MISSOURI DEPARTMENT OF NATURAL RESOURCES
AIR POLLUTION CONTROL PROGRAM

APPLICATION FOR AUTHORITY TO CONSTRUCT

APCP USE ONLY	
CHECK NO.:	CHECK RECIEVED:
CHECK AMOUNT: $	CHECK DATE:
PROJECT NUMBER:	

Submit applications with the filing fee that is appropriate for the project: no filing fee for an amendment; **$250** for Sections (3), (5), and (6); **$5,000** for Sections (7), (8) and (9); and **$2,500** for PAL renewal. The department will assess a **$75**-per-hour processing fee at the end of the review, unless no permit is required.

1.OWNER'S NAME (PLEASE PRINT OR TYPE)
ICL Americas

2.OWNER'S STREET ADDRESS

3.OWNER'S MAILING ADDRESS
622 Emerson Rd.

4.OWNER'S CITY	STATE	ZIP CODE
St. Louis	MO	63141

5.COUNTY	6.SECTION, TOWNSHIP, RANGE
St. Louis County	03, 45 North, 5 East

7.FINAL PRODUCT / PRINCIPAL ACTIVITY	8.SIC CODE
Lithium Iron Phosphate	

9.INSTALLATION NAME (IF DIFFERENT)
ICL St. Louis: LFP Customer Innovation & Qualification Center

10.INSTALLATION MAILING ADDRESS
8201 Idaho Ave.

11.INSTALLATION COMPANY CITY	STATE	ZIP CODE
St. Louis	MO	63111

12.CONTACT PERSON'S NAME (PLEASE PRINT OR TYPE)	CONTACT PERSON'S TITLE
Troy Sorensen	Global HOP Lead and NA Director EHS&S

13.CONTACT PERSON'S MAILING ADDRESS
622 Emerson Rd.

14.CONTACT PERSON'S CITY	STATE	ZIP CODE
St. Louis	MO	63141

15.CONTACT PERSON'S TELEPHONE NUMBER WITH AREA CODE	16.CONTACT PERSON'S FAX NUMBER WITH AREA CODE
(314) 983-7808	

17.CONTACT PERSON'S EMAIL ADDRESS
troy.sorensen@icl-group.com

18.UNIFIED REVIEW
Yes☐ No☐

19.THIS APPLICATION IS FOR

Modification or Addition to an Existing Installation☐ New Installation☐
Amendment to Existing Permit: Permit No._____ Temporary / Pilot Plant■

20.FIPS COUNTY ID NUMBER	21.PLANT ID NUMBER
~~189~~ 510	~~TBD~~ 3046

22.PROJECTED DATE TO COMMENCE CONSTRUCTION	23.PROJECTED DATE OF OPERATION STARTUP

APPLICANT'S CERTIFICATION STATEMENT

I certify I have personally examined and am familiar with the information in this application and believe the information submitted is accurate and complete. I am aware that making a false statement or misrepresentation in this application is grounds for denying or revoking the construction permit. I may also be guilty of a misdemeanor and upon conviction, may be punished by fine or imprisonment.

SIGNATURE OF RESPONSIBLE OFFICIAL

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL	DATE
Troy Sorensen	9-25-2023

OFFICIAL TITLE OF RESPONSIBLE OFFICIAL	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER WITH AREA CODE
Global HOP Lead and NA Director EHS&S	(314) 983-7808

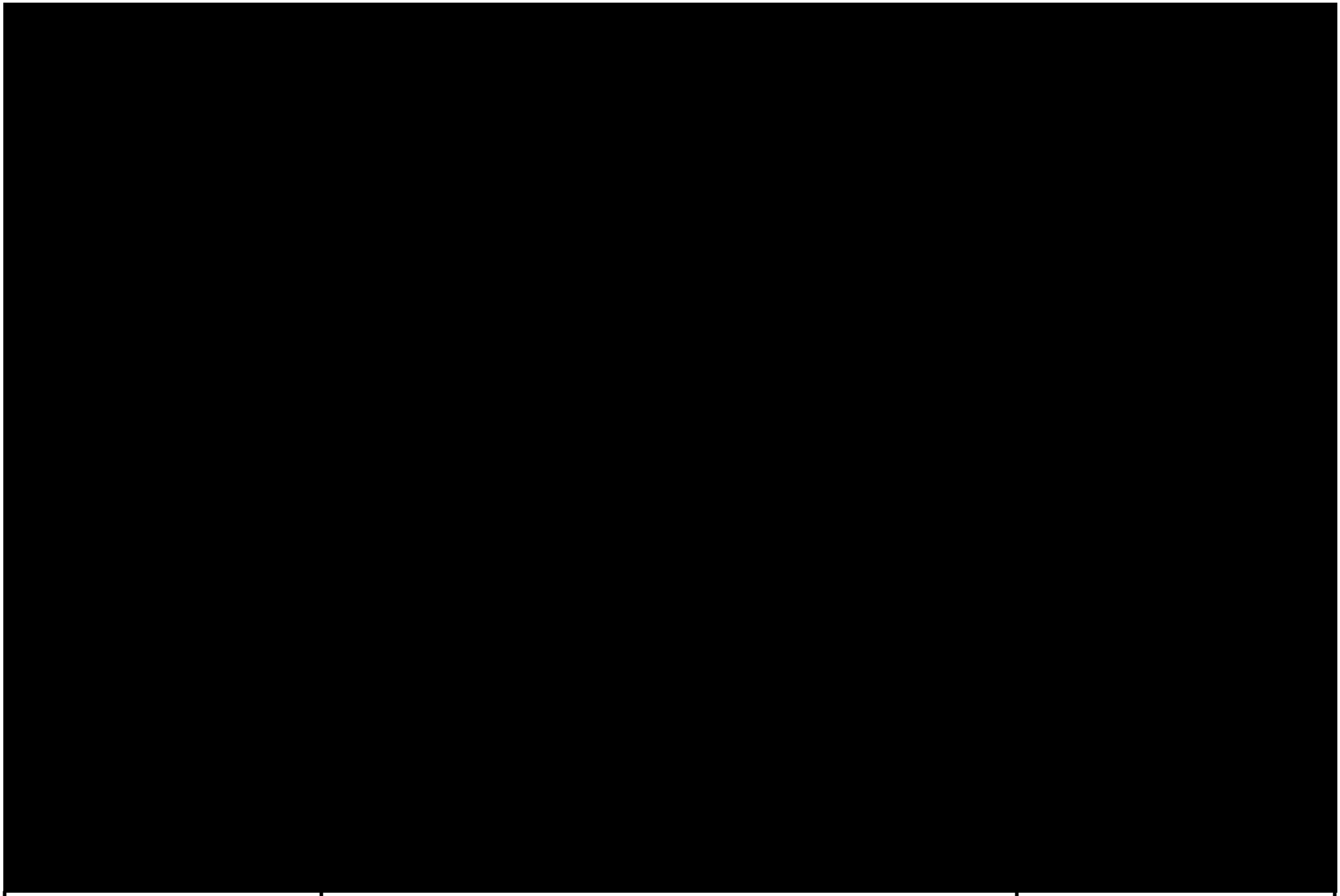
24 PROJECT DECSRIPTION AND NARRATIVE

[redacted]

Emission Information for Air Construction Permit Application
Form 1.1 Process Flow Diagram for Facility According to Proposed Application

INSTALLATION NAME (A.)	F PS COUNTY NO. (B.)	PLANT NO. (C.)
ICL St. Louis: LFP Customer Innovation & Qualification Center	~~189~~ 510	3046

For a new installation, show the entire installation. For an addition to an existing installation, show only the new processes, equipment, or emission points and begin the ID numbering where the existing EIQ emission point numbers leave off. If the application is for a modification or an addition to an existing emission point or unit, show the upstream and downstream point(s) or the equipment this modification will affect.



British Standards Institution
200 E Campus View Blvd
Suite 200
Columbus, OH 43235

Date: September 2023

ICL St. Louis: LFP CIQC

Process Flow Diagram – Initial Processing

ICL – St. Louis

Raw materials

Emission Points

Process Throughput

Control Device

British Standards Institution
200 E Campus View Blvd
Suite 200
Columbus, OH 43235

Date: September 2023

ICL St. Louis: LFP CIQC

Process Flow Diagram – Kilns and Final Processing

ICL – St. Louis

Raw materials

Emission Points

Process Throughput

Control Device

Emission Information for Air Construction Permit Application
Form 1.2 Summary of Emission Points Affected by this Application (duplicate this form as needed)

INSTALLATION NAME (A.)	F PS COUNTY NO. (B.)	PLANT NO. (C.)
ICL St. Louis: LFP Customer Innovation & Qualification Center	~~189~~ 510	3046

POINT NO. I.E. EP-01, EP-02, ETC.) (D.)	POINT DESCRIPTION (USE same description on FORM 2.0) (E.)	REFERENCE WORKSHEET(S) FORM NUMBERS USED WITH FORM 2 0 (F.)
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]

MO 780-1323 (03-22)

Emission Information for Air Construction Permit Application
Form 1.3 Plant Layout Diagram

INSTALLATION NAME (A.)	FIPS COUNTY NO. (B.)	PLANT NO. (C.)
ICL St. Louis: LFP Customer Innovation & Qualification Center	~~189~~ 510	3046

Use this page or a separate sheet to provide a Plant Layout Diagram. **Refer to the Permits Instruction Packet for details.**

Emission Information for Air Construction Permit Application
Form 2.0 Emission Point Information (duplicate this form as needed)

INSTALLATION NAME (A.)	FIPS COUNTY NO. (B.)	PLANT NO. (C.)
ICL St. Louis: LFP Customer Innovation & Qualification Center	~~189~~ 510	3046

[redacted]

MO 780-1323 (03-22)

Emission Information for Air Construction Permit Application
Form 2.0 Emission Point Information (duplicate this form as needed)

INSTALLATION NAME (A.)	FIPS COUNTY NO. (B.)	PLANT NO. (C.)
[redacted]	[redacted]	

POINT IDENTIFICATION

[redacted]

MO 780-1323 (03-22)

Emission Information for Air Construction Permit Application
Form 2.1 Fuel Combustion Information (duplicate this form as needed)

INSTALLATION NAME (A.)	FIPS COUNTY NO. (B.)	PLANT NO. (C.)
[redacted]	[redacted]	

COMBUSTION [redacted]

[redacted]

[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
[redacted]		[redacted]

[redacted]

[redacted] [redacted] [redacted] [redacted]

- ☐ [redacted]
- ☐ [redacted]
- ☐ [redacted]

- ■ [redacted]
- ☐ [redacted]

- ☐ [redacted]
- ☐ [redacted]
- ☐ [redacted]

- ☐ [redacted]
- ☐ [redacted]
- ☐ [redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

[redacted]

MO 780-1323 (03-22)

Emission Information for Air Construction Permit Application
Form 2.0 Emission Point Information (duplicate this form as needed)

INSTALLATION NAME (A.)	FIPS COUNTY NO. (B.)	PLANT NO. (C.)
ICL St. Louis: LFP Customer Innovation & Qualification Center	~~189~~ 510	3046

[redacted]

MO 780-1323 (03-22)

Emission Information for Air Construction Permit Application
Form 2.0 Emission Point Information (duplicate this form as needed)

INSTALLATION NAME (A.)	FIPS COUNTY NO. (B.)	PLANT NO. (C.)
[redacted]	[redacted]	

[redacted]

[redacted]							

[redacted]

[redacted]					

MO 780-1323 (03-22)

Emission Information for Air Construction Permit Application
Form 2.1 Fuel Combustion Information (duplicate this form as needed)

INSTALLATION NAME (A.)	FIPS COUNTY NO. (B.)	PLANT NO. (C.)
[redacted]	[redacted]	

[redacted]

[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			

[redacted]

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]				

[redacted]

MO 780-1323 (03-22)

Emission Information for Air Construction Permit Application
Form 2.0 Emission Point Information (duplicate this form as needed)

INSTALLATION NAME (A.)	FIPS COUNTY NO. (B.)	PLANT NO. (C.)
ICL St. Louis: LFP Customer Innovation & Qualification Center	~~189~~ 510	3046

[redacted]

MO 780-1323 (03-22)

Emission Information for Air Construction Permit Application
Form 2.0 Emission Point Information (duplicate this form as needed)

INSTALLATION NAME (A.)	FIPS COUNTY NO. (B.)	PLANT NO. (C.)
ICL St. Louis: LFP Customer Innovation & Qualification Center	~~189~~ 510	3046

[redacted]

MO 780-1323 (03-22)

Emission Calculations

ICL Performance Products LP
LFP Customer Innovation and Qualification Center - Potential Emission Calculations
Emissions Summary

Pollutant	Uncontrolled Emissions (ton/yr)[1]							Controlled Emissions (ton/yr)						
	EP-01 Material Batching Room	EP-02 Reactor	EP-03 Spray Dryer [2]	EP-04 Kilns - Thermal Combustor	EP-05 Jet Mill - Product Collector	EP-06 Central Vacuum System	Facility-Wide Emissions	EP-01 Material Batching Room	EP-02 Reactor	EP-03 Spray Dryer	EP-04 Kilns - Thermal Combustor	EP-05 Jet Mill - Product Collector	EP-06 Central Vacuum System	Facility-Wide Emissions
particulate matter (PM)	0.01		5.5	0.01	0.7	0.16	6.4	3E-04		0.5	0.005	0.7	2E-04	1.2
PM10, filterable	0.007		0.01	0.001	0.7	0.08	0.8	1E-04		0.007	0.001	0.7	8E-05	0.7
nitrogen oxides (NO_x)			0.4	0.1			0.4			0.4	0.1			0.4
carbon monoxide (CO)			0.3	37.5			37.8			0.3	0.4			0.7
sulfur dioxide (SO_2)			0.002	4E-04			0.003			0.002	4E-04			0.003
volatile organic compounds (VOC)			0.02	1.3			1.4			0.02	0.017			0.04
2-methylnaphthalene			9E-08	2E-08			1E-07			9E-08	2E-08			1E-07
3-methylchloranthrene			7E-09	1E-09			8E-09			7E-09	1E-09			8E-09
7,12-dimethylbenz(a) anthracene			6E-08	1E-08			7E-08			6E-08	1E-08			7E-08
acenaphthene			7E-09	1E-09			8E-09			7E-09	1E-09			8E-09
acenaphthylene			7E-09	1E-09			8E-09			7E-09	1E-09			8E-09
anthracene			9E-09	2E-09			1E-08			9E-09	2E-09			1E-08
benz(a)anthracene			7E-09	1E-09			8E-09			7E-09	1E-09			8E-09
benzene			8E-06	1E-06			9E-06			8E-06	1E-06			9E-06
benzo(a)pyrene			4E-09	8E-10			5E-09			4E-09	8E-10			5E-09
benzo(b)fluoranthene			7E-09	1E-09			8E-09			7E-09	1E-09			8E-09
benzo(g,h,i)perylene			4E-09	8E-10			5E-09			4E-09	8E-10			5E-09
benzo(k)fluoranthene			7E-09	1E-09			8E-09			7E-09	1E-09			8E-09
chrysene			7E-09	1E-09			8E-09			7E-09	1E-09			8E-09
dibenzo(a,h)anthracene			4E-09	8E-10			5E-09			4E-09	8E-10			5E-09
dichlorobenzene			4E-06	8E-07			5E-06			4E-06	8E-07			5E-06
fluoranthene			1E-08	2E-09			1E-08			1E-08	2E-09			1E-08
fluorene			1E-08	2E-09			1E-08			1E-08	2E-09			1E-08
formaldehyde			3E-04	5E-05			3E-04			3E-04	5E-05			3E-04
hexane			0.007	0.001			0.008			0.007	0.001			0.008
indeno(1,2,3-cd)pyrene			7E-09	1E-09			8E-09			7E-09	1E-09			8E-09
naphthalene			2E-06	4E-07			3E-06			2E-06	4E-07			3E-06
phenanathrene			6E-08	1E-08			7E-08			6E-08	1E-08			7E-08
pyrene			2E-08	3E-09			2E-08			2E-08	3E-09			2E-08
toluene			1E-05	2E-06			1E-05			1E-05	2E-06			1E-05
arsenic			7E-07	1E-07			9E-07			7E-07	1E-07			9E-07
beryllium			4E-08	8E-09			5E-08			4E-08	8E-09			5E-08
cadmium			4E-06	8E-07			5E-06			4E-06	8E-07			5E-06
chromium			5E-06	1E-06			6E-06			5E-06	1E-06			6E-06
cobalt			3E-07	6E-08			4E-07			3E-07	6E-08			4E-07
manganese			1E-06	3E-07			2E-06			1E-06	3E-07			2E-06
mercury			1E-06	2E-07			1E-06			1E-06	2E-07			1E-06
nickel			8E-06	1E-06			9E-06			8E-06	1E-06			9E-06
selenium			9E-08	2E-08			1E-07			9E-08	2E-08			1E-07
Total HAPs			0.007	0.001			0.008			0.007	0.001			0.008

[1]Uncontrolled PM emissions from EP-03 and EP-05 include the use of a product collector inherent to the process.

[2]Emissions from the EP-03 product collector are controlled with a HEPA filter.