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Please Refer to:
SHB08-GN001

December 2, 2016

VIA MESSENGER

Commissioner Julie Morita, M.D.
Chicago Department of Public Health
333 South State Street
Room 200
Chicago, Illinois 60604

RE: S.H. Bell Company
10218 South Avenue O
Chicago, Illinois

Request for Variation from 90 Day Compliance with Section 3.0(4) of the Air Pollution Control Rules and Regulations For Control of Emissions from the Handling and Storage of Bulk Material Piles

Dear Commissioner Morita:

As you are aware, our firm represents S.H. Bell Company ("S.H. Bell") in relation to its request for certain Variations from the City of Chicago's Rules and Regulations for Bulk Materials Storage promulgated March 13, 2014 (the "Regulations"). By way of background, S.H. Bell operates a raw material warehouse facility located at 10218 South Avenue O, Chicago, Illinois (the "Facility") which processes, stores and transfers materials such as ferroalloys, pig iron, silicon carbide, refractory products, graphite electrodes and primary nonferrous materials such as copper, zinc and aluminum, typically in ingot form. Importantly, S.H. Bell does not process, store or transfer coal, petroleum coke, or metallurgical coke.

On October 17, 2016, we received notice from the Chicago Department of Public Health ("CDPH") that S.H. Bell's Request for Variance from Section 3.0(4) of the Regulations, which requires the installation, operation, and maintenance of permanent, continuous Federal Equivalent Method ("FEM") real-time PM10 monitors around the perimeter of the Facility, was denied. Although S.H. Bell disagrees with CDPH's determination that it failed to satisfy the

requirements set forth in Sections 8.0(2) and 8.0(3)(a) of the Regulations for issuance of a variance, S.H. Bell nevertheless accepts CDPH's decision and intends to comply with Section 3.0(4) by installing the requisite FEM PM10 monitors.

However, S.H. Bell does request a modest extension of the 90-day timeframe for compliance set forth in Section 6.0(2) of the Regulations. Instead of compliance by January 17, 2017, S.H. Bell requests that compliance with Section 3.0(4) be achieved on or before March 1, 2017, a mere 43 days later. S.H. Bell proffers the following bases supporting its request for this extension.

1. The US EPA Settlement

On August 9, 2016, the United States Environmental Protection Agency ("US EPA") filed the case of *United States of America v. S.H. Bell Company*, Case No. 16-7955, in the United States District Court for the Northern District of Illinois (the "US EPA Litigation"). In the US EPA Litigation, US EPA alleged that S.H. Bell had failed to comply with US EPA's information request issued on March 4, 2015, pursuant to Section 114 of the Clean Air Act, 42 U.S.C. § 7414 ("Section 114 Request"). The Section 114 Request requested S.H. Bell to submit a plan for the installation of continuous FEM real-time PM10 air pollution monitors and Federal Reference Method ("FRM") PM10 filter-based monitors at the Facility.

S.H. Bell has engaged in substantial settlement discussions with US EPA and has a tentative agreement to fully and finally resolve the US EPA Litigation. As part of the resolution of the US EPA Litigation, S.H. Bell will agree to install, operate, and maintain four continuous FEM PM10 monitors and one FRM PM10 monitor at the Facility. The FRM PM10 monitor will operate for a period of twelve continuous months. Moreover, as part of the settlement, all five monitors are required to commence operation by the date the City of Chicago has established for S.H. Bell to comply with the Regulations, except that in no event shall S.H. Bell commence operation of the monitors later than March 1, 2017. As such, US EPA has agreed to provide S.H. Bell until March 1, 2017 to install the monitors if this commencement date is approved by CDPH.

S.H Bell requires more than 90 days to comply with the dust monitoring requirements of Section 3.0(4) of the Regulations because S.H. Bell, per its settlement with US EPA, will install not only the four FEM PM10 monitors required by the Regulations, but also a fifth FRM PM10 monitor. Moreover, per the settlement, installation of all five monitors will occur within the timeframe dictated by the CDPH.

As set forth in S.H. Bell's March 3, 2015 Responses to CDPH's January 26, 2015 Request for Additional Information, the budgetary estimate for installation, operation and data reporting of four continuous FEM PM10 monitors is $137,000 with annual estimated operating costs of $75,000 to $100,000. A true and correct copy of the budgetary estimate from Ambient Air Quality Services, Inc. dated April 3, 2014 is attached as Exhibit A. Installation and operation of the fifth FRM PM10 monitor will likely cost S.H. Bell an additional approximately $30-40,000, with estimated operating costs for one year which are in line with the annual estimated operating costs of the FEM PM10 monitors. This is not insubstantial for S.H. Bell, a small family-owned company, who is operating at a loss of $500,000 for 2016 and has already

allocated $1.2 million relative to enhanced dust control measures since May 2014 (inclusive of the two baghouses at Norcon and Ryerson, discussed *infra*, which are yet to be installed).

S.H. Bell requires additional time to identify an FRM PM10 monitor available for purchase or lease, allocate the necessary funds and resources for its acquisition and installation and locate an appropriate place for its and the other monitors' operation such that it does not interfere with S.H. Bell's business activities. To require S.H. Bell to install all five monitors in the same 90-day timeframe that was required for the installation of four monitors and in less time than is ultimately required by the US EPA settlement would create an unnecessary and unreasonable hardship on S.H. Bell.

By agreeing that operation of the five monitors may commence by March 1, 2017, US EPA has demonstrated its good faith belief that a brief delay in monitoring will not create a public nuisance or create any adverse impacts. By the same token, a short extension until March 1, 2017, only 43 days beyond the 90-day timeframe required by CDPH, will likewise not pose any public health risk.

2. Installation of The Norcon And Ryerson Baghouses

On April 20, 2015, S.H. Bell provided CDPH with its Fugitive Operating Program/Fugitive Dust Plan (rev. April 2015). S.H. Bell's April, 2015 Plan included the installation of stationary dust collectors or "baghouses" to be added at the truck loadout sheds located at the Facility's Norcon and Ryerson Buildings. The installation of these baghouses is designed to enhance S.H. Bell's already robust fugitive dust control measures. A true and correct copy of S.H. Bell's most updated Fugitive Operating Program/Fugitive Dust Plan (rev. December, 2015), which also includes the installation of the Norcon and Ryerson baghouses at page 4, is attached as Exhibit B.

Installation of the Norcon and Ryerson baghouses is contingent upon the issuance of a building permit from the City of Chicago. Since at least 2015, S.H. Bell, through various professionals, including architects and structural engineers, has been working with the appropriate departments within the City of Chicago to obtain the necessary building permit. However, despite S.H. Bell's best efforts, the City of Chicago Department of Buildings has yet to issue the required building permit, thereby delaying the installation of the baghouses. Communications between S.H. Bell's design professionals and the Department of Buildings' structural plan reviewer have occurred as recently as early November 2016, where the final open issue appears to be the inclusion of snow drift diagrams on the plan drawings, identifying locations and magnitude of force. Assuming this issue can be resolved quickly, the issuance of the building permit should hopefully be imminent.

In order for CDPH and US EPA to receive the most accurate monitoring data, operation of the monitors should not commence until the Norcon and Ryerson baghouses have been installed. As explained above, the delay in installation of those baghouses is due to factors outside of S.H. Bell's control and notwithstanding its good faith efforts and due diligence. An extension of the time to install and operate the monitors until March 1, 2017 will allow S.H. Bell the opportunity to secure the City of Chicago building permit and commence the installation of the Norcon and Ryerson baghouses prior to commencing operation of the monitors.

If S.H. Bell is not at least afforded additional time to secure the permitting and install the baghouses prior to commencing operation of the monitors, S.H. Bell will be highly prejudiced because monitoring and data reporting will begin before S.H. Bell has fully implemented its enhanced control measures in accordance with its revised Fugitive Dust Plan. CDPH, US EPA and S.H. Bell are all entitled to receive monitoring data that is valid and accurate on the effect of the operation of the current Fugitive Dust Plan, which includes the installation of baghouses at the two truck load out sheds.

Notwithstanding the immense benefit to all parties and the public of having the baghouses installed prior to the commencement of monitoring and S.H. Bell's efforts to effectuate that, S.H. Bell will nevertheless begin operating the monitors by no later than March 1, 2017, even if the Norcon and Ryerson baghouses are not installed by that time.

3. Extensive Dust Control Measures

A short extension of the timeline for installing and operating the monitors to March 1, 2017 is warranted because of the extensive dust control measures already in place at the Facility. Commencing in 2014, S.H. Bell has taken significant steps to enhance its dust control program at the Facility, including but not limited to:

- Purchase and use of two (2) directed wet suppression systems referred to as "monsoons" used for targeted dust control primarily at loading and unloading stations;
- Use of a brine or calcium chloride spray on roads, and in appropriate circumstances – storage piles for enhanced control of dust from roads and open areas;
- The hiring of Steve Kroon, Facility Environmental Manager, who conducts daily dust observations throughout all operating portions of the plant using EPA-approved methods;
- Purchase of a mobile baghouse for use at the Facility;
- Purchase and use of a wet sweeper truck for use on sweeping in-plant roadways and as needed, if any "track-out" to the city roadway immediately adjacent to the Facility;
- Commitment to stop handling a material referred to as "DRI" fines, the last inbound shipment of which was received at the Facility on June 3, 2014 (there are no more DRI fines material at the Facility);

- Purchase and implementation of a dry fog system, which is a water-misting system for dust control as a supplement to the monsoon units;

- Purchase and installation of a meteorological station at the Facility to identify weather conditions, including wind speed.

With the robust dust controls already in existence at the Facility, a 43 day extension of the timeframe for compliance with the dust monitoring requirements is more than appropriate.

For all of these reasons, S.H. Bell respectfully requests that it be granted a variation from the 90-day timeframe for compliance with the dust monitoring requirements of Section 3.0(4) of the Regulations and that it be permitted to install the requisite dust monitors by no later than March 1, 2017.

Please contact me with any questions or requests for additional information.

Very truly yours,

TAFT STETTINIUS & HOLLISTER LLP

Kim R. Walberg

KRW:kmm
Enclosure

cc: Jennifer Hesse, Esq. (via e-mail)
John M. Bell (via e-mail)
Scott Dismukes, Esq. (via e-mail)
Joel Lennen, Esq. (via e-mail)
Jack Guthman, Esq. (via e-mail)
Edward Kus, Esq. (via e-mail)

17721795.3

EXHIBIT A

Ambient Air Quality Services, Inc. (AAQS)
107 Hidden Fox Drive
Suite 101A
Lincoln University, PA 19352

(484)224-6218
mailbox@aaqsinc.com

Proposa

Date	Proposal No
04/03/2014	1055

Exp. Date

Ambient Air Quality Services, Inc.

Address
Eckerts/2014/TEOM Monitoring 600 Grant Street, 44th Floor Pittsburgh, PA 15219-2788

Activity	Quantity	Rate	Amount
April 2014			
• Budgetary Estimate for the installation, operation and data reporting for 4 TEOM Continuous PM10 monitors (US EPA Designated samplers)			
• Thermo Scientific 1405 Monitor System Includes: TEOM Instrument, Accessories, Pump, Consumable Pack, Accessory Package, Appropriate Tubes and Connectors and Outdoor Shelter with Tripod	4	30,000.00	120,000.00
• Mobilization and Installation	1	5,000.00	5,000.00
• Monthly Data Reports	12	1,000.00	12,000.00
		Total	$137,000.0

Other Terms and Conditions of this quotation are contained in AAQS, Inc. General Terms and Conditions of Contract which are attached and hereby incorporated into this quotation.

Accepted By

Accepted Date

EXHIBIT B

Fugitive Operating Program

S.H. Bell Co.
10218 South Avenue O
Chicago, Illinois 60617
I.D. No. 031600BWX

December 2015

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Appendices

I. Introduction

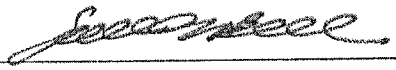
This Fugitive Operating Program has been prepared for the S.H. Bell Company (S.H. Bell Co.) Chicago Terminal, located at 10218 South Avenue O, in Chicago, Illinois, in accordance with the following regulations:

- Title 35 of the Illinois Administrative Code Part 212 (35 IAC 212):
- Subpart K – Fugitive Particulate Matter
- Subpart L, Section 324 – Particulate Matter Emissions from Process Emission Units in Certain Areas

The Fugitive Operating Program is required by 35 IAC 212.309. Applicable requirements of Subpart K and Section 324 of Subpart L are addressed in this document. This document represents an update to S.H. Bell Co.'s Fugitive Operating Program, dated August 2012.

Certification by Owner

S.H. Bell Co. is the owner/operator of the facility and responsible for execution of this Fugitive Operating Program. S.H. Bell Co. hereby certifies that all control measures, devices, and technologies have been properly calibrated and maintained, all appropriate facility staff has been trained on the proper application of and operation of all control measures, devices, and technologies.

Signature: 

Printed Name: Samuel H. Bell

Title: Vice President

Date: December 10, 2015

II. Facility Description

The S.H. Bell Co. Chicago Terminal consists of the following: an office building; an enclosed jaw crushing/screening plant and screening plant; storage buildings for packaged materials; storage buildings for primary bulk materials; a scale house; barge unloading docks and slips; maintenance shop; packing operations housed inside storage buildings and gravel-covered, landscaped and asphalt-paved areas.

The entire facility is approximately 25 acres in size with buildings and paved areas constituting more than 95% of the total area. Facility characteristics are shown on Figure 1, including approximate locations of:

- Storage piles
- Normal traffic pattern access around storage piles
- All normal traffic patterns within the source
- Location of unloading and transporting operations with pollution control equipment

The emission units/sources of fugitive emissions at the facility addressed in this Fugitive Operating Program are as follows:

- Crushing/Screening Plant and Screening Plant
- Portable Screen Boxes
- Bag Filling with Dust Collector
- Box Filling with Dust Collector
- Truck Loading/Unloading
- Barge Loading/Unloading
- Railcar Loading/Unloading
- General Material Transfer and Handling
- Roadways
- Outdoor Storage Piles

Although not specified in this list, each emission unit/source also includes associated transfer points, such as hoppers associated with box and bag filling and the crushing/screening plant. All facility operations are batch processes. The overall duration of each operation is typically based on the amount of material to be handled and may range from less than an hour to across several days.

III. Operations Summary

A. Materials and Products

Materials processed and/or stored at the facility are transported to the facility by barge, rail and truck. Typical materials handled at SH Bell Chicago include: ferroalloys, pig iron, silicon carbide, magnesite, refractory products, graphite electrodes and primary nonferrous materials such as copper, zinc, and aluminum, typically in ingot form.

Alloy materials (bulk or super sacks) unloaded are stored within bulk material storage buildings or under roof in an exterior three-sided (covered) bin prior to processing and/or reloading for customer shipment. Typical alloys include ferrosilicon, ferromanganese, silico-manganese and ferrochromium. These materials (alloys) typically cannot be watered. The maximum indoor storage capacity of these materials, including the covered bins, is around 66,000 tons. Typically, indoor storage is at 70% capacity. Figure 1 provides a facility layout which shows the location of bulk material storage buildings.

Bulk materials stored outside include aluminum ingots, pig iron, HBI and other materials (aka alloys designated by customer preference) and can generally be watered as needed. Inbound shipments of DRI fines are no longer accepted for storage or re-loading at the facility. The maximum outdoor storage capacity is around 140,000 tons. Typically, outdoor storage piles cover approximately half of the available outdoor storage area. The number, size, and composition of outdoor piles vary based on customer requirements and specifications. Figure 1 illustrates the typical location and general size of outdoor storage piles.

B. Process Operations – Bulk Materials

Some unloaded bulk and super sack material are designated for further processing, packaging or both. These process operations include batch crushing, screening, and packing operations as described in the following paragraphs.

1. Crushing and Screening
   Materials are crushed and screened according to size; smaller processed materials are placed within paved, roofed storage bins, while larger materials are placed in storage piles located adjacent to protected storage bins. Processed or stored materials are then reloaded to truck or rail, and then distributed to consumers.

   Crushing/Screening Plant – The crushing/screening plant is enclosed within a building and includes a crusher, screens, and vibrators.

   Screening Plant – The screening plant is enclosed within a building and includes a vibratory tray and screens.

   Portable Screeners - Three portable box screeners are used for screening wet materials; if dry materials are to be screened, the screeners are used inside a building or, if used outside, mobile misters or the dry fogging unit are used to control fugitive emissions.

2. Packing Operations
   Some materials are subject to further processing through boxing and bagging operations. The boxing operation is performed under roof, with fugitive emissions from the operation captured

and directed to a dedicated dust collector. The bagging operation is located inside a building, with fugitive emissions from the operation captured and directed to a dedicated dust collector.

C. Material Transfer Operations

1. Truck Loading
   Bulk truck load out operations of dry material are completed within a loadout shed or within a bulk material storage building. There are two loadout sheds, one at the Norcon building and one at the Ryerson building. Dust collectors will be added to these loadout sheds in the near future.

2. Truck Unloading
   Materials carried by in-house drayage trucks are batch unloaded within a bulk material storage building or directly to outdoor storage piles. Full size trucks from off-site are batch unloaded into three-sided steel receiving pans located outdoors. Based on the nature of the truck dumping, the material is essentially being choke fed to the ground; the driver usually has to pull forward to ensure that all material is discharged from the truck.

3. Barge Unloading
   Both bulk and super sack materials are unloaded at S.H. Bell Co.

   Bulk Unloading: Bulk unloading is completed using a large dock excavator that places a batch of material directly into trucks or dockside for bulk processing.

   Super Sack Unloading: Super sack barges may be unloaded directly to storage or at the customer's direction opened and stored as a bulk material. If opened, the material is released to a pile at the dock, with subsequent batch transfer to storage via truck. Trucks are loaded within a three-sided enclosure, and controlled by a portable dust collector.

4. Barge Loading
   On the infrequent occasions when S.H. Bell Co. loads barges, it uses an excavator to batch load the material and minimize emissions. Bulk barges are loaded with material removed from either indoor or outdoor storage. The truck containing material to be loaded will drive to the appropriate location near the barge to create a temporary pile.

5. Railcar Unloading
   Hopper style railcars are unloaded via bottom discharge into a below grade pit which functions like choke feeding. Box cars style railcars are unloaded using a skid steer. Material is moved to a temporary storage pile or directly to the final storage location.

6. Railcar Loading
   Covered hopper (CHOP) railcars are loaded with material removed from either indoor or outdoor storage. Material is choke fed from a front end loader into the hopper which then feeds the material to the covered conveyor. Open Top Hopper and Gondola style railcars are loaded directly with a bucket loader. Boxcar railcars are loaded with a skid steer.

D. Traffic Areas

Paved facility roadways are traveled by facility personnel, various types of loading equipment, and trucks. Roadways are swept and watered, with dust suppressant applied as needed. All vehicles adhere to a 5 mile per hour (mph) speed limit.

IV. Regulatory Compliance

This section provides a detailed discussion of the regulatory requirements in Subpart K and Section 324 of Subpart L that are applicable to specific operations and activities performed at S.H. Bell Co. The requirements are organized in order of primary citation first, with other applicable citations after as follows:

Section	Citation 1	Citation 2	Citation 3
A. General	212.301		
B. Storage Piles	212.304	212.316(d)	
C. Conveyor Loading	212.305	212.316(f)	
D. Traffic Areas	212.306	212.316(c)	
E. Air Pollution Control Equipment	212.324(f)		
F. Materials collected by APCE	212.307	212.313	
G. Spraying/Choke Feeding	212.308	212.316(b)	212.316(f)
H. Vehicle Covering	212.315		

In most cases, the compliance methods/best management practices used to address all noted applicable requirements for a given section (category/source type) are integrated. The following section, Best Management Practices, includes a summary of these practices and compliance methods. Table 1 contains a summary of control measures at transfer points. Appendix A contains a description of the Operating Procedures (in decision-tree format) employed at the facility to minimize fugitive dust emissions.

A. General

Requirement at 212.301: No fugitive particulate matter from any process, including material handling or storage, shall cross the property line, defined as being visible by an observer looking generally toward the zenith at a point beyond the property line of the source.

> *S.H. Bell Co. Compliance Method:* The control measures included in this revised Fugitive Operating Program prevent fugitives from leaving the property as detailed in the operating procedures in Appendix A. Visible emissions are monitored in accordance with the procedures included in the Dust Monitoring Plan section of this plan as well as Appendix A.

B. Storage Piles

Requirement at 212.304: All storage piles with more than 50 tons/year of fugitive particulate emissions shall be protected by a cover or sprayed with a surfactant solution or water on a regular basis, as needed, or treated by an equivalent method. This requirement is not applicable to specific storage piles if fugitive particulate emissions from the piles do not cross the property line either by direct wind action or re-entrainment.

Requirement at 212.316(d): Fugitive particulate matter emissions from any storage pile cannot exceed an opacity of 10%, to be measured four feet from the pile surface.

Although the storage piles at the facility do not have uncontrolled emissions of more than 50 tons/year of particulate, as a Best Management Practice, S.H. Bell Co. has elected to apply the requirements of 212.304 to piles of small particles (material of ½ inch in diameter or less) in addition to the requirements of 212.316(d).

S.H. Bell Co. Compliance Methods: Small-particle materials and smaller processed materials are primarily stored in the primary bulk material storage building or within the roofed material storage bins, which consist of three-sided, roofed, paved areas. Materials stored outdoors and which consist of particles one-half inch in size or less are sprayed daily (weather permitting) with water using a water truck until crusted and firm or tarped when no material transfer is occurring. If no fugitives are noted from any other piles (e.g., pig iron), no watering is required. Piles are not typically sprayed in the winter, unless the pile is being worked, as needed.

The following is the procedure for active piles, performed in accordance with operating procedure diagrams in Appendix A:

a. Position operations as favorably as possible
b. Dampen material as possible and/or position mobile misters and/or dry fogging system to control fugitive emissions
c. Minimize drop heights
d. Add water to area of pile being worked, if possible
e. Suspend operations pending favorable weather conditions, as necessary

This procedure applies to any outdoor pile, regardless of size, and is applicable in freezing temperatures.

S.H. Bell Company has also restricted the types of materials handled at the facility. As previously committed, inbound shipments of DRI fines will no longer be accepted for storage or re-loading at the facility.

The number, size, and composition of outdoor piles varies based on customer requirements. Figure 1 illustrates the typical location and general size of outdoor storage piles.

C. Conveyor Loading Operations

Requirement at 212.305: All conveyor loading operations to storage piles specified in 212.304 shall utilize spray systems, telescopic chutes, stone ladders, or other equivalent methods.

Requirement at 212.316(f): Fugitive particulate matter emissions from any unit with no other opacity limitation shall not exceed an opacity of 20%.

S.H. Bell Co. Compliance Method: No equipment at S.H. Bell Co. is subject to this requirement as there are no storage piles as specified in 212.304 (none meet the 50 ton/year emission threshold) and the conveyor is only used for loading hopper railcars, not to storage piles. This is only outdoor conveyor at the facility and it is covered. It also utilizes a discharge sock which is similar to a telescoping chute. Additional details

regarding the covered conveyor are included in the description of Railcar Loading/ Unloading below.

D. Traffic Areas

Requirement at 212.306: All normal traffic pattern access areas surrounding storage piles specified in 212.304 and all normal traffic pattern roads and parking facilities which are located in mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All normal traffic pattern paved roads shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on a regular basis, as needed.

Requirement at 212.316(c): Fugitive particulate matter emissions from any roadway or parking area may not exceed an opacity of 10%.

S.H. Bell Co. Compliance Method: A visual yard inspection is completed at the start of each shift and periodically throughout the day to assess conditions and prioritize daily cleaning needs. These observations allow adjustments to be made based on real-time conditions.

All paved facility roadways are observed daily during working shifts and swept as observations warrant, weather permitting, by the company-owned, mechanical-brush sweeper which is equipped with a collection hopper. In addition, after the completion of a shipment of materials, the sweeper cleans the area where the materials were stored by the end of the shift during which the shipment was completed. Material generated from sweeping will be stored in storage piles inside the Norcon building at the facility.

Paved roads are sprayed daily during working shifts, unless observed pavement condition indicates it is unnecessary and/or salt/brine solution and/or chemical suppressants are in use. Appendix B contains specifications for equipment used for spraying roads. Application equipment is equipped with a spray bar.

Frequency of watering/chemical suppressant application will be dependent upon observed conditions which will be documented in the recordkeeping logs. For example, less watering may be required in cooler, calm conditions where additional watering may be required in hot, dry conditions. All roads and ramps are also sprayed as deemed necessary by the facility manager with a dust suppressant for the purpose of reducing fugitive dust emissions caused by wind or vehicular/equipment traffic. In the winter, as necessary, salt and/or salt/brine solution will be applied to the roadways during working shifts to prevent icing while reducing any potential fugitive emissions. Only one small segment of unpaved road exits at the facility and is not used for vehicle traffic. Figure 1 illustrates the paved road traffic pattern; further detail regarding the roads is included in Appendix C which contains Sample Recordkeeping Sheets.

All vehicles entering and exiting the facility drive at the posted speed limit (5 mph) to ensure fugitive dust control. Signs are posted at the facility entrance and throughout the facility indicating the speed limit for vehicular traffic. Further, every vehicle entering and exiting the facility traverses rumble strips (two sets of rumble strips are located at the only mobile access to the facility) to prevent loose debris from being tracked into or out of the facility.

E. Air Pollution Control Equipment

Requirements at 212.324(f): For any process unit subject to 212.324(a), the owner or operator shall maintain and repair all air pollution control equipment in a manner that assures emission limits and standards will be met. Proper maintenance shall include the following minimum requirements: 1) visual inspections of air pollution control equipment, 2) maintenance of an adequate inventory of spare parts, and 3) expeditious repairs, unless the emission unit is shut down.

S.H. Bell Co. Compliance Method: There are three dust collectors at the facility – one on box-filling, one on bag-filling, and a portable dust collector that is typically used for barge unloading activities, including sack barges that are converted to bulk. Inspections of the dust collectors are performed, spare parts are maintained at the facility, and repairs, when required, are made expeditiously. To ensure continued proper operation and adequate control, inspections of control devices are performed once daily during working shifts and include several items as detailed in the Recordkeeping section of this Plan. Maintenance activities are performed as needed, in accordance with manufacturer's recommendations.

F. Materials Collected by Pollution Control Equipment

Requirement at 212.307: All unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.

S.H. Bell Co. Compliance Method: The box filling dust collector is located inside an enclosure and the bag filling dust collector is located inside a building; fugitive emissions generated by removal of material collected in the dust collectors are controlled by the building/enclosure. A portable cartridge collector is used on covered hopper railcar loading (secondary control) and sack barge unloading (primary control) operations to reduce fugitive dust emissions resulting from these operations. The portable cartridge collector has a covered screw conveyor that transports collected material into a covered drum at the end of the unit. The collection cartridges in the dust collectors are changed regularly to ensure efficient operation.

Requirement at 212.313: Particulate collection equipment emissions shall not exceed 0.03 grains/dscf. The particulate control devices have a stated efficiency of 99%.

S.H. Bell Co. Compliance Method: The dust collectors at S.H. Bell Co. meet this criteria.

G. Spraying or Choke-Feeding Required

S.H. Bell Co. has several operations that fall under these requirements, including the crusher/screener in an enclosure with wet suppressant spray, a conveyor for rail loadout with an equivalent telescoping chute, bagging and boxing operations under roof with particulate control, and truck loading operations controlled by choke feeding and misting/fogging as required. Section 212.308 applies to several operations, however, the opacity requirements for the crusher/screener (10%) are different than the opacity for the remaining operations (20%). Therefore, in addition to this section being divided by process/emission unit type, it is further divided into crushing/screening operations and all others, based on the applicable requirements.

Requirement at 212.308: Crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke feeding or be treated by an equivalent method.

Requirement at 212.316(b): Fugitive particulate matter emissions generated by the crushing or screening of slag, stone, coke or coal cannot exceed an opacity of 10%.

1. Crushing/Screening – There is a crusher/screener and a screener at the facility. A wet suppressant spray system is operated during all jaw crushing/screening operations to reduce fugitive dust emissions from the processed materials. During jaw crushing/screening activities all doors, windows, and other openings are also kept closed. Facility managers periodically inspect the jaw crushing/screening operation to ensure the dust control procedures are being used and are operating effectively.

   Three portable box screeners are used for screening wet materials; if dry materials are to be screened, these screeners are used inside a facility building or used with mobile misters or the dry fogging unit if used outside.

Requirement at 212.308: Crushers, grinding mills, screening operations, bucket elevators, conveyor transfer points, conveyors, bagging operations, storage bins and fine product truck and railcar loading operations shall be sprayed with water or a surfactant solution, utilize choke feeding or be treated by an equivalent method.

Requirement at 212.316(f): Fugitive particulate matter emissions from any unit with no other opacity limitation shall not exceed an opacity of 20%.

These requirements apply to several sources at S.H. Bell Co., compliance methods for which are discussed individually:

2. Truck Loading / Unloading – Loading operations of dry materials involving trucks are completed within a loadout shed or within a bulk material storage building, for the purpose of reducing fugitive dust emission levels. There are two loadout sheds, one at the Norcon building and one at the Ryerson building. The loadout sheds will be upgraded as necessary to allow for proper operation of a stationary dust collector which will be added at each loadout shed for control of fugitive dust. The upgrades/ installations are anticipated to be complete within thirty (30) weeks of obtaining utility service and approvals, as well as City of Chicago building and environmental permits. There is also a mandatory one-minute waiting time for trucks after loading to allow dust to settle/be captured.

   Materials stored outside which are damp are loaded outside and are dampened as needed and/or mobile misters are appropriately positioned. Facility managers are on-site during truck loading operations to ensure that proper loading methods are followed. Materials stored outdoors are loaded into trucks with a front end loader. Proper loading methods include minimizing material drop heights by placing the hinge pin of the bucket loader as near as possible to the top of the side of the truck

bed which results in the bottom portion of the bucket being inside the truck bed when the bucket is dumped. Other loading practices include determining that weather conditions are favorable, and ensuring equipment is properly operated and maintained.

For truck unloading, materials carried by in-house drayage trucks are unloaded within a bulk material storage building or directly to outdoor storage piles. Full size trucks from off-site are unloaded into three-sided steel receiving pans located outdoors in a manner which minimizes drop heights. Inbound trucks that are going to outdoor storage are not being watered unless fugitives are observed. Based on the nature of the truck dumping, the material is essentially being choke fed to the ground; the driver usually has to pull forward to ensure that all material is discharged from the truck. Fugitive emissions are minimal during material discharge. Material will be sprayed or dampened if needed, including the use of mobile misters and/or the dry fogging system, either prior to unloading or when moving to the final storage location.

3. Barge Unloading / Loading – Barge unloading operations are completed under the supervision of the facility manager to ensure that all barge unloading operations for materials that cannot be sprayed with water are completed when the wind speed is 15 miles per hour or less and that unloading operations are completed so as to minimize drop height to reduce fugitive dust emissions. If excess wind speed is observed, the facility manager will consult the on-site met station to determine wind speeds at the facility and determine if loading/unloading operations should be temporarily suspended. Materials which can be sprayed with water, such as pig iron, are sprayed with water or dampened and/or mobile misters or dry fogging system (to be procured by October 2015) is appropriately positioned prior to unloading. Materials that cannot be sprayed with water, such as ferroalloys are unloaded directly to truck beds with a large dock excavator that will adhere to unloading procedures designed to reduce fugitive particulate emissions. The excavator bucket is placed as far as possible into the truck bed being loaded, minimizing drop height and any fugitive emissions. Mobile misters and/or the dry fogging system are also used as needed in the event that additional fugitive control is required. During freezing temperatures, the dry fogging system may be used for fugitive dust control.

   When sacks are unloaded from a barge, the sack material is first released to a pile at the dock, with mobile misters or water dampening. The drop height is minimized to approximately 5 feet above the ground. Material is then moved from the pile to a truck, positioned in a three-sided enclosure, and controlled by a portable dust collector. Drop heights are minimized to the truck by placing the hinge pin of the bucket as near as possible to the top of the side of the truck which results in the bottom portion of the bucket being inside the truck bed when the bucket is dumped. Additional control may be provided by mobile misters or water dampening, as needed.

   Barge loading is a far more infrequent activity than barge unloading. On the infrequent occasions when S.H. Bell Co. does load barges, it uses an excavator to

load the material and minimize emissions. Bulk barges are loaded with material removed from either indoor or outdoor storage. The truck containing material to be loaded will drive to the appropriate location near the barge to create a temporary pile. Based on the nature of truck dumping, there is no need to minimize drop height as the material is essentially choke fed to the ground; the driver typically has to pull forward in order to ensure that all material is discharged from the truck. From the temporary pile, an excavator is utilized to scoop material from the dock and place it directly into the barge hold. The excavator is able to reach directly into the barge, minimizing drop height and any fugitive emissions. If the material is able to be dampened, it is dampened. If additional control is required or the material cannot be dampened, mobile misters and/or the dry fogging system are used during transfer activities. During freezing temperatures, the dry fogging system may be used for fugitive dust control.

4. Railcar Unloading / Loading - S.H. Bell Co. utilizes mobile misters and a dry fogging system to control fugitive dust emissions during railcar loading and unloading operations. The mobile misters and/or the dry fogging system are used during railcar loading/unloading activities; these same systems are used for control of other operations as noted in this plan. During freezing temperatures, the dry fogging system may be used for fugitive dust control.

   Railcars are unloaded via bottom discharge into a below grade pit which functions like choke feeding. There is no need to minimize drop heights as material cannot be discharged from the railcar until there is space available in the pit (choke feeding).

   Box cars are unloaded using a skid steer, with water suppression provided by mobile misters and/or the dry fogging system.

   Covered hopper (CHOP) railcars are loaded with material removed from either indoor or outdoor storage. Material is choke fed from a front end loader into the hopper, controlled by a mobile mister as needed, which then feeds the material to the covered conveyor. The conveyor is positioned to minimize the drop height from the top of the conveyor into the railcar. The conveyor height is adjustable and is set to just above the height of the railcar to allow for material transfer. Further, there is a loading spout, or sock, at the transfer point from the conveyor to the railcar which provides a similar level of control as a telescoping chute. Mobile misters or the dry fogging system is used at the transfer point to the railcar. In freezing temperatures, the dry fogging system is used with additional control, as needed from the portable dust collector.

   Open top rail cars are loaded directly with a bucket loader. Drop height is minimized by placing the hinge pin of the bucket as near as possible to the top of the side of the railcar which results in the bottom portion of the bucket being inside the railcar when the bucket is dumped. Water suppression is provided as needed by dampening the material, using mobile misters, and/or the dry fogging system.

5. Bag and Box Filling Operations – The box filling operation is performed under roof, with fugitive emissions from the operation captured and directed to a dedicated

dust collector. The bag filling operation is located inside a building, with fugitive emissions from the operation captured and directed to a dedicated dust collector. The initial drop to each operation is performed within an enclosure which provides control of fugitive emissions.

In cases where a temporary storage pile is created outdoors to facilitate loading and unloading operations, such as loading of railcars, material is dampened if possible and/or mobile misters and/or the dry fogging system is used to minimize fugitive emissions.

A summary of control measures at transfer points is included in Table 1.

H. Vehicle Covering

Requirement at 212.315: Second division vehicles (such as pick-up trucks) or a semi-trailer cannot be operated without a cover sufficient to prevent the release of particulate matter into the atmosphere.

S.H. Bell Co. Compliance Method: All semi-trucks carrying materials out of the facility are covered. Trucks loaded within a loadout shed are covered once the truck has safely cleared the exit of the loadout shed. Trucks loaded from outdoor storage piles are covered immediately upon completion of material loading.

V. Best Management Practices

The previously noted compliance methods, as well as other Best Management Practices, are utilized to achieve compliance with this revised Fugitive Operating Program/Fugitive Dust Plan. This section provides a summary of key practices and methods in tabular format.

Summary Table of BMPs

Small Particle Storage Piles (1/2 inch in size or less)	
	Stored primarily within bulk material storage buildings or under roofed bins (three-sided, roofed, paved areas)
	Piles that are stored outdoors are either tarped or sprayed daily using a water truck until crusted or firm
	Piles are inspected every day to ensure adequacy of control method
Active Storage Piles	
	Piles and operations are positioned as favorably as possible
	Drop heights are minimized
	Material is dampened as possible and/or mobile misters and/or dry fogging system are positioned to control fugitive emissions; water is added to the area of pile being worked, as possible
Traffic Areas	
	All internal roadways are sprayed at least once daily during working shifts with water from a water truck weather permitting, unless salt/brine solution or chemical suppressants are in use
	All paved roadways are inspected daily and swept at least once daily during working shifts where needed, weather permitting
	Other areas, including ramps, are sprayed as deemed necessary by the facility manager
	All vehicles adhere to the posted speed limit (5 mph)
Air Pollution Control Equipment	
	Material transfer points for bag and box filling operations are enclosed
	Portable dust collector used in sack barge unloading and railcar loading
	Bag and box filling operations are each controlled by a dust collector with a stated efficiency of 99%
	Control devices are inspected once daily during working shifts, spare parts maintained, and repairs are made when required
	Removal of collected materials from the dust collectors is performed indoors or within an enclosure
Crushing/Screening	
	During jaw crushing/screening activities, all doors, windows and other openings are closed
	Wet suppressant spray system is operated during all jaw crushing/screening operations
	Portable box screeners used for wet materials or indoors if used for screening dry materials or outside, if appropriate controls (mobile misters or dry fogging unit) are used

Truck Loading / Unloading	
	Loading operations of dry materials are completed within a loadout shed or within a building
	Two loadout sheds will be reconstructed to accommodate dust collectors; reconstruction of the sheds and installation of dust collectors will be complete and operational within thirty (30) weeks of acquisition of necessary permits
	After loading, trucks must wait for one minute to allow dust to settle/be captured
	When disturbing outdoor piles, materials are dampened as possible and/or mobile misters and/or dry fogging system are used
	Truck unloading to the ground is choke fed
	Proper loading methods are followed, including minimizing drop heights and dampening materials as possible
	Unloading operations using in-house drayage trucks are completed within a bulk material storage building or to outdoor storage as required, depending upon the nature of the material
Barge Unloading / Loading	
	Proper unloading methods into a truck bed are followed, including minimizing drop heights
	Unloading/loading operations are evaluated for suspension when wind speeds exceed 15 mph
	Portable dust collector used for loading trucks as part of sack barge unloading activities
	Materials that can be sprayed with water or dampened (such as pig iron) are sprayed prior to unloading
	Mobile misters/dry fogging system are used for materials that cannot be sprayed with water and are unloaded directly to truck beds or to dockside pile
	Proper loading methods directly into a barge are followed, including minimizing drop heights
	For sack barge conversion to bulk, sacks are emptied at drop heights no more than 5 feet above the dock and use a mobile mister or dry fogging system
	Dry fogging system may be used for fugitive dust control in freezing temperatures
Railcar Loading / Unloading	
	Choke feeding is utilized, drop heights are minimized, and covered conveyors are used as appropriate
	Mobile misters are used for control of fugitives on conveyor loading operations
	Material is dampened as possible and/or dry fogging system unit is used
	Portable dust collectors or dry fogging system may be used for fugitive dust control in freezing temperatures
Vehicle Covering	
	Semi-trucks carrying materials out of the facility are covered after completion of outdoor loading activities
	For loadout of materials within loadout sheds, trucks are covered as soon as the truck is safely clear of the exit of the loadout shed
General	
	Employees are trained annually in proper operating procedures for control of fugitive dust
	Records of dust control practices are kept as required (detailed in the following section)

VI. Dust Suppressant Application Summary

The following summarizes the use of dust suppressants at the facility:

Location	Suppressant Type	Application Frequency
Paved areas	Water	Minimum once daily during working shifts, unless pavement is noted to be controlled (e.g., already wet from rain) or unless one of the two following alternatives are in use
	Chemical Dust Suppressant	As needed, based on observation of pavement condition
	Salt/brine solution	As needed in freezing conditions
Small particle piles	Water	Minimum once daily during working shifts, or until crusted/firm
Active storage piles	Water	Whenever operations are performed, as needed
Crusher/screener	Water/suppressant	Whenever operations are performed (at selected transfer points)
Railcar Loading / Unloading	Water	Whenever dry materials that can be sprayed or dampened are loaded or unloaded via railcar
Barge Loading / Unloading	Water	Whenever dry materials that can be sprayed or dampened are loaded or unloaded
Multiple locations	Mobile Misters	Whenever deemed necessary when temperatures are above freezing
Multiple locations	Dry Fogging System	Whenever deemed necessary when temperatures are above and below freezing (to be onsite in October 2015)

VII. Dust Surveillance and Monitoring Plan

The dust control strategy at S.H. Bell Company is a proactive approach as outlined in this Fugitive Operating Program, including documented observations and real-time corrections as required. Visible emissions are monitored and managed at the source of fugitive emissions so as to maintain no visible emissions at the property line. S.H. Bell Company manages and deploys equipment and manpower as needed to immediately correct or otherwise mitigate dust or housekeeping issues and meet internal housekeeping goals and standards. S.H. Bell's strategy provides the ability to assess and mitigate unforeseen challenges brought about by "present conditions" in a matter that is prudent and expedient for the identified conditions or situation.

A. Daily Monitoring and Action Plan

Facility operations are characteristic of batch processing, with the duration of each operation typically based on the amount of material to be handled. The intermittent nature of operations is incompatible with a rigid schedule of observations. Therefore, on a daily basis, when the source is in operation, a facility general condition review is completed at the beginning of the shift, mid-day, and at the end of the shift to evaluate transportation routes, building entrances and exits for general condition and housekeeping status. Any noted deficiencies are recorded, including corrective actions, and then the appropriate resources, including manpower and equipment, are dispatched remedy the situation.

The daily production plan is then reviewed with the Terminal Manager to generally plan the fugitive emission observations for the day. The following items are evaluated prior to start of facility activities:

- Review updated weather forecast for the day in order anticipate any adjustments in control measures
- Equipment deployment and work practices adjustments based on an objective review (assessment) of conditions present at the time work activity begins to match controls to conditions present or otherwise anticipated or possible with reasonable certainty
- Anticipate periods of high volume truck loading/unloading to coordinate other terminal activities to allow for increased observations
- Plan for any rail or barge loading or unloading as the nature of those activities has the potential for sustained fugitive emissions, to include the following:
    - Series of consecutive observations to validate opacity at excavator to truck transfer work site as well as no visible emissions at the property line in proximity to the unloading activity 70-foot Dock, 200-ft Dock, or Dry Dock
    - Emission mitigation/control activities adjusted for identified conditions, including wind direction, duration, and speed as well as the observed duration of fugitive emissions and plume duration and direction, and possible containment of plume
- Static outdoor storage piles which will not be disturbed are observed during yard tour and planned observations are based on current and forecast weather conditions
- Documented testing of outdoor small particle piles on a weekly basis; visual check as part of daily tour with quarterly Method 22 visible emission observations for wind conditions both below and above 10 mph

Adjustments to daily observations are made when there is a change in wind conditions, change in - operating plan/schedule, implementation of corrective action, etc.

B. Ongoing Opacity Monitoring

On a minimum once per working shift basis, visible emissions are observed both at the point of generation for each active operation as well as at the property line closest to each active operation.

Visible emissions at the point of generation are observed to determine whether they are normal or abnormal, based on knowledge of facility operations and associated fugitive emissions. If emissions at the point of generation are noted to be abnormal, corrective actions and increased observations will be implemented as illustrated in the operating procedures in Appendix A. The criteria for observing emissions at the property line is presence / absence; if visible emissions are noted at the property line, or the potential for visible emissions is noted at the property line, corrective actions and increased observations will be implemented as noted in Appendix A. Corrective measures including additional control are implemented at the point of generation, adjusted as needed for current conditions, including wind direction and speed.

If abnormal visible emissions are observed at the point of generation and/or the potential for visible emissions at the property line is noted, the following will be undertaken:

- The appropriateness of controls as outlined in Appendix A will be critiqued by the site management team and amended to resolve a recurrence of similar incident.

- A Method 22 reading will be performed after initial corrective actions. Further periodic visible emission observations will be made during the operation. If the Method 22 reading does not confirm the absence of visible emissions, additional controls will be instituted or the operation will be suspended, per the procedures in Appendix A.

- If the operations are not suspended and further corrective actions are instituted, a Method 9 reading will be performed after completion of the corrective actions. Additional periodic Method 22 observations will be made during the operation.

Initiating corrective action and any subsequent decision to increase the frequency of these observations will be dependent on discussion with the Terminal Manager or his designee and upon circumstances of observed conditions and deviations from the controls scheme as illustrated in the operating procedures in Appendix A. When necessary, operating procedures will be amended to reflect best management practices and/or control improvements initiated as a result of a negative observation finding.

C. Quarterly Opacity Testing

On a quarterly basis, an individual trained and certified to evaluate visible emissions and read opacity in accordance with the measurement method specified in 35 IAC 212.107 (Method 22) will perform at least two opacity reads. One read will be performed during minimal wind conditions and one during average wind conditions to ensure that representative weather conditions are covered. The average annual wind speed for Chicago, Illinois is 10.4 miles per hour (mph); therefore, the average wind conditions are defined as wind speeds of approximately 10 mph. The readings will be taken at a representative outdoor storage pile.

VIII. Recordkeeping

The following records are kept in accordance with fugitive dust control measures, on the schedule noted below, and maintained for a minimum period of three (3) years from the date the record is created:

Area	Item	Recordkeeping Frequency
Paved areas	Water application[1]	Daily
Paved areas	Sweeping	Whenever performed, including date and time and truck count, if applicable
Barge unloading / loading	Following proper procedures	Daily, whenever activities are performed
Truck loading/unloading	Following proper procedures	Daily, whenever activities are performed
Railcar loading/unloading	Following proper procedures	Daily, whenever activities are performed
Crusher/screener	Following proper procedures	Daily, whenever operations are performed
Control devices	Inspection, maintenance and repair[2]	Daily, whenever operations are performed
Small particle piles	Water application/observation	Daily
Active piles	Following proper procedures, water application as needed	Daily, whenever operations are performed
Facility wide	Water and/or chemical stabilizer application[3]	Whenever control measures are used
Facility wide	Instances of suspension of water and/or chemical stabilizer application[3]	Whenever control measures were not used
Facility wide	Date and time of suspension of operations	Whenever operations are suspended due, in part, to high winds (>15 mph)
Facility wide	Date and time when application of control of any transfer point was suspended	Whenever control was not performed
Facility wide	Results of quarterly opacity readings	Quarterly
Facility wide	Result of presence/absence of VE near property line	Once per shift minimum per operation

Responsible personnel for each of these items will vary, but overall responsibility for implementation of the inspection, maintenance, and testing requirements will remain with the Terminal Manager.

Notes:

1. For water application to roadways by truck, the following information is recorded:
    - Name and location of roadway controlled
    - Application rate of truck
    - Frequency of application
    - Width of each application
    - Identification of each truck used
    - Total quantity of water or chemical used for each application

2. The following records are kept in accordance with control device maintenance and repair:

- Written records of inspections, maintenance, and repairs. The control devices are inspected weekly, when operations are being performed, and the results of the inspection recorded. The items inspected include, but are not limited to the following:
    - Differential pressure across the control device
    - Proper operation of hopper discharge device, as applicable
    - Observation of visible emissions

  In the event that any of these items are found to be deficient (e.g., pressure outside of appropriate range, non-normal visible emissions, etc.), troubleshooting and corrective action is immediately begun to return the device to proper operation. Records are kept of all subsequent corrective action activities. Records are also kept whenever maintenance or repairs are performed.

- Documentation of any period when any process emission unit was operating and the associated control device was not operating or was malfunctioning so as to cause an emission level in excess of the limitation, including the causes for non-operation or malfunction, corrective actions taken, and repairs made.

- Written record of all spare parts not readily available from local suppliers

3. For transfer points, vehicles loading, and truck, railcar, and barge loading and unloading, if water and/or chemical stabilizer is applied, the application must be recorded as well as any time when application is suspended for any reason.

IX. Training

Operating facility personnel are trained annually on methods used to reduce fugitive dust emission levels at the facility as indicated by the provisions of this program, including review of operating procedures (Appendix A) and recordkeeping requirements. Personnel are trained in monitoring and recordkeeping as required by the responsibilities of their position. New personnel are trained as part of their orientation. Dated records of all employee training are maintained at the facility.

At least two people at the facility maintain EPA Method 9 certification.

All employees, regardless of position are provided general fugitive dust awareness training.

X. Reports

A. Quarterly Exception Reports

A quarterly report is submitted to the Illinois EPA which includes the following information:

- the dates any necessary control measures were not implemented
- a listing of the control measures
- the reason the control measures were not implemented
- any correction action taken

This information includes, but is not limited to, those dates when controls were not applied based on a belief that application of such control measures would have been unreasonable given prevailing atmospheric conditions, which shall constitute a defense to these. This report is submitted to the Illinois EPA thirty days from the end of the quarter – quarters end March 31, June 30, September 30, and December 31.

B. Annual Reports

An annual report shall be submitted to Illinois EPA which contains a summary of the written records of application of control measures as may be needed for compliance with opacity limitations.

XI. Program Update

Facility operations are periodically reviewed in conjunction with this Fugitive Operating Program / Fugitive Dust Plan, typically annually, and submitted to the Department by January 31 of each year. Any change, modification, or addition to the operations described in this plan will be submitted to the Illinois EPA for its review.

TABLE

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Control Measure(s)					Alternative Control Measure	Additional Comments
	Transfer Point(s)	Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control Measures Implemented		
Small Particle Material Storage Piles (1/2 inch in size or less)		X (stored indoors to the maximum extent practical)	X (sprayed until crusted/firm)			tarped if not controlled via water spray system	
Active Outdoor Storage Piles	Front end loader to truck, barge, or rail		X (dampen material as possible and/or position mobile misters and/or dry fogging system)		Minimize drop heights		Inbound shipments of DRI fines no longer accepted for storage or re loading
Paved Roadways			X		Sweeping; application of salt and/or brine and/or chemical suppressant, as necessary		Daily visual inspection to prioritize housekeeping

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Control Measure(s)					Alternative Control Measure	Additional Comments
	Transfer Point(s)	Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control Measures Implemented		
Bag Filling Station	Front end loader to hopper/feeder	X					
	Hopper/feeder to weigh hopper	X		X			
	Weigh hopper to small storage bag or can	X		X			
Box Filling Station	Front end loader to hopper/feeder	X					Hopper curtain
	Hopper / feeder to vibratory feeder	X					
	Vibratory feeder to box or bulk bag	X		X			
Screen Boxes	Front end loader to screen box	X					If performed outdoors, use of water truck or bucket loader for water addition, mobile misters, or dry fogging unit
	Screening (first pass through)	X					If performed outdoors, use of water truck or bucket loader for water addition, mobile misters, or dry fogging unit
	Screening (second pass through)	X					If performed outdoors, use of water truck or bucket loader for water addition, mobile misters, or dry fogging unit

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Control Measure(s)					Alternative Control Measure	Additional Comments
	Transfer Point(s)	Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control Measures Implemented		
Crusher-Screener	Front end loader to hopper	X					
	Hopper to Vibrator	X					
	Vibrator to Crusher	X	X				
	Crusher to Conveyor	X	X				
	Conveyor to Screener	X					
	Screener to Tailings	X					
	Screener to Downsize	X					
	Screener to Topsize	X					
Screener	Front end loader to Vibratory Tray	X					
	Tray to Conveyor	X	X				
	Conveyor to Secondary Conveyor	X					
	Conveyor to Screener	X					
	Screener to Size 1	X					
	Screener to Size 2	X					
	Screener to Size 3	X					

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Control Measure(s)					Alternative Control Measure	Additional Comments
	Transfer Point(s)	Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control Measures Implemented		
Indoor Truck Loading (Ryerson / Norcon Buildings)	Front end loader to truck	X		X (to be implemented)	1) Partial enclosure (lean-to loadout shed); 2) Minimize drop height; 3) lengthen truck wait time before exiting loadout enclosure; 4) Tarp load after safely clearing the exit of loadout shed		
Loading from Outdoor Storage Piles	Front end loader to truck or rail		X (dampen material as possible)		Minimize drop height	mobile misters and/or dry fogging system	
Truck Unloading	Truck to ground or loading pan		X (dampen material as possible)		Choke feed	mobile misters and/or dry fogging system	
Barge Unloading - Bulk	Excavator to truck		X (dampen material as possible)		Minimize drop height	mobile misters and/or dry fogging system	Water application entails either adding to barge with water truck or excavator and/or use of mobile misters, or use of dry fogging system

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Control Measure(s)					Alternative Control Measure	Additional Comments
	Transfer Point(s)	Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control Measures Implemented		
Barge Unloading - Sacks	Sack material release to pile at dock		X (primary use of mobile misters)		Minimize drop height to approximately 5 feet	water to dampen material or dry fogging unit	Water spray system primarily equates to use of mobile misters; secondarily use of water truck or excavator for water addition to material or dry fogging system
	Pile to truck via front end loader		X (secondary use of mobile misters)	X (primary use of portable dust collector)	Minimize drop height	water truck or excavator to dampen material	
Barge Loading	Excavator to barge		X (dampen material as possible)		Minimize drop height (ability of excavator to reach directly into bottom of barge)	mobile misters and/or dry fogging system	Water application entails either adding to barge with water truck or excavator and/or use of mobile misters, or use of dry fogging system
Railcar Unloading - Bottom unload	Railcar to pit pile (bottom unload)				Choke feed		Utilize water spray primarily in the form of mobile misters or secondarily use of water truck or bucket loader for water addition to material as necessary
	Pit to storage via bucket loader		X (primary use of mobile misters)			water truck or bucket loader to dampen material and/or dry fogging system	

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Emission Source	Control Measure(s)					Alternative Control Measure	Additional Comments
	Transfer Point(s)	Enclosure	Water Spray System	Vented to Air Pollution Control Equipment	Additional Control Measures Implemented		
Railcar Unloading - Box cars	Skid steer to front end /bucket loader		X (mobile misters or dry fogging system)				
	Skid steer to ground (alternative)		X (mobile misters or dry fogging system)				
Railcar Loading - Open top railcars	Bucket loader to railcar		X (dampen material with water truck or bucket loader as possible and/or use mobile misters or dry fogging system)		Minimize drop height		
Railcar Loading - Covered hopper railcars	Front end loader to hopper / belt conveyer		X (primary: mobile mister)	X (secondary: portable dust collector)	Choke feed	dry fogging system	Primary use of water spray systems, secondary use of portable dust collector
	Belt conveyor to railcar			X (secondary: portable dust collector)	primary: sock (telescoping chute)); minimize drop height	mobile misters and/or dry fogging system	Use of water spray from water truck or bucket loader to dampen material as necessary

Table 1. Summary of Control Measures at Transfer Points
S.H. Bell Company
Chicago Terminal

Notes:

1. Materials handled at S.H. Bell Co.'s Chicago Terminal include, but may not be limited to, the following product groups:

a. ALUMINUM - BUNDLES	g. FERRO ALLOYS	m. OLIVINE	s. SILICON METAL
b. BAUXITE/MAGNESITE/BFA	h. HOT BRIQUETTED IRON	n. PIG IRON	t. SPECIALTY ALLOYS
c. CARBON PRODUCTS	i. IRON ORE	o. SCRAP	u. SPECIALTY SCRAP
d. CERAMIC PRODUCTS	j. MAGNESIUM	p. SALT	v. ZINC
e. CORED WIRE	k. MINERAL SANDS/SILICA FUMES	q. REFRACTORY PRODUCTS	
f. DIRECT REDUCED IRON	l. NICKEL	r. SEMI-FINISHED STEEL	

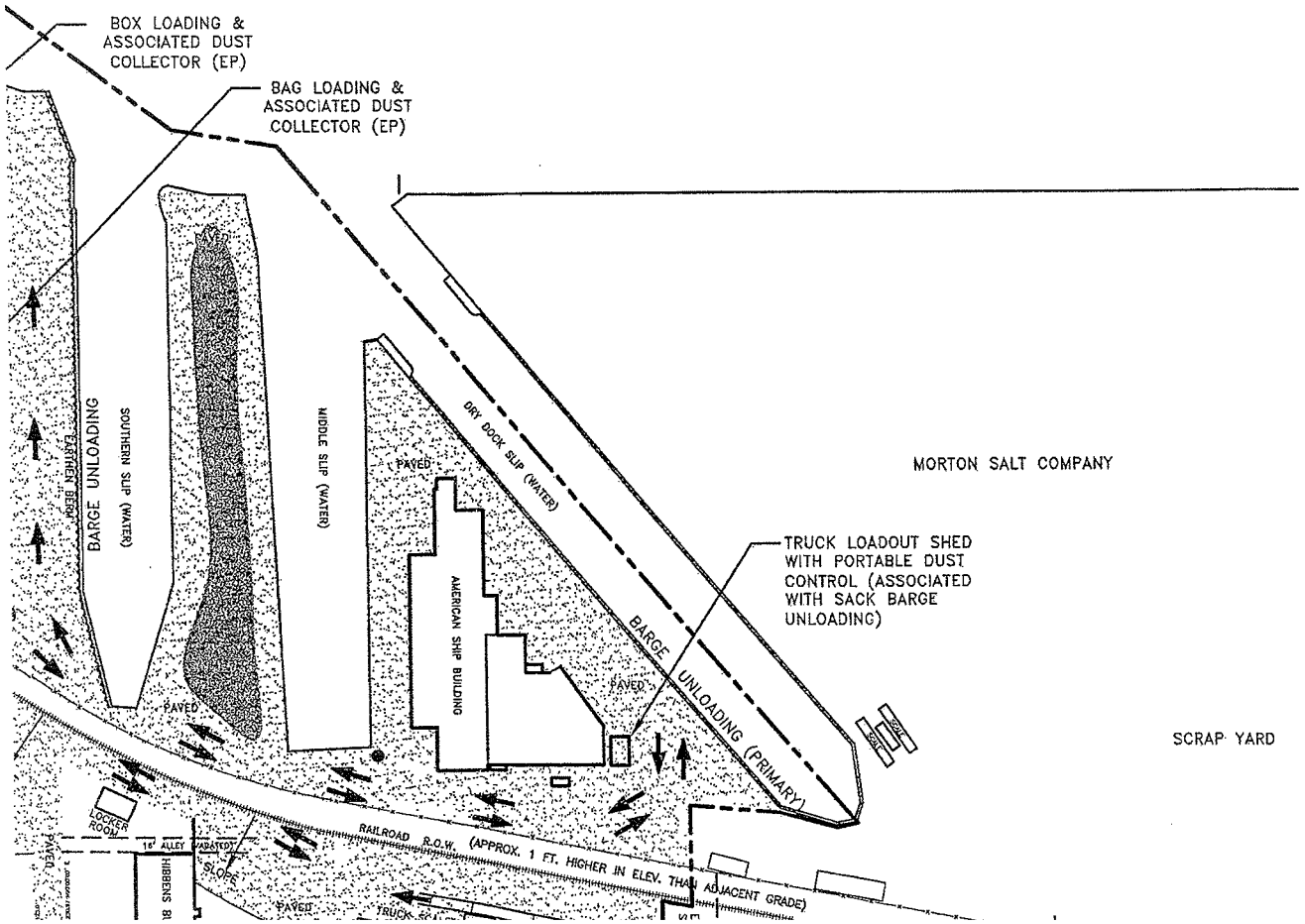
2. Materials within the product groups can be handled at any of the transfer points indicated in the table above.
3. Only pig iron can be directly dampened / wetted, unless customer approval is obtained.
4. Inbound shipments of DRI fines are no longer accepted for storage or re-loading.

FIGURE

OUT SHED (DUST COLLECTOR TO BE INSTALLED)

SCREENER (EP)

VAREHOUSE



KEY
(ALL LOCATIONS APPROXIMATE)

- APPROXIMATE FACILITY BOUNDARY
- TYPICAL BULK STORAGE PILE LOCATIONS (MIN. 20 FT SETBACK)
- EP — EMISSION POINT
- TYPICAL TRAFFIC PATTERNS
- COVERED MANHOLE
- INLET TO COMBINED SEWER
- WIND SPEED MONITOR
- PRIMARY AREAS OF TRUCK UNLOADING

THE INFORMATION ON THIS SHEET WAS TAKEN FROM:
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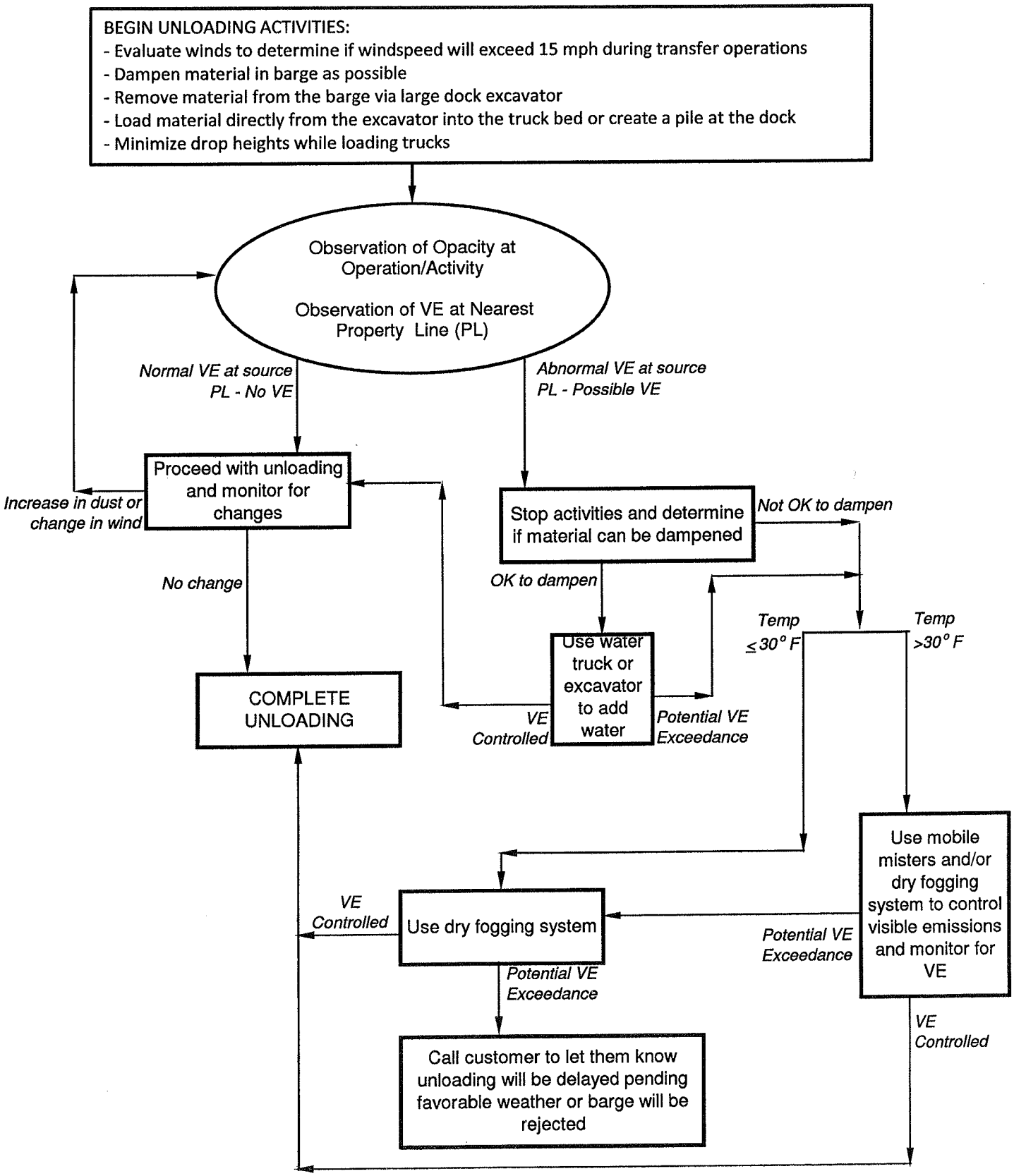
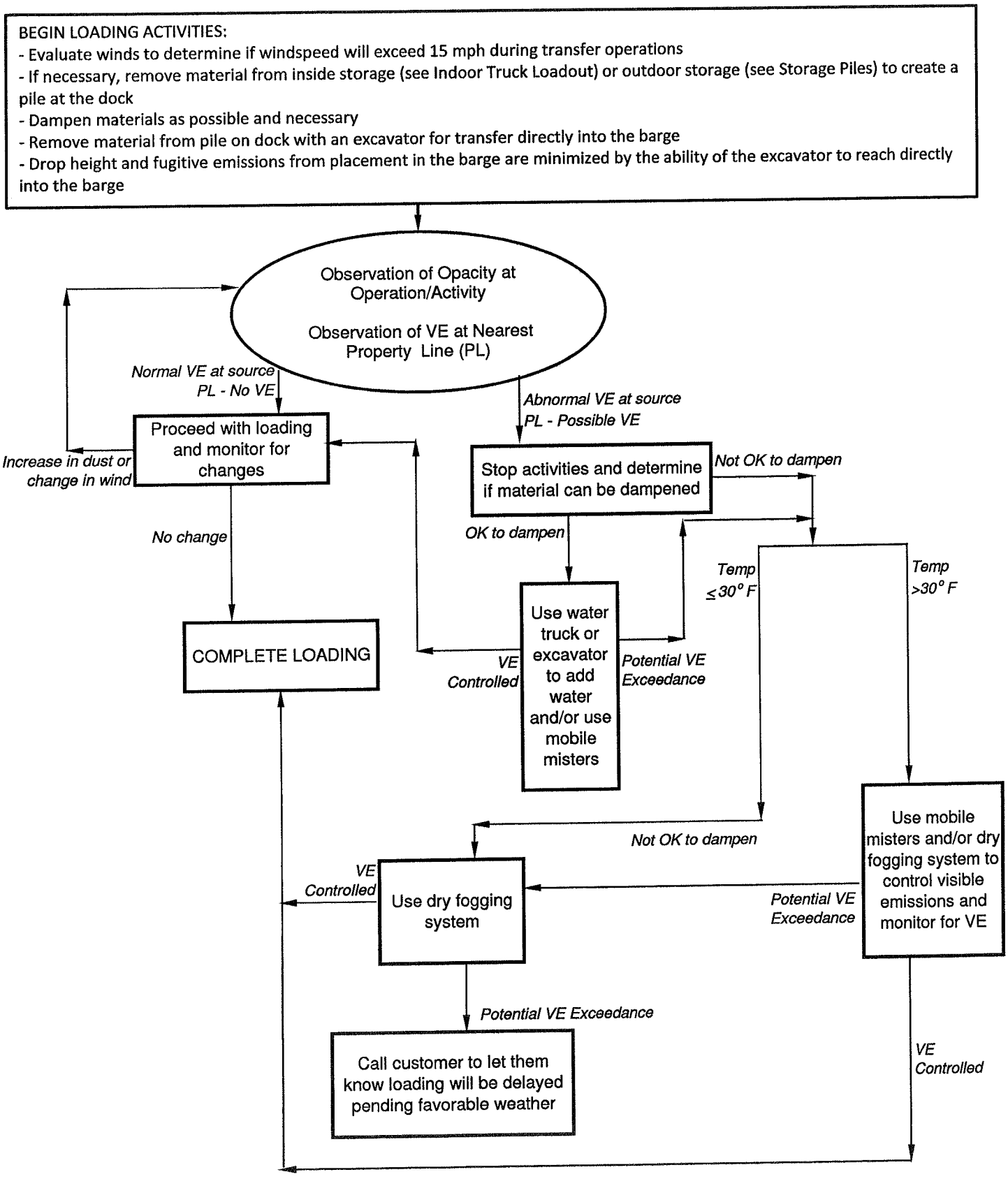
AND FROM
ROWLAND A. FABIAN
DATED JAN. 29, 1997

APPENDIX A
OPERATING PROCEDURES

BULK BARGE UNLOADING - FUGITIVE DUST CONTROL



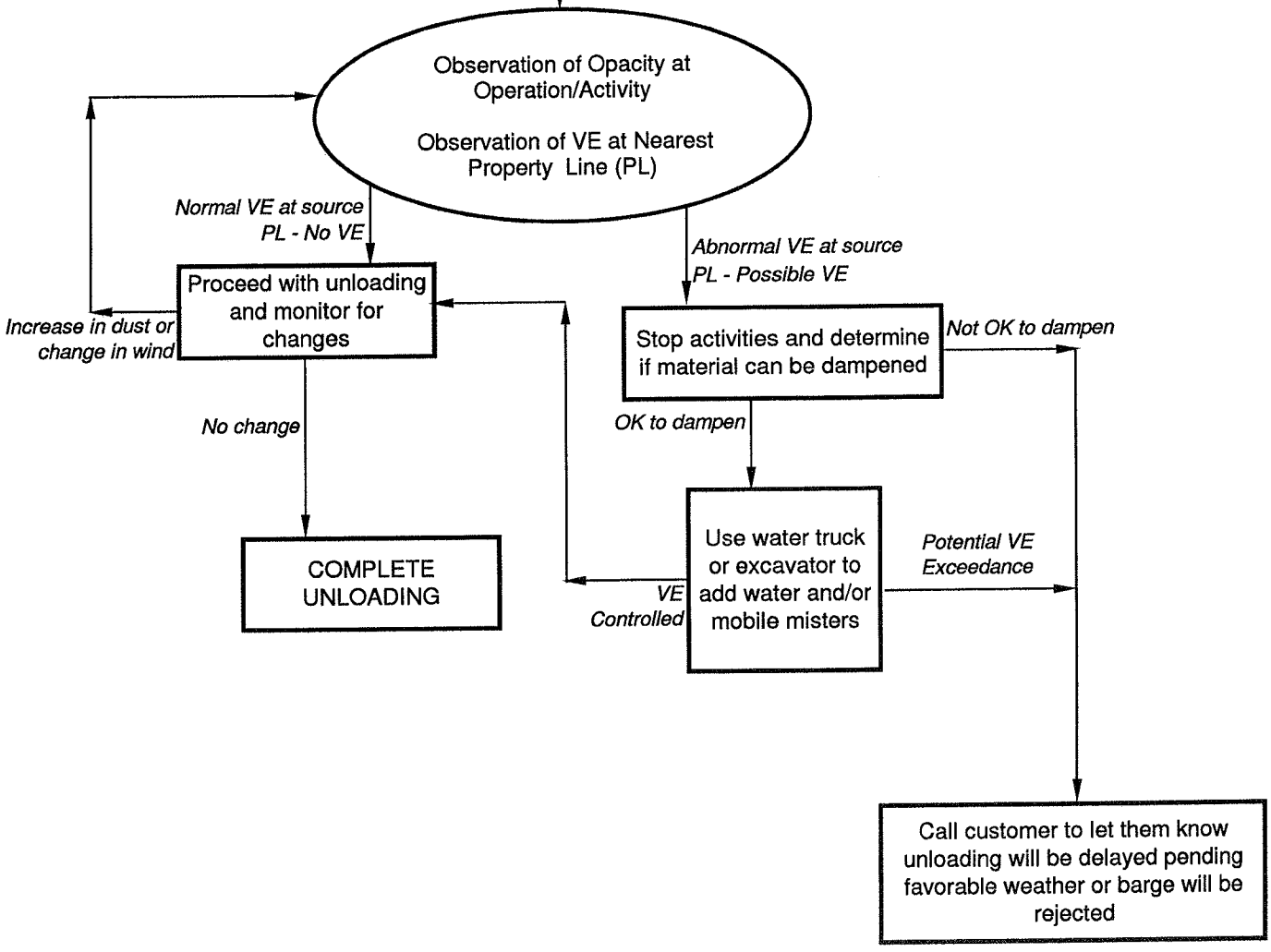
BULK BARGE LOADING - FUGITIVE DUST CONTROL



SACK BARGE UNLOADING - FUGITIVE DUST CONTROL

Temperatures above freezing

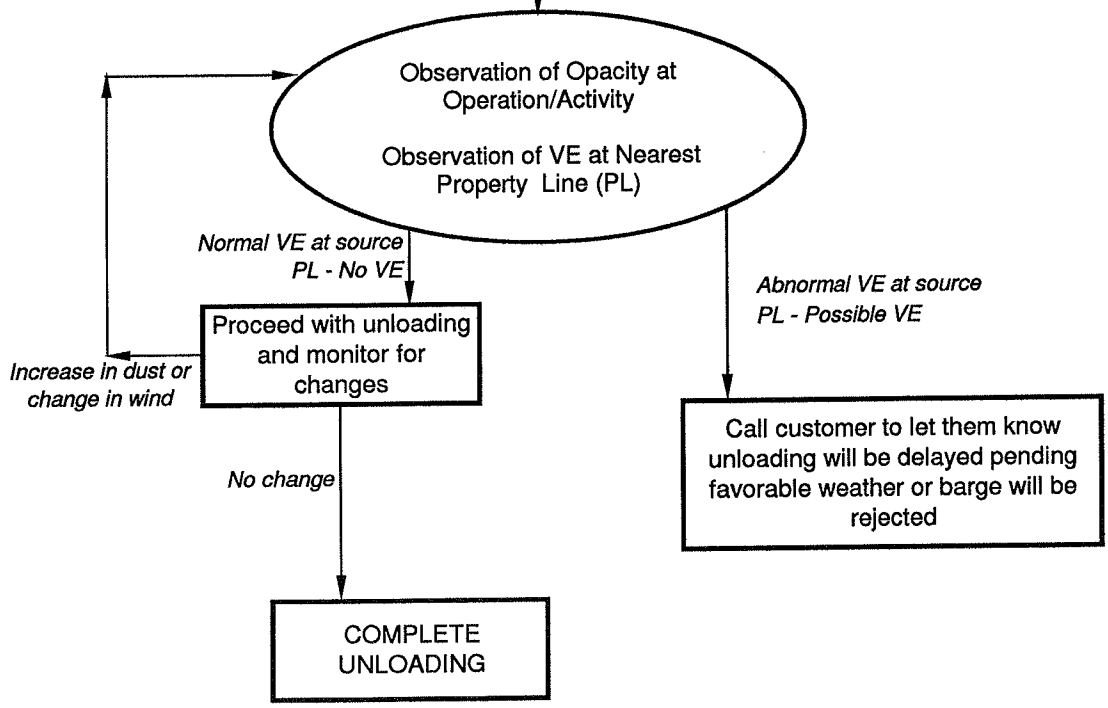
BEGIN UNLOADING ACTIVITIES:
- Evaluate winds to determine if windspeed will exceed 15 mph during transfer operations
- Remove several sacks (up to 8) from barge via crane/dock excavator
- With sacks positioned for an approximate 5 foot drop height, manually torch the bottoms of the sacks to release material into one small pile at the dock area
- Position mobile mister at the fugitives generated by the initial drop from the sack to the dock
- Manually detach empty sacks and place in bucket of front end loader (first loader)
- Empty sacks placed in nearby dumpster by first loader and pile dressed as needed by same loader
- Place material removed from the pile by a front end loader (second loader) directly into a truck located within a loadout shed controlled by a portable dust collector
- Drop height from second loader into truck minimized by operating procedure for bucket placement



SACK BARGE UNLOADING - FUGITIVE DUST CONTROL

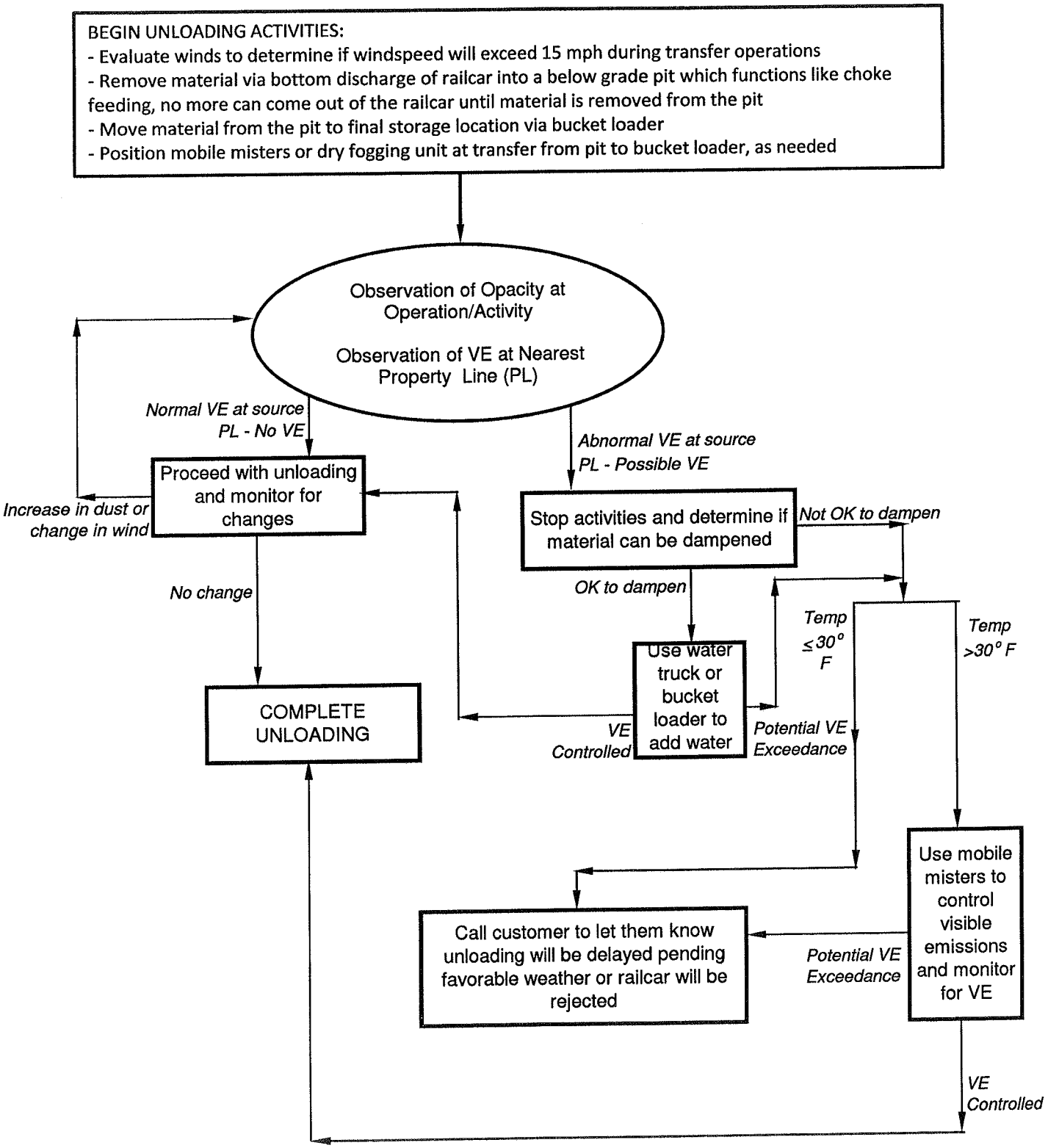
Temperatures below freezing

BEGIN UNLOADING ACTIVITIES:
- Evaluate winds to determine if windspeed will exceed 15 mph during transfer operations
- Remove several sacks (up to 8) from barge via crane/dock excavator
- With sacks positioned for an approximate 5 foot drop height (or less as conditions warrant), manually torch the bottoms of the sacks to release material into one small pile at the dock area
- Position mobile mister or dry fogging unit at the point of fugitive emission generation, as needed
- Manually detach empty sacks and place in bucket of front end loader (first loader)
- Empty sacks placed in nearby dumpster by first loader and pile dressed as needed by same loader
- Place material removed from the pile by a front end loader (second loader) directly into a truck located within a loadout shed controlled by a portable dust collector
- Drop height from second loader into truck minimized by operating procedure for bucket placement



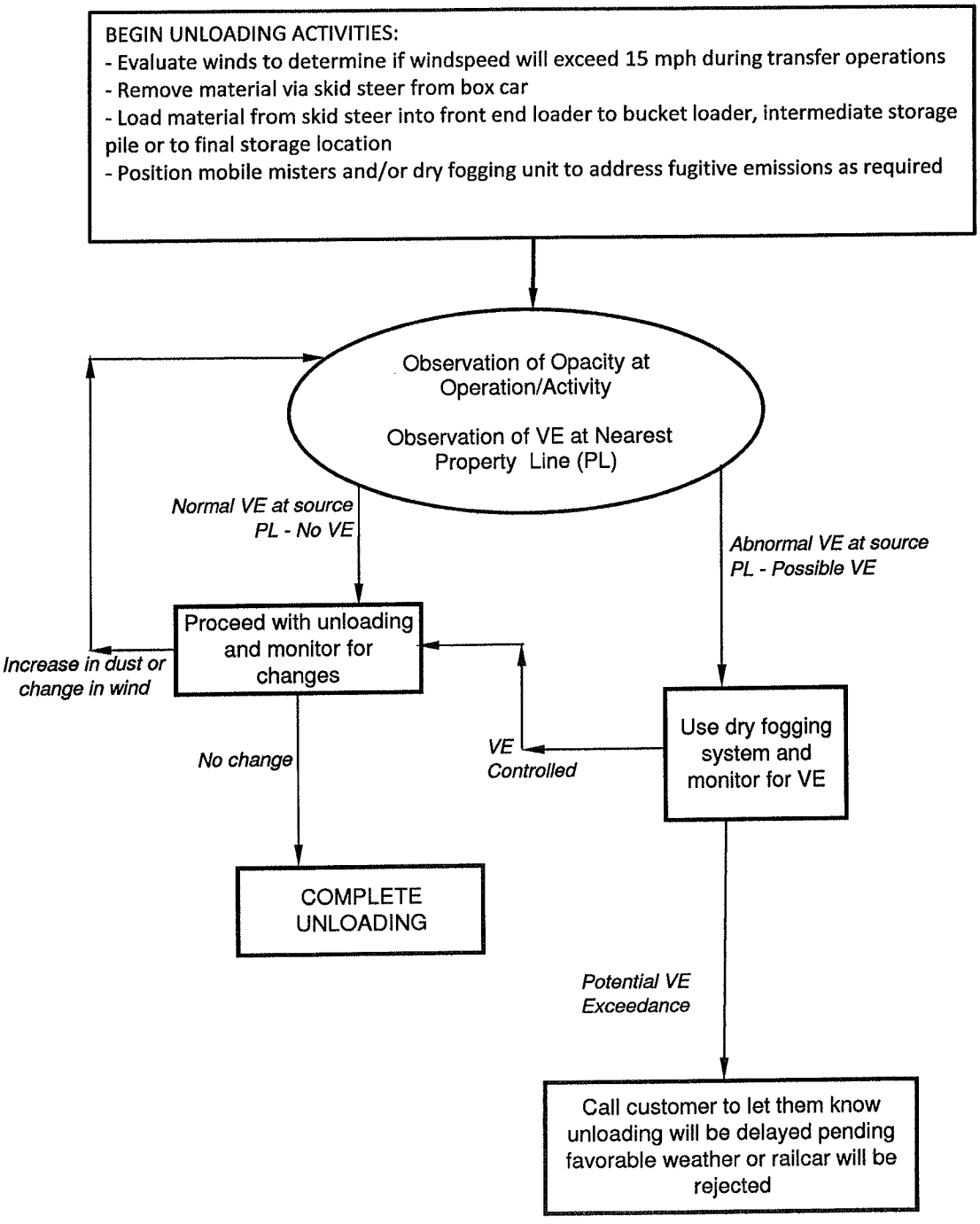
RAILCAR UNLOADING - FUGITIVE DUST CONTROL

Unload cars from bottom into pit



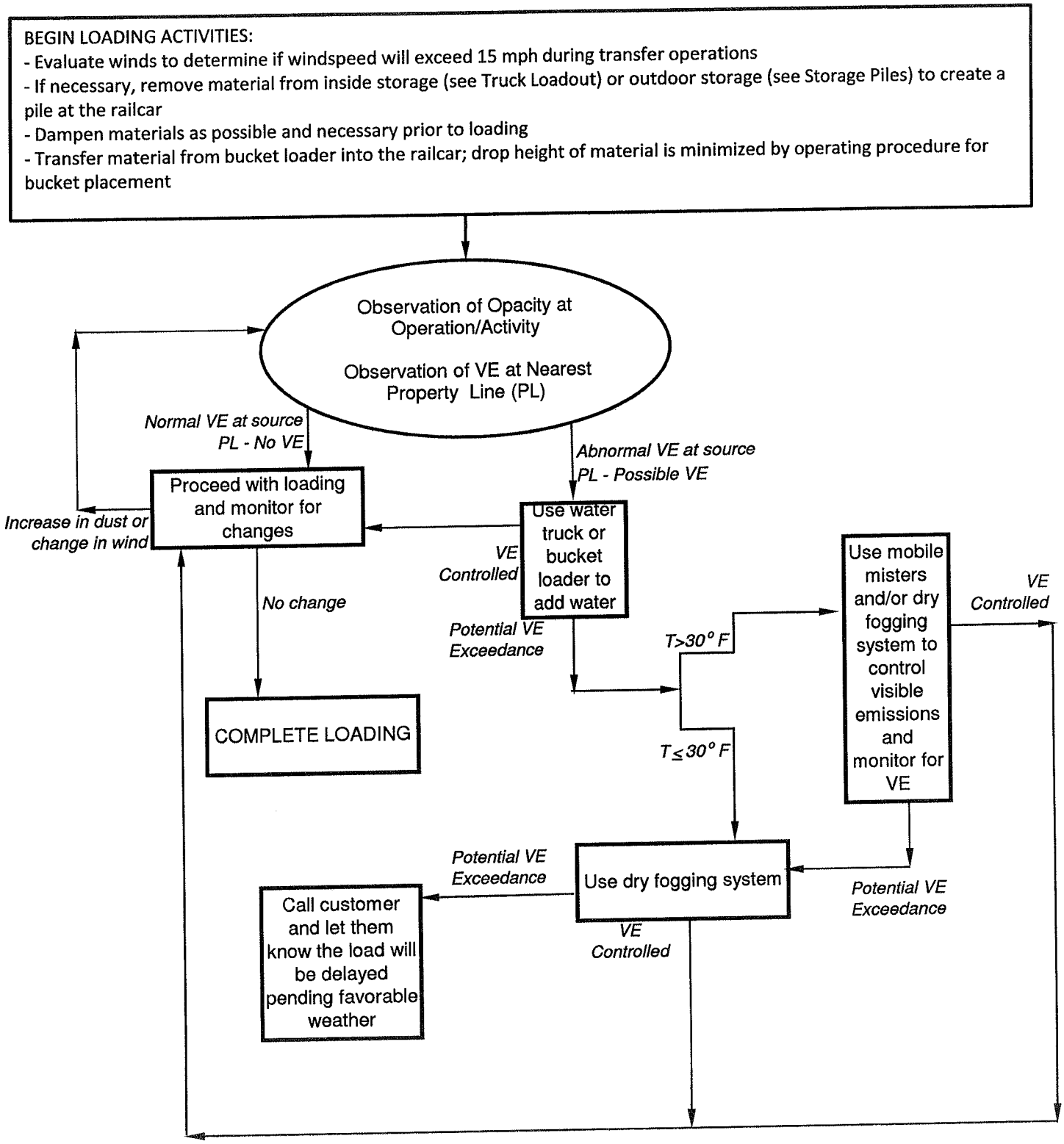
RAILCAR UNLOADING - FUGITIVE DUST CONTROL

Box Cars



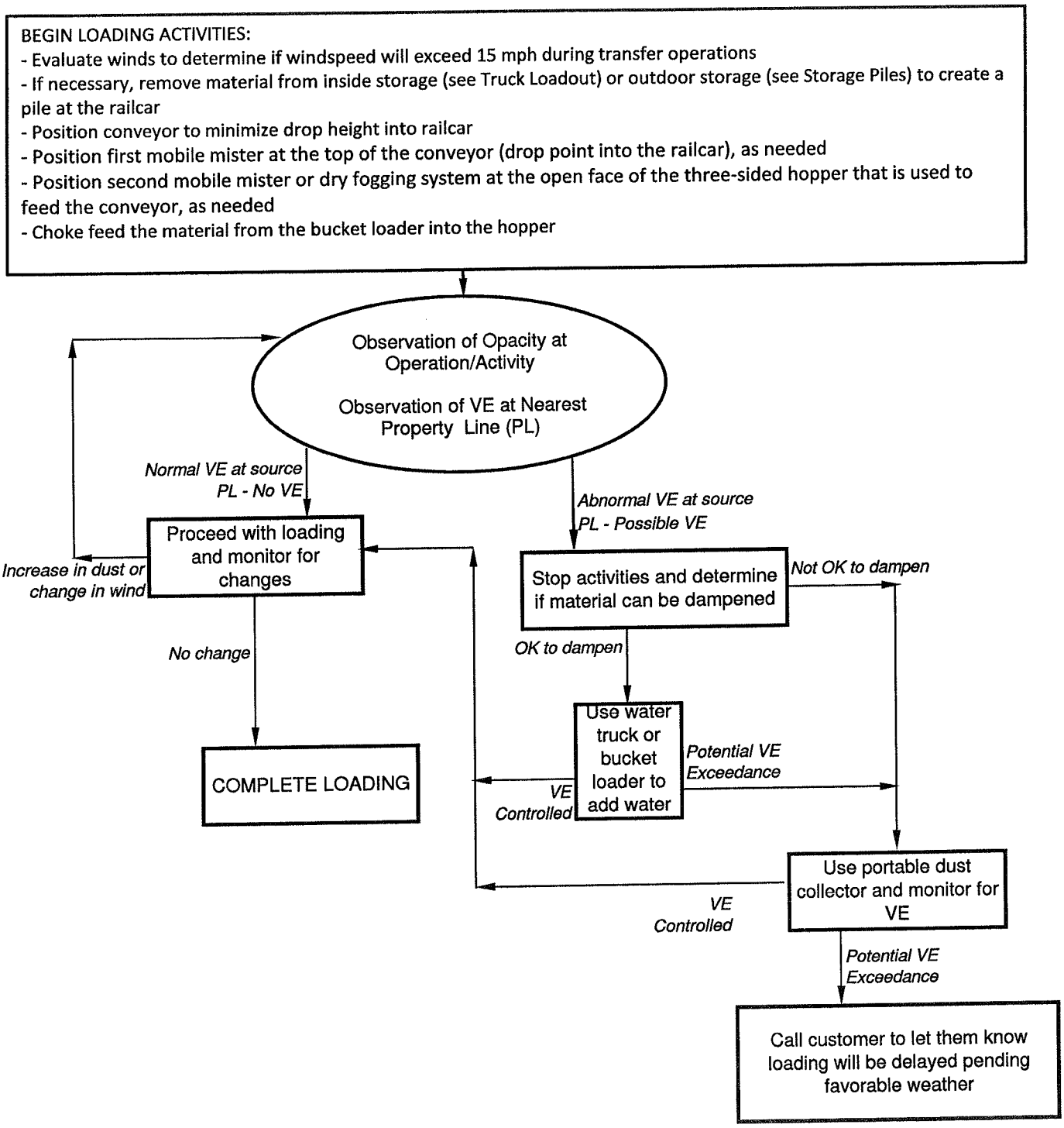
RAILCAR LOADING - FUGITIVE DUST CONTROL

Open top railcars



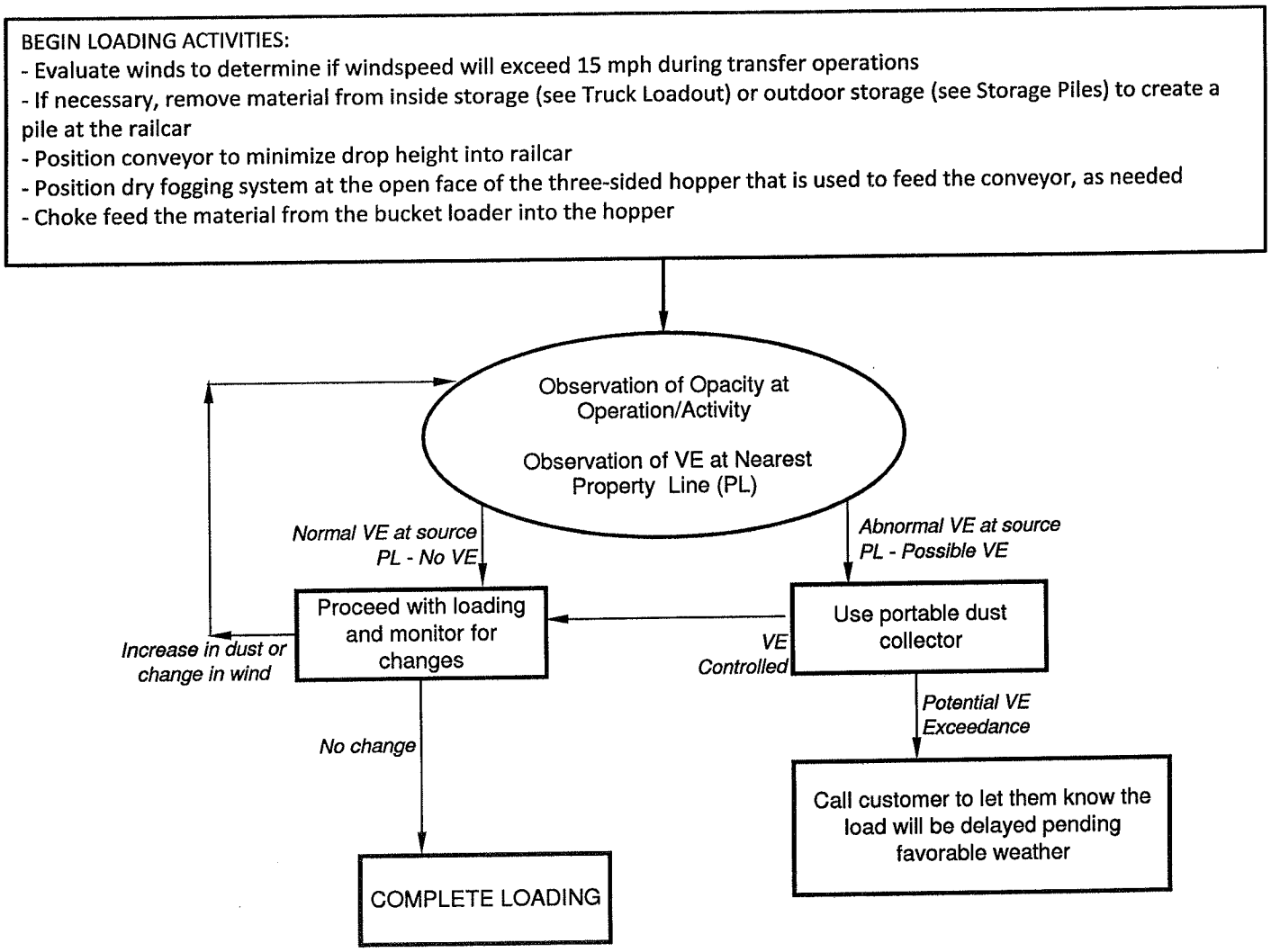
RAILCAR LOADING - FUGITIVE DUST CONTROL

Covered hopper (CHOP) railcars, temperatures above freezing



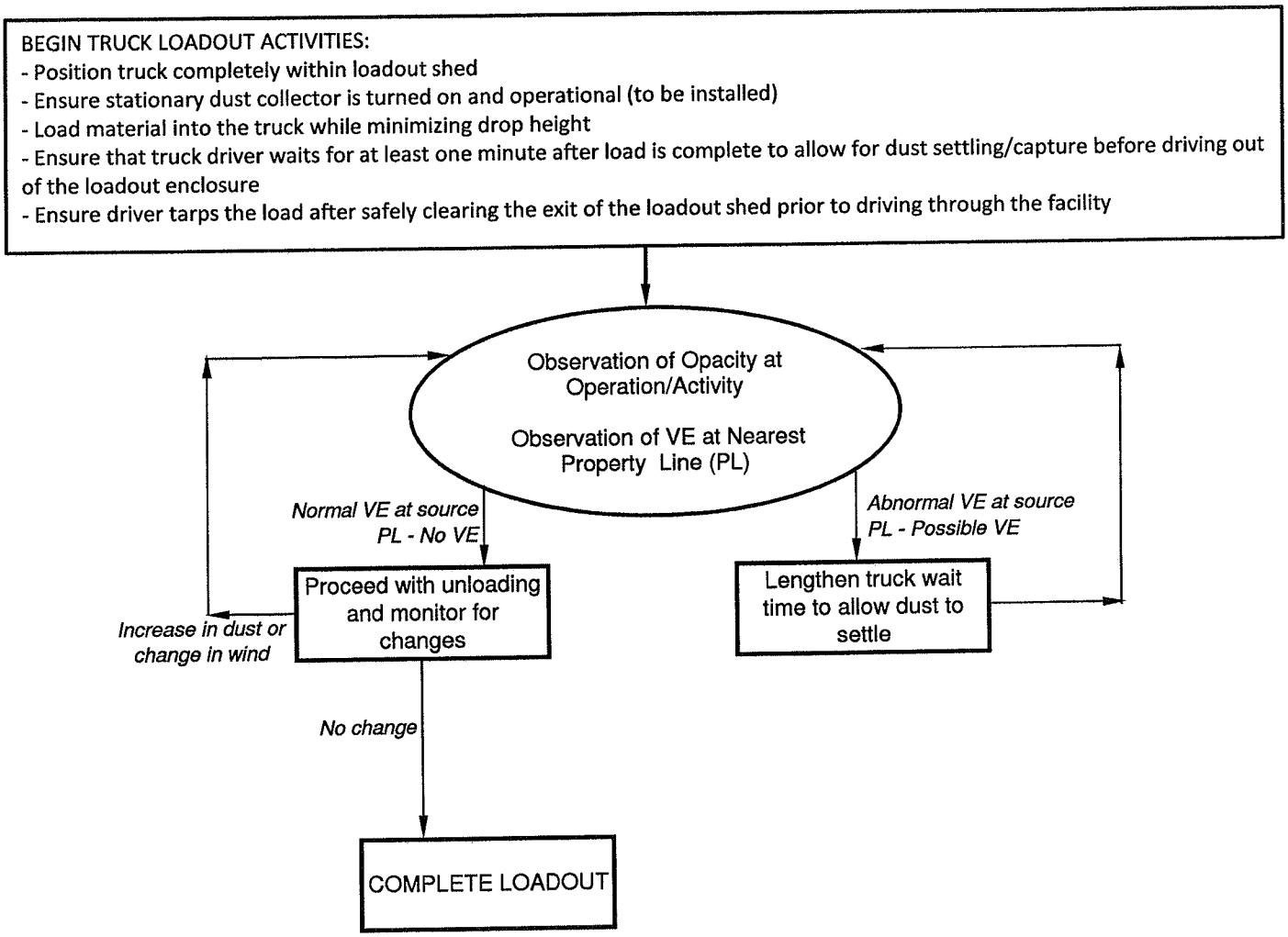
RAILCAR LOADING - FUGITIVE DUST CONTROL

Covered hopper (CHOP) railcars, temperatures below freezing



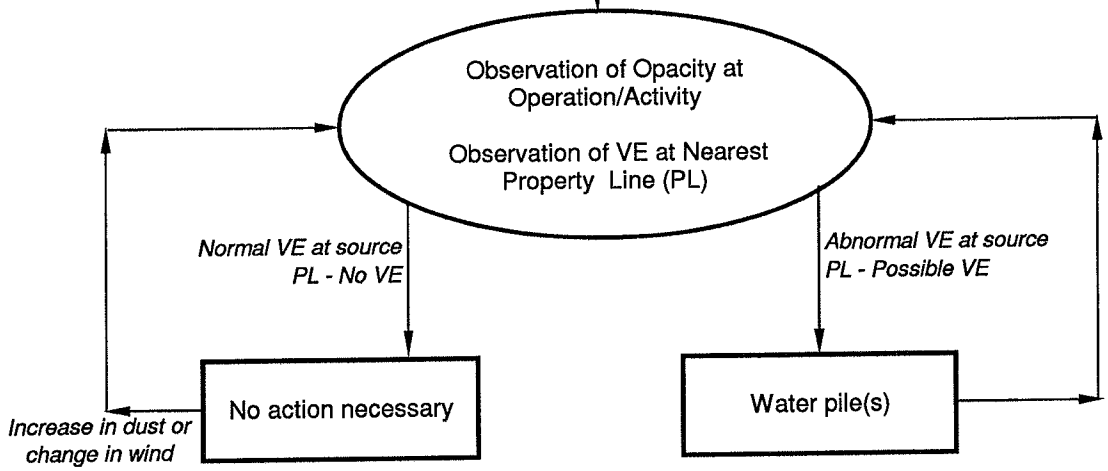
INDOOR TRUCK LOADOUT - FUGITIVE DUST CONTROL

Ryerson and Norcon Buildings



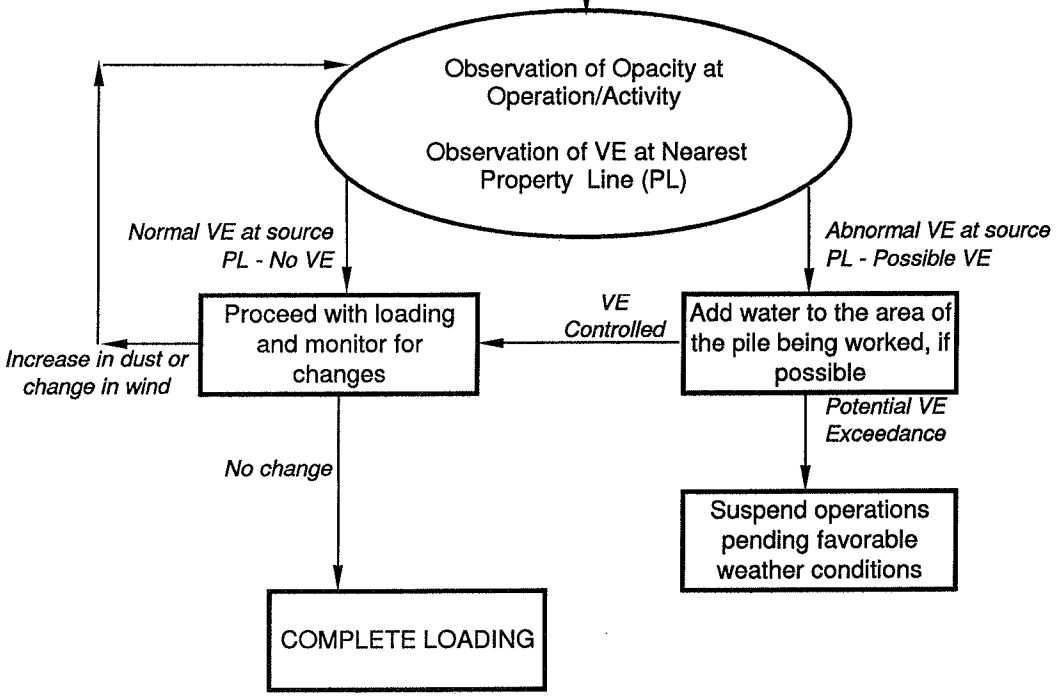
OUTDOOR STORAGE PILES - FUGITIVE DUST CONTROL

STORAGE PILE ACTIVITIES:
- Indoor storage of material is maximized to the extent practicable
- Storage pile heights are inherently limited by the capabilities of the equipment, typically between 16 feet and a maximum of 30 feet
- Material movement and pile disturbance is minimal, limited to stable pile creation with front end loaders and loading material into trucks for shipment off site (See Outdoor Loading)
- Small particle piles are watered daily until crusted or tarped; others watered as needed



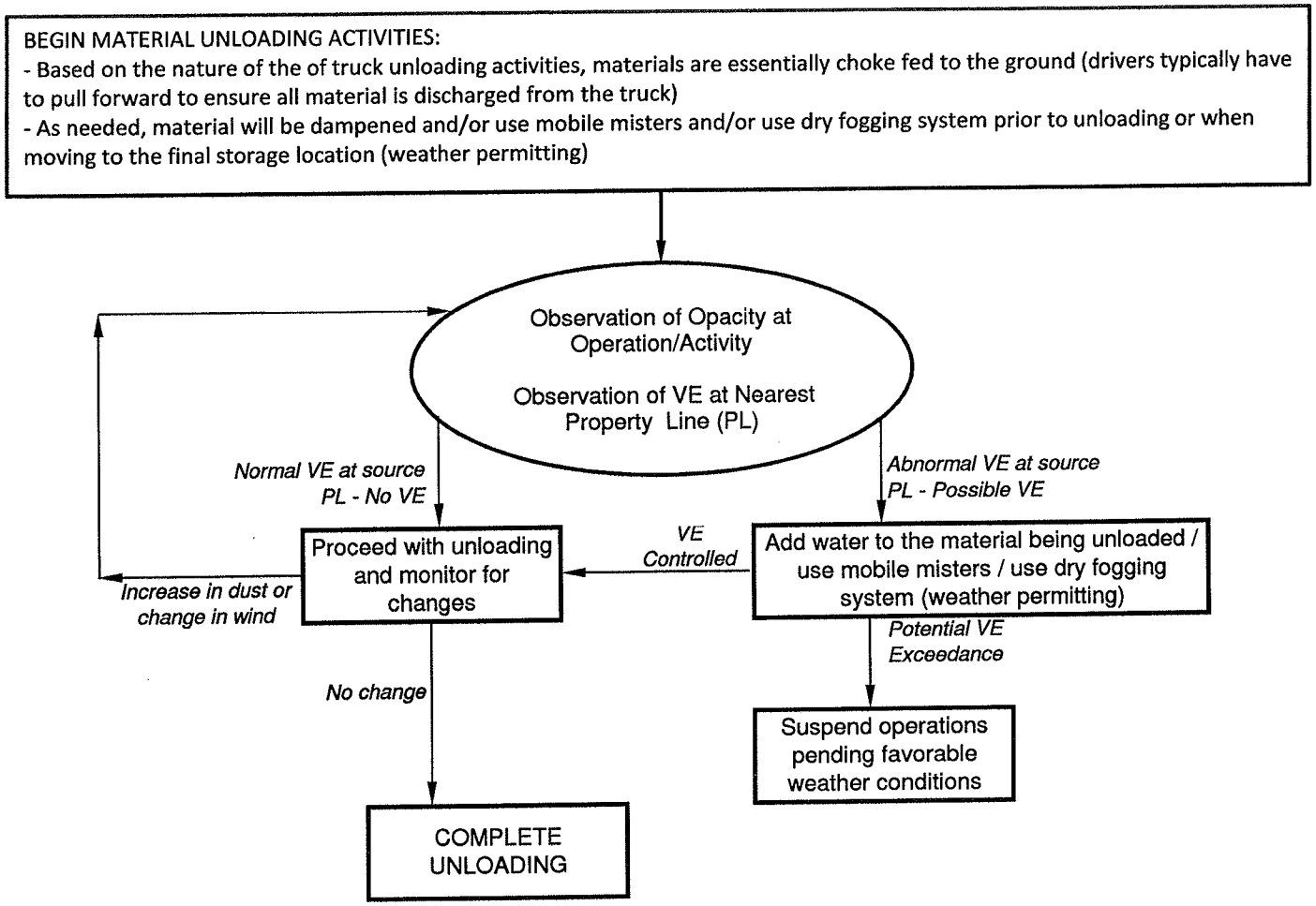
LOADING FROM OUTDOOR STORAGE PILES - FUGITIVE DUST CONTROL

BEGIN MATERIAL LOADING ACTIVITIES:
- Evaluate winds to determine if they will exceed 15 mph during transfer operations
- Materials stored outside are loaded into trucks with a front end loader
- Position loading operations as favorably as possible, accounting for location within the facility and weather conditions
- Dampen material as possible and/or position mobile misters and/or use dry fogging system to impact fugitive emissions (weather permitting)
- Drop heights are minimized by the inherent limitation of the front end loader lift height
- Adjust position of mobile misters/fogging system throughout loading activities to minimize fugitive emissions (weather permitting)

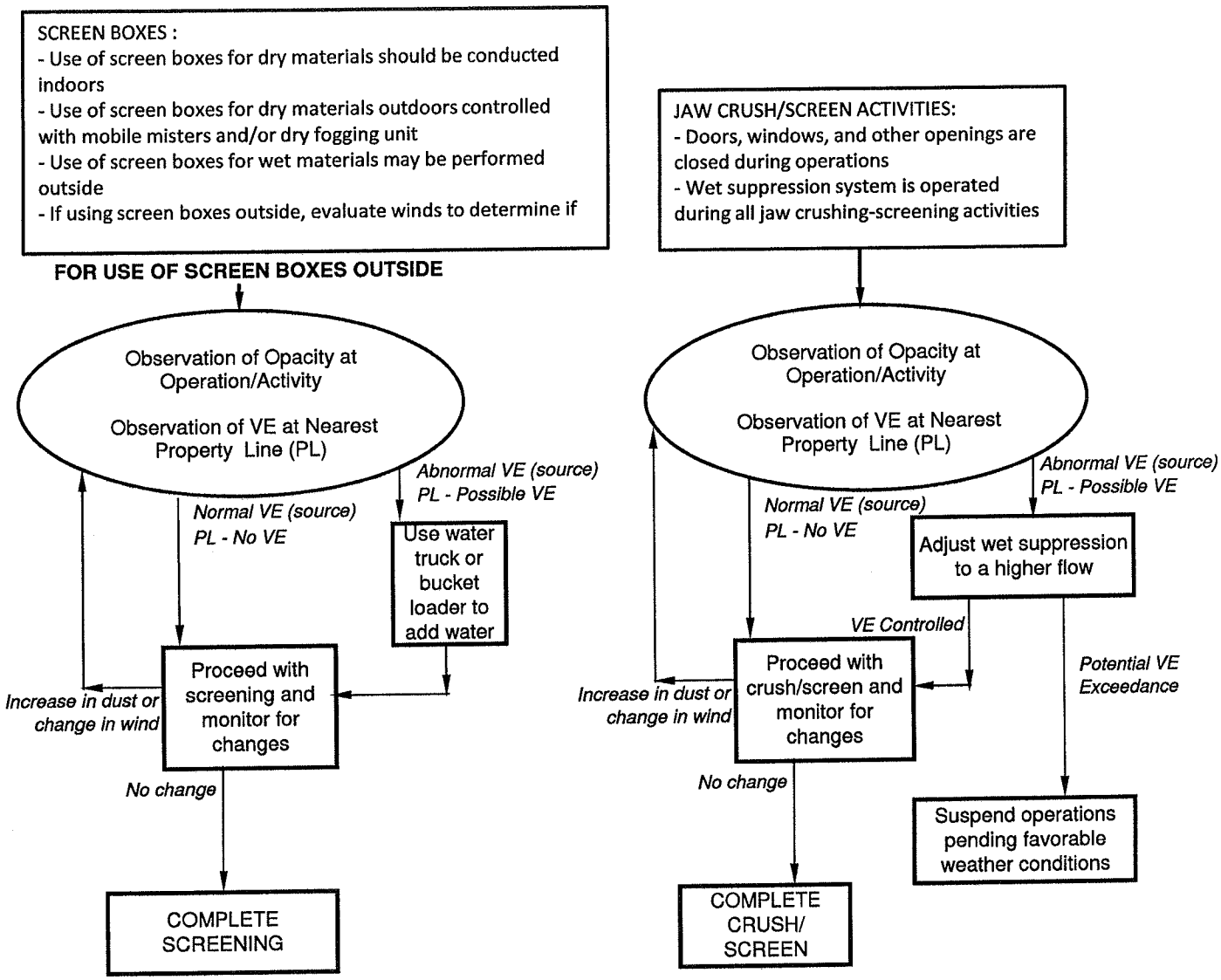


Applicable to storage piles typically kept outdoors as well as temporary piles (such as those created for purposes of loading into railcars).

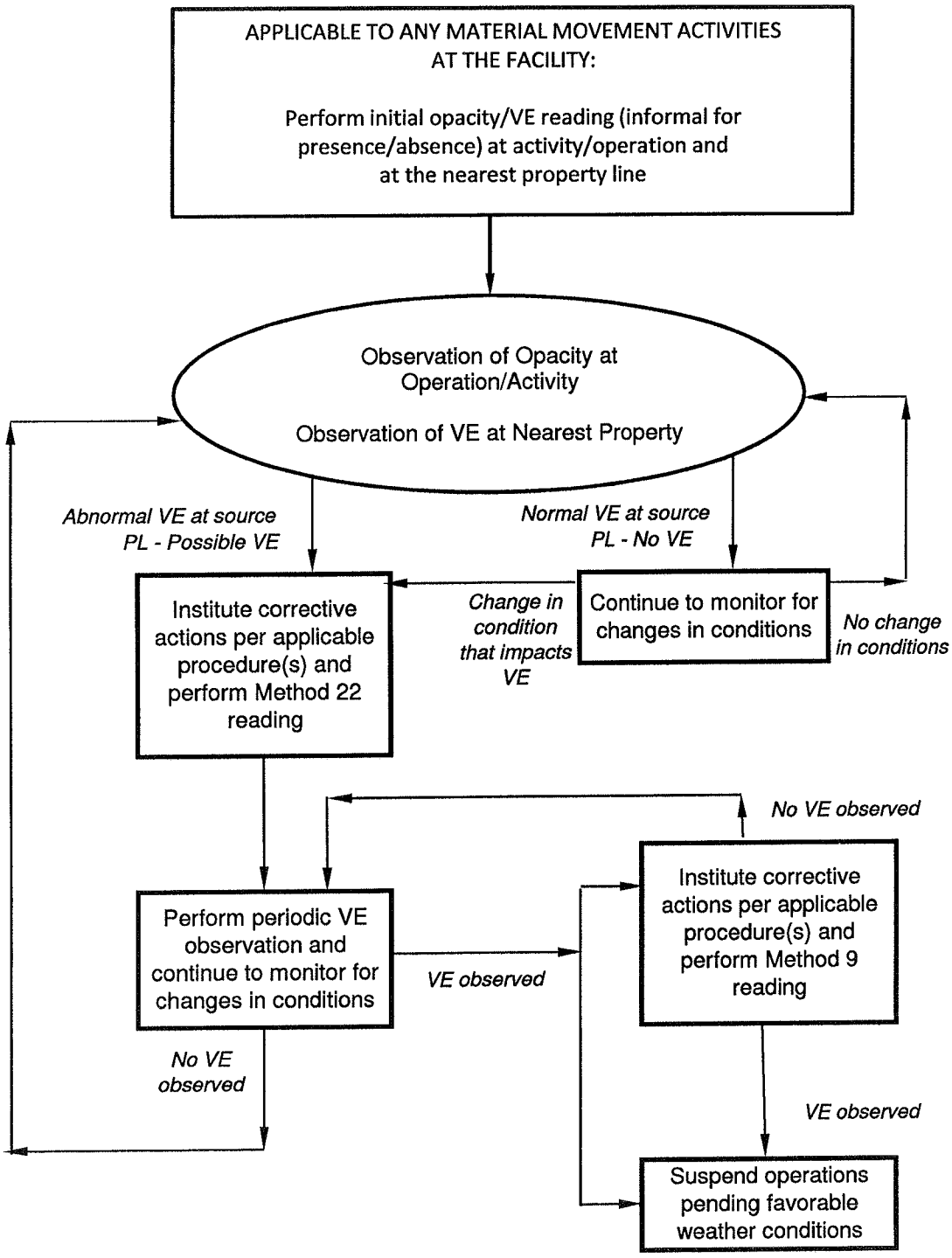
OUTDOOR TRUCK UNLOADING - FUGITIVE DUST CONTROL



CRUSHING/SCREENING - FUGITIVE DUST CONTROL



VISIBLE EMISSION READING FREQUENCY



Equipment Used for Spraying Roads

Kenworth Water Truck

- Width of spray – 60 feet
- Application rate – 200 gallons/minute
- Tank size – 2,000 gallons

GMC Calcium Chloride Truck

- Width of spray – 16 feet
- Application rate – 3 gallons/minute
- Tank size – 2,000 gallons

APPENDIX C
SAMPLE RECORDKEEPING SHEETS

SAMPLE LOADING OPERATIONS CHECKLIST
S.H. BELL COMPANY CHICAGO, ILLINOIS

								Weather Conditions							
Date	Start Time	Stop Time	Initials	Was material sprayed with water? (Y/N)	Water appl. suspended ? (Y/N)	Date/Time if water appl. suspended	Mobile misters or portable DC used? (Y/N)	Temp	Wind (none, avg., high or observed mph)	Operations Suspended*? (Y/N)	Date/Time if Operations Suspended	Proper Methods Followed? (Y/N) *(includes minimizing drop heights)*	Abnormal Emissions at Source**? (Y/N)	VE at nearest property line**? (Y/N)	Comments or Corrective Measures *(if proper handling methods were not followed, ops not suspeded, etc.)*

*Loading operations are only performed when windspeeds are 20 mph or less unless water is applied and/or no VE is observed at the property line
** If Y, see operating procedures for course of action and increase frequency of VE readings

SAMPLE DAILY INSPECTION LOG FOR OUTDOOR SMALL PARTICLE STORAGE PILES
S.H. BELL COMPANY CHICAGO, ILLINOIS

MATERIAL IN STORAGE PILES:

Date	Time	Initials	Storage Pile Location(s)	Weather Conditions				Pile Tarped? (Y/N)	Pile Sprayed? (Y/N)	Pile Fused? (Y/N)	Abnormal Emissions at Source**? (Y/N)	VE at nearest property line**? (Y/N)	Comments or Corrective Measures *(water or chemical stabilizer not applied, etc.)*
				Temp	Wind (none, avg., high or observed mph)	Operations Suspended*? (Y/N)	Date/Time if Operations Suspended						

*Disturbance of storage piles suspended when windspeeds are >20 mph, unless water can be applied and/or no VE is observed at the property line

** If Y, see operating procedures for course of action and increase frequency of VE readings

RECORD OF SWEEPING AND WATERING OF ROADWAYS
S.H. BELL COMPANY CHICAGO, ILLINOIS

DATE: _____

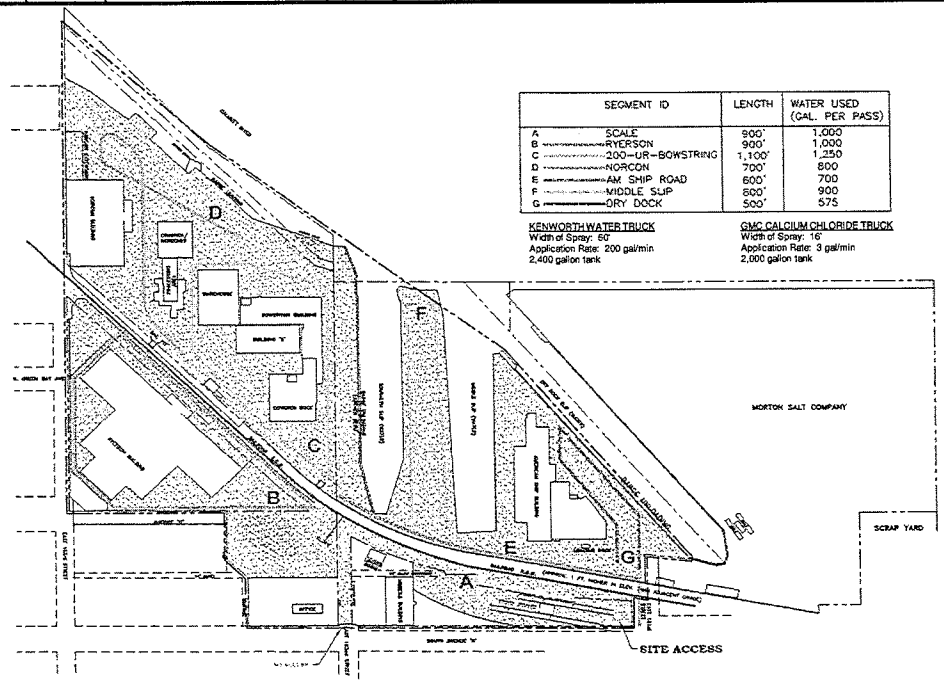
SWEEPING

				Weather Conditions		Sweeping Frequency Method*						
Start Time	End Time	Location(s) Swept *(see facility layout for roadway segment designations)*	Initials	Temp	Conditions (wet, rainy, snow, freezing, etc.)	Roads are free and clear of all material**? (Y/N)	Every 100 trucks? (Y/N)	Every 4 hours? (Y/N)	Time of Sweeping	If truck count, enter count at time of sweeping	If Not Swept, Provide Reason	Comments or Corrective Measures

* Method of sweeping to be determined each day (begins at at 12:01 am for the next 24 hours).
**If roads are free and clear of material, no further records required.

WATERING

				Weather Conditions								
Start Time	End Time	Location(s) Watered *(see facility layout for roadway segment designations)*	Initials	Temp	Conditions (wet, rainy, snow, freezing, etc.)	Roads Already Wet (damp from calcium chloride)? (Y/N)	Roads Already Wet (weather)? (Y/N)	Quantity of Water Used (gallons)	Number of Passes	Quantity of Calcium Chloride Applied (gallons)	Quantity of Salt or Brine Applied (gallons)	Comments or Corrective Measures



SEGMENT ID	LENGTH	WATER USED (GAL. PER PASS)
A SCALE	900'	1,000
B RYERSON	900'	1,000
C 200-UR-BOWSTRING	1,100'	1,250
D NORCON	700'	800
E AM SHIP ROAD	600'	700
F MIDDLE SLIP	600'	900
G DRY DOCK	500'	575

KENWORTH WATER TRUCK
Width of Spray: 60'
Application Rate: 200 gal/min
2,400 gallon tank

GMC CALCIUM CHLORIDE TRUCK
Width of Spray: 16'
Application Rate: 3 gal/min
2,000 gallon tank

MAIN TRAFFIC ROADS
A, B, C, and D

ADDITIONAL OBSERVATIONS OR NOTES

PCL XL error

Warning: IllegalMediaSize