Transport of cryogenics in the Wilson Hall elevators is prohibited except by explicit written permission from Fermilab ESH&Q Director. The ESH&Q Director approval is documented by his/her signature on a written Hazard Analysis for the transportation of a dewar(s) in the Wilson Hall elevators.
- d. A dewar must not be removed from its transporting cart. If a dewar is transported seated in the cart, then the cart must be properly parked inside the elevator car.
- e. The elevator must be programmed not to stop or open the doors before it reaches the destination floor. Authorized personnel must be the first at the destination floor to enter the elevator car.

## 5.0 PROCEDURES FOR GAS CYLINDERS

### 5.1 Scope

This procedure is to be used for moving all gas cylinders in enclosed elevators.

### 5.2 Moving the cylinders

- a. Gas cylinders to be moved must have the valve cap securely in place.
- b. Gas cylinders must be moved on a cylinder cart. The cylinders shall be belted or chained to the cylinder cart.