Personnel responsible:

Material Handler

Safety equipment:

All safety glasses and appropriate safety apparel is to be worn at all times. Hearing protection is recommended for operators spending excess (2-3 consecutive hours) amount of time near car

Ensure chocks and warning sign are in place before unloading.

Summary:

This section provides specific directions for unloading Magnesium Oxide (MgO). Do not unload MgO unless there is room in the Silo for it.

Procedure:

Preparation for Unloading of the Bulk Rail Car

1. Print out a new MgO Car History Log
   a) Follow MgO car history log procedure when filling out log
2. To assure that the car will not move or be moved, do the following.
   a) Check the hand brake on the rail car to make sure it is engaged;
   b) Block or chock the wheels of the car
   c) Confirm the placement of the derail and caution signs.
3. Check the side of the railcar to verify that the manufacturer matches the manufacturer on the Spot and Release form.
4. If the manufacturer (Baymag or Premier) is still in doubt, contact the Quality Manager for assistance.
5. Prior to any MgO unloading determine which silo will receive the shipment.
6. Check the silo assigned to see if there is sufficient capacity to unload the full quantity of MgO. If there is any doubt about the storage tank being able to hold the full contents of the rail car, consult the Plant Manager.
7. When it is determined that the storage silo can sufficiently hold the contents of the rail car, switch the Diverter valve to the Silo that the MgO will be loaded into.
8. Visually verify, if possible, that the Diverter Valve switched correctly.

MgO Unloading Procedure

1. Obtain Sample of Contents of Car
2. Ensure that chocks and warning sign are in place before unloading.
3. Ensure all the load seals are intact. If they are not, stop and inform the Plant Manager. The MgO may have been tampered with.
4. Open the hatch on one of the hoppers and secure an MgO sample for laboratory testing.
5. Record the seal number from the opened hatch on the log sheet.
6. Close the hatch securely and check all hatches as to being tightly closed and air tight.
7. Label the sample with the Railcar Number, Silo, Date, Time, and Material Handler Initials and place it on the Material Handler's Desk.

Connect the air inlet hose:

1. Remove the cap on the air inlet connection on the car.
2. Remove the cap on the air supply hose from the blower.
3. Connect the air supply hose to the air inlet connection on the car, making sure that the connection is secure.

Connect the MgO discharge hose:

1. Remove the cap on the product outlet on the car.
2. Remove the cap on the transfer hose to the storage silo pipeline.
3. Connect the transfer hose to the product outlet on the car (making sure the connection is secure).
4. Connect the other end of the transfer hose to the pipeline.
5. Check the product valve on the bottom of each hopper (should be **closed**).
6. Ensure the aerating valves on the car are open.
7. Check the pipeline valve (should be open)
8. Check the blow down valve on the car (should be **closed)**
9. Start the Blower.
10. After the car has pressurized to 10 to 15 psi, open the control valve ½ way.

WARNING: Pressure should never exceed the limit listed on the railcar

WARNING: Transferring product at pressures higher than 10 psi. can cause the transfer pipe to clog

11. When the transfer line has been pressurized, double check to make sure that the product will be flowing into the correct storage silo.
12. Slowly open the product valve on the bottom of an end hopper
13. MgO passing through the discharge hose should be heard.
14. Adjust the control valve a little beyond ½ way to ensure the line stays clear.
15. As the car is unloaded the pressure in the hopper will fall.
16. When MgO is no longer heard to be passing through the discharge hose, pound on the side of the hopper to determine if it is empty (denoted by a hollow sound).
17. When the hopper is empty, close the product valve at the bottom of the hopper, and continue to the next hopper, using the same procedure as above. Repeat until all of the hoppers have been emptied.

Prepare the MgO Rail Car for Release to the Railroad.

1. Ensure all of the hoppers are empty
2. Securely close all of the product valves on the car
3. Close the tank and pipeline valves.
4. Turn the Blower off.
5. Slowly open the blow down valve on the car to release the pressure in the hoppers and in the line.
6. After all of the pressure in the car has been released, open the hatches on the top of the car to visually confirm that all of the MgO has been transferred.
7. When it has been confirmed that the car is empty, close and secure the hatches.
8. Disconnect the transfer hoses and secure the caps on both the transfer and the product outlets on the car.
9. Disconnect the air hose and replace the caps on the air hose and the air inlet on the rail car.
10. Ensure the hatch covers are all closed and tightly bolted down.
11. Ensure the product outlet cap is secure and the chain is in place.
12. Ensure air inlet cap is secure and the chain in place.
13. Place all hoses and couplings on the rack (not on the ground) and clear of the siding and rail cars.
14. Check the general condition of the rail car (ladders, handrails, platforms, etc.) and report any problems to the Plant Manager.
15. Remove the wheel chocks and warning signs.
16. Sign off on MgO history log stating MgO car was physically checked, it is empty and it is ready for release.

TRAINING DOCUMENTATION

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Revision Number	Revision Date	Revision Author	Revision Description
00	06/29/09	00	- New Document (Deleted old procedure and created new one)