TECHNICAL SUPPORT DOCUMENT

Air Discharge Permit ADP 24-3660
Air Discharge Permit Application CO-1102

Issued: September 4, 2024

Columbia River Carbonates - Pelletizing Plant

SWCAA ID - 2522

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ABBREVIATIONS

List of Acronyms

ADP	Air Discharge Permit
AP-42	Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA
ASIL	Acceptable Source Impact Level
BACT	Best available control technology
CAS#	Chemical Abstracts Service registry number
CFR	Code of Federal Regulations
EPA	U.S. Environmental Protection Agency
mfr	Manufacturer
NOV	Notice of Violation/
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RCW	Revised Code of Washington
SCC	Source Classification Code
SDS	Safety Data Sheet
SQER	Small Quantity Emission Rate listed in WAC 173-460
Standard	Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
SWCAA	Southwest Clean Air Agency
T-BACT	Best Available Control Technology for toxic air pollutants
WAC	Washington Administrative Code

List of Units and Measures

µg/m³	Micrograms per cubic meter
acfm	Actual cubic foot per minute
dscfm	Dry Standard cubic foot per minute
gr/dscf	Grain per dry standard cubic foot
MMBtu	Million British thermal unit
ppm	Parts per million
ppmv	Parts per million by volume
ppmvd	Parts per million by volume, dry
scfm	Standard cubic foot per minute
tph	Ton per hour
tpy	Tons per year

List of Chemical Symbols, Formulas, and Pollutants

CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
HAP	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act
NO_x	Nitrogen oxides
O_2	Oxygen
O_3	Ozone
PM	Particulate Matter with an aerodynamic diameter 100 µm or less
PM_{10}	PM with an aerodynamic diameter 10 µm or less
$PM_{2.5}$	PM with an aerodynamic diameter 2.5 µm or less
SO_2	Sulfur dioxide
TAP	Toxic air pollutant pursuant to Chapter 173-460 WAC
VOC	Volatile organic compound

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name:	Columbia River Carbonates
Applicant Address:	300 N Pekin Road, Woodland, Washington 98674
Facility Name:	Columbia River Carbonates – Pelletizing Plant
Facility Address:	289 N Pekin Road, Woodland, Washington 98674
SWCAA Identification:	2522
Contact Person:	Patrick Sypher, Plant Manager
Primary Process:	Limestone Processing
SIC/NAICS Code:	3295 / Minerals, Ground or Treated 212312 / Crushed and Broken Limestone Mining/Quarrying
Facility Classification:	Natural Minor

2. FACILITY DESCRIPTION

Columbia River Carbonates (CRC) operates a pelletizing plant to produce gypsum and/or limestone prill for agricultural application. The facility is located adjacent to a CRC facility that crushes and mills bulk limestone.

3. CURRENT PERMITTING ACTION

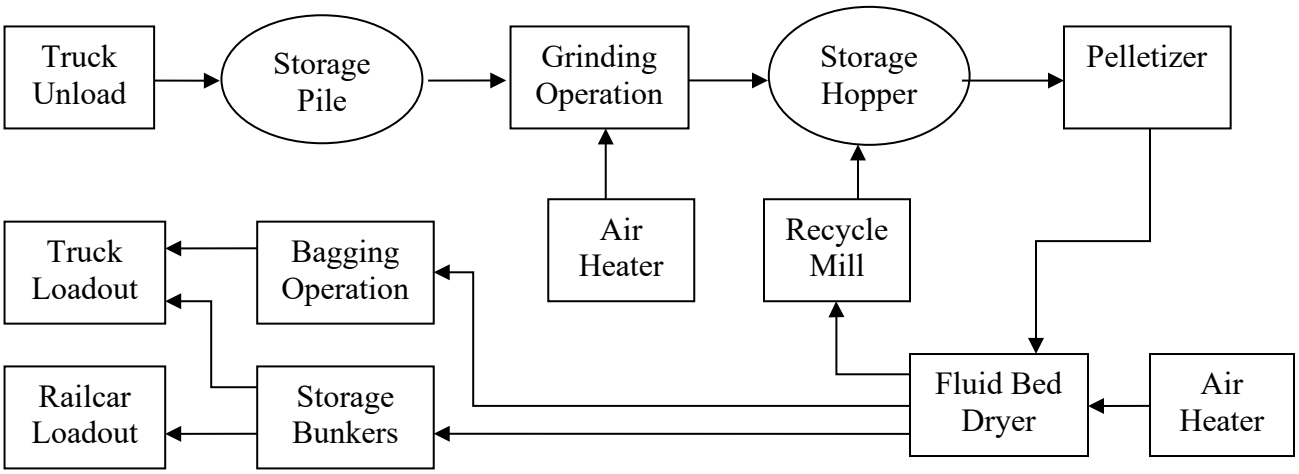
This permitting action is in response to Air Discharge Permit application number CO-1102 (ADP Application CO-1102) dated June 13, 2024. Columbia River Carbonates - Pelletizing Plant submitted ADP Application CO-1102 requesting approval of the following:

- Installation of a new impact mill (GMACM02) and associated dust collector (GMDCL02).

The current permitting action provides approval for installation of new equipment as proposed in ADP Application CO-1102. ADP 24-3660 will supersede ADP 21-3460 in its entirety.

4. PROCESS DESCRIPTION

4.a. Process Flow Diagram (*existing*).



4.b. Receiving Operations (*existing*). Raw material (gypsum, limestone) is received at the facility via truck. Bulk material is unloaded inside a building enclosure and transferred to indoor storage piles using payloaders. Fugitive dust emissions from receiving operations are minimized using process enclosure. The facility may also receive calcium carbonate from the CRC facility on the east side of Pekin Road via a dense phase pneumatic conveying system, but the capacity of the other facility to supply calcium carbonate is limited. CRC expects most raw material to be received directly at this facility.

4.c. Milling Operations (*existing*). Raw material (gypsum, limestone) is transferred from storage to the hammer mill feed hopper using a payloader. Material output from the hammer mill is sent to the ACM mill and then sized using a classifier. The ACM mill is equipped with a dedicated air heater to allow wet feed to be processed. Material rejected from the classifier falls back into the ACM mill to be reground. Finished material is transferred to the pellet mill storage hoppers. Dust emissions from milling operations are minimized using process enclosure and high efficiency filtration.

ADP Application CO-1102. CRC proposes to install a new impact mill as part of the existing milling operation. CRC is not proposing any changes to existing milling equipment or the milling operation in general.

4.d. Pelletizing Operations (*existing*). Milled material (gypsum, limestone) is combined with a binder solution in a pin mixer and fed to a pelletizer to form prill. Raw prill is dried in a fluid bed dryer equipped with a dedicated air heater. Dried prill is screened to meet product specification and transferred to storage. Prill that does not meet specification is sent to a secondary hammer mill and recycled back to the pellet mill storage hoppers. Dust emissions from pelletizing operations are minimized using process enclosure and high efficiency filtration.

4.e. Finished Product Storage (*existing*). Finished product is stored in dedicated silos and bunkers prior to bagging or shipment offsite. Material is transferred to storage using enclosed conveyors and pneumatic systems. Dust emissions from product handling and storage are minimized using process enclosure.

4.f. Finished Product Bagging (*existing*). A portion of the facility's finished product is bagged in the product warehouse. Material is transferred from storage to bagging stations using enclosed conveyors and pneumatic systems. Dust emissions from product handling and storage are minimized using process enclosure and high efficiency filtration.

4.g. Shipping Operations (*existing*). Finished product is shipped in bags via truck or in bulk via truck and railcar. Bulk material is loaded into railcars using a dedicated loading spout. Bulk material is loaded into trucks using either payloaders or a dedicated loading spout. Fugitive dust emissions from shipping operations are minimized using process enclosure and high efficiency filtration.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a. ACM Mill 1 (*existing*). This unit is a vertical impact mill that reduces the size of raw material (gypsum/limestone) prior to sizing in the classifier. Material in the ACM (air classifying mill) is heated by a natural gas-fired air heater. Dust emissions from the ACM mill and material classifier are controlled by a dedicated dust collector.

Impact Mill (GMACM01)

Make / Model:	Hosokawa / Mikro-ACM 350
Capacity:	12 tph

Air Heater (GMAHE01)

Burner Make / Model:	Maxon / M-PAKT EB5
Rated Heat Input:	3.0 MMBtu/hr, natural gas
Emissions Performance	20 ppmv - NO_X, 200 ppmv - CO (@ 18% O_2)
Exhaust Stack:	Exhausts to process stream

Dust Collector (GMDCL01)

Make / Model:	Filter Technology LTD / 315-10
Number of Bags:	315 (6" diameter by 120" length)
Filter Type:	Polyester cloth, 16 oz/yd²
Filtration Area:	4,945 ft²
Air Flow:	20,000 acfm
Cleaning Method:	Reverse jet
Exhaust Stack:	30" dia, vertical at 45' above ground level
Location:	45-54' 22.11"N 122-45' 39.17"W

5.b. ACM Mill 2 (*new*). This unit is a vertical impact mill that reduces the size of raw material (gypsum/limestone) prior to sizing in the classifier. Dust emissions from the ACM mill and material classifier are controlled by a dedicated dust collector.

Impact Mill (GMACM02)

Make / Model:	Hosokawa / Mikro-ACM 350
Capacity:	14 tph

Dust Collector (GMDCL02)

Make / Model:	Sly / STJ-2216-10
Number of Bags:	352 (5 ¾" dia by 120" length)
Filter Type:	Singed polyester cloth, 16 oz/yd²
Filtration Area:	5,280 ft²
Air Flow:	20,000 acfm
Cleaning Method:	Reverse jet
Exhaust Stack:	30" dia, vertical at 45' above ground level, 6' above roof level
Location:	45-54' 24.17"N 122-45' 37.59"W

ADP Application CO-1102. CRC proposes to install a new vertical impact mill similar to the existing mill in size and configuration. The new mill will not be equipped with an air heater.

5.c. Fluid Bed Dryer (*existing*). This unit dries and conditions raw pellets from the pellet mill pelletizer. Material in the dryer is heated by a natural gas fired air heater. Dust emissions from the dryer are controlled by dedicated dust collectors. The cooling zone of the dryer vents to the air heater for the drying zone. Only the drying zone exhausts to ambient air.

Dryer (PADRY01)

Make / Model:	Carrier Vibrating Equipment / QAD-C
Rated Capacity:	35 tph @ 0.3% moisture

Air Heater (PAAHE01)

Make / Model:	Maxon / Crossfire
Rated Heat Input:	12.0 MMBtu/hr, natural gas
Emissions Performance	30 ppmv - NO_X, 200 ppmv - CO (@ 18% O_2)
Exhaust Stack:	Exhausts to drying zone

Dust Collector (PADCL01) This unit controls emissions from the drying zone of the dryer.

Make / Model:	MikroPul / 320S TRH10
Number of Bags:	320 (6" diameter by 120" length)
Filter Type:	Polyester cloth, 16 oz/yd²
Filtration Area:	3,770 ft²
Air Flow:	22,000 acfm
Cleaning Method:	Reverse jet
Exhaust Stack:	36" dia, vertical at 52' above ground level
Location:	45-54' 21.76"N 122-45' 39.83"W

5.d. Railcar Loading System, Truck Loading System, and the Central Dust Control System (*existing*). This facility uses a central dust collector to control emissions from the product handling systems described below. The Railcar Loading and Truck Loading exhausts were originally permitted (ADP 18-3277) to vent to dedicated dust collectors (PADCL04 and PADCL05). The exhausts were later re-routed to a central dust collection system. The central dust collector (PADCL03) was sized large enough to handle the additional flow, so no other modifications were necessary for the change.

- The facility uses a central system to control nuisance dust from bagging operations and other process points at the facility.
- The facility uses an enclosed material handling system and loading spout (PALSP01) to load bulk product into railcars.
  Spout Make / Model: Dust Control and Loading Systems / EV24-6
- The facility uses an enclosed material handling system and loading spout (PALSP02) to load bulk product into trucks.
  Spout Make / Model: Dust Control and Loading Systems / EV24-6

Dust Collector (PADCL03)

Make / Model:	Wheelabrator / 1512-TA-SB-144
Number of Bags:	320 (6" diameter by 120" length)
Filter Type:	Polyester cloth, 16 oz/yd²
Filtration Area:	3,521 ft²
Air Flow:	20,000 acfm
Cleaning Method:	Reverse jet
Exhaust Stack:	34.5" dia, vertical at 47' 6" above ground level
Location:	45-54' 21.45"N 122-45' 40.29"W

5.e. Material Hopper (PAHOP01) (*existing*). This unit is a material storage hopper configured with a dedicated bin vent.

Bin Vent (PABVT01)

Make / Model:	Filter Technology LTD / 9-1.5M
Number of Bags:	9 (6" diameter by 39" length)
Filter Type:	Polyester cloth, 16 oz/yd²
Filtration Area:	378 ft²
Air Flow:	850 acfm
Cleaning Method:	Reverse jet
Exhaust Stack:	8" dia, vertical at 66.5' above ground level
Location:	45-54' 21.57"N 122-45' 39.93"W

5.f. Material Hopper (PAHOP02) (*existing*). This unit is a material storage hopper configured with a dedicated bin vent.

Bin Vent (PABVT02)

Make / Model:	Filter Technology LTD / 9-1.5M
Number of Bags:	9 (6" diameter by 39" length)
Filter Type:	Polyester cloth, 16 oz/yd²
Filtration Area:	378 ft²
Air Flow:	850 acfm
Cleaning Method:	Reverse jet
Exhaust Stack:	8" dia, vertical at 66.5' above ground level
Location:	45-54' 21.51"N 122-45' 39.93"W

5.g. Material Hopper (PAHOP03) (*existing*). This unit is a material storage hopper configured with a dedicated bin vent.

Bin Vent (PABVT03)

Make / Model:	Filter Technology LTD / 9-1.5M
Number of Bags:	9 (6" diameter by 39" length)
Filter Type:	Polyester cloth, 16 oz/yd²
Filtration Area:	378 ft²
Air Flow:	760 acfm
Cleaning Method:	Reverse jet
Exhaust Stack:	8" dia, vertical at 66.5' above ground level
Location:	45-54' 21.47"N 122-45' 39.93"W

5.h. Material Hopper (PAHOP04) (*existing*). This unit is a material storage hopper configured with a dedicated bin vent (PABVT04).

Bin Vent (PABVT04)

Make / Model:	Filter Technology LTD / 9-1.5M
Number of Bags:	9 (6" diameter by 39" length)
Filter Type:	Polyester cloth, 16 oz/yd²
Filtration Area:	378 ft²
Air Flow:	760 acfm
Cleaning Method:	Reverse jet
Exhaust Stack:	8" dia, vertical at 66.5' above ground level
Location:	45-54' 21.42"N 122-45' 39.93"W

5.i. Raw Material Receiving and Storage – Fugitives (*existing*). Raw material is delivered to the facility by truck and dumped inside a storage building. Stored material is transferred to a receiving hopper using payloaders. Fugitive dust emissions are controlled with process enclosure.

5.j. Pellet Storage and Shipping – Fugitives (*existing*). Finished pellets are transferred to storage in covered bunkers using conveyors. Stored material is loaded into trucks or transferred to a loading system hopper using payloaders. Fugitive dust emissions are controlled with process enclosure.

5.k. Insignificant Emission Units. The following pieces of facility equipment have been determined to have insignificant emissions, and are not registered as emission units:

Hammer Mill WP (GMHAM01) (*existing*). This unit is a hammer mill used to crush incoming raw material (gypsum/limestone) at the facility. This unit is fully enclosed.

Make / Model: Lightning Crushers / WS3
Capacity: 15 tph

Hammer Mill WP (PAHAM01) (*existing*). This unit is a hammer mill used to crush recycled process material (gypsum/limestone) from the pelletizing plant. This unit is fully enclosed.

Make / Model: Lightning Crushers / WS3
Capacity: 25 tph

Pin Mixer (*existing*). This unit is used to mix raw material and binder prior to pelletizing. This unit is fully enclosed.

Binder Receiving and Storage (*existing*). The facility receives and stores bulk sodium lignosulfonate binder solution. The solution does not contain any hazardous ingredients or volatile organic compounds.

Day Tank (1) 550 gal heated vertical stainless
Storage tanks (2) 13,650 gal heated vertical polyethylene

5.l. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Air Heater - ACM Mill 1 (GMAHE01)	Low Sulfur Fuel, Low Emission Burner
2	Air Heater - Fluid Bed Dryer (PAAHE01)	Low Sulfur Fuel, Low Emission Burner
3	ACM Mill 1 (GMACM01)	Process Enclosure, Dust Collector (GMDCL01)
4	ACM Mill 2 (GMACM02)	Process Enclosure, Dust Collector (GMDCL02)
5	Fluid Bed Dryer (PADRY01)	Process Enclosure, Dust Collector (PADCL01)
6	Central Dust Control System, Railcar Loading System, Truck Loading System	Process Enclosure, Dust Collector (PADCL03)
7	Material Hopper (PAHOP01)	Process Enclosure, Bin Vent (PABVT01)
8	Material Hopper (PAHOP02)	Process Enclosure, Bin Vent (PABVT02)

ID No.	Equipment/Activity	Control Equipment/Measure
9	Material Hopper (PAHOP03)	Process Enclosure, Bin Vent (PABVT03)
10	Material Hopper (PAHOP04)	Process Enclosure, Bin Vent (PABVT04)
11	Raw Material Receiving and Storage - Fugitives	Process Enclosure
12	Pellet Storage and Shipping - Fugitives	Process Enclosure

6. EMISSIONS DETERMINATION

Emissions to the ambient atmosphere from prill manufacturing operations, as proposed in ADP Application CO-1102, consist of nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), particulate matter (PM), sulfur dioxide (SO_2), toxic air pollutants (TAPs), and hazardous air pollutants (HAPs).

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:

(a) Continuous emissions monitoring system (CEMS) data;
(b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
(c) Source emissions test data (other test method); and
(d) Emission factors or methodology provided in this TSD.

6.a. Air Heater (GMAHE01) (*existing*). Emissions from heater operation are calculated from rated heat input, 8,760 hr/yr of operation, and applicable emission factors. NO_X and CO emission factors are based on monitored operating performance (≤20 ppmv NO_X, ≤100 ppmv CO @ 18% O_2). VOC and SO_2 emission factors are taken from EPA AP-42, Section 1.4 (7/1998). PM emissions from heater operation are included in the emissions estimated for Dust Collector GMDCL01. Annual emissions will be calculated based on actual fuel consumption using the same methodology.

Rated Heat Input:	3.0	MMBtu/hr
Fuel Consumption:	26,280	MMBtu/yr

	EF	Emissions	
Pollutant	lb/MMBtu	lb/hr	tpy
NO_x	0.1499	0.45	1.97
CO	0.4559	1.37	5.99
VOC	0.0054	0.02	0.07
SO_2	0.0006	0.002	0.008
			lb/yr
Benzene	2.06E-06	6.18E-06	0.05
Formaldehyde	7.35E-05	2.21E-04	1.93

6.b. Air Heater (PAAHE01) (*existing*). Emissions from heater operation are calculated from rated heat input, 8,760 hr/yr of operation, and applicable emission factors. NO_X and CO emission factors are based on monitored operating performance (≤30 ppmv NO_X, ≤100 ppmv CO @ 18% O_2). VOC and SO_2 emission factors are taken from EPA AP-42, Section 1.4 (7/1998). PM emissions from heater operation are included in the emissions estimated for Dust Collector PADCL01. Annual emissions will be calculated based on actual fuel consumption using the same methodology.

Rated Heat Input:	12.0	MMBtu/hr
Fuel Consumption:	105,120	MMBtu/yr

	EF	Emissions	
Pollutant	lb/MMBtu	lb/hr	tpy
NO_x	0.2248	2.70	11.82
CO	0.4559	5.47	23.96
VOC	0.0054	0.06	0.28
SO_2	0.0006	0.007	0.03
			lb/yr
Benzene	2.06E-06	2.47E-05	0.22
Formaldehyde	7.35E-05	8.82E-04	7.73

6.c. Dust Collectors and Bin Vent Filters (*modified*). Emissions from facility dust collectors and bin vent filters are calculated from rated air flow, 8,760 hr/yr of operation, and a maximum grain loading concentration of 0.005 gr/dscf. All PM emissions are assumed to be $PM_{2.5}$. Annual emissions will be calculated based on actual hours of operation using the same methodology.

	Air Flow	Operation	Emission Conc	Emissions ($PM_{10}/PM_{2.5}$)	
Control Equip	(acfm)	(hours)	(gr/dscf)	(lb/hr)	(tpy)
Dust Collector (GMDCL01)	20,000	8,760	0.005	0.86	3.75
Dust Collector (GMDCL02)	20,000	8,760	0.005	0.86	3.75
Dust Collector (PADCL01)	22,000	8,760	0.005	0.94	4.13
Dust Collector (PADCL03)	20,000	8,760	0.005	0.86	3.75
Bin Vent (PABVT01)	850	8,760	0.005	0.04	0.16
Bin Vent (PABVT02)	850	8,760	0.005	0.04	0.16
Bin Vent (PABVT03)	760	8,760	0.005	0.03	0.14
Bin Vent (PABVT04)	760	8,760	0.005	0.03	0.14

ADP Application CO-1102. CRC proposes to install one new dust collector (GMDCL02) that controls emissions from the new impact mill (ACM Mill 2). The new dust collector exhausts through a dedicated exhaust stack. No changes to existing dust control systems is proposed.

6.d. Bulk Material Handling (*existing*). Emissions from bulk material handling are calculated from a maximum material throughput of 260,000 tons per year and emission factors AP-42, Section 13.2.4 "Aggregate Handling and Storage Piles" (11/06). Specific emission factors are developed for each PM classification. Calculations assume that the system has four drop points (*truck to storage pile, payloader to reclaim hopper, conveyor to storage bunker, payloader to truck/loading hopper*) and worst-case material moisture is 1.5%. Estimated capture/control efficiency is assumed 80% due to the proposed use of covered bunkers and wet suppression. Annual emissions will be calculated based on actual material throughput using the same methodology

Pollutant	Transfer Points	Emission Factor	Control %	Emissions
PM	4	0.00373 lb/ton	80	0.39 tpy
PM_{10}	4	0.00176 lb/ton	80	0.18 tpy
$PM_{2.5}$	4	0.00027 lb/ton	80	0.03 tpy

6.e. Emissions Summary/Facility-wide Potential to Emit. Facility-wide potential to emit as calculated in the sections above is summarized below.

Pollutant	Potential Emissions (tpy)	Project Increase (tpy)
NO_X	13.79	0.00
CO	29.95	0.00
VOC	0.35	0.00
SO_2	0.04	0.00
Lead	0.0	0.00
PM	16.38	3.75
PM_{10}	16.18	3.75
$PM_{2.5}$	16.02	3.75
TAP	0.005	0.00
HAP	0.005	0.00

Pollutant	CAS Number	Category	Facility-wide Emissions (lb/yr)	Project Increase (lb/yr)	WAC 173-460 SQER (lb/yr)
Benzene	71-43-2	HAP/TAP	0.27	0.0	20
Formaldehyde	50-00-0	HAP/TAP	9.7	0.0	20

7. REGULATIONS AND EMISSION STANDARDS

Regulations that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the regulations, codes, or requirements listed below.

7.a. Title 40 Code of Federal Regulations Part 60 (40 CFR 60) Subpart OOO "Standards of Performance for Nonmetallic Mineral Processing Plants" establishes opacity and particulate matter emission limits for stationary (fixed) plants with capacities greater than 25 tons per hour and portable plants greater than 150 tons per hour that were constructed, reconstructed or modified after August 31, 1983. More stringent requirements apply to affected facilities constructed, reconstructed or modified on or after April 22, 2008. This regulation is applicable to crushing operations at this facility.

7.b. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess.

7.c. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an Air Discharge Permit for installation and establishment of an air contaminant source.

7.d. Washington Administrative Code (WAC) 173-460 "Controls for New Sources of Toxic Air Pollutants" requires Best Available Control Technology for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and demonstration of protection of human health and safety.

7.e. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM_{10}, $PM_{2.5}$, lead, sulfur dioxide, nitrogen dioxide, ozone, and carbon monoxide in the ambient air, which must not be exceeded.

7.f. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, sulfur dioxide, concealment and masking, and fugitive dust.

7.g. SWCAA 400-050 "Emission Standards for Combustion and Incineration Units" requires that all provisions of SWCAA 400-040 be met and that no person shall cause or permit the emission of particulate matter from any combustion or incineration unit in excess of 0.23 grams per dry cubic meter (0.1 grains per dry standard cubic foot) of exhaust gas at standard conditions.

7.h. SWCAA 400-060 "Emission Standards for General Process Units" prohibits particulate matter emissions from all new and existing process units in excess of 0.1 grains per dry standard cubic foot of exhaust gas.

7.i. SWCAA 400-109 "Air Discharge Permit Applications" requires that an Air Discharge Permit application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an Air Discharge Permit application to request such changes. An Air Discharge Permit must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits.

7.j. SWCAA 400-110 "New Source Review" requires that SWCAA issue an Air Discharge Permit in response to an Air Discharge Permit application prior to establishment of the new source, emission unit, or modification.

7.k. SWCAA 400-113 "Requirements for New Sources in Attainment or Nonclassifiable Areas" requires that no approval to construct or alter an air contaminant source shall be granted unless it is evidenced that:

(1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
(2) Best Available Control Technology will be employed for all air contaminants to be emitted by the proposed equipment;
(3) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
(4) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate Best Available Control Technology (BACT) for the types and amounts of air contaminants emitted by the processes as described below:

New BACT Determinations

8.a. BACT Determination – Impact Mill. The proposed use of process enclosure and high efficiency filtration has been determined to meet the requirements of BACT for gypsum and limestone milling operations at this facility.

Previous BACT Determinations

8.b. BACT Determination - Air Heaters (*ADP 21-3460*). The use of low sulfur fuel (natural gas), annual emission monitoring, low emission technology and proper combustion controls has been determined to meet the requirements of BACT for the air heaters at this facility.

Other Determinations

8.c. Prevention of Significant Deterioration (PSD) Applicability Determination. The potential to emit of this facility is less than applicable PSD applicability thresholds. Likewise, this permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.

8.d. Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 permit.

9. AMBIENT IMPACT ANALYSIS

9.a. Toxic Air Pollutant Review. The new equipment and modifications proposed in ADP Application CO-1102 will not affect the type or quantity of TAP emissions from this facility.

Conclusions

9.b. Installation of a new impact mill, as proposed in ADP Application CO-1102, will not cause the ambient air quality requirements of Title 40 Code of Federal Regulations (CFR) Part 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.

9.c. Installation of a new impact mill, as proposed in ADP Application CO-1102, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.

9.d. Installation of a new impact mill, as proposed in ADP Application CO-1102, will not cause a violation of emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP 24-3660 in response to ADP Application CO-1102. ADP 24-3660 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

10.a. Supersession of Previous Permits. ADP 24-3660 supersedes ADP 21-3460 in its entirety.

10.b. General Basis. Permit requirements for equipment affected by this permitting action incorporate the operating schemes proposed by the applicant in ADP Application CO-1102. Permit requirements established by this action are intended to implement BACT, minimize emissions, and assure compliance with applicable requirements on a continuous basis. Emission limits for approved equipment are based on the maximum potential emissions calculated in Section 6 of this Technical Support Document.

10.c. Monitoring and Recordkeeping Requirements. ADP 24-3660 establishes monitoring and recordkeeping requirements sufficient to document compliance with applicable emission limits, ensure proper operation of approved equipment and provide for compliance with generally applicable requirements. Specific monitoring requirements are established for fuel consumption, hours of operation, and material throughput.

10.d. Reporting Requirements. ADP 24-3660 establishes general reporting requirements for annual air emissions, upset conditions and excess emissions. Specific reporting requirements are established for fuel consumption, hours of operation, and material throughput. Reports are to be submitted on an annual basis.

10.e. 40 CFR 60, Subpart OOO Emission Limits. 40 CFR 60 Subpart OOO (40 CFR 60.672) states that PM emissions from dust collectors and bin vents shall not exceed 0.022 gr/dscf (*0.05 g/dscm*) and 7% opacity. Existing permit conditions limit emissions from baghouses and bin vents to 0.005 gr/dscf and 0% opacity.

10.f. Emission Limits. Emission limits for emission units not affected by this permitting action have been carried forward unchanged from ADP 21-3460. Emission limits for the affected air heaters have been established based on actual monitored performance data and maximum operating capacity.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

11.a. Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown", technology based emission standards and control technology determinations shall take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA shall include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

The applicant did not identify any start-up and shutdown periods during which affected equipment is not capable of achieving continuous compliance with applicable technology determinations or approval conditions. To SWCAA's knowledge, this facility can comply with all applicable standards during startup and shutdown.

11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were included in the permit requirements.

11.c. Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separate or in addition to those measures required under BACT considerations. Therefore, none were included in the permit requirements.

12. EMISSION MONITORING AND TESTING

12.a. Emission Testing Requirements – Dust Collectors (*modified*). The permittee is required to conduct emission testing of dust collector GMDCL02 by the end of March 2025 and every 120 months thereafter. The permittee is required to conduct emission testing of dust collectors GMDCL01, PADCL01, and PADCL03 by the end of March 2030 and every 120 months thereafter. All emission testing must be conducted in accordance with the provisions of ADP 20-3419, Appendix A.

12.b. Emission Testing Requirements – Fugitive Emissions (*existing*). This facility is a crushing operation subject to NSPS Subpart OOO. The permittee is required to complete a one-time NSPS performance test for all affected facilities in accordance with the provisions of ADP 20-3419, Appendix B. This test was completed for the existing affected facilities in January and March 2020.

12.c. Emission Testing Requirements – Fluid Bed Dryer Air Heater (*existing*). The permittee is required to conduct emission testing of the Fluid Bed Dryer Air Heater by the end of March 2030 and every 120 months thereafter. All emission testing must be conducted in accordance with the provisions of ADP 20-3419, Appendix C.

12.d. Emission Monitoring Requirements – Fluid Bed Dryer and ACM Mill Air Heaters (*existing*). The permittee is required to conduct emission monitoring of the air heaters by the end of March and every 12 months thereafter. All emission monitoring must be conducted in accordance with the provisions of ADP 20-3419, Appendix D.

13. FACILITY HISTORY

13.a. Previous Permitting Actions. SWCAA has previously issued the following Permits for this facility:

Permit Number	Application Number	Date	Purpose
21-3460	CO-1037	3/18/2021	Modification of specified oxygen correction for air heater permit limits from 3% to 18% excess oxygen.
20-3419	CO-1031	6/25/2020	Removal of railcar loading spout dust collector PADCL04 and truck loading spout dust collector PADCL 05. Rerouting of emission pick-ups to Central Dust Collector PADCL 03.
18-3277	CO-989	3/28/2018	Installation and operation of a new carbonate pelletizing facility including milling, dryers, conveyors, loading and unloading operations.

13.b. Compliance History. A search of source records on file at SWCAA did not identify any outstanding compliance issues at this facility.

14. PUBLIC INVOLVEMENT OPPORTUNITY

14.a. Public Notice for ADP Application CO-1102. Public notice for ADP Application CO-1102 was published on the SWCAA internet website for a minimum of (15) days beginning on June 14, 2024.

14.b. Public/Applicant Comment for ADP Application CO-1102. SWCAA did not receive specific comments, a comment period request or any other inquiry from the public regarding this ADP application. Therefore, no public comment period was provided for this permitting action.

14.c. State Environmental Policy Act. A complete SEPA checklist was submitted by CRC in conjunction with ADP Application CO-1102. After reviewing the checklist, SWCAA has made a Determination of Nonsignificance (DNS 24-032) concurrent with issuance of ADP 24-3660.