

## STATEMENT OF BASIS

To: Reviewers

Through: Lori Bocchino, Operating Permit Program Manager

From: Jamie O'Dell/Maggie Endres, Operating Permit Program

Subject: Draft Operating Permit 3-2-090  
American Colloid Company, Colony East & West Plants

Date: June 18, 2012

### **Introduction:**

Attached for your review is the draft renewal of the Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 6, Section 3 Operating Permit for combined Colony East & West plants. Previously Colony East was permitted under 3-1-090-1 and Colony West was permitted under 31-137-1. Both will be permitted under 3-2-090. The facilities receive and process locally mined bentonite clay, producing various products.

**Permitting History:** All permits are listed chronologically to document the permitting history.

The permits listed in this first paragraph have no remaining requirements. MD-14 (3/18/1977) & OP-120 (9/23/1983): were issued to modify and operate the fluid bed dryer and Raymond mill at the Colony East Plant. MD-15 (5/23/1977): allowed conversion of the rotary dryers at the Colony West Plant to coal firing. CT-388 (7/27/1981) & OP-83 (12/16/1981): allowed the addition and operation of the pre-dried clay system at the east plant. CT-475 (12/22/1982): was issued to install additional equipment and construct a new packer facility to increase bentonite production at the west plant. MD-42 (3/13/1984): increased the bentonite production at the east plant. OP-135 (10/18/1984): authorized operations permitted under MD-15 & CT-475 at the west plant. CT-1117 (11/21/1994): was issued construct an additional dryer at the east plant. Division letter (2/15/95): allowed an increase in the sulfur content of the coal for the dryers at both plants. March 16, 1995 waiver: allowed the installation of belt scales and their associated bin vents at the west plant. AP-J76 (3/4/1996): recognized the new bulk loadout and filling stations with the units venting inside the building at the east plant.

MD-266 (4/23/1996): limits the annual bentonite production and coal usage at the west plant, with associated recordkeeping requirements.

The permits listed in this paragraph have no remaining requirements. Waiver (9/16/1996): allowed addition of a fourth packer to the existing system at the west plant. MD-308 (12/17/1996): allowed installation of a baghouse to replace the electrostatic precipitator on the fluid bed dryer at the east plant. Waiver (4/14/1997): allowed the addition of three new screens to the granular system at the west plant. Waivers (9/2/1997) and wv-13a (9/2/1997): allowed installation of a new baghouses for control of nuisance dust at the west and east plants, respectively. AP-F28 (12/2/1997): allowed the construction of two additional baghouses to control nuisance dust at the west plant.

MD-342 (1/26/1998): was issued to increase bentonite production and convert the gas fired rotary dryer to coal fired at the east plant. Applicable requirements are the coal limit for the dryers, sulfur content of the coal, and that the coal silo be equipped with a bin vent.

The permits listed in this paragraph have no remaining requirements. Division letter (10/6/98): acknowledged installation of a used baghouse instead of the one specified in the 9/2/1997 waiver for the west plant. AP-F39 (11/4/1998): permitted the replacement of the rotary dryer and coal silo baghouses, and a fan at the east plant. AP-I29 (11/10/1998): authorized the construction of two additional baghouses to control nuisance dust from the granular system and material transfers at the west plant. AP-XP9 (7/27/1999): allowed an additional baghouse to control nuisance dust from the granular system at the west plant. AP-CX0 (1/26/2000): allowed the installation of a baghouse to control nuisance dust at the west plant. AP-B41 (8/14/2000): was issued to recognize the removal of a baghouse at the west plant, with the emissions to be routed to a different baghouse. AP-B51 (8/14/2000): permitted an additional baghouse to control fugitive dust from the rotary dryer area at the east plant. AP-BM1 (11/15/2000): was issued to reflect the "as built" configuration permitted under AP-I29.

AP-XN2 (5/14/2002): was issued to allow construction of the cat litter packaging line at the west plant, consisting of units DC-10 & DC-11, which vent inside a building. The waiver requires the building enclosing the units to have no visible emissions in accordance with Method 22.

The permits listed in this paragraph have no remaining applicable requirements. AP-0601 (3/12/2003): re-routed the exhaust of a baghouse to the exterior of a building at the east plant.

AP-1119 (10/21/2003): allowed the additional of a conveyor and three sided coal bunker to be constructed at the east plant. The bunker is controlled with a baghouse. AP-2074 (6/23/2004): was issued for the replacement of one baghouse, and to change the collection points of another baghouse at the east plant. AP-2675 (3/22/2005): authorized the burner replacement in the rotary dryer at the east plant. The permittee later requested this waiver be voided. AP-3678 (8/25/2005): was issued to install a bin vent which discharges into a building at the east plant.

AP-6086 (4/17/2007): permitted the installation of one above ground diesel storage tank at the east plant. MD-1590 (6/14/2007): allowed the replacement of bentonite handling equipment, replacement of the rotary dryer burners, an increase in the coal usage limit, and the lowering of the particulate emission limit for the baghouse controlled units at the east plant. MD-1591 (6/14/2007): allowed the addition of bentonite handling equipment, replacement of the rotary dryer burners and lowering of the emission limits for the baghouse controlled unit at the west plant. AP-6513 (7/26/2007): allowed the addition of a fines compactor at the west plant.

AP-6383 (8/20/2007): replaced the elevator for tanks 4, 5 & 6 at the west plant. The waiver limits fugitive emissions associated with the new elevator.

MD-1590A (12/7/2007): recognized that the east plant projects authorized under MD-1590 were canceled. The amended permit carried forward the original request to lower the particulate emission limits for baghouse sources. The permit sets opacity limits for each point source and fugitive sources, requires road treatment to control fugitive dust, and states that the emission limits and opacity standards apply at all times. The permit also requires daily visual observations of each baghouse to determine the presence of visible emissions. All other sources at the east plant not covered by New Source Performance Standards (NSPS) are limited to 20% opacity by this permit.

MD-1591A (12/7/2007): recognized that the burner replacement project was canceled as well as the additional bentonite handling prior to the dryers at the west plant. MD-1591A2 (3/10/2008): was issued for the replacement of a fines compactor. This permit reduces particulate matter emission limits for the baghouse sources, sets opacity limits for each point source and fugitive sources, requires road treatments to control fugitive dust and states that the emission limits and opacity standards apply at all times. The permit also requires daily visual observations of each baghouse to determine the presence of visible emissions. All other sources at the west plant not covered by New Source Performance Standards (NSPS) are limited to 20% opacity.

AP-7729 (7/25/2008): allowed the installation of an additional conveyor to the rotary dryer at the east plant, utilizing existing control equipment.

AP-7881 (8/28/2008): was issued for an additional crusher and conveying system. This waiver limits the opacity from the crusher, all conveyor transfer points and loading operations. Additionally all other sources associated with the permit not covered by New Source Performance Standards (NSPS) are limited to 20%.

AP-8575 (11/3/2008): authorized the replacement of a baghouse with a new model, with limits for particulate matter emissions and opacity.

wv-9928 (9/28/2009): added additional collection points for a nuisance dust baghouse.

wv-11791 (6/1/2011): was issued for the construction of six new sources for the paper bentonite system. Construction has not begun on this system. The permittee indicated in February 2012 that they are going to re-permit this project based on expected changes and has requested this waiver not be incorporated into the operating permit.

### **Applicable Requirements:**

In addition to the WAQSR Ch 6, Sec 2 permit requirements listed above, applicable requirements include the NO<sub>x</sub> emission limit for several small heaters set forth in Ch 3, Sec 3, and the Sulfur Dioxide Emission Inventory requirements of Ch 14, Sec 3.

The facility is subject to the requirements of 40 CFR Part 60, Subpart OOO for Nonmetallic Mineral Processing Plants. The units subject to this subpart are DC-04, DC-10, DC-11, DC-13, DC-14, DC-15, DC-16, BV-02, RD-2, 19 and 3SB. At the time of issuance of this permit, these baghouse-controlled units are subject to a particulate matter emission limit of 0.02 gr/dscf under Subpart OOO, however, the particulate limits from the Ch 6 Sec 2 permits listed above are more stringent. The opacity limits stated in the above-mentioned permits and waivers are consistent with the requirements of Subpart OOO. Other sources potentially subject to Subpart OOO were constructed prior to 1983 and are exempt from the requirements of this subpart.

The facility is also subject to the requirements of 40 CFR Part 60, Subpart UUU for Calciners and Dryers in Mineral Industries. The unit subject to this subpart is the rotary dryer, unit RD-1. The three other dryers are not subject due to their dates of construction. As of permit issuance, the particulate matter emission limit stated in MD-1590A for RD-1 is more stringent than the requirements of Subpart UUU. The opacity limit stated in MD-1590A is consistent with requirements of Subpart UUU.

The permittee must also comply with any applicable requirements from 40 CFR Part 63 Subpart ZZZZ for Stationary Reciprocating Internal Combustion Engines, for the two emergency generator engines.

**Compliance Assurance Monitoring (CAM):**

All of the baghouse sources except BV-02, DC-10 and DC-11 are subject to CAM for particulate emissions. CAM monitoring consists of daily visual observations at each baghouse stack. If visible emissions are observed, immediate corrective action shall be taken. This monitoring is consistent with the monitoring required by permits MD-1590A and MD-1591A2. Although not subject to CAM, the daily visual observation requirement will be applied as periodic monitoring for source BV-02.

**Periodic Monitoring:**

The permittee is required to monitor and record, monthly, the bentonite production (west plant), coal usage (both east and west plants) and coal sulfur content (east plant). Weekly visible emissions observations of the building housing the cat litter packaging line (sources DC-10 and DC-11) are required to determine that there are no visible emissions. For fugitive dust on unpaved roads, the permittee is required to monitor the date, type of application (water and/or chemicals), and the amount applied. Monitoring for visible emissions from the heaters and generators shall consist of monitoring the type of fuel used to ensure natural gas or propane is the sole fuel source for these units.

The unit and belt/slide heaters (units BHTRS & UHTRS) are fuel burning equipment as defined in WAQSR Chapter 1. They are gas fired and have the potential to emit oxides of nitrogen (NO<sub>x</sub>) in quantities that are relatively small (less than 6 TPY for all 24 units). In the absence of more stringent permit limits, the NO<sub>x</sub> emission limit for fuel burning equipment defaults to 0.20 pounds per million BTUs (lb/MMBtu) for sources constructed after April 9, 1973, and 0.23 lb/MMBtu for sources constructed prior to April 9, 1973, as stated in WAQSR Chapter 3, Section 3. These regulatory limits have not been updated since 1973. Generally, these small fuel burning sources are uncontrolled and operate at a steady state; emission variations are not likely. AP-42 emission factors were developed by the EPA to help estimate the quantity of a pollutant from a given source type. In developing an AP-42 emission factor, emission data is averaged from sources of similar size and type, and is then assigned a reliability rating based on quality and quantity of the data used. The rating scale runs from A to E with an A rating providing the highest quality. The AP-42 emission factor for gaseous fuel burning sources, less than 100 MMBtu/hr is 0.1 lb/MMBtu with a B rating. Considering the amount of data evaluated to develop the AP-42 emission factor and considering that the WAQSR Chapter 3, Section 3 emission limit is twice that value, the Division feels it is extremely unlikely these sources will operate out of compliance and considers further monitoring of these sources uneconomical.