

STATE OF MISSOURI



PERMIT BOOK

DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 032015-016

Project Number: 2014-09-038
Installation Number: 510-0070

Parent Company: ICL Performance Products LP

Parent Company Address: 622 Emerson Road, Suite 500, St. Louis, MO 63141

Installation Name: ICL Performance Products LP

Installation Address: 8201 Idaho Avenue, St. Louis, MO 63111

Location Information: St. Louis City County, LG 3102

Application for Authority to Construct was made for:

A small building housing dry blending equipment, including a new air emission point, including dust collection, from product bag filling and from an area cleanup vacuum system (EP-114). This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAR 20 2015

EFFECTIVE DATE

A handwritten signature in cursive script, appearing to read "Wendy Vot for Royal Moore".

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

Page No.	3
Permit No.	
Project No.	2014-09-038

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

ICL Performance Products LP
St. Louis City County, T44N, R6E

1. Control Device Requirement-Baghouse
 - A. ICL Performance Products LP shall control emissions from the *NA Blends DC*, EP-114, using a filter (CD-75) as specified in the permit application.
 - B. ICL Performance Products LP shall operate and maintain the filter, CD-75, in accordance with the manufacturer's specifications.
 - C. ICL Performance Products LP shall equip the filter with a gauge or meter, which indicates the pressure drop across the control device.
 - D. ICL Performance Products LP's personnel shall read and document the pressure drop readings displayed by the instrumentation for CD-75 sometime during the blending process.
 - E. ICL Performance Products LP shall monitor and record the operating pressure drop across the filter, CD-75, at least weekly, if used. ICL Performance Products LP shall maintain the operating pressure drop within the design conditions specified by the manufacturer's performance warranty.
 - F. ICL Performance Products LP shall keep replacement filters for CD-75 on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - G. ICL Performance Products LP shall maintain a copy of the filter manufacturer's performance warranty on site.
 - H. ICL Performance Products LP shall maintain an operating and maintenance log for the filter, CD-75, which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and

Page No.	4
Permit No.	
Project No.	2014-09-038

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
2. Record Keeping and Reporting Requirements
 - A. ICL Performance Products LP shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.
 - B. ICL Performance Products LP shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2014-09-038
Installation ID Number: 510-0070
Permit Number:

ICL Performance Products LP
8201 Idaho Avenue
St. Louis, MO 63111

Complete: September 22, 2014

Parent Company:
ICL Performance Products LP
622 Emerson Road, Suite 500
St. Louis, MO 63141

St. Louis City County, T44N, R6E

REVIEW SUMMARY

- ICL Performance Products LP has applied for authority to construct a small building, housing dry blending equipment, including a new air emission point, including dust collection, from product bag filling and from an area cleanup vacuum system (EP-114).
- HAP emissions are not expected from the proposed equipment.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- A filter is being used to control the particulate matter emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of particulate matter, considering the required particulate matter control device, are below the de minimis levels.
- This installation is located in St. Louis City, a nonattainment area for the 8-hour ozone standard and the PM-2.5 standard and an attainment area for all other criteria pollutants.
- This installation is on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 100 tons per year and fugitive emissions are counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.

- A Part 70 Operating Permit application revision is required for this installation within 1 year of commencement of operations.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

ICL Performance Products LP (ICL) owns and operates a phosphate salts production installation (SIC #2819) at 8201 Idaho Avenue in the City of St. Louis near the southern city limit, River des Peres and St. Louis County. The installation is on the list of named installations in 10 CSR 10-6.020 Definitions and Common Reference Tables Section (3)(B), Table 2, number 20, Chemical process plants. The installation receives bulk raw materials including phosphoric acid (H₃PO₄), lime and other chemicals. ICL combines these raw materials and produces desired salts including sodium tripolyphosphate (STPP), sodium aluminum phosphate (SALP), monocalcium phosphate (MCP), dicalcium phosphate (DCP), dipotassium phosphate (DKP), tripotassium phosphate (TKP), tetrapotassium pyrophosphate (TKPP) and tricalcium phosphate (TCP). The salts are processed to obtain the desired moisture content and grain size, then either packed into bags or shipped in bulk to external customers.

ICL has the potential to emit PM₁₀, PM_{2.5}, nitrogen oxides (NO_x) and sulfur oxides (SO_x) above the Part 70 “major source” threshold level of one hundred (100) tons per year. The installation does not emit a significant amount of HAP. ICL has a Part 70 Operating Permit (OP2004-005) that expired 24 February 2009 and has a valid renewal application on file.

The following New Source Review projects have been processed for ICL Performance Products LP from the Air Pollution Control Program (or the St. Louis City Division of Air Pollution).

Table 1: Project History

Project #	Start Date	Expires	Project Type	Status	Completion Date	Permit No	Description
200104032	04/05/01		Local CP	Permit Issued	05/05/01	00-07-038	Process Expansion
200107059	07/18/01		Local CP	Permit Issued	08/17/01	01-06-018	Expand process, add boiler
200307097	07/16/03		Local CP	Permit Issued	08/08/03	03-01-004	Lime Department
200308090	08/22/03		Local CP	Permit Issued	09/18/03	01-06-018PM	Expand process, add boiler
200310013	10/01/03		Local CP	Permit Issued	10/30/03		Nullify phosphorus tank permit
200310025	10/06/03		Local CP	Permit Issued	10/30/03		Add MCP to emission points

Project #	Start Date	Expires	Project Type	Status	Completion Date	Permit No	Description
200410024	10/12/04	02/24/09	Part 70 Operating Permit Admin. Amendment	Closed out, per policy	02/17/05	OP2004-005A	Responsible official
200412063	12/15/04		Part 70 Operating Permit Admin. Amendment	Amendment Approved	06/27/05	OP2004-005	Responsible Official Change
200507024	07/05/05		Local CP	Permit Issued	07/20/05	04-11-022	Monitoring Plan
199705034	05/05/97	02/24/09	Part 70 Operating Permit	Operating Permit Issued	02/26/04	OP2004-005	Chemical Manufacture
199903071	03/11/99		Local CP	Permit Issued	04/10/99	99-02-008	Phosphate fertilizer mill
200511101	12/01/05		Part 70 Operating Permit Admin. Amendment	Amendment Approved	12/21/05	OP	Ownership Change
200606052	06/15/06		Local CP	Permit Issued	07/19/06		Loading system
200708001	07/27/07		Local CP	Permit Issued	08/15/07	07-04-006	Dust Collectors
200710116	10/15/07		Local CP	Permit Issued	12/15/07	07-10-021	Increase production
200805015	05/07/08		Local CP	Permit Issued	05/29/08	07-12-025	Transfer system
200902090	02/27/09		Local CP	Permit Issued	03/23/09	09-01-003	Grinder and classifier
201006033	06/10/10		Part 70 Operating Permit Off-Permit Changes	Closed Out Inappropriate Request	12/14/10	OP	
201012011	12/07/10		Local CP	Permit Issued	12/20/10	10-08-018	New production unit
201107062	07/21/11		Local CP	Permit Issued	08/01/11	11-06-013	New mixing process

Table 2: Permit History

Permit Number	Description
January 22, 1969	City of Saint Louis Source Registration Form for a bag packaging machine St. Regis, double spout. force flow, valve bags (EP-20)
May 19, 1972	City of Saint Louis Source Registration Form for manufacture of sodium tripolyphosphate (EP-41)
December 17, 1973 (approved 9/10/74)	City of Saint Louis Source Registration Form for two (2) DCP mill process burners (EP-35) (Revised by permit dated December 5, 2000)
April 1974	City of Saint Louis Source Registration Form for milling and drying of product (EP-35)
March 19, 1975	City of Saint Louis Source Registration Form for new dust collection system for bag blow off station

Permit Number	Description
November 15, 1976	City of Saint Louis Source Registration Form for installation of new dust collector for process conveyors and rededication of old dust collector for ventilation of equipment (EP-42)
November 15, 1976	City of Saint Louis Source Registration Form for a vacuum cleaning system for Monsanto's warehouse, packaging and Pyran production area (EP-55)
February 28, 1978	City of Saint Louis Source Registration Form for calcium phosphate milling, classifying, blending and packaging operations (EP-31)
April 5, 1979	City of Saint Louis Source Registration Form for New HCl storage tank with vent for breathing — both normal breathing and displacement during filling (EP-57)
June 12, 1979	City of Saint Louis Source Registration Form for alumina trihydrate storage silo ventilation (EP-45)
May 27, 1982	City of Saint Louis Source Registration Form for stack for tri-calcium phosphate — third floor hold tank (EP-38)
May 27, 1982	City of Saint Louis Source Registration Form for a stack for tetra sodium pyrophosphate (TSPP) tank (EP-38)
June 21, 1983	City of Saint Louis Source Registration Form for stack for unmilled tri calcium phosphate bag filling. Venting from the bag filler into the surge bin and venting from the surge bin to the dust collector (EP-44)
February 22, 1984	Saint Louis Department of Public Safety Permit for the Installation of a Fuel or Refuse Burning Device for Clayton 3,876,000 BTU/hr input steam boiler —natural gas fuel
March 8, 1984	City of Saint Louis Source Registration Form for nuisance dust collected at bag receiving conveyor for automatic bag filling operation (EP-54)
July 31, 1984	City of Saint Louis Source Registration Form for stack for DCP bulk truck and railcar loading. Venting from railcars/trucks and totes to the dust collector (EP-56)
July 1984	City of Saint Louis Source Registration Form for ventilation of monocalcium phosphate bulk loading, classifying and storage operations
September 5, 1984	Saint Louis Department of Public Safety Permit for the Installation of a Fuel or Refuse Burning Device for Vogt 57.8 MMBTU/hour boiler — natural gas or fuel oil
March 29, 1985	City of Saint Louis Source Registration Form for stack for dust collection from the STP granular area (new)
March 29, 1985	City of Saint Louis Source Registration Form for vacuum blower exhaust (EP-69)

Permit Number	Description
January 21, 1986	City of Saint Louis Source Registration Form for clean air to atmosphere vent on filter bag dump station
January 21, 1986	City of Saint Louis Source Registration Form for a discharge from a filter bag dump station
February 4, 1986	City of Saint Louis Source Registration Form for acid/base/water reaction —with solids additions — tri magnesium phosphate wet mix stack
February 4, 1986	City of Saint Louis Source Registration Form for acid/base/water reaction —with solids additions — TCP wet mix stack
April 16, 1986	City of Saint Louis Source Registration Form for vapor space sweep (from #2 Mix Tank) during production of di/tri-potassium phosphate (EP-25)
June 6, 1986	City of Saint Louis Source Registration Form for ventilation through fan to atmosphere of the CaO + H ₂ O reactor (EP-27)
October 21, 1986	City of Saint Louis Source Registration Form for ventilation through dust collector of process equipment plus mill
February 20, 1987	City of Saint Louis Source Registration Form for ventilation through TCP dust collector and TCP process equipment (EP-43)
February 23, 1988	City of Saint Louis Source Registration Form for discharge from a pneumatic lime transfer system (EP-47)
February 23, 1988	City of Saint Louis Source Registration Form for discharge from Rotoclone wet type dust collector on reactor (EP-48)
February 23, 1988	City of Saint Louis Source Registration Form for discharge from pulse type dust collector on south mixer (EP-49)
November 21, 1989	City of Saint Louis Source Registration Form for lime silos, crusher and elevator (EP-26)
November 21, 1989	City of Saint Louis Source Registration Form for discharge from MCP#2 spray tower and aging bins (EP-29)
July 13, 1990	City of Saint Louis Source Registration Form for discharge from cyclone on Dept. 8 dryer exhaust duct (EP-24)
January 14, 1992	City of Saint Louis Source Registration Form for ventilation through dust collector of process equipment, mill and cut-in station
November 22, 1993	Dicalcium phosphate packaging line (EP-53)
December 2, 1993	Phosphorous storage tank (Replaced by permit dated December 12, 1997)

Permit Number	Description
April 18, 1994	Request for a temporary dust collection system for STP granular bulk loading (temporary authorization expired September 1, 1994)
April 20, 1994	Phosphorous storage tank (amends permit dated December 2, 1993) (Replaced by permit dated December 12, 1997)
94-03-006	STP granular bulk loading and dust collection system (EP-21) (Replaced by Permit #07-12-025)
94-10-100	DCP semi-bulk filler bin system
94-10-101	DCP bag packing bin system
94-10-102	MCP bag packing bin (Modified by Permit #07-10-021)
94-10-103	Semi-bulk packing bin
94-10-104	Department 20 packing bin system (EP-65)
94-10-108	DCP recovery and premix dust collection system (EP-32)
94-10-109	Bin vent filter for STP dense phase system (Revised by Permit #99-02-014)
94-10-110	STP #0038 — receiver bin
94-10-111	STP #0210 — receiver bin
94-10-112	STP Packing (Replaced by Permit #07-04-006)
94-10-113	STP bin vent — West
94-10-117	Calcium phosphate dust collection system (EP-54)
95-07-084	SHMP dust collector
December 12, 1997	Amended Permit — Phosphorous storage tank (replaces permits dated December 2, 1993 and April 20, 1994) (Permit nullified September 18, 2003)
99-02-008	MCP process mill
99-02-014 (Permit Matter)	Revision of Permit No. 94-10-109
December 5, 2000	Addition of magnesium oxide to milling and drying operations (EP-35 and EP-73) (Revision to Dec. 17, 1973 source registration)
00-07-038	Expansion to sodium aluminum phosphate process (Replaced by Permit #0106-018)
01-06-018	Expansion to sodium aluminum phosphate process and addition of new boiler #1 (replaces Permit #00-07-038) (Replaced by Permit #01-06-018 PM)

Permit Number	Description
01-06-018 PM	Expansion to sodium aluminum phosphate process and addition of new boiler #1 (replaces Permit #01-06-018)
03-01-004	Modification of lime department
OP2004-005	Title V Operating Permit
04-11-022	Soda ash & STPP rework transfer system (Permit withdrawn June 15, 2006)
07-04-006	Addition of two new bin vent dust collectors to the sodium tripolyphosphate packaging transfer system (replaces permit 94-
07-10-021	Modification of Permit 94-10-102 (MCP Packing Bin EP-61)
07-12-025	Sodium Tripolyphosphate Bulk Loading and Transfer System Modification (replaces permit 94-03-006)
09-01-003	Tricalcium Phosphate Grinder and Air Classifier
09-10-021 NPR	No Permit Required Determination: EP-35 DCP Mill Dust Collector Replacement
10-08-018	Potassium Phosphate Salts Production Unit in Building #19 (EP-106, EP-107, EP-108, EP-109)
11-06-013	(Dated August 1, 2011; PAMS 2011-07-062; new Potassium Phosphate Salts Production Unit in Building #19 and Tetrapotassium Pyrophosphate (TKPP) Solutions Blending Unit) (replaces Permit 10-08-018)
11-06-013A	(Dated October 23, 2012; PAMS 2012-10-020; amendment to remove a cyclone originally permitted by City of St Louis Permit Number 11-06-013. This modification does not increase the permitted emissions from this equipment.)
072013-016	Activation of the North Lime Silo, EP-26

PROJECT DESCRIPTION

The permittee is constructing a small building, housing dry blending equipment. This blending facility would utilize current phosphate salt products, along with other non-phosphates like starches, gums, proteins, and spices; utilizing different combinations to produce specialty blends. These specialty blends would then be packaged into bags or other packages for shipment to customers. The permittee is installing a new air emission point (EP-114), including dust collection, from product bag filling and from an area cleanup vacuum system. This dust collection system will be designed for use with combustible dust. (please refer Attachment C for an elevation view of the equipment).

EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the permittee, and are consistent with emission calculations for AP-42 and good engineering practice (please refer Attachment D for the detailed emission calculations).

The following table provides an emissions summary for this project. Existing potential emissions were taken from the draft Part 70 Installation Operating Permit, which is being prepared for public notice. Existing actual emissions were taken from the installation's 2013 EIQ/MoEIS report. Potential emissions of the application represent the potential of the modified equipment, assuming continuous operation (8760 hours per year). Please refer to Attachment D for several selected pages from the application that contain pertinent information regarding emissions calculations. Particulate matter is the only regulated air pollutant expected from this source.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions ¹ (2013 EIQ)	Potential Emissions of the Application ²	New Installation Conditioned Potential
PM	25.0	N/D	N/D ³	0.7	N/D
PM ₁₀	15.0	94	12	0.7	N/D
PM _{2.5}	10.0	89	12	0.7 ⁴	N/D
SO _x ⁵	40.0	0.5	0.1	--	N/D
NO _x	40.0	150	8	--	N/D
VOC	40.0	34	1.2	--	N/D
CO	100.0	164	25	--	N/D
GHG (CO ₂ e)	75,000 / 100,000	160	6	--	N/D
GHG (mass)	0.0 / 100.0 / 250.0	160	7	--	N/D
HAPs	10.0/25.0	--	--	--	N/D

N/A = Not Applicable; N/D = Not Determined; "--" Below Detectable;

Attachment A contains an analysis of the only relevant regulation applicable to this

¹ Reported values rounded to the significant digitals shown.

² These emissions are after the control device, which is required by special conditions.

³ Particulate matter (PM) is not an annually reported pollutant.

⁴ All of the particulate matter emissions are considered to be PM_{2.5}, due to the efficiency of the baghouse on these types of sources.

⁵ Based on the fuel oil combustion capability has been removed from the boilers

⁶ GHG (CO₂e) is not an annually reported pollutant.

⁷ GHG (mass) is not an annually reported pollutant.

application. This permit contains special conditions that require the operation, maintenance, monitoring and record keeping of the proposed baghouse for the subject source (EP-26).

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Controlled potential emissions of particulate matter are below the de minimis levels.

APPLICABLE REQUIREMENTS

ICL Performance Products LP shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for the installation, please consult the operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 (exemption provided through special conditions, see Attachment A)

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Randy Raymond
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

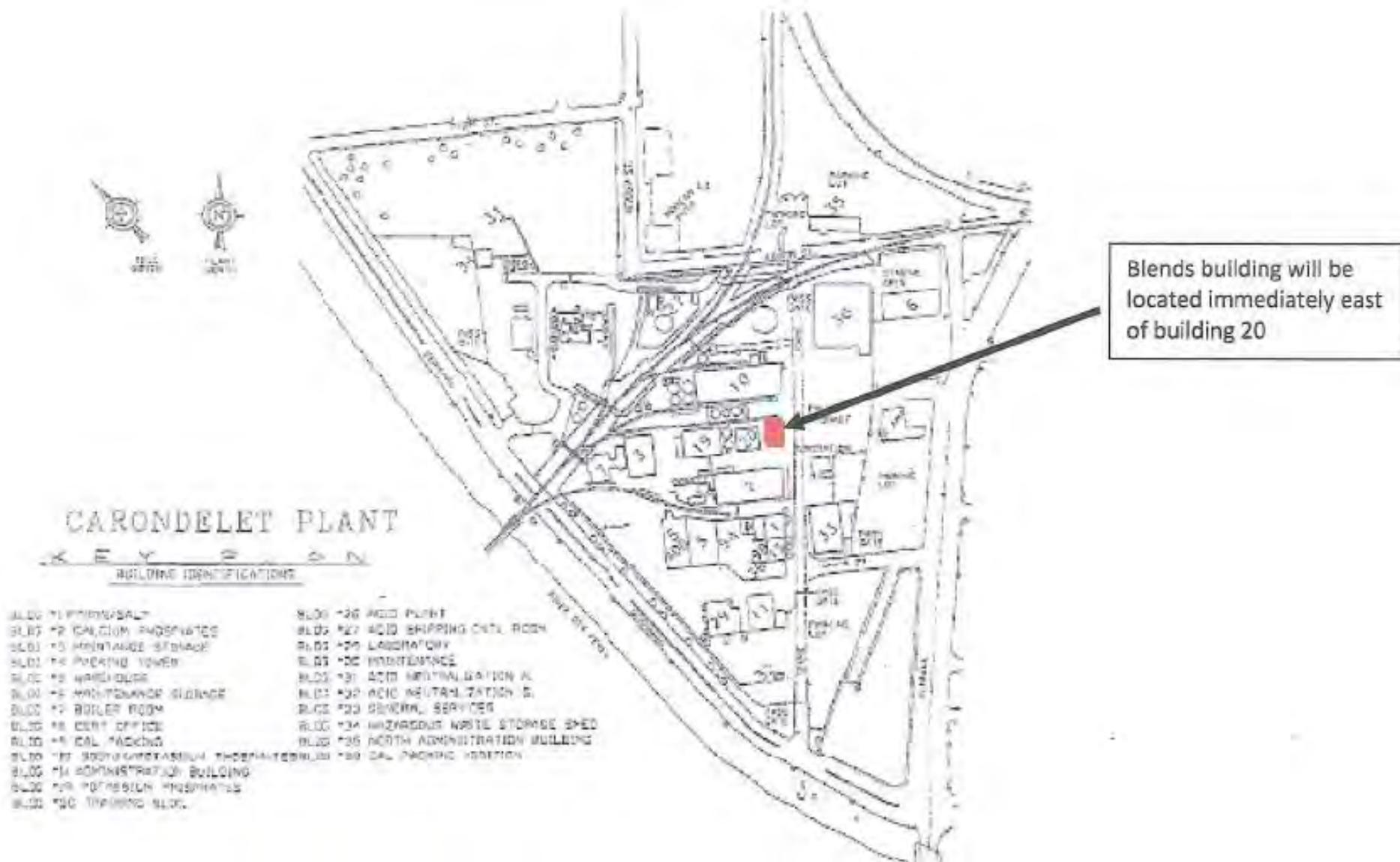
- The Application for Authority to Construct form, dated September 12, 2014, received September 22, 2014, designating ICL Performance Products LP as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment A - Compliance Worksheet

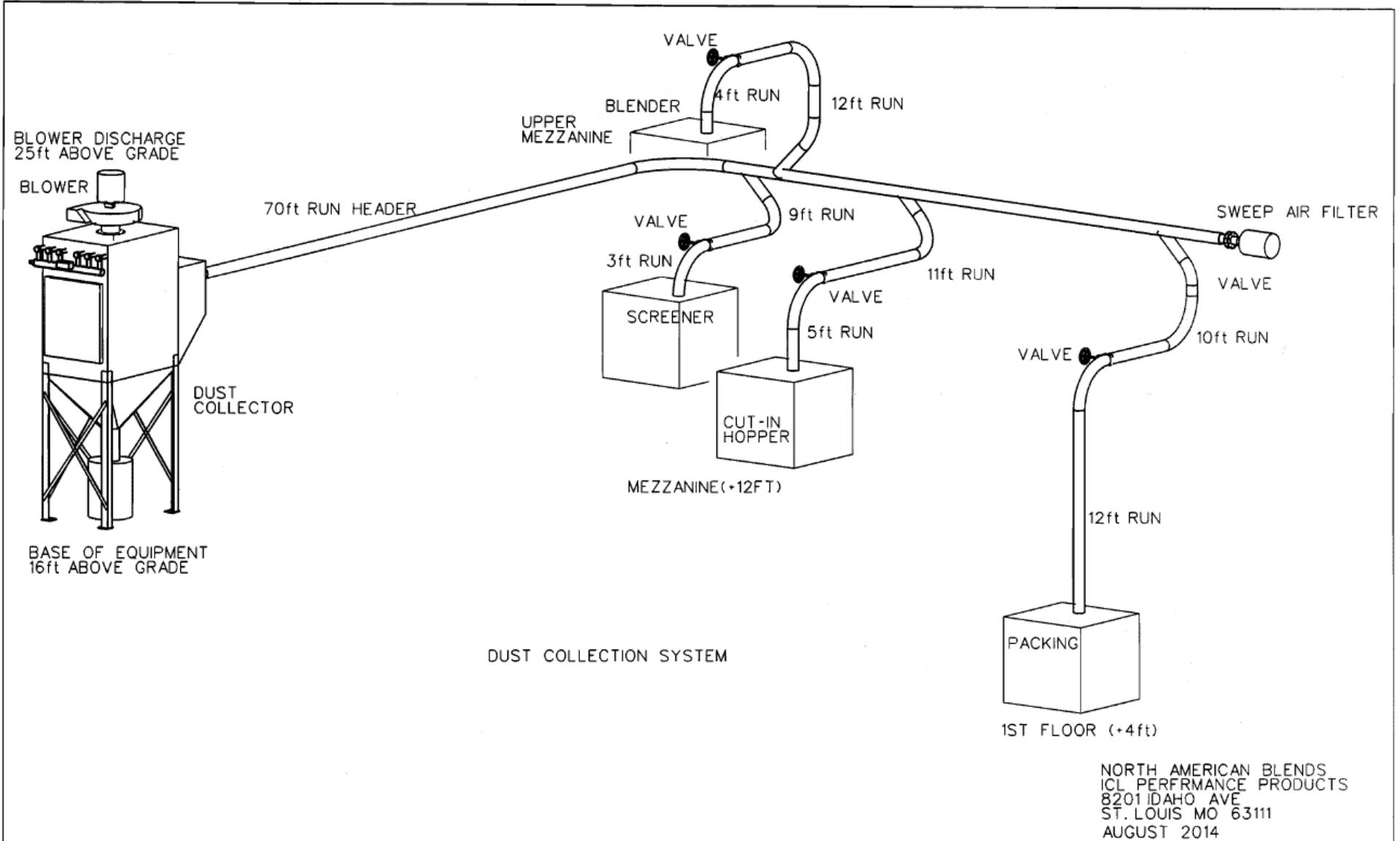
EU	Description	Process Weight Rate (ton/hr)	PM Emission Factor (lb/ton)	Control Device Efficiency (%)	Uncontrolled Emission Rate (lb/hr)	Controlled Emission Rate (lb/hr)	Allowable Emission Rate (lb/hr)	PTE is less than 0.5 lbs per hour? (with control / without control)	Is unit in compliance without controls?	Is the Control Efficiency Greater Than 90%?	Is unit in compliance with controls?	PTE as percentage of Allowable
EP-114	NA Blends DC	1.25	0.12	99.00	0.15	0.002	4.761	YES/wo	YES	YES	YES	0.03%

The columns 9, 10 and 11 represent exemptions from *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400. This permit contains conditions requiring the control device used in these calculations. Therefore, this sources is exempt from 10 CSR 10-6.400, provided the control device is required by a federally enforceable permit condition.

Attachment B – Source Location on Site



Attachment C – Equipment Elevation Diagram



Attachment D – Selected Application Pages

Emission Information for Air Construction Permit Application

Form 2.0 Emission Point Information (duplicate this form as needed.)

INSTALLATION NAME (A.) ICL Performance Products LP		FIPS COUNTY NO. (B.) 510	PLANT NO. (C.) 0070			
POINT IDENTIFICATION						
POINT NO. (D.) EP-114		POINT DESCRIPTION (E.) NA Blends DC				
SOURCE CLASSIFICATION CODE (SCC) (F.) 30199999		MAKE (G.)	MODEL (H.)	YEAR (I.)		
STACK/VENT PARAMETERS						
STACK NO. (J.) EP-114		HEIGHT (FT) (K.) 25	DIAMETER (FT) (L.) 0.67			
TEMPERATURE (F) (M.) Ambient		VELOCITY (FT/MIN) (N.) 4000	FLOW RATE (STANDARD CUBIC FT/MIN) (O.) 2500			
OPERATING RATE/SCHEDULE						
EXPECTED ANNUAL THROUGHPUT (P.) 3,000		UNITS (Q.) TONS	MAXIMUM HOURLY DESIGN RATE (R.) 1.25		UNITS/HR (S.) TONS/HR	
HOURS/DAY (T.) 24		DAYS/WEEK 7	WEEKS/YEAR 50			
AIR POLLUTION CONTROLS						
DEVICE NO. (U.)	CONTROL DEVICE DESCRIPTION (V.)	Control Device Destruction/Removal Efficiency % (w.)				
		PM ₁₀	SO _x	NO _x	VOC	CO
CD-75	DUST COLLECTOR	99.9				
DEVICE NO.	DESCRIPTION OF COLLECTION/SUPPRESSION SYSTEM (X.)					
CD-75	Hard piped and sealed					
CALCULATION SECTION (Y.)						
POLLUTANT	EMISSION FACTOR	EMISSION FACTOR UNITS	OVERALL CONTROL EFFICIENCY	EMISSION RATE (LB/HR)	POTENTIAL EMISSIONS (TONS/YR)	

Attachment D – Selected Application Pages
(Continued)

EP-114

NA BLENDS UNIT

Emission Calculations

Pollutant	Emission Factor	Emission Factor Units	Overall Control Efficiency	Emission Rate (LB/HR)	Potential Emissions (TONS/YR)
PM	0.120	lbs/ton	99.9%	0.150	0.656

Emission Factor (EF) = 0.1500 lbs/hr
Emission Factor (EF) = 0.12000 lbs/ton

Loading = 0.007 grains/cf
 Flow Rate = 2500 CFM
 PM Phosphates & Food A = 7000 grains/lb
 MHDR = 1.25 tons/hr

Calculation per instructions
 = Loading x Flow Rate x (1/ grains/lb) x 60
 = EF lbs per hr / MHDR

Batch Operation
 = 2,500 LBS/Hour
 6% is <10 microns carried into dust collector
 1.5 LBS/Hour PM10

Expected Throughput = 3,000 Tons/Year = 6,000,000 LBS/Year
 Ave approx 6 minutes every 2 hours Operation

Stack Parameters:

Height from ground 25 feet
 Stack/vent diameter 8 inches
 Air exit velocity 4000 ft/min

Dust Collector

Camfil FARR Gold Series Dust Collector - Model GS6
 Gold Cone cartridge utilizing Camfil APC filter media
 Manufactured Date: 2014

Attachment D – Selected Application Pages
(Continued)



New Blending
Building

Video link: Camfil APC Plant Tour

August 15, 2014

Prepared for:

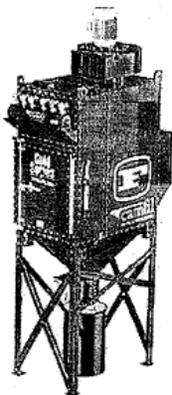
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QUOTATION

RA14212: (1) GS6



Farr Gold Series GS6

FARR GOLD SERIES® Dust Collector

- Looks like a safe because it's built like a safe!
- The Gold Series utilizes Gold Cone cartridge technology to deliver clean air and long life while utilizing the smallest floor space of any dust collector available today.
- Enhanced performance features with ease of installation and service make the Gold Series the ultimate choice for cleaning the work environment of irritating dust and fumes.

Gold Series Model: GS6

Quantity: 1

Cartridges: 6

Rating: 2500 CFM @ 10.0 Inches SP

Reference: Blending Collector

A/C Ratio: 1.28:1

Media Area: 1950 ft²

Paint Color: Farr White

Gold Cone® Filters

- Gold Cone filters have an expanded capacity due to the patented inner cone of filtration media.
- The inner cone provides uniform dispersion of back-pulsed air and opens up more useable space for airflow in the dust collector.
- Multiple filter media options and pleat spacing are available to best suit your specific application and dust.
- All Camfil APC filter media offerings deliver a minimum of 99.99% separation efficiency down to 0.5 micron by weight.

APPENDIX A

Abbreviations and Acronyms

% percent	m/s meters per second
°F degrees Fahrenheit	Mgal 1,000 gallons
acfm actual cubic feet per minute	MW megawatt
BACT Best Available Control Technology	MHDR maximum hourly design rate
BMPs Best Management Practices	MMBtu Million British thermal units
Btu British thermal unit	MMCF million cubic feet
CAM Compliance Assurance Monitoring	MSDS Material Safety Data Sheet
CAS Chemical Abstracts Service	NAAQS ... National Ambient Air Quality Standards
CEMS Continuous Emission Monitor System	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CFR Code of Federal Regulations	NO_x nitrogen oxides
CO carbon monoxide	NSPS New Source Performance Standards
CO₂ carbon dioxide	NSR New Source Review
CO_{2e} carbon dioxide equivalent	PM particulate matter
COMS Continuous Opacity Monitoring System	PM_{2.5} particulate matter less than 2.5 microns in aerodynamic diameter
CSR Code of State Regulations	PM₁₀ particulate matter less than 10 microns in aerodynamic diameter
dscf dry standard cubic feet	ppm parts per million
EQ Emission Inventory Questionnaire	PSD Prevention of Significant Deterioration
EP Emission Point	PTE potential to emit
EPA Environmental Protection Agency	RACT Reasonable Available Control Technology
EU Emission Unit	RAL Risk Assessment Level
fps feet per second	SCC Source Classification Code
ft feet	scfm standard cubic feet per minute
GACT Generally Available Control Technology	SIC Standard Industrial Classification
GHG Greenhouse Gas	SIP State Implementation Plan
gpm gallons per minute	SMAL Screening Model Action Levels
gr grains	SO_x sulfur oxides
GWP Global Warming Potential	SO₂ sulfur dioxide
HAP Hazardous Air Pollutant	tph tons per hour
hr hour	tpy tons per year
hp horsepower	VMT vehicle miles traveled
lb pound	VOC Volatile Organic Compound
lbs/hr pounds per hour	
MACT Maximum Achievable Control Technology	
µg/m³ micrograms per cubic meter	