

## Air Quality Permit

Issued to: Colstrip Energy Limited Partnership  
1087 West River Street, Suite 200  
Boise, Idaho 83702

Permit #: 2035-03  
Application Complete: 1/5/98  
Preliminary Determination: 2/12/98  
Department Decision: 3/05/98  
Final Permit: 3/20/98

An air quality permit is granted to Colstrip Energy Limited Partnership (CELP) 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. Permitted Facility

A coal-fired power generation facility located approximately six miles north of Colstrip, Montana. The plant site is located on North 1/2, Section 32, Township 3 North, Range 41 East. The general UTM coordinates are Zone 13, Easting: 5092.59 km, Northing: 3713.70 km.

#### B. Equipment at Facility

The general facilities for the coal-fired power generator are listed below:

1. Coal truck dump, hoppers, and crushers with associated baghouse particulate control.
2. Coal conveyors and storage silos.
3. Steam turbine (1).
4. Circulation fluidized bed (CFB) boiler (1).
5. Air Cool Condenser (ACC) unit.
6. Ash disposal consisting of silo and landfill operations.
7. Two hundred foot stack on the CFB Boiler.
8. Limestone handling facilities.

#### C. Current Permitting Action

In the permit application, CELP requested the removal of the total plant emission limits in Section II.F of permit #2035-02 and proposed limits for point sources at the facility. The permit application did not seek any physical or operational changes to any process equipment at the facility. CELP also proposed removing from the permit the reference in Section II.S to the Hydrometrics letter, eliminating the ambient monitoring requirements in the permit, and clarifying language in Section II.J regarding sulfur content of waste coal.

Permit #2035-03 establishes emission limits for point sources at the facility and eliminates the total plant emission limits. The permit eliminates all reference to the Hydrometrics letter and places specific conditions requiring controls on the ash disposal area. CELP is allowed to discontinue ambient SO<sub>2</sub> monitoring at the facility, but CELP will be required to relocate the PM-10 ambient monitoring site and continue PM-10 monitoring. The department removed condition II.J of permit #2035-02 from permit #2035-03 because the department has conditions and limitations which protect NAAQS for SO<sub>2</sub>.

Permit alteration #2035-03 requires a Prevention of Significant Deterioration (PSD) review. The permit application does not propose any physical or operational

changes at the facility; however, establishing PM-10 emission limits on a point source basis results in an allowable emissions increase of 17.94 tons per year of PM-10. Permit #2035-03 replaces permit #2035-02.

## SECTION II. Permit Terms

### A. Limitations and Conditions

1. Coal haul trucks are to be covered during hauling operations. [ARM 17.8.710]
2. The unloading of coal shall be in an enclosed structure and controlled by a baghouse. Particulate matter less than 10 microns (PM-10) emissions from the baghouse shall not exceed 0.005 gr/dscf. [ARM 17.8.715]
3. The coal crushing, screening, and transfer emissions are to be vented to a baghouse for particulate control. PM-10 emissions from the baghouse shall not exceed 0.006 gr/dscf. [ARM 17.8.715]
4. The coal storage bunker shall be controlled by two baghouses. PM-10 emissions from each baghouse shall not exceed 0.01 gr/dscf. [ARM 17.8.715]
5. Limestone truck unloading, handling, and storage shall be controlled by a baghouse. PM-10 emissions from the baghouse shall not exceed 0.01 gr/dscf. [ARM 17.8.715]
6. Fly ash conveying and storage shall be controlled by a baghouse. PM-10 emissions from the baghouse shall not exceed 0.004 gr/dscf. [ARM 17.8.715]
7. Bed ash conveying and storage shall be controlled by a baghouse. PM-10 emissions from the baghouse shall not exceed 0.004 gr/dscf. [ARM 17.8.715]
8. Ash storage silo unloading shall be controlled by a baghouse and covered haul trucks. PM-10 emissions from the baghouse shall not exceed 0.01 gr/dscf. [ARM 17.8.715]
9. CELP shall be subject to all applicable provisions, as appropriate, of 40 CFR 60, Subpart Da 60.40a through 60.49a (Standards of Performance for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978) and Subpart Y - Standards of Performance for Coal Preparation Plants.

10. CELP shall operate and maintain a baghouse on the CFB boiler. The CFB boiler's emissions for the pollutants listed below shall not exceed the following for the times identified. [ARM 17.8.710]

Pollutant	Annual	Daily	3-hour	1-hour
<b>SO<sub>2</sub></b>	1,840 tons	5.04 tons	432 lbs/hr	574 lbs
<b>NOx</b>	1,435 tons	7,864 lbs		328 lbs
<b>CO</b>	232 tons	1,272 lbs		53 lbs
<b>PM-10</b>	26.28 tons	144.0 lbs		6.0 lbs

11. CELP shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any source that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes. [ARM 17.8.304]
12. CELP shall not cause to be discharged into the atmosphere from any 40 CFR 60 Subpart Da affected facility any gases which contain sulfur dioxide (SO<sub>2</sub>) in excess of:
- 1.20 lb/million BTU (MMBTU) heat input and 10 percent of the potential combustion concentration (90 percent reduction),<sup>1</sup> or
  - 30 percent of the potential combustion concentration (70 percent reduction), when emissions are less than 0.60 lb/million BTU heat input<sup>1</sup> per 40 CFR Part 60.43a.
13. CELP shall not cause to be discharged into the atmosphere from any 40 CFR 60 Subpart Da affected facility any gases which contain particulate matter in excess of:
- 0.03 lb/million BTU heat input derived from the combustion of solid, liquid, or gaseous fuel; and
  - 1 percent of the potential combustion concentration (99 percent reduction) when combusting solid fuel per 40 CFR 60.42a.
14. Enforcement of Sections II.A.10, II.A.11, II.A.12, and II.A.13 requirements, where applicable, shall be determined by utilizing data taken from continuous emission monitors or approved test methods contained in the Montana Source Test Protocol and Procedures Manual. Opacity compliance may be determined via EPA Method 9 by a qualified observer. The above does not relieve CELP from meeting any applicable requirements of 40 CFR 60. Reporting requirements shall be as specified in 40 CFR 60, Subpart Da and Section II.B and II.D of this permit.
15. CELP shall burn fuel containing more than 25%, by weight, coal refuse on an

<sup>1</sup> The above requirements apply to the combustion of solid, liquid, or gaseous fuels. The above requirements do not apply to the combustion of solid, liquid, or gaseous fuels that are used for the production of steam or electricity. The above requirements do not apply to the combustion of solid, liquid, or gaseous fuels that are used for the production of steam or electricity that are used for the production of steam or electricity.

annual basis. [ARM 17.8.710]

16. All tests must be conducted in accordance with the Montana Source Test Protocol and Procedures Manual. [ARM 17.8.106]
17. All haul roads shall use either paving or chemical dust suppression to limit excessive fugitive dust, with water as a backup measure to maintain compliance with 20 percent opacity. [ARM 17.8.715]
18. CELP shall use water spray to control fugitive emissions of particulate matter from the ash disposal area. Ash at the disposal site shall not be handled in such a manner as to create emissions in excess of 20% opacity. [ARM 17.8.715].
19. If a portion of the ash disposal area is inactive and the department determines it to be necessary, CELP shall provide mitigative measures, including, but not limited to, revegetation, to control wind-blown emissions from the area. The department shall determine the necessity of the control measures above on the basis of department observation, results of ambient air quality monitoring, complaints, or any combination of the above. [ARM 17.8.715]
20. The department shall notify CELP when a change is made to the Cooperative Enforcement Agreement between Montana and EPA Region VIII concerning the enforcement guidelines for continuous emission monitors. The current agreement is dated March 30, 1993.
21. CELP shall raise the release heights of the following stacks to the specified height within 180 days after permit #2035-03 is deemed final and shall maintain the stacks at the specified heights:
  - a. the coal dump baghouse 40 feet above the ground,
  - b. the coal crushing baghouse 40 feet above the ground,
  - c. and the fly ash and bed ash storage baghouse/cartridge 22 feet above the ground. [ARM 17.8.710]
22. The exhaust from the CFB boiler shall be discharged from a two hundred foot stack. [ARM 17.8.710]
23. The department may require further testing. [ARM 17.8.105 Testing Requirements]

B. Operational Reporting Requirements:

CELP 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, the following. [ARM 17.8.710]

1. Tons per year of SO<sub>2</sub> from the CFB boiler stack
2. Tons per year of NO<sub>x</sub> from the CFB boiler stack
3. Tons of coal received
4. Tons of coal refuse received
5. Tons of coal consumed
6. Tons of coal refuse consumed

7. Thousands of gallons of oil burned
8. Average BTU/lb for coal
9. Average BTU value of oil used
10. Hours of operation
11. Tons of limestone received
12. Tons of limestone used
13. Total MW hours
14. Amount of ash generated

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 the units required by the department. This information may be used for calculating operating fees, based on actual emissions from the facility, and to verify compliance with permit limitations. [ARM 17.8.505]

CELP shall notify the department of any construction or improvement project conducted pursuant to ARM 17.8.705(1)(q) that would change the facility's annual emission inventory. The notice must be included with the annual emission inventory submitted to the department and must include information sufficient to calculate the facility's estimated actual emissions. [ARM 17.8.708]

C. Ambient Air Monitoring

CELP shall operate an ambient air quality monitoring network near the facility. The ambient air monitoring requirements are fully described in Attachment 1 of this permit. The exact monitoring site must be approved by the department prior to relocation of the site. [ARM 17.8.710]

D. Continuous Emission Monitoring Systems (CEMS)

The following monitors shall be installed and operated on the boiler stack outlet: SO<sub>2</sub>, NO<sub>x</sub>, opacity, CO, and O<sub>2</sub> or CO<sub>2</sub>. Said monitors shall comply with the applicable provisions of 40 CFR 60, Subpart Da 60.47a; Subpart A, 60.7; Appendix B, Specifications 1, 2, 3 and 4; and Appendix F. The monitors shall also conform to, but not be limited to, the following:

1. Continuous Opacity Monitoring System (COMS)

- a. CELP shall install, calibrate, maintain, and operate continuous opacity monitoring systems (COMS) to monitor and record the opacity of the gases discharged into the atmosphere from the boiler.

- (1) The span of these systems shall be set at 100 percent opacity.
- (2) The COMS shall conform to all requirements of 40 CFR Part 60, Appendix B, Performance Specification 1 - Specifications and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources (PS1).
- (3) The COMS data will be used to demonstrate compliance with the 20% opacity limitation in Section II.A.11. CELP shall maintain compliance with the 20% opacity limitation, as demonstrated by the COMS.

b. CELP shall submit a written report of all excess opacity emissions quarterly. Periods of excess emissions shall be defined as those averaged over a six-minute period for which the average is greater than twenty (20) percent opacity. The report shall be in the format contained in Attachment 2 and include, as a minimum, the following:

- (1) The magnitude of excess emissions and the date and time of commencement and completion of each time period of excess emissions.
- (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
- (3) The date and time identifying each period during which the COMS was inoperative except for zero and span checks. The nature of the system repairs or adjustments must also be reported.
- (4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- (5) The percentage of time the COMS was operating shall be calculated as follows:

$$\left(1 - \frac{\text{hours of COMS downtime during reporting period}^*}{\text{hours the source operated during reporting period}}\right) \times 100$$

\* All time required for calibration and to perform preventative maintenance must be included in COMS downtime.

This shall be reported as percent monitor availability during plant operation. CELP shall maintain a minimum of 95% monitor availability during plant operation on a quarterly basis.

Nothing in this section shall preclude enforcement action for data availability that is less than 100 percent but equal to or greater than 95 percent if the conditions in Section II.D.5 are not satisfied.

- (6) The percentage of time the COMS indicated compliance. This shall be calculated as:

$$\left(1 - \frac{\text{total hours of excess emissions during reporting period}}{\text{total hours of COMS availability during reporting period}}\right) \times 100$$

This shall be reported as percent compliance. CELP shall maintain compliance with the 20% limitation, as demonstrated by the COMS in accordance with Section II.A.11.

(7) The excess emission reports shall be submitted within 30 days following the end of the reporting period (January-March, April-June, July-September, and October-December).

- c. CELP shall inspect and audit the COMS quarterly, using neutral density filters. CELP shall conduct these audits using the appropriate procedures and forms in the EPA Technical Assistance Document: Performance Audit Procedures for Opacity Monitors (EPA-600/8-87-025, April 1987). The results of these inspections and audits shall be included in the quarterly excess emission report.
- d. CELP shall maintain a file of all measurements from the COMS performance testing measurements; all COMS performance evaluations; all COMS or monitoring device calibration checks and audits; adjustments and maintenance performed on these systems or devices recorded in a permanent form suitable for inspection. The file shall be retained on site for at least five years following the date of such measurements and reports. CELP shall supply these records to the department upon request.

2. Continuous Emission Monitoring System (CEMS) - SO<sub>2</sub>

- a. CELP shall install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) to monitor and record the sulfur dioxide (SO<sub>2</sub>) concentrations of the gases discharged into the atmosphere from the boiler.
  - (1) The span of this system shall be set as required in 40 CFR 60.47a.
  - (2) The CEMS shall conform to all requirements of 40 CFR Part 60 Subpart Da - Standards of Performance for Electric Utility Steam Generation Units; Appendix B, Performance Specification 2 - Specifications and Test Procedures for SO<sub>2</sub> and NO<sub>x</sub> Continuous Emission Monitoring Systems in Stationary Sources (PS2); and Appendix F, Quality Assurance Procedures.
  - (3) The CEMS data will be used to demonstrate compliance with the limitations contained in Section II.A.10 and II.A.12. CELP shall maintain compliance with the limitations, as demonstrated by the CEMS.
- b. CELP shall submit a written report of all excess emissions quarterly. Periods of excess emissions shall be defined as those emissions calculated on an hourly, 3-hour, calendar day, annual and rolling 30-day basis which are greater than the limitations. The report shall be in the format contained in Attachment 2 and including, as a minimum, the following:

- (1) The magnitude of excess emissions and the date and time of commencement and completion of each time period of excess emissions.
- (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
- (3) The date and time identifying each period during which the CEMS was inoperative except for zero and span checks. The nature of the system repairs or adjustments must also be reported.
- (4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- (5) The percentage of time the CEMS was operating. This shall be calculated as

$$\left(1 - \frac{\text{hours of CEMS downtime during reporting period}^*}{\text{hours the source operated during reporting period}}\right) \times 100$$

\* All time required for calibration and to perform preventative maintenance must be included in CEMS downtime.

This shall be reported as percent monitor availability during plant operation. CELP shall maintain a minimum of 95% monitor availability during plant operation on a quarterly basis.

Nothing in this section shall preclude enforcement action for data availability that is less than 100 percent, but equal to or greater than 95 percent if the conditions in Section II.D.5 are not satisfied.

- (6) The percentage of time the CEMS indicated compliance. This shall be calculated as:

$$\left(1 - \frac{\text{total hours of excess emissions during reporting period}}{\text{total hours of CEMS availability during reporting period}}\right) \times 100$$

This shall be reported as percent compliance. CELP shall maintain compliance with the limitations, as demonstrated by the CEMS.

- (7) The excess emission reports shall be submitted within 30 days following the end of the reporting period (January-March, April-June, July-September, and October-December).

c. CELP shall inspect and audit the CEMS quarterly to meet the

requirement contain in 40 CFR Part 60 Appendix F. CELP shall conduct these audits using the appropriate procedures. The results of these inspections and audits shall be included in the quarterly excess emission report.

- d. CELP shall maintain a file of all measurements from the CEMS and performance testing measurements; all CEMS performance evaluations; all CEMS or monitoring device calibration checks and audits; adjustments and maintenance performed on these systems or devices recorded in a permanent form suitable for inspection. The file shall be retained on site for at least five years following the date of such measurements and reports. CELP shall supply these records to the department upon request.

3. Continuous Emission Monitoring System (CEMS) - NOx

- a. CELP shall install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) to monitor and record the nitrogen oxide (NOx) concentrations of the gases discharged into the atmosphere from the boiler.

- (1) The span of this system shall be set at 1,000 ppm.
- (2) The CEMS shall conform to all requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 - Specifications and Test Procedures for SO<sub>2</sub> and NOx Continuous Emission Monitoring Systems in Stationary Sources (PS2) and Appendix F, Quality Assurance Procedures.
- (3) The CEMS data will be used to demonstrate compliance with the limitations contained in Section II.A.10. CELP shall maintain compliance with the limitations, as demonstrated by the CEMS.

- b. CELP shall submit a written report of all excess emissions quarterly. Periods of excess emissions shall be defined as those emissions calculated on an hourly, calendar day, and annual basis which are greater than the limitations. The report shall be in the format contained in Attachment 2 and including, as a minimum, the following:

- (1) The magnitude of excess emissions and the date and time of commencement and completion of each time period of excess emissions.
- (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
- (3) The date and time identifying each period during which the CEMS was inoperative except for zero and span checks. The nature of the system repairs or adjustments must also be

reported.

- (4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
- (5) The percentage of time the CEMS was operating. This shall be calculated as

$$\left(1 - \frac{\text{hours of CEMS downtime during reporting period}^*}{\text{hours the source operated during reporting period}}\right) \times 100$$

\* All time required for calibration and to perform preventative maintenance must be included in CEMS downtime.

This shall be reported as percent monitor availability during plant operation. CELP shall maintain a minimum of 95% monitor availability during plant operation on a quarterly basis.

Nothing in this section shall preclude enforcement action for data availability that is less than 100 percent but equal to or greater than 95 percent if the conditions in Section II.D.5 are not satisfied.

- (6) The percentage of time the CEMS indicated compliance. This shall be calculated as:

$$\left(1 - \frac{\text{total hours of excess emissions during reporting period}}{\text{total hours of CEMS availability during reporting period}}\right) \times 100$$

This shall be reported as percent compliance. CELP shall maintain compliance with the limitations, as demonstrated by the CEMS.

- (7) The excess emission reports shall be submitted within 30 days following the end of the reporting period (January-March, April-June, July-September, and October-December).

- c. CELP shall inspect and audit the CEMS quarterly using Certified Gas Audits or Relative Accuracy Audits (RAA). CELP shall conduct these audits using the appropriate procedures. The results of these inspections and audits shall be included in the quarterly excess emission report.
- d. CELP shall maintain a file of all measurements from the CEMS and performance testing measurements; all CEMS performance evaluations; all CEMS or monitoring device calibration checks and audits; adjustments and maintenance performed on these systems or devices recorded in a permanent form suitable for inspection. The file shall be retained on site for at least five years following the date of such measurements and reports. CELP shall supply these records to the department upon request.

#### 4. Continuous Emission Monitoring System (CEMS) - CO and O<sub>2</sub> or CO<sub>2</sub>

- a. CELP shall install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) to monitor and record CO and

O<sub>2</sub> or CO<sub>2</sub> of the gases discharged into the atmosphere from the boiler.

- (1) The CEMS shall conform to all requirements of 40 CFR Part 60 Subpart Da - Standards of Performance for Electric Utility Steam Generation Units; Appendix B, Performance Specification 3 - Specifications and Test Procedures for O<sub>2</sub> and CO<sub>2</sub> Continuous Emission Monitoring Systems in Stationary Sources (PS3) and Performance Specification 4 - Specifications and Test Procedures for CO Continuous Emission Monitoring Systems in Stationary Sources (PS4); and Appendix F, Quality Assurance Procedures.
  - (2) The CEMS shall conform to all requirements of 40 CFR 60.47a.
5. In addition to complying with the minimum quarterly data recovery rates specified in Section II.D, CELP shall undertake its best efforts to strive for and achieve the highest average quarterly data recovery rate which is practical. The determination of what is practical and, therefore, acceptable data loss shall be made consistent with Section II.D.6.
  6. In regards to quarterly data recovery rate requirements specified in Section II.D, the determination of what is practical and, therefore, acceptable data loss shall consider whether:
    - a. CELP has properly operated and maintained the continuous emission monitors and associated data acquisition systems, including the performance of preventative maintenance, the maintenance of the spare parts inventory and the conduct of the quality assurance requirements.
    - b. CELP has taken immediate and appropriate action to correct a malfunction in the continuous emission monitors and associated data acquisitions systems.

### SECTION III: General Conditions

- A. Inspection - CELP 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. 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.
- 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. Waiver - The permit and all the terms, conditions, and matters stated herein shall be

deemed accepted if CELP fails to appeal as indicated below.

- F. Appeals - Any person or persons 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.
- G. Permit Fees - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by CELP may be grounds for revocation of this permit, as required by that Section and rules adopted thereunder by the Board.
- H. 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. [ARM 17.8.731]

ATTACHMENT 1

AMBIENT AIR MONITORING PLAN  
Colstrip Energy Limited Partnership  
Permit #2035-03

1. This ambient air monitoring plan is required by air quality permit #2035-03 which applies to CELP's coal-fired power generation facility located approximately 7 miles north of Colstrip, Montana. This monitoring plan may be modified by the department. All requirements of this plan are considered conditions of the permit.
2. CELP shall relocate their existing air monitoring station from its current site to a new location. The new location shall meet the following criteria 1) be north of the CFB boiler stack, 2) be east to northeast of the ash disposal area, 3) be west of Highway 39, and 4) take into consideration the potential location of any future ash disposal area. The exact location of the monitoring station must be approved by the department and meet all the siting requirements contained in the Montana Quality Assurance Project Plan including revisions, the EPA Quality Assurance Manual including revisions, and Parts 50, 53 and 58 of Title 40 of the Code of Federal Regulations, or any other requirements specified by the department.
3. CELP shall begin air monitoring at the new location within 90 days after the department has approved a location. CELP shall continue monitoring for at least two calendar years at the new location. The air monitoring data will be reviewed by the department and the department will determine if continued monitoring or additional monitoring is warranted. The department may require continued air monitoring to track long-term impacts of emissions from the facility or require additional ambient air monitoring or analyses if any changes take place in regard to quality and/or quantity of emissions or the area of impact from the emissions.
4. CELP shall monitor the following parameters at the new site as described below:

AIRS # and Site Name	UTM Coordinates	Parameter	Frequency
30-087-07XX New Site	Zone 13 N5092XXX E 371XXX*	PM-10 <sup>1</sup> PM-10 Collocated <sup>2</sup>	Every sixth day Every sixth day
<p><sup>1</sup> PM-10 = particulate matter less than 10 microns. <sup>2</sup> The requirement for a collocated PM-10 sampler may be waived if the monitor operator operates a collocated PM-10 sampler at another site. * The site will be located north of the power plant and east (downwind) of the ash disposal area; the exact location of the monitoring station must be approved by the department.</p>			

Trace metal analyses of sample filters will not be required at this time; however, the department may require these analyses in the future.

5. Data recovery for all parameters shall be at least 80 percent computed on a quarterly and annual basis.
6. Any ambient air monitoring changes proposed by CELP must be approved, in writing, by the department.
7. CELP shall utilize air monitoring and quality assurance procedures which are equal to or exceed the requirements described in the Montana Quality Assurance Project Plan including revisions, the EPA Quality Assurance Manual including revisions, Parts 50, 53 and 58 of Title

40 of the Code of Federal Regulations, and any other requirements specified by the department.

8. CELP shall submit quarterly data reports within 45 days after the end of the calendar quarter and an annual data report within 90 days after the end of the calendar year. The annual report may be substituted for the fourth quarter report if all information in item 9 is included in the report.
9. The quarterly report shall consist of a narrative data summary and a data submittal of all data points in AIRS format. This data may be submitted in ASCII files on 3½" or 5¼" high or low density floppy disks, in IBM-compatible format, or on AIRS data entry forms. The narrative data summary shall include:
  - a. A topographic map of appropriate scale with UTM coordinates and a true north arrow showing the air monitoring site location in relation to the power plant and the general area;
  - b. A hard copy of the individual data points;
  - c. The quarterly and monthly means for PM-10;
  - d. The first and second highest 24-hour concentrations for PM-10;
  - e. A summary of the data collection efficiency;
  - f. A summary of the reasons for missing data;
  - g. A precision and accuracy (audit) summary;
  - h. A summary of any ambient air standard or PSD increment exceedances; and
  - i. Calibration information.
10. The annual data report shall consist of a narrative data summary containing:
  - a. A topographic map of appropriate scale with UTM coordinates and a true north arrow showing the air monitoring site location in relation to the power plant and the general area;
  - b. A pollution trend analysis;
  - c. The annual mean for PM-10;
  - d. The first and second highest 24-hour concentrations for PM-10;
  - e. An annual summary of data collection efficiency;
  - f. An annual summary of precision and accuracy (audit) data;
  - g. An annual summary of any ambient air standard or PSD increment exceedances; and
  - h. Recommendations for future monitoring.
11. The department may audit, or may require CELP to contract with an independent firm to audit the air monitoring network, the laboratory performing associated analyses, and any data handling procedures at unspecified times. On the basis of the audits and subsequent reports, the department may recommend or require changes in the air monitoring network

and associated activities in order to improve precision, accuracy and data completeness.

ATTACHMENT 2  
INSTRUCTIONS FOR COMPLETING EXCESS EMISSIONS  
AND MONITORING SYSTEMS REPORTS (EER)

PART 1 Complete as shown.

PART 2 Complete as shown. Report total time the point source operated during the reporting period in hours. The determination of point source operating time includes time during unit startup, shutdown, malfunctions, or whenever pollutants (of any magnitude) are generated, regardless of unit condition or operating load.

Percent of time CEMS was available during point source operation is to be determined as:

$$\left( 1 - \frac{(\text{CEMS downtime in hours during reporting period}^*)}{(\text{total hours of point source operation during reporting period})} \right) \times 100$$

\* All time required for calibration and to perform preventative maintenance must be included in COMS downtime.

Excess emissions include all time periods when emissions as measured by the CEMS exceed any applicable emission standard for any applicable time period.

Percent of time in compliance is to be determined as:

$$\left( 1 - \frac{(\text{total hours of excess emissions during reporting period})}{(\text{total hours of CEMS availability during reporting period})} \right) \times 100$$

PART 3 Complete a separate sheet for each pollutant control device associated with a CEMS. Be specific when identifying control equipment operating parameters. For example: primary and secondary amps and spark rate for ESPs; pressure drop and effluent temperature for baghouses; and liquid flow rate and pH levels for scrubbers. For the initial EER, include a diagram or schematic for each piece of control equipment.

Table I Use Table I as a guideline to report all excess emissions. Complete a separate sheet for each CEMS. Sequential numbering of each excess emission is recommended. For each excess emission, indicate: 1) time, duration and magnitude, 2) nature and cause, and 3) the action taken to correct the condition of excess emissions. Do not use computer reason codes for corrective actions or nature and cause, rather, be specific in the explanation. If no excess emissions occur during the reporting period, it must be stated so.

Table II Use Table II as a guideline to report all CEMS upsets or malfunctions. Complete a separate sheet for each CEMS. List the time, duration, nature and extent of problems, as well as the action taken to return the CEMS to proper operation. Do not use reason codes for nature, extent or corrective actions. Include normal calibrations and maintenance as prescribed by the CEMS manufacturer. Do not include zero and span checks.

Table III Complete a separate sheet for each pollutant control device associated with a CEMS. Use Table III as a guideline to report operating status of control equipment during the excess emission. Follow the number sequence as recommended for excess emissions reporting. Report operating parameters consistent with Part 3, Subpart f.

EXCESS EMISSIONS AND MONITORING SYSTEMS REPORT

PART 1

a. Emission Reporting Period -

\_\_\_\_\_

b. Report Date

\_\_\_\_\_

c. Person Completing Report

\_\_\_\_\_

d. Plant Name

\_\_\_\_\_

e. Plant Location

\_\_\_\_\_

f. Person Responsible for Review  
and Integrity of Report

\_\_\_\_\_

g. Mailing Address for 1.f.

\_\_\_\_\_

Street Address or P.O. Box

\_\_\_\_\_

City

State

Zip Code

h. Phone Number of 1.f.

\_\_\_\_\_

i. Certification for Report Integrity, by person in 1.f.

THIS IS TO CERTIFY THAT THE INFORMATION PROVIDED IN THIS REPORT IS  
COMPLETE AND ACCURATE.

SIGNATURE

\_\_\_\_\_

NAME

\_\_\_\_\_

TITLE

\_\_\_\_\_

DATE

\_\_\_\_\_

j. Comments

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PART 2 - CEMS Information: Complete for each CEMS.

a. Point Source \_\_\_\_\_

b. CEMS Type (circle one)

Opacity    SO<sub>2</sub>    NO<sub>x</sub>    O<sub>2</sub>    CO    CO<sub>2</sub>    TRS

c. Manufacturer \_\_\_\_\_

d. Model No. \_\_\_\_\_ e. Serial No. \_\_\_\_\_

f. Automatic Calibration Value: Zero \_\_\_\_\_ Span \_\_\_\_\_

g. Date of Last CEMS Performance Test \_\_\_\_\_

h. Total Time Point Source Operated During Reporting Period \_\_\_\_\_

i. Percent of Time CEMS Was Available During Point Source Operation: \_\_\_\_\_

Show calculations \_\_\_\_\_

\_\_\_\_\_

j. Allowable Emission Rate \_\_\_\_\_

k. Percent of Time in Compliance \_\_\_\_\_

Show calculations \_\_\_\_\_

\_\_\_\_\_

l. CEMS Repairs or Replaced Components Which Affected or Altered Calibration Values

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

PART 3 - Pollution Control Equipment Operating Parameter Monitor. (Complete one sheet for each pollutant control device associated with a CEMS.)

a. Point source \_\_\_\_\_

b. Pollutant (circle one):

Opacity      Particulate      SO<sub>2</sub>      NO<sub>x</sub>      TRS

c. Type of Control Equipment \_\_\_\_\_

d. Control Equipment Description and Identification (Model # and Serial #)

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e. Control Equipment Operating Parameters (i.e., pressure drop [ $\Delta P$ ], effluent temperature, scrubber water flow rate and pH levels, primary and secondary amps, spark rate) \_\_\_\_\_

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f. Date of Control Equipment Performance Test \_\_\_\_\_

g. Control Equipment Operating Parameter During Performance Test \_\_\_\_\_

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h. Type and Amount of Material Produced or Processed During the Reporting Period \_\_\_\_\_

i. Type and Amount of Fuel Used During the Reporting Period \_\_\_\_\_

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TABLE II

CONTINUOUS MONITORING SYSTEM OPERATION FAILURES<sup>3</sup>

<u>Date</u>	<u>Time</u>	<u>Duration</u>	<u>Cause</u>	<u>Problem/</u> <u>Corrective Action</u>
-------------	-------------	-----------------	--------------	---

2014/01/01	08:00	08:30	Power outage	System restarted
2014/01/02	10:00	10:15	Software glitch	System rebooted
2014/01/03	12:00	12:30	Network connectivity issue	Network cables checked and replaced
2014/01/04	14:00	14:45	Hardware failure (sensor)	Sensor replaced
2014/01/05	16:00	16:15	Configuration error	Configuration corrected
2014/01/06	18:00	18:30	Power surge	System shutdown and restarted
2014/01/07	20:00	20:15	Data corruption	Data restored from backup
2014/01/08	22:00	22:30	System crash	System restarted

TABLE III

CONTROL EQUIPMENT OPERATION DURING EXCESS EMISSIONS

<u>Date</u>	<u>From</u>	<u>To</u>	<u>Time Duration</u>	<u>Operating Parameters</u>	<u>Corrective Action</u>
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Permit Analysis  
Colstrip Energy Limited Partnership  
Permit #2035-03

I. Introduction/Process Description

A. Facility Description

Colstrip Energy Limited Partner's (CELP) facility is located approximately six miles north of Colstrip, Montana. The electric generating facility was designed to burn low-BTU Waste coal. The facility uses a circulating fluidized bed (CFB) boiler with a design steam flow of approximately 355,000 lbs/hr at 1300 PSIG and 955 °F. Limestone is injected into the fluidized bed to control sulfur dioxide emissions.

Coal is delivered to the facility by trucks and trailers and crushed at the facility. Limestone is delivered to the facility in trucks and trailers, but does not require crushing or screening. Ash from the boiler is discharged as either bed ash or fly ash. Both types of ash are collected in separate systems and conveyed to a common silo. The ash is transported to an on-site disposal area.

B. Permit History

The original air quality **permit #2035** was issued to AEM Corporation for the construction and operation of a coal-fired power generation facility and a coal liquefaction-cogeneration facility from the Montana Department of Health and Environmental Sciences, Air Quality Bureau (AQB) on September 10, 1985. The application was received on April 26, 1985 and deemed complete on June 25, 1985.

The coal-fired power generation facility was identified as a major stationary source as defined in ARM 16.8.921(22)(a). Therefore, a Prevention of Significant Deterioration (PSD) review was conducted for the permit application.

Coal for the facility comes from the nearby Western Energy mine or other nearby mines. The coal used is called culm, which is a refuse coal whose uses are somewhat limited. AEM planned to utilize 364,000 tons/yr of refuse coal, 220,752 tons/year of PDF (char), 359,400 Bbl of oil, 390,000,000 ft<sup>3</sup>/yr of noncondensable gases, 59,568 ton/yr of water, and use 11,000 tons/yr of dolomite lime as supplemental boiler SO<sub>2</sub> control to produce 30.65 MW of power.

The first change to the permit was given **permit #2035-A** and was issued on December 22, 1987. This permit was issued to Montana One Partners of LaJolla, California who took over ownership from AEM Corporation. The change requested was to allow the company to construct only the power generation portion of the process and to produce 39 GMW.

The Montana One Partners changed the project description. Montana One Partners planned to utilize 306,600 ton/yr of refuse coal to produce 39 GMW of electrical power. A circulating fluidized bed combustion boiler with a heat rating of 485 million BTU's per hour is used in conjunction with a limestone injection for SO<sub>2</sub> emission control. Approximately 27,000 tons/yr of limestone is used. Only one steam turbine was planned for the project under this application. A baghouse was installed to control particulate emissions. All other equipment involved with the project (e.g., coal handling, crushing and conveying) remained the same as originally proposed in permit #2035.

The emissions from the handling and crushing are controlled by a baghouse.

**Permit alteration #2035-02** issued on April 15, 1994 was requested by CELP who was the current owner of the facility. The name on the permit was changed from Montana One Partners to Colstrip Energy Limited Partners. The ownership transfer occurred on June 10, 1988.

The purpose of the revision was to include limitations in the permit to protect the PSD increment for the 3-hour SO<sub>2</sub> standard and the Montana ambient air quality 1-hour standard for NO<sub>x</sub>. The emission limitations were included in Section II.F. and G. These changes did not change the annual allowable emissions from the plant or the daily SO<sub>2</sub> and NO<sub>x</sub> limitations. The limitations were added to the rolling 30-day averages required under 40 CFR Part 60, Subpart Da. Modeling was done to determine the amount of increment consumed as a result of these changes to the emission limitations. These changes resulted in changes in the reporting requirements and compliance demonstrations.

The emission limitation in Section II.F. were developed based on the department's review of information supplied by CELP. CELP proposed SO<sub>2</sub> limits of 450 lbs/hour on a three hour average and 590 lbs/hour on a one hour average and a NO<sub>x</sub> limit of 500 lbs/hour on a one hour average. The department determined that the appropriate SO<sub>2</sub> limits should be 432 lbs/hour on a three-hour average and 574 lbs/hour on a one-hour average. These limits were arrived at based on the data submitted by CELP with the elimination of the data for June 12, 1992, based on concerns about the representativeness of the data. After review of the CEMS data submitted, the department and CELP determined the NO<sub>x</sub> limit should be 328 lbs/hour, which was the number modeled in the original application.

The department also made several other changes to the permit. The CEMS installation, operation, and reporting requirements have been clarified. All references to the coal liquefaction-cogeneration facility were removed since the facility was not constructed.

After the preliminary determination (PD) of permit #2035-02 was issued, CELP provided comments on the PD dated February 15, 1994. As a result of these comments, the department made a number of changes. The changes were completed as requested by CELP, except that the department did not change the continuous emission monitor availability requirement. The continuous emission monitor availability remained at 95%. The department also included a condition in the permit which required the department to notify CELP when a change is made to the Cooperative Enforcement Agreement between Montana and EPA Region VIII concerning the enforcement guidelines for continuous emission monitors. The department did not change the general condition Section IV.H or the wording in Section II. R. For clarity, however, the issuance of permit #2035-02 did not authorize any new construction at the facility.

## B. Current Permit Alteration

CELP proposed in permit application #2035-03 the removal of the plant-wide emission limits in Section II.F of permit #2035-02 and the establishment of emission limits for point sources at the facility. The permit application did not seek any physical or operational changes to any process equipment at the facility. CELP also proposed removing from the permit the reference in Section II.S to the Hydrometrics letter, eliminating the ambient monitoring required in the permit, and clarifying language in Section II.J regarding sulfur content of waste coal.

CELP presented permit application #2035-03 as a major modification of this major stationary source. A major modification means any physical change in, or change in the method of operations of, a major stationary source. The permit application does not propose any physical or operational changes at the facility; however, permit alteration #2035-03 required a Prevention of Significant Deterioration (PSD) review because the proposed PM-10 emission limits should have been addressed in PSD permit application #2035. Establishing PM-10 emission limits on a point source basis results in an allowable emissions increase of 17.94 tons per year of PM-10. This is a significant emissions increase under PSD. The department does not anticipate that actual emissions from the facility will change, since there will be no operational changes occurring.

Permit #2035-03 establishes emission limits for point sources at the facility and eliminates the total plant emission limits. Total plant emission limits for SO<sub>2</sub>, NO<sub>x</sub>, and CO in Section II.F of permit #2035-02 have been placed on the CFB boiler only. The CFB boiler is the only significant source of SO<sub>2</sub>, NO<sub>x</sub>, and CO at the facility. The opacity limitation has been placed in a condition and is applicable to all equipment at the facility. PM-10 emission limitations were established on the CFB boiler. PM-10 emission limitations were also established for all equipment, transfer points, and storage facilities currently controlled by a baghouse. The PM-10 emission limitation in the form of a grains per dry standard cubic foot (gr/dscf) limitations for these facilities was based on manufacturer's data submitted by CELP in the permit application.

Section II.S for permit #2035-02 required that CELP handle ash disposed on site in accordance with the provisions specified in the Hydrometrics letter of April 24, 1985. The Hydrometrics letter contained provisions that moisture be added to the ash to prevent blowing and the disposal site be operated in a cut and fill operation. The letter also outlines in detail the soil handling and revegetation operations.

The department's concern with the ash disposal area is that compliance be maintained with applicable requirements during operation of the disposal area and when the disposal area is inactive for any extended period of time. Therefore, permit #2035-03 requires that water spray be used when ash is being deposited to control fugitive emissions. The permit also includes a provision requiring mitigative measures, including revegetation for the disposal area during inactive periods. This condition is intended to apply during extended inactive periods or closure.

Attachment 1 in permit #2035-02 required CELP to monitor PM-10, SO<sub>2</sub>, and ambient wind speed and direction. The current ambient monitoring site is located on the northwestern edge of the facility. The primary wind directions at the facility are from the southwest, west, and northwest. The department believes the ambient monitoring site does not monitor a representative portion of the emissions from the facility. In order for the ambient monitors to be exposed to the average annual emissions from the facility, the monitoring site should be situated downwind of the power plant and ash disposal area. This would require that the monitoring site, in general, be located to the north of the CFB boiler stack and east to northeast of the ash disposal area.

Consequently, the department has determined that completely eliminating the ambient monitoring network now operated by CELP would be inappropriate. The department has determined that the ambient monitoring site should be moved to the east of the facility at a location to be determined by the department. Permit #2035-03 requires that CELP monitor PM-10; however, ambient SO<sub>2</sub> monitoring at the facility will not be required. The department is able to monitor the SO<sub>2</sub> emitted from the CFB boiler; if CELP demonstrates compliance with their SO<sub>2</sub> emission limits, SO<sub>2</sub> ambient standards should not be violated.

Section II.J of permit #2035-02 required that the sulfur content of waste coal not exceed 3% as received. The department removed this condition from permit #2035-03 because the department has conditions and limitations which protect NAAQS for SO<sub>2</sub>.

Permit #2035-03 replaces permit #2035-02.

The department received written comments on the preliminary determination (PD) of permit #2035-03 from the Northern Cheyenne Tribe and CELP. As a result of these comments the department made several changes requested by CELP. CELP requested that the department reword all operations referred to as "coal" to "coal/waste coal." The department responded that coal is a broad enough term to include all varieties of coal CELP is permitted to use at the facility. However, in a meeting on March 4, 1998, CELP explained they were concerned that it could be construed that CELP's operations referred to as coal where not permitted to process coal refuse. The department stated that the facility is permitted in Section II.A.15 to burn coal refuse. The department agreed to state in the permit analysis that the facility is permitted to process coal refuse at the facility. The equipment referred to as coal including the truck dump, hoppers, crushers, conveyors, and storage silos and all associated control equipment are permitted to process coal refuse. The meaning of the terms coal and coal refuse for permit #2035-03 are defined in 40 CFR 60 Subpart Da.

The department also agreed in the March 4, 1998 meeting to clarify language in Attachment 1 that discusses where the new ambient monitoring site will be located. The department stated in the meeting that the intention is for the new location to be downwind of the power plant and the ash disposal area. This would require that the monitor be in a location generally north of the CFB boiler stack and east to northeast of the current ash disposal area.

The department also agreed to correct typographic errors in the daily SO<sub>2</sub> limit and 1-hour NO<sub>x</sub> limit in Section II.A.10 that had been made from permit #2035-02 to 2035-03. The department lengthened the time from 90 to 180 days required for CELP to increase the stack heights specified in Section II.A.21. The department changed the word "facility" in Sections II.B.1 and 2 to "CFB boiler stack." In Attachment 1 the language in the first sentence of paragraph 3 was changed from requiring CELP to start air monitoring at the new location within 90 days after permit #2035-03 is final to requiring CELP to begin air monitoring at the new location within 90 days after the department has approved a location.

Several other changes were requested by CELP and were not made to the PD. One of the requested changes was to eliminate Section III.H which refers to commencement of construction; the facility did not believe it applied to this permit. Permit #2035-03 does not authorize any new construction at the facility besides the increase of the stack heights for the coal dump baghouse, coal crushing baghouse, and the fly ash and bed ash storage baghouse/cartridge.

- C. Additional information, such as applicable rules and regulations, BACT determination, air quality impacts, and environmental assessments, are included in the analysis associated with each change to the permit.

## II. Applicable Rules and Regulations

The following are partial quotations of some applicable rules and regulations which apply to the operation. The complete rules are stated in the Administrative Rules of Montana 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, 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.
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 Montana Clean Air Act, 75-2-101, *et seq.*, MCA.
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 4 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, 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 17.8.204, Ambient Air Monitoring,  
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 17.8.220, Ambient Air Quality Standards for Settled Particulate Matter,  
ARM 17.8.221, Ambient Air Quality Standards for Visibility,  
ARM 17.8.222, Ambient Air Quality Standard for Lead, and  
ARM 17.8.223, Ambient Standards for PM-10.

The applicant must comply with the applicable ambient air quality standards.

- C. ARM 17.8, Subchapter 3, Emission Standards, including, but not limited to:
1. ARM 17.8.304, Visible Air Contaminants. 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 6 consecutive minutes.
  2. ARM 17.8.308, Particulate Matter, Airborne. No person shall cause or authorize the production, handling, transportation, or storage of any material unless reasonable precautions to control emission of airborne particulate matter are taken. Such emissions of airborne particulate matter from any stationary source shall not exhibit an opacity of 20% or greater averaged over six consecutive minutes.
  3. ARM 17.8.315, Odors. No person shall cause, suffer, or allow any emissions of gases, vapors, or odors beyond his property line in such manner as to create a public nuisance. A person operating any business or using any machine, equipment, device or facility or process which discharges into the outdoor air any odorous matter or vapors, gases, dusts, or any combination thereof which create odors, shall provide, properly install, and maintain in good working order and in operation such odor control devices or procedures as may be specified by the department.
  4. ARM 17.8.322, Sulfur Oxide Emissions--Sulfur in Fuel. Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.
  5. ARM 17.8.340, Standard of Performance for New Stationary Sources. The owner and 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 (NSPS), listed: Subpart Da - Standard of Performance for Electric Utility Steam Generation Units for Which Construction Is Commenced After September 18, 1978, and Subpart Y - Standards of Performance for Coal Preparation Plants, applicable test methods (Appendix A - Reference Methods) and continuous emissions monitoring systems (CEMS) performance specification tests (Appendix B - Performance Specification 1 - Specifications and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources). The NO<sub>x</sub> emission limitations and monitoring requirements contained in Subpart Da do not apply to CELP since the facility burns more than 25%, by weight, refuse coal (40 CFR 60.44a(1)).
- D. ARM 17.8, 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. Concurrent with the submittal of an air quality permit application, as required in ARM Title 17, Chapter 8, Subchapter 7 (Permit, Construction and Operation of Air Contaminant Sources), or ARM Title 17, Chapter 8, Subchapter 8 (Prevention of Significant Deterioration of Air Quality), the applicant shall submit an air quality permit application fee. A permit application is incomplete until the proper application fee is paid to the

department. CELP submitted an application fee with permit application #2035-03.

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. 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 pro-rate the required fee amount.

E. ARM 17.8, 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. Except as hereafter specified, no person shall construct, install, alter or use any air contaminant source or stack associated with any source without first obtaining a permit from the department or the board. CELP submitted an application because a change in plant-wide emission limits required a permit.
3. ARM 17.8.706, New or Altered Sources and Stacks, Permit Application Requirements. The air quality permit, if granted, shall authorize the construction and operation of the source subject to the conditions in the permit and to the requirements of this subchapter. The application form shall contain a certification by the person signing the application that all information contained therein is true.
4. ARM 17.8.710, Conditions for Issuance of Permit. Any permit issued under the provisions of this subchapter may be issued with such conditions as are necessary to assure compliance with all applicable rules and standards. This rule requires that the source demonstrate compliance with applicable rules and standards before a permit can be issued. The source has demonstrated compliance with applicable rules and standards as required for permit issuance.
5. ARM 17.8.715, Emission Control Requirements. The owner or operator of a new or altered source for which an air quality permit is required by this subchapter shall install on the new or altered source the maximum air pollution control capability which is technically practicable and economically feasible, except that best available control technology shall be utilized. This section requires that BACT be applied. (See Section IV. BACT Determination)
6. ARM 17.8.716, Inspection of Permit. Air quality permits shall be made available for inspection by the department at the location of the source or stack for which the permit has been issued.
7. ARM 17.8.717, Compliance with Other Statutes and Rules. Nothing in this subchapter shall be construed as relieving any permittee of the responsibility for complying with any applicable federal or Montana statute, rule or standard except as specifically provided in this subchapter.
8. ARM 17.8.720, Public Review of Permit Applications. The applicant must notify

the public, by means of legal publication in a newspaper of general circulation in the area affected by the application, of its application for permit. CELP published a notice in *The Billings Gazette* on August 3, 1997, for permit application #2035-03.

9. 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.
10. ARM 17.8.733, Modification of Permit. An air quality permit may be modified for the following reasons:
  - (a) changes in any applicable rules and standards adopted by the board; or
  - (b) 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, except as specifically provided in the regulations.
11. ARM 17.8.734, Transfer of Permit. An air quality permit may be transferred from one person to another if written notice of intent to transfer, including names of the transferor and the transferee, is sent to the department.

F. ARM 17.8., Subchapter 8, Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801, Definitions. CELP is a major stationary source. Permit alteration #2035-03 requires a Prevention of Significant Deterioration (PSD) review because the proposed PM-10 emission limits should have been addressed in PSD permit application #2035. The permit application does not propose any physical or operational changes at the facility; however, establishing PM-10 emission limits on a point source basis results in an allowable emissions increase of 17.94 tons per year of PM-10.
2. ARM 17.8.804, Ambient Air Increments. In areas designated as Class I or II, the increase in pollutant concentration over the baseline concentration is limited to the following:

PM-10	Class I	Class II
annual arithmetic mean	4 (µg/m <sup>3</sup> )	17 (µg/m <sup>3</sup> )
24-hour maximum	8 (µg/m <sup>3</sup> )	30 (µg/m <sup>3</sup> )

CELP demonstrated in permit application #2035-03 that PM-10 impacts will not exceed the allowable Class I and Class II PM-10 increment. Refer to Section VI. Air Quality Impacts of the permit analysis for additional information.

3. ARM 17.8.819, Control Technology Review. CELP conducted a control technology review in accordance with this requirement for PM-10.
4. ARM 17.8.820, Source Impact Analysis. CELP has demonstrated, through modeling, that the allowable emissions increase will not cause or contribute to air pollution in violation of any national ambient air quality standard.

5. ARM 17.8.821, Air Quality Models. CELP used an EPA approved model to estimate ambient concentrations of pollutants.
  6. ARM 17.8.824, Additional Impact Analysis. CELP provided an analysis for PM-10 impacts on visibility, soils, and vegetation as part of application #2035-03. The analysis demonstrated that there will be no violation of any standard.
  7. ARM 17.8.825, Sources Impacting Federal Class I Areas - Additional Requirements. The federal land managers with direct responsibility for management of Class I lands may present to the department, after reviewing the department's preliminary determination, a demonstration that the emissions from the proposed source or modification would have an adverse impact on the air quality related values of any Class I lands.
  8. ARM 17.8.826, Public Participation. The department has notified the public by advertisement in a newspaper of general circulation near the source of the preliminary determination and the degree of increment consumption that is expected. The notice provides an opportunity for public comment.
- G. ARM 17.8., Subchapter 12, Operating Permit Program, including, but not limited to:
1. ARM 17.8.1201, Definitions. (23) Major Source under Section 7412 of the Federal Clean Air Act (FCAA) is defined as any stationary source having:
    - a. Potential to Emit (PTE) > 10 tons/year of any one hazardous air pollutant (HAP), or PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the department may establish by rule.
    - b. PTE > 100 tons/year of any pollutant.
    - c. Sources with the PTE > 70 tons/year of PM-10 in a serious PM-10 nonattainment area.
  2. ARM 17.8.1204, Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. CELP submitted a Title V operating permit application on 6/08/96 which was deemed administratively complete on 6/08/96.

### III. Emission Inventory

Emission inventory for permit application #2035-03:

Source	Emissions in Tons/Year					
	PM-10	PT	SO2	NOx	CO	VOC
CFB Boiler - Coal Burning	26.28	26.28	1840	1435	232	15.94
Coal Dumping	5.63	11.26				
Coal Crushing, Screening, and Transfer	2.07	3.45				
Coal Bunker Bin Vent #1	0.38					
Coal Bunker Bin Vent #2	0.38					
Limestone Unloading, Handling, and Storage	1.13	1.13				
Fly ash Conveying and Storage	0.35	0.87				
Bed Ash Conveying and Storage	0.45	1.12				
Ash Storage Silo	0.34	0.34				
Ash Truck Unloading	0.23	0.66				
Ash Disposal Fugitive	1.98	3.96				
Hauling - Paved Roads	2.43	12.42				
Hauling - Unpaved Roads	2.91	6.46				
<b>Total</b>	<b>44.54</b>	<b>68.71</b>	<b>1840</b>	<b>1435</b>	<b>232</b>	<b>15.94</b>

#### CFB Boiler - Coal Burning

Hours of Operation 8760 hrs/year  
 Max Rated Design Capacity 52 tons coal burned/hr

#### PM-10 Emissions

Emission Factor: 6 lbs/hr (Permit Limit)  
 Calculations:  $6.0 \text{ lbs/hr} * 8760.0 \text{ hrs/year} * 0.0005 \text{ tons/lb} = 26.28 \text{ TPY}$

#### SO2 Emissions

Emission Factor: 574 lbs/hr (Permit Limit)  
 1840 TPY (Permit Limit)

#### NOx Emissions

Emission Factor: 328 lbs/hr (Permit Limit)  
 1435 TPY (Permit Limit)

#### CO Emissions

Emission Factor: 53 lbs/hr (Permit Limit)  
 232 TPY (Permit Limit)

#### VOC Emissions

Emission Factor: 0.07 lbs/ton burned (AFS Emission Factor)  
 Calculations:  $0.07 \text{ lbs/ton burned} * 52.0 \text{ tons coal burned/hr} * 8760.0 \text{ hrs/year} * 0.0005 \text{ tons/lb} = 15.94 \text{ TPY}$

#### Coal Dumping

##### PM-10 Emissions

Baghouse Flow: 30000 acfm  
 Emission Factor: 0.005 gr/dscf (Manufacture's Data)  
 Calculations:  $0.005 \text{ gr/dscf} * 30000.0 \text{ acfm} * 8760.0 \text{ hrs/year} * 60 \text{ min/hr} * 0.0005 \text{ tons/lb} * (1 \text{ lb} / 7000 \text{ gr}) = 5.63 \text{ TPY}$

##### PT Emissions

Baghouse Flow: 30000 acfm  
 Emission Factor: 0.01 gr/dscf (Manufacture's Data)  
 Calculations:  $0.01 \text{ gr/dscf} * 30000.0 \text{ acfm} * 8760.0 \text{ hrs/year} * 60 \text{ min/hr} * 0.0005 \text{ tons/lb} * (1 \text{ lb} / 7000 \text{ gr}) = 11.26 \text{ TPY}$

#### Coal Crushing, Screening, and Transfer

##### PM-10 Emissions

Baghouse Flow: 9200 acfm

Emission Factor: 0.006 gr/dscf (Manufacture's Data)  
 Calculations:  $0.006 \text{ gr/dscf} * 9200.0 \text{ acfm} * 8760.0 \text{ hrs/year} * 60 \text{ min/hr} * 0.0005 \text{ tons/lb} * (1 \text{ lb} / 7000 \text{ gr}) = 2.07 \text{ TPY}$

##### PT Emissions

Baghouse Flow: 9200 acfm  
 Emission Factor: 0.01 gr/dscf (Manufacture's Data)  
 Calculations:  $0.01 \text{ gr/dscf} * 9200.0 \text{ acfm} * 8760.0 \text{ hrs/year} * 60 \text{ min/hr} * 0.0005 \text{ tons/lb} * (1 \text{ lb} / 7000 \text{ gr}) = 3.45 \text{ TPY}$

#### Coal Bunker Bin Vent #1

##### PM-10 Emissions

Baghouse Flow: 1000 acfm

Emission Factor: 0.01 gr/dscf {Manufacture's Data}  
Calculations: 0.01 gr/dscf \* 1000.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 0.38 TPY

#### PT Emissions

Baghouse Flow: 1000 acfm  
Emission Factor: 0.01 gr/dscf {Manufacture's Data} Calculations: 0.01  
gr/dscf \* 1000.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 0.38 TPY

#### Coal Bunker Bin Vent #2

##### PM-10 Emissions

Baghouse Flow: 1000 acfm  
Emission Factor: 0.01 gr/dscf {Manufacture's Data} Calculations: 0.01  
gr/dscf \* 1000.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 0.38 TPY

##### PT Emissions

Baghouse Flow: 1000 acfm  
Emission Factor: 0.01 gr/dscf {Manufacture's Data}  
Calculations: 0.01 gr/dscf \* 1000.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 0.38 TPY

#### Limestone Unloading, Handling, and Storage

##### PM-10 Emissions

Baghouse Flow: 3000 acfm  
Emission Factor: 0.01 gr/dscf {Manufacture's Data}  
Calculations: 0.01 gr/dscf \* 3000.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 1.13 TPY

##### PT Emissions

Baghouse Flow: 3000 acfm  
Factor: 0.01 gr/dscf {Manufacture's Data} Emission  
Calculations: 0.01 gr/dscf \* 3000.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 1.13 TPY

#### Fly ash Conveying and Storage

##### PM-10 Emissions

Baghouse Flow: 2320 acfm  
Emission Factor: 0.004 gr/dscf {Manufacture's Data}  
Calculations: 0.004 gr/dscf \* 2320.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 0.35 TPY

##### PT Emissions

Baghouse Flow: 2320 acfm  
Emission Factor: 0.01 gr/dscf {Manufacture's Data}  
Calculations: 0.01 gr/dscf \* 2320.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 0.87 TPY

#### Bed Ash Conveying and Storage

##### PM-10 Emissions

Baghouse Flow: 2980 acfm  
Emission Factor: 0.004 gr/dscf {Manufacture's Data}  
Calculations: 0.004 gr/dscf \* 2980.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 0.45 TPY

##### PT Emissions

Baghouse Flow: 2980 acfm  
Emission Factor: 0.01 gr/dscf {Manufacture's Data}  
Calculations: 0.01 gr/dscf \* 2980.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 1.12 TPY

#### Ash Storage Silo

##### PM-10 Emissions

Baghouse Flow: 900 acfm  
Emission Factor: 0.01 gr/dscf {Manufacture's Data}  
Calculations: 0.01 gr/dscf \* 900.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 0.34 TPY

##### PT Emissions

Baghouse Flow: 900 acfm  
Emission Factor: 0.01 gr/dscf {Manufacture's Data}  
Calculations: 0.01 gr/dscf \* 900.0 acfm \* 8760.0 hrs/year \* 60 min/hr \* 0.0005 tons/lb \* (1lb/7000gr) = 0.34 TPY

#### Ash Truck Unloading

process rate: 137,200 tons/yr

##### PM-10 Emissions

Emission Factor (E):  $E = k(0.0032)((U/5)^{1.3}/(M/2)^{1.4})$  {AP-42, 13.2.4}

where:

k= 0.35

U= 7.3 mph {average mean wind speed 1990-1996}

M= 0.25

E= 0.034 lb/ton uncontrolled

with control efficiency due to water suppression = 90 %  
 E= 0.0033667 l b/ton controlled

Calculations: 0.003 lb/ton \* 137200.0 tons/yr \* 0.0005 tons/lb = 0.231 TPY

**PT Emissions**

Emission Factor (E):  $E=k(0.0032)((U/5)^{1.3}/(M/2)^{1.4})$  {AP-42, 13.2.4}  
 where:

M= 0.25  
 E= 0.096 lb/ton uncontrolled  
 with control efficiency due to water suppression = 90 %  
 E= 0.0096191 lb/ton controlled

Calculations: 0.0096 lb/ton \* 137200.0 tons/yr \* 0.0005 tons/lb = 0.660 TPY

**Ash Disposal Fugitive**

Disposal Area: 12 acres

**PT Emissions**

Emission Factor: 6.6 tons/acre/yr {Technical Guidance for Control of Industrial Process Fugitive Particulate Emissions March 1977}

Calculations: 12.0 acres \* 6.6 tons/acre/yr = 79.2 TPY  
 with a control efficiency assumed 95% = 3.96 TPY

**PM-10 Emissions**

Assume 50% of PT is PM-10 uncontrolled = 39.6 TPY  
 controlled = 1.98 TPY

**Hauling - Paved Roads**

**Coal Hauling**

**PM-10 Emissions**

where:

k= 0.016 lb/vmt  
 sL= 7.4 g/m<sup>2</sup>  
 loaded W= 42.5 tons  
 unloaded W= 18.5 tons  
 loaded VMT (max)= 697 vmt/yr  
 unloaded VMT (max)= 3716 vmt/yr

E (loaded) = 2.00 lb/vmt

Calculations:

loaded 2.0 lb/vmt \* 697.0 vmt/yr \* 0.0005 ton/lb = 0.70 TPY  
 unloaded 0.6 lb/vmt \* 3716.0 vmt/yr \* 0.0005 ton/lb = 1.07 TPY

Total PM-10 Emission: 1.76 TPY  
 assume 50% control for watering of roads 0.88 TPY

**PT Emissions**

where:

k= 0.082 lb/vmt  
 sL= 7.4 g/m<sup>2</sup>  
 loaded W= 42.5 tons  
 unloaded W= 18.5 tons  
 loaded VMT (max)= 697 vmt/yr  
 unloaded VMT (max)= 3716 vmt/yr

E (loaded) = 10.23 lb/vmt

E (unloaded) = 2.94 lb/vmt

Calculations:

loaded 10.2 lb/vmt \* 697.0 vmt/yr \* 0.0005 ton/lb = 3.57 TPY  
 unloaded 2.9 lb/vmt \* 3716.0 vmt/yr \* 0.0005 ton/lb = 5.46 TPY

assume 50% control for watering of roads 4.51 TPY

**Limestone Hauling**

**PM-10 Emissions**

Emission Factor (E):  $E=k(sL/2)^{0.65}(W/3)^{1.5}$  {AP-42 13.2.1-3}

where:

k= 0.016 lb/vmt  
 sL= 7.4 g/m<sup>2</sup>  
 loaded W= 43 tons  
 unloaded W= 18 tons  
 loaded VMT (max)= 495 vmt/yr  
 unloaded VMT (max)= 1855 vmt/yr

E (loaded) = 2.03 lb/vmt

E (unloaded) = 0.55 lb/vmt

Calculations:

loaded 2.03 lb/vmt \* 495.0 vmt/yr \* 0.0005 ton/lb = 0.50 TPY  
 unloaded 0.55 lb/vmt \* 1855.0 vmt/yr \* 0.0005 ton/lb = 0.51 TPY

assume 50% control for watering of roads 0.51 TPY

PT Emissions  
 Emission Factor (E):  $E=k(sL/2)^{0.65}(W/3)^{1.5}$  {AP-42 13.2.1-3}  
 where:  
 k= 0.082 lb/vmt  
 sL= 7.4 g/m<sup>2</sup>  
 loaded W= 43 tons  
 unloaded W= 18 tons  
 loaded VMT (max)= 495 vmt/yr

E (loaded) = 10.42 lb/vmt  
 E (unloaded) = 2.82 lb/vmt  
 Calculations:  
 Total PM-10 Emission: 5.19 TPY

**Ash Hauling**

PM-10 Emissions  
 Emission Factor (E):  $E=k(sL/2)^{0.65}(W/3)^{1.5}$  {AP-42 13.2.1-3}  
 where:  
 k= 0.016 lb/vmt  
 sL= 7.4 g/m<sup>2</sup>  
 loaded W= 36.5 tons  
 unloaded W= 24.4 tons  
 loaded VMT (max)= 1031 vmt/yr  
 unloaded VMT (max)= 2886 vmt/yr

E (loaded) = 1.59 lb/vmt  
 Calculations:  
 loaded 1.59 lb/vmt \*1031.0 vmt/yr \*0.0005 ton/lb = 0.82 TPY  
 unloaded 0.87 lb/vmt \*2886.0 vmt/yr \*0.0005 ton/lb = 1.25 TPY

E (unloaded) = 0.

PT Emissions  
 Emission Factor (E):  $E=k(sL/2)^{0.65}(W/3)^{1.5}$  {AP-42 13.2.1-3}  
 where:  
 k= 0.082 lb/vmt  
 sL= 7.4 g/m<sup>2</sup>  
 loaded W= 36.5 tons  
 unloaded W= 24.4 tons  
 loaded VMT (max)= 1031 vmt/yr  
 unloaded VMT (max)= 2886 vmt/yr

E (loaded) = 8.15 lb/vmt  
 E (unloaded) = 4.45 lb/vmt  
 Calculations:  
 loaded 8.1 lb/vmt \*1031.0 vmt/yr \*0.0005 ton/lb = 4.20 TPY  
 unloaded 4.5 lb/vmt \*2886.0 vmt/yr \*0.0005 ton/lb = 6.42 TPY

Total PM-10 Emission: 10.62 TPY  
 assume 50% control for watering of roads 5.31 TPY

**Hauling - Unpaved Roads**

VMT (max) loaded = 2154 vmt/yr  
 VMT (max) unloaded = 2154 vmt/yr  
 Total VMT (max) = 4308 vmt/yr

PM-10 Emission  
 Emission Factor: 2.7 lbs/vmt {Department Policy 4/25/94} Calculation: 2.7 lbs/vmt \*4308.0  
 assume 50% control for watering of roads = vmt/yr \* 0.0005 lb/ton = 5.82 TPY  
 2.91 TPY

PT Emission  
 Emission Factor: 6 lbs/vmt {Department Policy 4/25/94}  
 Calculation: 6.0 lbs/vmt \*4308.0 vmt/yr \* 0.0005 lb/ton = 12.92 TPY  
 assume 50% control for watering of roads = 6.46 TPY

IV. BACT Determination

A Best Available Control Technology (BACT) determination is required for each new or altered source. CELP currently uses baghouse controls for PM-10 emissions from the following emission units: CFB boiler; coal crushing, screening, and transfer; coal storage bunker, limestone truck unloading, handling, and storage; fly ash conveying and storage; bed ash conveying and storage; and the ash storage silo unloading. Baghouses were determined to achieve the highest controls for the facilities listed above. Therefore, the department determined that BACT for these sources was operation of the respective baghouses.

BACT for fugitive emission sources of PM-10 at the facility include haul roads and the ash disposal area. The department determined that BACT for haul roads was paving or chemical dust suppression to limit excessive fugitive dust and maintain compliance with 20 percent opacity. For the ash disposal area, CELP must maintain compliance with reasonable precautions and applicable opacity standards. CELP is required to use water spray to control emissions from the area. If determined necessary at a later date, CELP may be required to use or install mitigative measures, revegetation for example, to control wind-blown emissions from the tailings facility.

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

V. Existing Air Quality

CELP operates a PM-10 and SO<sub>2</sub> sampling program near the facility. Sampled PM-10 (particulate matter less than 10 microns) concentrations have been below applicable standards. The ambient PM-10 24-hour standard is 150 µg/m<sup>3</sup> which is not to be exceeded more than once per year and the ambient annual standard is 50 µg/m<sup>3</sup>. Sampled PM-10 results are summarized below for the calendar years of 1995 and 1996.

<b>Summary of the PM-10 Data for 1995 and 1996</b>				
Colstrip Energy Limited Partnership				
Sample Year	Maximum 24-hour (µg/m <sup>3</sup> )	Second Highest 24-hour (µg/m <sup>3</sup> )	Arithmetic Annual Mean (µg/m <sup>3</sup> )	Number of Samples
1995	52	20	8.5	60
1996	24	24	9.4	60

Sampled SO<sub>2</sub> concentrations have been below applicable standards. The Montana ambient hourly standard for SO<sub>2</sub> is 0.50 ppm, 1-hour average, not to be exceeded more than 18 times in any 12 consecutive months. The Montana 24-hour average is 0.10 ppm not to be exceeded more than once per year. The Montana annual average is 0.02 ppm. The National Ambient Air Quality Standards for SO<sub>2</sub> are 0.50 ppm for 3-hour average not to be exceeded more than once per year, 0.14 ppm not to be exceeded more than once per year, and 0.03 ppm annual average. Sampled SO<sub>2</sub> results are summarized below for the calendar years of 1995 and 1996.

<b>Summary of the SO<sub>2</sub> Data for 1995 and 1996</b>				
Colstrip Energy Limited Partnership				
Sample Year	Maximum 24-hour (ppm)	Second Highest 24-hour (ppm)	Arithmetic Annual Mean (ppm)	Number of Samples
1995				
1996				

Sample Year	1-hour Maximum (ppm)	1-hour Arithmetic Annual Mean (ppm)	Maximum 3-hour Average (ppm)	Maximum 24-hour (ppm)
1995	0.012	0.001	0.007	0.003
1996	0.035	0.001	0.017	0.003

VI. Air Quality Impacts

Modeling analysis performed for permit application #2035-03 demonstrated compliance with the Class I and Class II increments and with NAAQS for PM-10. The tables below compares CELP's modeled PM-10 emissions with the Class II increment standard, NAAQS, and Class I increment standard.

Modeled Concentration Compared to Class II Increment and NAAQS							
Ave. Period	Modeled Value ( $\mu\text{g}/\text{m}^3$ )	Class II Increment Standard ( $\mu\text{g}/\text{m}^3$ )	Percent of Class II Increment Consumed	Modeled Ambient Concentration ( $\mu\text{g}/\text{m}^3$ )	Ambient Background* ( $\mu\text{g}/\text{m}^3$ )	Total Ambient Concentration ( $\mu\text{g}/\text{m}^3$ )	NAAQS ( $\mu\text{g}/\text{m}^3$ )
annual	6.54	17	92.8	14	8	22	50
24-hour	27.69	30	38.5	80	30	110	150

\* These numbers are the department's state-wide background values for PM-10 from the memo titled *Background Pollutant Values for Montana Dispersion Modeling* dated May 19, 1992.

Modeled Concentrations Compared to Class I Increment			
Averaging Period	Modeled Value ( $\mu\text{g}/\text{m}^3$ )	Class I Increment Standard ( $\mu\text{g}/\text{m}^3$ )	Percent of Class I Increment Consumed
annual	0.413	4	10.3
24-hour	4.28	8	53.5

VII. 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.

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

Permitting and Compliance Division  
Air and Waste Management Bureau  
1520 East Sixth Avenue  
P.O. Box 200901, Helena, Montana 59620-0901  
(406) 444-3490

## **FINAL ENVIRONMENTAL ASSESSMENT (EA)**

*Issued For:* Colstrip Energy Limited Partnership  
1087 West River Street, Suite 200  
Boise, Idaho 83702

*Permit Number:* 2035-03

*Preliminary Determination on Permit Issued:* 2/12/98  
*Department Decision on Permit Issued:* 3/05/98  
*Final Permit Issued:* 3/20/98

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

*Legal Description of Site:* The plant site is located on North 1/2, Section 32, Township 3 North, Range 41 East.

*Description of Project:* The facility requested the removal of the plant-wide emission limits in Section II.F of permit #2035-02 and proposed limits for point sources at the facility.

*Benefits and Purpose of Proposal:* Removing the plant-wide emission limits and placing limits on point sources at the facility will allow Colstrip Energy Limited Partnership (CELP) to demonstrate compliance with permit limits.

*Description and analysis of reasonable alternatives whenever alternatives are reasonably available and prudent to consider:* None available.

*A listing and appropriate evaluation of mitigation, stipulations and other controls enforceable by the agency or another government agency:* A listing of the enforceable permit conditions and a permit analysis, including a Best Available Control Technology analysis, is contained in permit #2035-03.

*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 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 Included
1	Terrestrial and Aquatic Life and Habitats			X			yes
2	Water Quality, Quantity and Distribution				X		yes
3	Geology and Soil Quality, Stability and Moisture				X		yes
4	Vegetation Cover, Quantity and Quality			X			yes
5	Aesthetics				X		yes
6	Air Quality			X			yes
7	Unique Endangered, Fragile or Limited Environmental Resource			X			yes
8	Demands on Environmental Resource of Water, Air and Energy				X		yes
9	Historical and Archaeological Sites				X		yes
10	Cumulative and Secondary Impacts			X			yes

### Potential Impact on Human Environment

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

## Potential Impact on Physical Environment

### 1. Terrestrial and Aquatic Life and Habitats

This permitting action will result in an increase in allowable PM-10 emissions at the facility. If actual PM-10 emissions increase, minor impacts to the habitats of fish and wildlife may occur. Habitat impacts could result in a change in the diversity or abundance of terrestrial or aquatic life.

### 2. Water Quality, Quantity and Distribution

The actions addressed in this permit will not result in a change in the amount or characteristics of surface water discharged or the alteration of the course or magnitude of any drainage system. This action does not result in a change in the quality or quantity of ground water. Therefore, no impact to water quality, quantity and distribution is anticipated.

### 3. Geology and Soil Quality, Stability and Moisture

The actions addressed will not change the soil stability or geologic substructure or result in any increased disruption, displacement, erosion, compaction, or moisture loss which would reduce productivity or fertility at or near the site. No unique geologic or physical features will be disturbed. Therefore, no impacts to geology and soil quality, stability and moisture are anticipated.

### 4. Vegetation Cover, Quantity and Quality

The increase in allowable PM-10 may result in minor impacts to the diversity, productivity or abundance of plant species.

### 5. Aesthetics

Three baghouse stacks heights will be increased. However, these changes will not alter any scenic vista or create an aesthetically offensive site or effect.

### 6. Air Quality

The analysis completed of permit application #2035-03 did not demonstrate any violations of the National Ambient Air Quality Standards. The allowable PM-10 emissions from the facility are permitted to increase approximately 18 TPY. Therefore, minor impacts from greater airborne particulate matter, as a result of this permit, are possible.

### 7. Unique Endangered, Fragile or Limited Environmental Resources

This permitting action may result in minor impacts to terrestrial and aquatic life and/or their habitat; therefore, it is possible that unique, rare, threatened, or endangered species may experience minor impacts. However, the department is not aware of any unique, rare, threatened, or endangered species in the area surrounding the facility.

### 8. Historical and Archaeological Sites

This permitting action does not include any facility action that would result in disturbing greater land surface. Therefore, no impacts to any historical and archaeological sites are anticipated.

### 9. Cumulative and Secondary Impacts

Minor cumulative and secondary impacts as a result of potential actual emissions increases in addition to the facilities emissions allowed under permit #2035-03 are possible. Additional

PM-10 may result in minor cumulative and secondary impacts to terrestrial and aquatic habitats and air quality.

### **Potential Impact on Human Environment**

1. Social Structures and Mores
2. Cultural Uniqueness and Diversity
8. Distribution of Population

Since no significant physical or operational changes at the facility were permitted in #2035-03, the location, distribution, density, or growth rate of the human population nor the cultural uniqueness or diversity of the community surrounding the facility should not be altered. The fundamental moral views of a social group are not anticipated to be altered as a result of this permitting action.

3. Local and State Tax Base and Tax Revenue
9. Demands of Government Services

The changes to CELP's air quality permit will not result in a need for new or altered governmental services nor effect local or state tax bases or revenues.

4. Agricultural or Industrial Production
10. Industrial and Commercial Activity

The changes permitted in #2035-03 will not result in a reduction of available acreage or productivity of any agricultural land; therefore, agricultural production should not be affected. Industrial production and commercial activity at the facility or in the neighboring area are not anticipated to be altered by this permit.

5. Human Health

The two primary vehicles for impact upon human health are water and air. Since there will be no change in the amount or characteristics of surface water discharged or the quality or quantity of ground water, human health impacts from water are not anticipated. The permit analysis did not demonstrate any violation of National Ambient Air Quality Standards. However, the allowable increase in PM-10 emissions may result in an increase in airborne particulate matter in the area. Therefore, minor human health impacts from air quality are possible.

6. Access to and Quality of Recreational and Wilderness Activities

The actions permitted will not alter any existing access to and quality of any recreational or wilderness area.

7. Quantity and Distribution of Employment

The actions permittee in permit #2035-03 are not anticipated to result in any impacts to the quantity and distribution of employment at the facility or surrounding community.

11. Locally Adopted Environmental Plans and Goals

Permit #2035-03 should not affect any locally adopted environmental plans or goals because it does not result in any significant increase in actual emissions.

12. Cumulative and Secondary Impacts

The two primary vehicles for impact upon human health are water and air. Since there are

possibly minor air quality impacts from CELP, cumulative human health impacts are possible from the facility.

*Recommendation:* An EIS is not required.

*If an EIS is not required, explain why the EA is an appropriate level of analysis:* The source is applying the Best Available Control Technology; the analyses indicates compliance with all applicable air quality rules and regulations.

*Other groups or agencies contacted or which may have overlapping jurisdiction:* None

*Individuals or groups contributing to this EA:* Department of Environmental Quality - Air and Waste Management Bureau.

*EA prepared by:* Denise A. Kirkpatrick

*Date:* January 23, 1998