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Annual concrete grain storage sample checklist

Asset file folder

The following information may be collected and verified for each concrete structure at the property and stored in a centralized location:

Date of Construction _____

USA warehouse diagram (Bin Chart) _____

Designation/Name of structure _____

Vendors

- ☐ General Contractor _____
  - ☐ Purchase Agreement _____
- ☐ Concrete Engineer _____
- ☐ Concrete Contractor _____
  - ☐ Warranty _____
- ☐ Equipment Installation Contractor _____
  - ☐ Warranty _____

Plans

- ☐ Foundation Plans _____
- ☐ Wall reinforcing plans _____
- ☐ Roof reinforcing plans _____

Equipment

- ☐ Flow diagram _____
- ☐ Equipment list and age _____
- ☐ Equipment capacities _____

Operations

- ☐ Structure Erector/Designer Operational Manual _____
- ☐ Written fill procedures _____
- ☐ Written emptying procedures _____
- ☐ Written fan operation procedures _____
- ☐ Written maintenance procedures _____
- ☐ Written bin entry procedures _____
- ☐ Written lock-out/tag-out procedures _____

Inspections

- ☐ Photo documentation during construction _____
- ☐ Photo documentation of last significant remodel / repair _____
- ☐ Date of last inspection _____
- ☐ Previous inspection report _____

Maintenance

- ☐ Record of past maintenance _____
  - ☐ Dates _____
  - ☐ Activities _____
  - ☐ Contractors involved _____
  - ☐ Photos _____

Site Training

- ☐ Site plan map with evacuation route clearly posted _____
- ☐ Topic and date of last site training _____
- ☐ Number of previously trained employees still at location _____

Annual inspection when empty

The following information should be collected and verified for each concrete grain storage structure on the property annually at a time when the structure is empty.

Date of Inspection _____

Foundation

- ☐ Identify and document any foundation cracks _____
- ☐ Verify that water flows away from the foundation _____
- ☐ Verify the foundation is level _____
- ☐ Identify and document areas of differential settlement _____

Boots and reclaim tunnels

- ☐ Dry _____
- ☐ Clean _____
- ☐ Free of signs of structural cracking and differential movement _____

Silo walls

- ☐ Identify and document any wall cracks _____
- ☐ Identify and document areas of exposed reinforcing steel _____
- ☐ Identify and document areas of new worsening of old cracking or past repairs _____

Roof

- ☐ Verify that water is not ponding on roofs _____
- ☐ Verify that the roof is not leaking _____

Openings

- ☐ Inspect reclaim tunnel for cracks at and near gate openings _____
- ☐ Inspect overhead bin floors for cracks at and near gate openings _____
- ☐ Inspect wall openings for cracks at and near wall openings _____

Equipment

Operate the following to assure proper function

- ☐ Aeration fans _____
- ☐ Ventilation and exhaust fans _____
- ☐ Discharge gates, sumps and / or slides _____
- ☐ Reclaim conveyors _____
- ☐ Distributors, valves and diverters _____
- ☐ Sweep auger and / or Kanal type unloading systems (if installed) _____
- ☐ Bucket elevators _____
- ☐ Fill conveyors _____
- ☐ Manlift _____

Safety Equipment

- ☐ Motor, equipment, and drive assembly guarding in place _____
- ☐ What types of hazard monitoring equipment in place? _____
- ☐ All hazard monitoring equipment operating properly _____
- ☐ All means of egress properly labeled and structurally sound _____
- ☐ Points of entry (ladders, doors, cages etc.) properly protected to prevent trespassing _____

Housekeeping

- ☐ Update and review written housekeeping plan to assure it is appropriate _____
- ☐ Verify housekeeping plan is being implemented _____
- ☐ Verify that all spouts and conveyors are in good condition and “dust tight” _____
- ☐ Verify that grain is not actively leaking from the structure _____
- ☐ Verify that grain is not actively leaking from grain handling equipment _____

Greasing and Lubrication

- ☐ Update and review written greasing and lubrication plan to assure it is appropriate and being adequately implemented _____
- ☐ Where bearings require sufficient greasing to cause grease to be expelled from the bearing assembly assure that all expelled grease is cleaned away to prevent build-up near rotating components _____

Continued > >

Annual inspection when empty (continued)

Training

- ☐ Provide annual refresher training for proper loading and unloading of structure
- ☐ Provide annual refresher training on lock-out / tag-out procedures
- ☐ Provide annual refresher training on bin / silo entry procedures

Miscellaneous

- ☐ Verify all elevated landings, walkways and ladders are structurally stable
- ☐ Verify that grain is not / has been leaking from silo to silo
- ☐ Verify that pieces of concrete have not been found in the grain removed from the structure
- ☐ Verify the condition and quantity of any carry-over grain that may still be present within the structure
  - ☐ Age of carry-over grain
- ☐ Verify there are no visible signs of grain stuck on the inside of the silo walls, this could be an indication of water leaks or grain management problems

Annual inspection when full

The following information should be collected and verified for each concrete grain storage structure on the property annually after they have been filled as a follow-up to the inspection when empty.

Date of Inspection

Foundation Movement

- ☐ The foundation and any foundation cracking or movement that may have been present prior to filling look generally the same after filling with grain
- ☐ Visible indications of differential settlement (tipping or leaning) are not observed

Silo walls and openings

- ☐ No visible indications of new cracking or widening of existing cracking

Equipment operation

- ☐ All previously tested equipment operates functions as desired after loading

Roof

- ☐ Check the bin roof for leaks

Housekeeping

- ☐ Verify that grain is not actively leaking from the structure
- ☐ Verify that grain is not actively leaking from grain handling equipment