

## North Dakota Fumigation Management Plan Intermediate to Large Operations – Rail Cars

This plan is developed to help operations fumigating railcars to comply with fumigation regulations established by the state of North Dakota. It does not address every possible fumigation-related situation. Include any specific steps or information relevant to this railcar fumigation event.

Developed for:

Business name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

City, ST, zip: \_\_\_\_\_

### Owner/Responsible Manager

Name: \_\_\_\_\_

Day phone: \_\_\_\_\_

Night phone: \_\_\_\_\_

Cell phone: \_\_\_\_\_

Pager: \_\_\_\_\_

Email: \_\_\_\_\_

### Certified Applicator

Name: \_\_\_\_\_

Certification no. \_\_\_\_\_

Exp. Date: \_\_\_\_\_

Day phone: \_\_\_\_\_

Night phone: \_\_\_\_\_

Cell phone: \_\_\_\_\_

Pager: \_\_\_\_\_

### Emergency Information

Local Police: \_\_\_\_\_ (or 911)

Local Fire: \_\_\_\_\_ (or 911)

Local ER: \_\_\_\_\_

Local Ambulance: \_\_\_\_\_ (or 911)

County Emergency Management: \_\_\_\_\_

**ND Dept. of Ag 701-328-2231**

**Chemtrec: 1-800-424-9300**

**Poison Control: 1-800-222-1222**

# FMP Checklist for Railcar Fumigation Compliance

## A. Preparation and Planning

1. Read and review relevant literature and product information:
  - Is another Fumigation Management Plan in place?
    - No
    - Yes, reviewed: Date \_\_\_\_\_
  - MSDS (Material Safety Data Sheet)
    - Product label and applicator (or product) manual
      - Reviewed: Date \_\_\_\_\_
    - Other relevant material
      - None
      - Respiratory equipment instruction
        - reviewed: Date \_\_\_\_\_
      - Gas detection equipment instruction
        - reviewed: Date \_\_\_\_\_
      - SCBA equipment instruction, if applicable
        - reviewed: Date \_\_\_\_\_
2. Obtain or develop a drawing of the railcar layout, and attach it to this FMP document, to be used as part of the FMP to verify measurements and to make site-specific notes. If the following notations do not exist on the plan, make note of the location of:
  - Doors, windows, hatches, and vents that will need to be sealed and/or secured to prevent entry
3. Inspect the railcar for its suitability for fumigation, and consult with previous FMPs and other records for any changes to the car.
  - Doors, windows, hatches, and vents can be made sufficiently airtight to perform a safe and effective fumigation.

## Personnel

4. The person responsible for the fumigation will be:
  - licensed in the Fumigation category through the NDSU Pesticide Program, under the North Dakota Department of Agriculture
  - Physically present during the application of the fumigant and for the initial opening of the fumigated structure.
  - Other fumigation personnel will be trained in fumigation procedures
  - Specialized training is documented in employees file.

Name \_\_\_\_\_

- Certified fumigation applicator
- Trained applicator
- Detector training
- SCBA training
- Medically approved as per OSHA
- Fit tested
- Trained on respiratory equipment

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**Safety**

5. Personal Safety Equipment for fumigators

- Safety equipment has been properly maintained, and serviced according to manufacturer requirements
  - Dry, cotton gloves
  - Individual respirators
  - Gas detectors
  - SCBA units

6. Safety of People not involved in fumigation

- If the railcar adjacent to, or somehow connected or within another structure not scheduled for fumigation, the following steps will be taken to ensure there will be no unsafe exposure to fumigant:
  - Connections will be sealed off using polyethylene sheeting, tape
  - Gas readings will be taken at the start of each work shift in occupied adjacent and/or connected areas, and readings recorded on Appendix 3
  - Gas readings will be taken in adjacent and/or connected areas at intervals of \_\_\_\_\_hours while adjacent areas are occupied, and recorded on Appendix 2
  - Continuous electronic monitoring of gas levels will be conducted by means of (specific device): \_\_\_\_\_
  - Supplying workers with gas-detecting devices

Other

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7. Emergency Response Procedures

- o Those involved in this fumigation have been informed of the **Emergency Response Procedures** listed here:

- Evacuate the immediate area of the release of fumigant
- Monitor gas concentrations and put on respiratory equipment as needed
- Cordon off area, approximately 100 feet around the point of release, with “Danger” tape and attach fumigant placards to tape
- Report any accident and/or incidents related to fumigant exposure to:

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- the established meeting area for all personnel in case of an emergency is:

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- 8. Submit the “Official Notification of Fumigation” (Appendix 1) 24 hours prior to the fumigation to the Fire Chief, unless otherwise notified by the fire department. Record the signature of the Fire Chief/ Authorized Personnel on this form.
- 9. Notify the receiver of the railcar that the car has been fumigated and is in transit. (Appendix 4, or similar form)

## B. Fumigation

1. What is the commodity to be fumigated?

- Raw agricultural product
- Feed

Condition of commodity:

- Moldy
- Infested, if so, what pests \_\_\_\_\_

Volume of commodity:

- \_\_\_\_\_ cu ft
- \_\_\_\_\_ bu

Previous treatment of commodity:

- No
- Product \_\_\_\_\_
- Date \_\_\_\_\_

2. Exposure time calculations

Fumigant to be used: \_\_\_\_\_

Commodity (or empty car) temperature: \_\_\_\_\_ °F or \_\_\_\_\_ °C

Minimum fumigant exposure at measured temperature: \_\_\_\_\_ hours.

Fumigation start: day \_\_\_\_\_, date \_\_\_\_\_, time \_\_\_\_\_

Anticipated fumigation end: day \_\_\_\_\_, date \_\_\_\_\_, time \_\_\_\_\_

Total down time (incl. time for sealing, fumigant exposure, aeration, and testing):

Day \_\_\_\_\_, date \_\_\_\_\_, time \_\_\_\_\_ until Day \_\_\_\_\_, date \_\_\_\_\_, time \_\_\_\_\_

Commodity moisture: \_\_\_\_\_%

Deactivation method planned: \_\_\_\_\_

3. Dosage considerations: *(note: refer to product manual or label for appropriate range of dosage)*

Size of railcar to be fumigated: \_\_\_\_\_ cu ft or \_\_\_\_\_ bu.

Labeled rate: \_\_\_\_\_/1000 cu ft or \_\_\_\_\_/1000 bu.

Amount of product required by label or manual:

_____ pellets	_____ Fumi-cels
_____ flasks of 1660 pellets each	_____ Fumi-strips
_____ tablet prepacks	_____ pounds of Eco2Fume®
_____ Magtoxin prepacks	_____ other _____

4. Sealing Procedures

- Mark, on FMP, all doors, windows, and hatches to be fumigated that must be sealed. Sophisticated electronic equipment (panel boards, computers) must be isolated from phosphine gas to prevent potential corrosion damage.
- If the railcar has been fumigated before, review the previous FMP for sealing information.
- Prepare the railcar for the fumigation and complete the required sealing.

5. Placarding and Locking

- Placards contains the following information:
    - “Danger/Peligro”
    - Skull and crossbones
    - Date and time fumigation begins and ends
    - Fumigant product name and EPA registration
    - Name, Address, 24-hour phone number for applicator
  - Secure placards on doors, hatches, and ladders (mark with ‘P’ on FMP drawing)
  - Secure a copy of the FMP, including label and product manual to side of railcar.
  - Safety “boots” or “clamshells” on doors to which unauthorized personnel may have keys (mark with ‘B’ on FMP drawing)
  - Other (describe) \_\_\_\_\_
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6. Monitoring - Safety Monitoring

- Detection equipment necessary for monitoring gas levels and clearing fumigated areas is available and calibrated, if necessary.
- Detector tubes have not expired
- Conduct phosphine gas monitoring in areas to prevent excessive exposure and to determine where exposure may occur. Document where monitoring occurred and what the gas concentrations were (see Appendix 2).
- Monitoring for fumigant levels during fumigation documented on Appendix 2
  - Fumigant levels will be monitored using

\_\_\_\_\_

*(identify gas detection device)*

- at intervals of \_\_\_\_\_ hrs
- Check for possible leaks near the treatment site, where the guard is located, and any other critical areas around or near the fumigation site such as areas downwind from the site.
  - None detected
  - Leak locations noted on drawing and corrections noted on Appendix 3.

# Appendix 1

## OFFICIAL NOTICE of FUMIGATION

Business name \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Pesticide being used: \_\_\_\_\_

Date of application: \_\_\_\_\_

Date of aeration: \_\_\_\_\_

Certified Applicator in charge: \_\_\_\_\_  
(print name)

\_\_\_\_\_  
(sign name)

\_\_\_\_\_  
(date)

Phone # \_\_\_\_\_

Cell # \_\_\_\_\_

Pager # \_\_\_\_\_

Fire Chief/ Authorized Official \_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(date)

**Notice to Fire Chief or Authorized Official:**

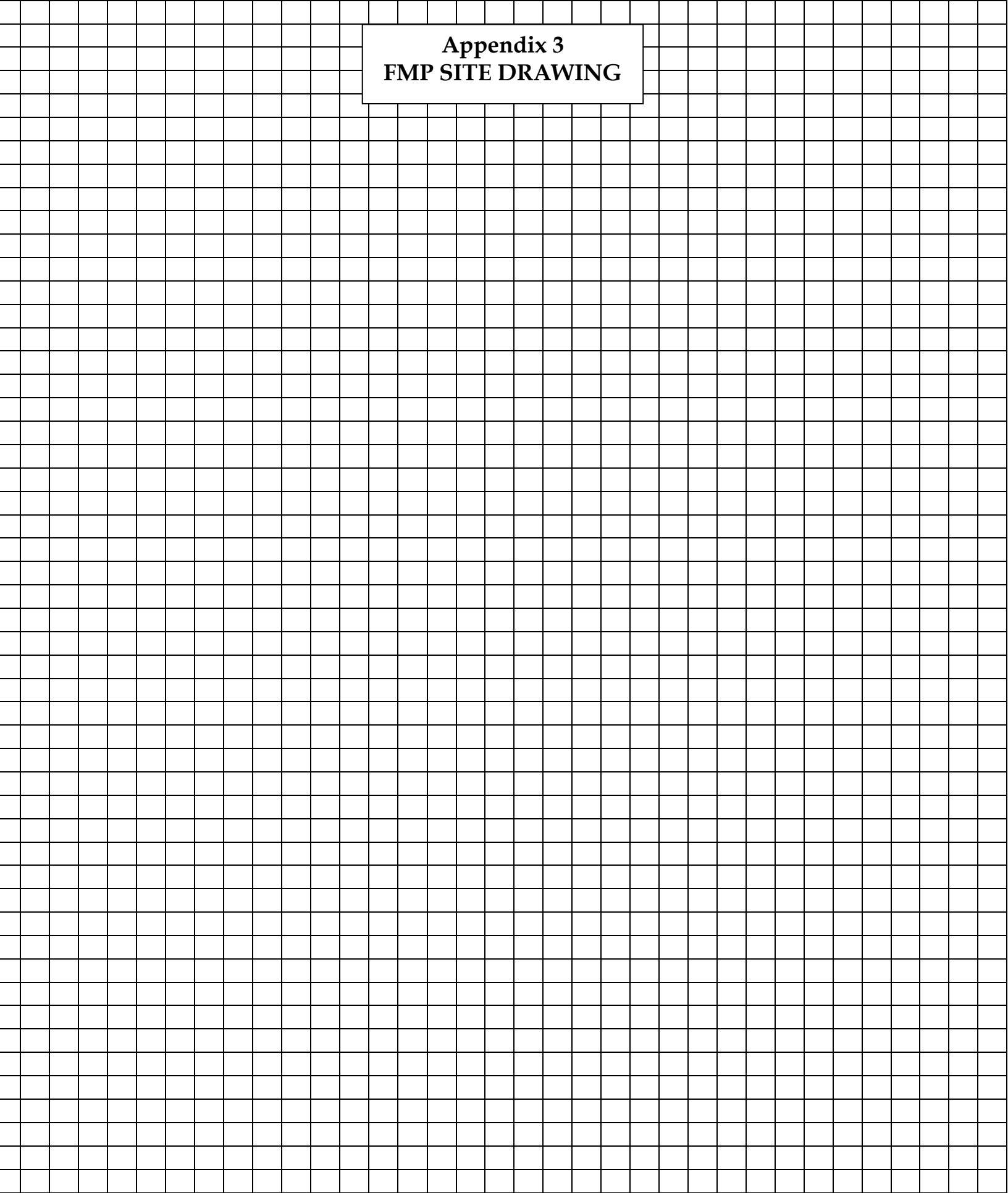
**Please return this notification via fax to the facility fumigating the railcar at:**

\_\_\_\_\_  
(fax number)





**Appendix 3**  
**FMP SITE DRAWING**



# Appendix 4

## Notice of Fumigation

North Dakota Fumigation Management Plan – Railcar

From: **Sender of fumigated railcar**

Company name \_\_\_\_\_

Certified applicator \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

FAX number \_\_\_\_\_

Email \_\_\_\_\_

To: **Receiver of fumigated railcar**

1. We have certified and trained personnel, and facilities available to properly aerate railcars and to dispose of fumigation materials.

Company name \_\_\_\_\_

Name, person responsible for aeration \_\_\_\_\_

*(print)*

\_\_\_\_\_  
*(signature\*)*

\_\_\_\_\_  
*(date)*

**\* Verifies that you have read and complied with statement 1.**

**Return via FAX, mail, or approved email to the fumigator listed above.**