

AIR QUALITY PERMIT

Issued To:	Harvest States Cooperative	Permit #2854-00
	Grain Elevator	Application Complete:2/20/97
	P.O. Box 3347	Preliminary Determination
	Great Falls, MT 59403	Issued: 4/4/97
		Department Decision Issued: 4/22/97
		Permit Final: 5/8/97

An air quality permit with conditions is granted to Harvest States Cooperative Grain Elevator (Harvest), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM), 17.8.701, *et seq.*, as amended, for the following:

Section I: Permitted Facilities

- A. Location: The Harvest facility is located at 600 6th Street South West, in Great Falls, Montana. The legal location of this facility is Section 10, Township 20 North, Range 3 East, in Cascade County, Montana.
- B. Description: This facility receives and stores a variety of grains. The process includes grain receiving, storage, cleaning, and shipping grains out in bulk.
- C. Current Permitting Action: This permitting action reflects the fact that the Cascade City-County Health Department has reverted its permitting program back to the State of Montana. The facility has not changed, but the existing Cascade County permits must be reissued as state permits. Permit #2854-00 replaces all Cascade County and any other air quality permits held by Harvest States.

Section II: Limitations and Conditions

A. Emission Control Requirements

Harvest may not cause or authorize the use of any street, road, or parking area without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308 and ARM 17.8.715).

B. Emission Limitations

1. Harvest shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed on or before November 23, 1968, that exhibit an opacity of 40% or greater averaged over six (6) consecutive minutes (ARM 17.8.304).
2. Harvest shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 minutes (ARM 17.8.304).
3. Harvest shall not cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control particulate matter are taken. Such emissions of airborne particulate matter from any stationary source shall not exceed an opacity of 20% or greater averaged over six (6) consecutive minutes (ARM 17.8.308).

C. Emissions Testing Requirements

1. All source tests must be conducted in accordance with the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).
2. The department may require testing (ARM 17.8.105).

D. Reporting Requirements

1. All records compiled in accordance with this permit must be maintained by Harvest as a permanent business record for at least five (5) years following the date of the measurement, and must be available at the plant site for inspection by the department. This information must be submitted to the department upon request (ARM 17.8.710).
2. Harvest shall supply the department with annual production information for all emission points, as required by the department, in the annual emission inventory request. The request will include, but is not limited to, all sources identified in the most recent emission inventory report and sources identified in Section I of this permit.

Production information shall be gathered on a calendar year basis and submitted to the department by the date required in the emission inventory request. Information shall be in units as required by the department (ARM 17.8.505).

Section III: General Conditions

- A. Inspection - The recipient shall allow the department's representatives access to the source at all reasonable times for the purpose of making inspections, surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if the recipient fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving the permittee of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.701, *et seq.* (ARM 17.8.717).
- D. Enforcement - Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals - Any person or persons who are jointly or severally adversely affected by the department's decision may request, within fifteen (15) days after the department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The department's decision on the application is not final unless fifteen (15) days have elapsed and there is no request for a hearing under this section.

The filing of a request for a hearing postpones the effective date of the department's decision until the conclusion of the hearing and issuance of a final decision by the Board.

- F. Permit Inspection - As required by ARM 17.8.716, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by department personnel at the location of the permitted source.
- G. Construction Commencement - Construction must begin within three years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked.
- H. Permit Fees - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, the continuing validity of this permit is conditional upon the payment by the permittee of an annual operation fee as required by that Section and rules adopted thereunder by the Board of Environmental Review.

Permit Analysis
Harvest States Cooperative Grain Elevator
Permit #2854-00

I. Introduction/Process Description

A. Permit History

Harvest States Cooperative Grain Elevator (Harvest) received an air quality permit from the Cascade County Health Department for the operation of a grain elevator. Then, on July 27, 1994, by order of the Board of Environmental Review, the Cascade County Air Pollution Control Program reverted its air quality permitting program to the Montana Department of Environmental Quality (DEQ). Therefore, the DEQ must re-issue all Cascade County Air Quality permits as Montana DEQ permits. Permit #2854-00 replaces any Cascade County air quality permits held by Harvest.

B. Process Description

This facility receives various grains, cleans them, and stores them for use. The grain is received via truck and railcar, then it is cleaned and stored for future use.

Equipment used at this facility includes all equipment listed in permit application #2854-00, including but not limited to:

1. Grain Receiving (1 truck and 1 rail receiving pit - vented to a Baghouse);
2. 2 Elevator Legs (Enclosed and Vented to a Baghouse);
3. 34 Storage Bins (Vented to a Baghouse);
4. Grain Cleaning (Disc Cleaner vented to a Baghouse); and
5. Grain Shipping (2 Loadout Stations vented to a Baghouse).

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available upon request from the department. Upon request, the department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8.101, Subchapter 1, General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule is a list of applicable definitions used in this chapter unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the department, provide the facilities and necessary equipment, including instruments and sensing devices, and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the department. The department has determined for the current permit action that no initial testing is necessary.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this

chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, MCA.

Harvest shall comply with all requirements contained in the Montana Source Test Protocol and Procedures Manual, including but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the department upon request.

4. ARM 17.8.110 Malfunctions. The department must be notified promptly by phone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation, or to continue for a period greater than four hours.
5. ARM 17.8.111 Circumvention. No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant which would otherwise violate an air pollution control regulation. No equipment that may produce emissions shall be operated or maintained in such a manner that a public nuisance is created.

B. ARM 17.8.201, Subchapter 2, Ambient Air Quality, including but not limited to:

The following ambient air quality standards or requirements may apply, including but not limited to:

ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide,
ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide,
ARM 17.8.213 Ambient Air Quality Standards for Ozone,
ARM 17.8.220 Ambient Air Quality Standards for Settled Particulate Matter,
ARM 17.8.223 Ambient Standards for PM-10.

Harvest must comply with the applicable ambient air quality standards. See Section V, Existing Air Quality and Impacts.

C. ARM 17.8.308, Subchapter 3, Emission Standards, including but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over six consecutive minutes.

This rule also requires that no person may cause or authorize emissions to be discharged into the atmosphere from any source installed before November 23, 1968, that exhibit an opacity of 40% or greater averaged over six consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. This rule requires an opacity limitation of 20% for all fugitive emission sources, unless superseded by more stringent New Source Performance Standards, and that no person shall authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control airborne particulate matter are taken.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires a

limitation of particulate emissions caused by the combustion of fuel which is to be discharged from any stack or chimney into the atmosphere not to exceed the hourly rate outlined in this rule.

4. ARM 17.8.340 Standards of Performance for New Stationary Sources The owner or operator of any stationary source or modification, as defined and applied in 40 CFR Part 60, shall comply with the standards and provisions of 40 CFR Part 60. 40 CFR Part 60, Subpart DD - Standards of Performance for Grain Elevators applies to all affected facilities constructed, modified, or reconstructed after August 3, 1978, that have the capacity to store 1 million bushels of grain. This facility does not have the capacity to store greater than 1 million bushels of grain; therefore, 40 CFR Part 60, Subpart DD does not apply to this facility.

D. ARM 17.8.501, Subchapter 5, Air Quality Permit Application, Operation and Open Burning Fees, including but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This section requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the department. This permitting action reflects a change in the permitting authority from Cascade County, to the State of Montana and is considered a Modification. Therefore, there is no fee associated with this action.
2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the department; and the air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

The annual assessment and collection of the air quality operation fee, as described above, shall take place on a calendar year basis. The department may insert into any final permit issued after the effective date of these rules such conditions as may be necessary to require the payment of an air quality operation fee on a calendar year basis, including provisions which prorate the required fee amount.

E. ARM 17.8.701, Subchapter 7, Permit, Construction and Operation of Air Contaminant Sources, including but not limited to:

1. ARM 17.8.704 General Procedures for Air Quality Preconstruction Permitting. An air quality preconstruction permit shall contain requirements and conditions applicable to both construction and subsequent use.
2. ARM 17.8.705 When Permit Required-Exclusions. This rule requires a facility to obtain an air quality permit or permit alteration if they construct, alter, or use an air contaminant source which has the potential to emit more than 25 tons per year of any pollutant. Harvest has the potential to emit more than 25 tons per year of particulate matter and PM-10; therefore, a permit is required.
3. ARM 17.8.710 Conditions for Issuance of Permit. This rule requires that the source demonstrate compliance with applicable rules and standards before a permit can be

issued. Also, a permit may be issued with such conditions as are necessary to assure compliance with all applicable rules and standards. The source has demonstrated compliance with applicable rules and standards as required for permit issuance.

4. ARM 17.8.715 Emission Control Requirements. Harvest is required to install on the new or altered source the maximum air pollution control capability which is technically practicable and economically feasible. A Best Available Control Technology (BACT) review was conducted for sources of particulate and PM-10 pollution at this facility. The BACT Review can be found in Section IV.
5. ARM 17.8.716 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the department at the location of the source.
6. ARM 17.8.717 Compliance with Other Statutes and Rules. This rule requires the permit holder to comply with all other applicable federal and Montana statutes, rules and standards.
7. ARM 17.8.720 Public Review of Permit Applications This rule requires that Harvest notify the public by means of legal publication in a newspaper of general circulation in the area to be affected by the application for permit. Harvest will not be required to submit a legal publication because they complied with this requirement when Cascade County issued the original permit.
8. ARM 17.8.731 Duration of Permit. An air quality permit shall be valid until revoked or modified as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than one year after the permit is issued.
9. ARM 17.8.733 Modification of Permit An air quality permit may be modified for changes in any applicable rules and standards adopted by the board or changed conditions of operation at a source or stack which do not result in an increase in emissions because of the changed conditions of operation. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.

F. ARM 17.8.801, Subchapter 8, Prevention of Significant Deterioration of Air Quality, including but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
2. ARM 17.8.818 Review of Major Stationary Sources and Major Modification-- Source Applicability and Exemptions. The requirements contained in ARM 17.8.801-17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the Federal Clean Air Act that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source, because it is not a listed source and does not have the potential to emit more than 250 tons per year or more of any air pollutant from point sources of emissions.

III. Emissions Inventory - Harvest States Cooperative Grain Elevator

Source	tons/yr					
	TSP	PM-10	NOX	VOC	CO	SOX
Grain Receiving	0.6300	0.1575				
Internal Operations (Elevator Legs)	3.4700	0.8400				
Internal Operations (Storage Bins)	0.5940	0.1440				
Grain Cleaning	2.6020	0.6300				
Grain Shipping	0.6300	0.1575				
Haul Roads	1.09	0.50				
Total	9.0160	2.4290	1.5800	0.0915	0.3311	0.0095

Grain Receiving

Maximum Grain Received Annually:	3.5	MM Bushels/yr	Conversion:	60 lb/bushel *
3.5 MM bushels/yr = 210,000,000 lbs/yr			210,000,000 lbs/yr * 0.0005 = 105,000 tons/yr	Number of Receiving Bins:
2 Bins				

TSP Emissions:

Emission Factor: 0.06 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control Efficiency: 80.0% (Baghouse)
 Calculations: 0.060 lb/ton * 105,000 tons/yr = 6300.00 lbs/yr
 6300.00 lbs/yr * 0.0005 tons/lb * 0.20 = 0.63 tons/year

PM-10 Emissions:

Emission Factor: 0.015 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control Efficiency: 80.0% (Baghouse)
 Calculations: 0.015 lb/ton * 105,000 tons/yr = 1575.00 lbs/yr
 1575.00 lbs/yr * 0.0005 tons/lb * 0.20 = 0.1575 tons/year

Internal Operations (2 elevator legs)

Maximum Process Rate: 105,000 tons/yr

TSP Emissions:

Emission Factor: 0.33 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control Efficiency: 80.0% (Baghouse)
 Calculations: 0.33 lb/ton * 105,000 tons/yr = 34650.00 lbs/yr
 34650.00 lbs/yr * 0.0005 tons/lb * 0.20 = 3.47 tons/year

PM-10 Emissions:

Emission Factor: 0.08 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control Efficiency: 80.0% (Baghouse)
 Calculations: 0.08 lb/ton * 105,000 tons/yr = 8400.00 lbs/yr
 8400.00 lbs/yr * 0.0005 tons/lb * 0.20 = 0.84 tons/year

Internal Operations (34 storage bins)

Maximum Storage Capacity: 600,000 Bushels
 Conversion: 60 lb/bushel

bushels/year * 60 lb/bushel * 0.0005 tons/lb =

18,000 tons/yr

600,000

TSP Emissions:

Emission Factor: 0.33 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control Efficiency: 80.0% (Baghouse)
 Calculations: 0.33 lb/ton * 18000 tons/yr = 5940.00 lbs/yr
 5940.00 lbs/yr * 0.0005 tons/lb * 0.20 = 0.5940 tons/year

PM-10 Emissions:

Emission Factor: 0.08 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control Efficiency: 80.0% (Baghouse)
 Calculations: 0.08 lb/ton * 18000 tons/yr = 1440.00 lbs/yr
 1440.00 lbs/yr * 0.0005 tons/lb * 0.2 = 0.1440 tons/year

Grain Cleaning

Process Rate: 300 Bushels/hr Conversion: 300 bu/hr * 60 lb/bu *
 0.0005 = 9.00 tons/hr Hours of Operation: 8760 Hours/yr

TSP Emissions:

Emission Factor: 0.33 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control Efficiency: 80.0% (Baghouse)
 Calculations: 0.33 lb/ton * 9.00 tons/hr = 2.97 lbs/hr
 2.97 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb * 0.2 = 2.6020 tons/year

PM-10 Emissions:

Emission Factor: 0.08 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control efficiency: 80.0% (Baghouse)
Calculations: 0.08 lb/ton * 9.00 tons/hr = 0.72 lbs/hr

0.72 lbs/hr * 8760 hrs/yr * 0.0005 tons/lb * 0.2 = 0.63 tons/year

Grain Shipping

Maximum Grain Shipped Annually: 3.5 MM Bushels/yr Conversion: 60
lb/bushel * 3.5 MM bushels/yr = 210,000,000 lbs/yr 210,000,000 lbs/yr * 0.0005 = 105,000 tons/yr Number of
Loadout Bins: 2 Bins

TSP Emissions:

Emission Factor: 0.06 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control Efficiency: 80.0% (Baghouse)
Calculations: 0.060 lb/ton * 105,000 tons/yr = 6300.00 lbs/yr

6300.00 lbs/yr * 0.0005 tons/lb * 0.2 = 0.63 tons/year

PM-10 Emissions:

Emission Factor: 0.015 lb/ton (AP-42, Table 9.9.1-2, 11/95) Control Efficiency: 80.0% (Baghouse)
Calculations: 0.015 lb/ton * 105,000 tons/yr = 1575.00 lbs/yr

1575.00 lbs/yr * 0.0005 tons/lb * 0.2 = 0.1575 tons/year

Haul Roads

Vehicle miles traveled: 2 VMT/day {Estimated} Control Efficiency is 50% for watering.

TSP Emissions:

TSP Emission Factor (Rated Load Capacity <50 tons): 6 Lbs/VMT (AP-42 Section 11.2.1, 9/88) E(TSP)= (2 VMT/day)(6.00 Lbs/VMT)(0.5)
E(TSP)= 6 Lbs/day

or 1.09 tons/yr

PM10 Emissions:

PM10 Emission Factor (Rated Load Capacity <50 tons): 2.7 Lbs/VMT (AP-42 Section 11.2.1, 9/88) E(PM10)= (2 VMT/day)(2.70 Lbs/VMT)(0.5)
E(PM10)= 2.7 Lbs/day

or 0.5 tons/yr

IV. BACT Analysis

A Best Available Control Technology (BACT) determination is required for any new or altered source. Harvest shall install on the new or altered source the maximum air pollution control capability which is technologically practicable and economically feasible, except that BACT shall be used. Since this permitting action does not constitute a new or altered source, the department will accept the original BACT review done as part of Harvest's Cascade County air quality permit.

The control options that have been selected have controls and control costs similar to other recently permitted similar sources and are capable of achieving the appropriate emissions standards.

V. Existing Air Quality and Impacts

In the view of the department, the amount of controlled emissions from this facility will cause minimal air quality impacts. There are no significant emissions of toxic air pollutants from this source. Therefore, the department does not believe that this source will cause or contribute to a violation of any ambient standards.

VI. Taking or Damaging Implication Analysis

As required by 2-10-101 through 105, MCA, the department has conducted a private property taking and damaging assessment and has determined there are no taking or damaging implications.

VII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air and Waste Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-4323

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued for: Harvest States Cooperative Grain Elevator
P.O. Box 3347
Great Falls, MT 59403

Air Quality Permit Number: 2854-00

Preliminary Determination on Permit Issued: 4/4/97
Department Decision on Permit Issued: 4/22/97

Montana Environmental Policy Act (MEPA) Compliance: An environmental assessment required by MEPA, was completed for this project as follows.

Legal Description of Site: Section 10, Township 20 North, Range 3 East, in Cascade County, Montana.

Description of Project: This permit is for the continued operation of a grain elevator.

Benefits and Purpose of Proposal: This plant receives raw grain by truck and rail. The process includes seed cleaning and storage, and bulk loadouts.

Description and analysis of reasonable alternatives whenever alternatives are reasonably available and prudent to consider: No reasonable alternatives available.

A listing and appropriate evaluation of mitigation, stipulations and other controls enforceable by the agency or another government agency: A list of enforceable conditions, including a BACT analysis, are contained in permit #2854-00.

Description and analysis of regulatory impacts on private property rights: The department has considered alternatives to the conditions imposed in this permit as part of the permit development. The department has determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

Potential Impact on Physical Environment

		Major	Moderate	Minor	None	Unknown	Comments Attached
1	Terrestrial and Aquatic Life and Habitats			X			
2	Water Quality, Quantity and Distribution			X			
3	Geology and Soil Quality, Stability and Moisture			X			
4	Vegetation Cover, Quantity and Quality			X			
5	Aesthetics			X			
6	Air Quality			X			
7	Unique Endangered, Fragile or Limited Environmental Resource					X	
8	Demands on Environmental Resource of Water, Air and Energy			X			
9	Historical and Archaeological Sites					X	
10	Cumulative and Secondary Impacts			X			

Potential Impact on Human Environment

		Major	Moderate	Minor	None	Unknown	Comments Attached
1	Social Structures and Mores				X		
2	Cultural Uniqueness and Diversity				X		
3	Local and State Tax Base and Tax Revenue			X			
4	Agricultural or Industrial Production			X			
5	Human Health			X			
6	Access to and Quality of Recreational and Wilderness Activities			X			
7	Quantity and Distribution of Employment			X			
8	Distribution of Population			X			
9	Demands for Government Services			X			
10	Industrial and Commercial Activity			X			
11	Locally Adopted Environmental Plans and Goals			X			
12	Cumulative and Secondary Impacts			X			

Recommendation: No EIS is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The emissions from this facility are minimal. In addition, the controls contained in permit #2854-00 will further limit the emissions.

Other groups or agencies contacted or which may have overlapping jurisdiction: Cascade City-County Health Department

Individuals or groups contributing to this EA: Department of Environmental Quality, Permitting and Compliance Division.

EA prepared by: Jeff Bellino

Date: April 2, 1997