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MAR 18 2013
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A.Q. PROGRAM

2013 Air Permit Modification Application

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MAR 18 2013
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A Q PROGRAM

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Cover Sheet for Air Permit Application – Permit to Construct **Form CSPTC**

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	ALK-Abelló Source Materials, Inc.		
2. Facility Name	ALK-Abelló Source Materials, Inc.	3. Facility ID No.	055-00072
4. Brief Project Description - One sentence or less	Remodel TPA production area		

PERMIT APPLICATION TYPE

5. ☐ New Source ☐ New Source at Existing Facility ☐ PTC for a Tier I Source Processed Pursuant to IDAPA 58.01.01.209.05.c
☐ Unpermitted Existing Source ☐ Facility Emissions Cap ☒ Modify Existing Source: Permit No.: P-2008-0176 Date Issued: 7/11/12
☐ Required by Enforcement Action: Case No.: ____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms		DEQ Verify
☒	☐	Form CSPTC – Cover Sheet		☐
☒	☐	Form GI – Facility Information		☐
☒	☐	Form EU0 – Emissions Units General		☐
☒	☐	Form EU1– Industrial Engine Information	Please specify number of EU1s attached: 1	☐
☐	☒	Form EU2– Nonmetallic Mineral Processing Plants	Please specify number of EU2s attached: ____	☐
☐	☒	Form EU3– Spray Paint Booth Information	Please specify number of EU3s attached: ____	☐
☐	☒	Form EU4– Cooling Tower Information	Please specify number of EU4s attached: ____	☐
☒	☐	Form EU5 – Boiler Information	Please specify number of EU5s attached: 5	☐
☐	☒	Form CBP– Concrete Batch Plant	Please specify number of CBPs attached: ____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant	Please specify number of HMAPs attached: ____	☐
☐	☒	PERF – Portable Equipment Relocation Form		☐
☐	☒	Form AO – Afterburner/Oxidizer		☐
☐	☒	Form CA – Carbon Adsorber		☐
☐	☒	Form CYS – Cyclone Separator		☐
☐	☒	Form ESP – Electrostatic Precipitator		☐
☒	☐	Form BCE– Baghouses Control Equipment		☐
☐	☒	Form SCE– Scrubbers Control Equipment		☐
☐	☒	Form VSCE – Venturi Scrubber Control Equipment		☐
☐	☒	Form CAM – Compliance Assurance Monitoring		☐
☒	☐	Forms EI— Emissions Inventory		☐
☒	☐	PP – Plot Plan		☐
☒	☐	Forms MI1 – MI4 – Modeling	(Excel workbook, all 4 worksheets)	☐
☒	☐	Form FRA – Federal Regulation Applicability		☐

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General Information **Form GI**
Revision 7
2/18/10

Please see instructions on page 2 before filling out the form.

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION

1. Company Name	2. Facility Name
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.

3. Brief Project Description:	Remodel TPA production area

FACILITY INFORMATION

4. Primary Facility Permit Contact Person/Title	Michael J. Sawatzky		EH&S Manager	
5. Telephone Number and Email Address	208-777-3364		msaus@alk.net	
6. Alternate Facility Contact Person/Title	Tim Davis		Facility Manager	
7. Telephone Number and Email Address	208-777-3341		tdaus@alk.net	
8. Address to Which the Permit Should be Sent	448 S. Lochsa St.			
9. City/County/State/Zip Code	Post Falls	Kootenai	ID	83854
10. Equipment Location Address (if different than the mailing address above)	Same			
11. City/County/State/Zip Code				
12. Is the Equipment Portable?	☐ Yes ☒ No			
13. SIC Code(s) and NAICS Code	Primary SIC: 2836	Secondary SIC: 0181	NAICS: 325414	
14. Brief Business Description and Principal Product	Collect, Grow, and purify allergenic source materials for use by others to make allergy vaccines			
15. Indentify any adjacent or contiguous facility that this company owns and/or operates	NA			
16. Specify the reason for the application	☒ Permit to Construct (PTC) For Tier I permitted facilities only: If you are applying for a PTC then you must also specify how the PTC will be incorporated into the Tier I permit. ☐ Incorporate the PTC at the time of the Tier I renewal ☐ Co-process the Tier I modification and PTC ☐ Administratively amend the Tier I permit to incorporate the PTC upon your request (IDAPA 58.01.01.209.05.a, b, or c) ☐ Tier I Permit ☐ Tier II Permit ☐ Tier II/Permit to Construct			

CERTIFICATION

In accordance with **IDAPA 58.01.01.123 (Rules for the Control of Air Pollution in Idaho)**, I certify based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

17. Responsible Official's Name/Title	Michael Sawatzky	EH&S Manager	
18. Responsible Official's Signature		Date:	3/13/2013

19. ☒ Check here to indicate that you would like to review the draft permit prior to final issuance.

DEQ AIR QUALITY PROGRAM
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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	USM HOODS - SEE EU01 LIST
6.	EU ID Number:	EF2-1
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source – Previous Permit #:P-2008-0176 Date Issued: 7/13/07
8.	Manufacturer:	LABCONCO
9.	Model:	PROTECTOR EXTREME
10..	Maximum Capacity:	1995 CFM
11.	Date of Construction:	MAY 2007
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	N.A.		
15. Date of Installation:	N.A.	16. Date of Modification (if any):	N.A.
17. Manufacturer and Model Number:	N.A.		
18. ID(s) of Emission Unit Controlled:	N.A.		
19. Is operating schedule different than emission units(s) involved?	☐ Yes	☒ No	
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☐ Yes	☒ No (If Yes, attach and label manufacturer guarantee)	

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	N.A.
23.	Maximum Operation:	N.A.

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

EU01
List of Equipment for Source EF 2-1

Emission Sources			Install Date
USM-2007,	Fume Hood 1	625 cfm	Summer 2008
USM-2007,	Fume Hood 2	625 cfm	Summer 2008
USM 2004,	Media Prep Hood	645 cfm	Summer 2008
USM 2004,	Snorkel	50 cfm	Summer 2008
USM 2003,	Snorkel	50 cfm	Summer 2008

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	PRS HOODS SEE EU02 LIST
6.	EU ID Number:	EF 3-1
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/13/07
8.	Manufacturer:	LABCONCO
9.	Model:	PROTECTOR EXTREME
10..	Maximum Capacity:	6845 CFM
11.	Date of Construction:	MAY 2007
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID: N.A.

15. Date of Installation: N.A. 16. Date of Modification (if any): N.A.

17. Manufacturer and Model Number: N.A.

18. ID(s) of Emission Unit Controlled: N.A.

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☒ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	10 HOURS/DAY. 5 DAYS/WEEK, 52 WEEKS/YEAR
23.	Maximum Operation:	24 HOURS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

Rationale for Requesting the Limit(s):

EU02
List of Equipment for Source EF 3-1

Emission Sources			Install Date
PLA-2003	Fume Hood 1	785 cfm	Summer 2008
PLA-2003	Fume Hood 2	785 cfm	Summer 2008
PLA-2004	Fume Hood 1	785 cfm	Summer 2008
PLA-2004	Fume Hood 2	785 cfm	Summer 2008
PLA-2004	Fume Hood 3	625 cfm	Summer 2008
PLA-2004	Fume Hood 4	625 cfm	Summer 2008
PLA-2005	Fume Hood 1	785 cfm	Summer 2008
PLA-2005	Fume Hood 2	785 cfm	Summer 2008
PLA-2013	Fume Hood 1	785 cfm	Summer 2008
PLA-2007	Local Exhaust	100 cfm	Summer 2008

DEQ AIR QUALITY PROGRAM
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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	CLASS 2 B2 HOOD
6.	EU ID Number:	EF-3-4
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/13/07
8.	Manufacturer:	LABCONCO
9.	Model:	PURIFIER, LOGIC
10..	Maximum Capacity:	1104 CFM
11.	Date of Construction:	MAY 2007
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID: N.A. (HEPA filter integral to unit)

15. Date of Installation: N.A. 16. Date of Modification (if any): N.A.

17. Manufacturer and Model Number: N.A.

18. ID(s) of Emission Unit Controlled: N.A.

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☒ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	10 HOURS/DAY. 5 DAYS/WEEK, 52 WEEKS/YEAR
23.	Maximum Operation:	24 HOURS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☐ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

Rationale for Requesting the Limit(s):

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IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	SMD HOODS (SEE EU03 LIST)
6.	EU ID Number:	EF 4-1
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/13/07
8.	Manufacturer:	LABCONCO
9.	Model:	PROTECTOR EXTREME
10..	Maximum Capacity:	3140 CFM
11.	Date of Construction:	MAY 2007
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID: N.A.

15. Date of Installation: N.A. 16. Date of Modification (if any): N.A.

17. Manufacturer and Model Number: N.A.

18. ID(s) of Emission Unit Controlled: N.A.

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☒ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	10 HOURS/DAY. 5 DAYS/WEEK, 52 WEEKS/YEAR
23.	Maximum Operation:	24 HOURS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☐ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

Rationale for Requesting the Limit(s):

EU03
List of Equipment for Source EF 4-1

Emission Sources		Install Date
PDA-1009 Fume Hood 1	785 cfm	Summer 2008
PDA-1009 Fume Hood 2	785 cfm	Summer 2008
PDA-1009 Fume Hood 3	785 cfm	Summer 2008
PDA-1009 Fume Hood 4	785 cfm	Summer 2008

Pilot Scale Lab Equipment Discharging through SMD Fume Hoods. (Operate periodically)

Anhydro Fluid Bed Dryer (2007) January 2010
(Includes integral cyclone and cartridge baghouse)

Minox Screener, Model 600 400 cfm January 2010
(Includes UAS Baghouse model SFC2-2 with Merv 15 cartridge filters)

De Dietrich Filter Dryer Not installed
(Includes vacuum condensing skid)

Additional Emission Sources exempt under IDAPA 50.01.01.222.01.a
Laboratory Fume hoods used exclusively for chemical and physical analysis.

QCA-003 Fume Hood 1	485 cfm	Summer 2008
QCA-003 Fume Hood 2	785 cfm	Summer 2008
QCA-003 Fume Hood 3	785 cfm	Summer 2008

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Remodel TPA production areat

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	TPA DUST COLLECTOR, FUTURE EMISSION PICKUPS
6.	EU ID Number:	EF 9-1
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/11/12
8.	Manufacturer:	UNUSED, FUTURE DUST PICKUP
9.	Model:	NA
10..	Maximum Capacity:	5675 CFM
11.	Date of Construction:	MAY 2007
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:	TPA Dust Collector, C 9-1
5. Date of Installation:	May 2007 16. Date of Modification (if any): N.A.
17. Manufacturer and Model Number:	Donaldson-Torit
18. ID(s) of Emission Unit Controlled:	EF 9-1
19. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No
20. Does the manufacturer guarantee the control efficiency of the control equipment?	☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	10 HOURS/DAY. 5 DAYS/WEEK, 52 WEEKS/YEAR
23.	Maximum Operation:	24 HOURS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

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IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Remodel TPA production areat

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	TPA LAB HOODS, SEE EU05 LIST
6.	EU ID Number:	EF 9-4
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/11/12
8.	Manufacturer:	LABCONCOL
9.	Model:	PROTECTOR XL.
10..	Maximum Capacity:	4760 CFM
11.	Date of Construction:	MARCH 2012
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID: HEPA filter.

15. Date of Installation: April 2010 16. Date of Modification (if any): N.A.

17. Manufacturer and Model Number: Flanders/FFI

18. ID(s) of Emission Unit Controlled: EF 9-4

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☒ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	10 HOURS/DAY. 5 DAYS/WEEK, 52 WEEKS/YEAR
23.	Maximum Operation:	24 HOURS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

EU05
List of Equipment for Source EF 9-4

Emission Sources		Install Date
Labconco Protector XL Fume Hood 1	2130 cfm	4/2013
Labconco Protector XL Fume Hood 2	2130 cfm	4/2013
Roller Floor Vent 1	200 cfm	4/2013
Roller Floor Vent 2	200 cfm	4/2013
Vacuum pump exhaust pickup 1	50 cfm	4/2013
Vacuum pump exhaust pickup 2	50 cfm	4/2013

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

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IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	MTX LAB EXHAUSTS, SEE EU06 LIST
6.	EU ID Number:	EF 10-1
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/13/07
8.	Manufacturer:	LABCONCO
9.	Model:	PROTECTOR XTREME
10..	Maximum Capacity:	3770 CFM
11.	Date of Construction:	APRIL 2010
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any): N.A.

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☒ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	18 HOURS/DAY. 5 DAYS/WEEK, 52 WEEKS/YEAR
23.	Maximum Operation:	24 HOURS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☐ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

.. Rationale for Requesting the Limit(s):

EU06
List of Equipment for Source EF 10-1

Emission Sources		Install Date
Canopy Hood 1, (Media Prep)	1400 cfm	April 2010
MTX-1004 Fume Hood 1	785 cfm	April 2010
MTX-1004 Fume Hood 2	785 cfm	April 2010
MTX-1004 Snorkel 1	200 cfm	April 2010
MTX-1004 Snorkel 2	200 cfm	April 2010
MTX-1005 Snorkel 1	400 cfm	April 2010

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	MINOX SCREENER
6.	EU ID Number:	EF 10-2
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/13/07
8.	Manufacturer:	MINOX
9.	Model:	1200
10..	Maximum Capacity:	480 KG/DAY
11.	Date of Construction:	NOV 2011
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID: UAS Baghouse, C 10-2

Date of Installation: 11/2011 16. Date of Modification (if any): N.A.

17. Manufacturer and Model Number: United Air Specialists, Model SFC-6-3

18. ID(s) of Emission Unit Controlled: EF 10-2

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☒ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation: 18 HOURS/DAY. 5 DAYS/WEEK, 52 WEEKS/YEAR

23. Maximum Operation: 24 HOURS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☐ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

.. Rationale for Requesting the Limit(s):

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	MITIZAX FLUID BED DRYER
6.	EU ID Number:	EF 10-3
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/13/07
8.	Manufacturer:	VECTOR
9.	Model:	VFC-30
10..	Maximum Capacity:	120 KG/DAY
11.	Date of Construction:	APRIL 2010
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID: Internal cartridge filters followed by a HEPA filter.

15. Date of Installation: April 2010 16. Date of Modification (if any): N.A.

17. Manufacturer and Model Number: Vector cartridges and Flanders/FFI HEPA

18. ID(s) of Emission Unit Controlled: EF 10-3

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☒ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☒ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22. Actual Operation: 18 HOURS/DAY. 5 DAYS/WEEK, 52 WEEKS/YEAR

23. Maximum Operation: 24 HOURS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☐ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

.. Rationale for Requesting the Limit(s):

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Remodel TPA production areat

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	MITIZAX® PURIFICATION 1 PARTICLE HOOD
6.	EU ID Number:	EF 10-4
7.	EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/13/07
8.	Manufacturer:	TBD
9.	Model:	TBD
10..	Maximum Capacity:	NA
11.	Date of Construction:	JUNE 2013
12.	Date of Modification (if any):	N.A.
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID:

15. Date of Installation: 16. Date of Modification (if any): N.A.

17. Manufacturer and Model Number:

18. ID(s) of Emission Unit Controlled:

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	18 HOURS/DAY. 5 DAYS/WEEK, 52 WEEKS/YEAR
23.	Maximum Operation:	24 HOURS/DAY, 7 DAYS/WEEK, 52 WEEKS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

- ☐ Operation Hour Limit(s):
- ☐ Production Limit(s):
- ☐ Material Usage Limit(s):
- ☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports
- ☐ Other:

25. Rationale for Requesting the Limit(s):

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Emissions Unit - General **Form EU0**
Revision 4
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3. Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION

5.	Emissions Unit (EU) Name:	HOUSE VACUUM
6.	EU ID Number:	EF-VAC
7.	EU Type:	☐ New Source ☐ Unpermitted Existing Source ☒ Modification to a Permitted Source -- Previous Permit #:P-2008-0176 Date Issued: 7/13/2007
8.	Manufacturer:	SPENCER
9.	Model:	S24209B
10..	Maximum Capacity:	500 CFM
11.	Date of Construction:	APRIL 2007
12.	Date of Modification (if any):	NA
13.	Is this a Controlled Emission Unit?	☒ No ☐ Yes If Yes, complete the following section. If No, go to line 22.

EMISSIONS CONTROL EQUIPMENT

14. Control Equipment Name and ID: N.A. Intergral to vacuum system (included HEPA Filter)

15. Date of Installation: N.A. 16. Date of Modification (if any): N.A.

17. Manufacturer and Model Number: N.A.

18. ID(s) of Emission Unit Controlled: N.A.

19. Is operating schedule different than emission units(s) involved? ☐ Yes ☐ No

20. Does the manufacturer guarantee the control efficiency of the control equipment? ☐ Yes ☐ No (If Yes, attach and label manufacturer guarantee)

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

21. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. N.A.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)

22.	Actual Operation:	18 HOURS/DAY, 5 DAYS/WEEK, 52 WEEKS/YEAR
23.	Maximum Operation:	24 HOURS/DAY, 7 DAYS/WEEK, 365 DAYS/YEAR

REQUESTED LIMITS

24. Are you requesting any permit limits? ☐ Yes ☒ No (If Yes, indicate all that apply below)

☐ Operation Hour Limit(s):

☐ Production Limit(s):

☐ Material Usage Limit(s):

☐ Limits Based on Stack Testing: Please attach all relevant stack testing summary reports

☐ Other:

Rationale for Requesting the Limit(s):

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Emissions Units - Industrial Engine Information **Form EU1**
Revision 8
1/15/10

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	

3 Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

ENGINE (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

4. Type of Unit: ☐ New Unit ☐ Unpermitted Existing Unit
☒ Modification to a Unit with Permit #:P-2008-0176 Date Issued: 7/13/07

5. Engine Displacement: 1.99(liters per cylinder) 6. Ignition Type: ☒ Compression ☐ Spark

7. Use ☒ Emergency ☐ Non-Emergency

8. Engine ID Number:	9. Maximum Rated Engine Power:		
1 (1000 KW, 1495 bhp)	_____ Brake Horsepower (bhp)		
10. Construction Date:	11. Manufacturer:	12. Model:	13. Model Year:
January, 2008	Detroit Diesel/MTU	16V2000G84R163-8A36	2008
14. Date of Modification (if applicable):	15. Serial Number (if available):	16. Control Device (if any):	
NA	5362004407	NA	

FUEL DESCRIPTION AND SPECIFICATIONS

17. Fuel Type	☒ Diesel Fuel (#2) (gal/hr)	☐ Gasoline Fuel (gal/hr)	☐ Natural Gas (cf/hr)	☐ Other Fuels (unit:)
18. Full Load Consumption Rate	71.3	NA	NA	NA
19. Actual Consumption Rate	20-50	NA	NA	NA
20. Sulfur Content wt%	0.0015 (15 ppm)	N/A	N/A	NA

OPERATING LIMITS & SCHEDULE

21. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):
500 hours/year

22. Operating Schedule (hours/day, months/year, etc.):
Approx. 0.6 hour/week for testing, 2 hours/year for maintenance, balance emergency use.

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Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request: ☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2008-0176

6. Use of Boiler: ☐ % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity
☒ Other: 3 identical boilers for space heating and process uses

7. Boiler ID Number: See Attachment EU5A	8. Rated Capacity: ☒ 3 @ 5.10 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
9. Construction Date: 2008	10. Manufacturer: Cleaver Brooks	11. Model: CBLE-CBI-700-125-125
12. Date of Modification (if applicable): NA	13. Serial Number (if available): See EU5A	14. Control Device (if any): Low Nox Burners **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas 4474 (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate	NA	3 @ 4474	NA	NA
17. Actual Consumption Rate	NA	3 @ 1021	NA	NA
18. Fuel Heat Content (Btu/unit, LHV)	NA	1050	NA	NA
19. Sulfur Content wt%	NA	Negligible	NA	NA
20. Ash Content wt%	NA	N/A	NA	NA

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA	NA	NA
22. Steam Temperature (°F)	N/A	N/A	NA	NA
23. Steam Pressure (psi)	N/A	N/A	NA	NA
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	NA
26. Operating Schedule (hours/day, months/year, etc.):	NA
27. NSPS Applicability: ☐ Yes ☒ No	If Yes, which subpart:

EU5A

Boiler ID	Serial #	Install Date
HB-1	0L106606	Summer 2008
HB-2	0L106607	Summer 2008
HB-3	NA	Future

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Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description:	Remodel TPA production area

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request: ☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2008-0176

6. Use of Boiler: ☐ % Used For Process ☒ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other:

7. Boiler ID Number: SB-2	8. Rated Capacity: ☒ 1.36 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
9. Construction Date: August 2012	10. Manufacturer: Burnham	11. Model: CL.30.G.WHT
12. Date of Modification (if applicable): NA	13. Serial Number (if available): NA	14. Control Device (if any): Low Nox burners **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas 1295 (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate	NA	1295	NA	NA
17. Actual Consumption Rate	NA	1295	NA	NA
18. Fuel Heat Content (Btu/unit, LHV)	NA	1050	NA	NA
19. Sulfur Content wt%	NA	Negligible	NA	NA
20. Ash Content wt%	NA	N/A	NA	NA

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA	NA	NA
22. Steam Temperature (°F)	N/A	N/A	NA	NA
23. Steam Pressure (psi)	N/A	N/A	NA	NA
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	NA
26. Operating Schedule (hours/day, months/year, etc.):	NA
27. NSPS Applicability: ☐ Yes ☒ No	If Yes, which subpart:

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Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Remodel TPA production area

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request: ☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2008-0176

6. Use of Boiler: ☐ % Used For Process ☐ % Used For Space Heat ☐ % Used For Generating Electricity ☒ Other: Makeup Air handler air preheater

7. Boiler ID Number: MAU-9-1	8. Rated Capacity: ☒ 0.450 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
9. Construction Date: 2013	10. Manufacturer: Governair	11. Model: WF-TL-43-18-E
12. Date of Modification (if applicable): NA	13. Serial Number (if available): G000454-001-00	14. Control Device (if any): NA **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas 381 (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate	NA	429	NA	NA
17. Actual Consumption Rate	NA	215	NA	NA
18. Fuel Heat Content (Btu/unit, LHV)	NA	1050	NA	NA
19. Sulfur Content wt%	NA	Negligible	NA	NA
20. Ash Content wt%	NA	N/A	NA	NA

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA	NA	NA
22. Steam Temperature (°F)	N/A	N/A	NA	NA
23. Steam Pressure (psi)	N/A	N/A	NA	NA
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	NA
26. Operating Schedule (hours/day, months/year, etc.):	NA
27. NSPS Applicability: ☐ Yes ☒ No	If Yes, which subpart:

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Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request: ☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2008-0176

6. Use of Boiler: ☐ % Used For Process ☒ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other:

7. Boiler ID Number: GB-1	8. Rated Capacity: ☒ 0.30 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
9. Construction Date: 11/2009	10. Manufacturer: HTP	11. Model: ModCon 300
12. Date of Modification (if applicable): NA	13. Serial Number (if available): NA	14. Control Device (if any): **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas 286 (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate	NA	286	NA	NA
17. Actual Consumption Rate	NA	286	NA	NA
18. Fuel Heat Content (Btu/unit, LHV)	NA	1050	NA	NA
19. Sulfur Content wt%	NA	Negligible	NA	NA
20. Ash Content wt%	NA	N/A	NA	NA

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA	NA	NA
22. Steam Temperature (°F)	N/A	N/A	NA	NA
23. Steam Pressure (psi)	N/A	N/A	NA	NA
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	NA
26. Operating Schedule (hours/day, months/year, etc.):	NA
27. NSPS Applicability: ☐ Yes ☒ No	If Yes, which subpart:

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Emissions Units - Industrial Boiler Information **Form EU5**
Revision 5
08/28/08

Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name:	2. Facility Name:	3 Facility ID No:
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.	055-00072

4. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

EXEMPTION

Please see IDAPA 58.01.01.222 for a list of industrial boilers that are exempt from Permit to Construct requirements.

BOILER (EMISSION UNIT) DESCRIPTION AND SPECIFICATIONS

5. Type of Request: ☐ New Unit ☐ Unpermitted Existing Unit ☒ Modification to a Unit with Permit #:P-2008-0176

6. Use of Boiler: ☐ % Used For Process ☒ % Used For Space Heat ☐ % Used For Generating Electricity ☐ Other:

7. Boiler ID Number: GB-2	8. Rated Capacity: ☒ 0.30 Million British Thermal Units Per Hour (MMBtu/hr) ☐ 1,000 Pounds Steam Per Hour (1,000 lb steam/hr)	
9. Construction Date: 11/2009	10. Manufacturer: HTP	11. Model: ModCon 300
12. Date of Modification (if applicable): NA	13. Serial Number (if available): NA	14. Control Device (if any): **Note: Attach applicable control equipment form(s)**

FUEL DESCRIPTION AND SPECIFICATIONS

15. Fuel Type	☐ Diesel Fuel (#) (gal/hr)	☒ Natural Gas 286 (cf/hr)	☐ Coal (unit: /hr)	☐ Other Fuels (unit: /hr)
16. Full Load Consumption Rate	NA	286	NA	NA
17. Actual Consumption Rate	NA	286	NA	NA
18. Fuel Heat Content (Btu/unit, LHV)	NA	1050	NA	NA
19. Sulfur Content wt%	NA	Negligible	NA	NA
20. Ash Content wt%	NA	N/A	NA	NA

STEAM DESCRIPTION AND SPECIFICATIONS

21. Steam Heat Content	NA	NA	NA	NA
22. Steam Temperature (°F)	N/A	N/A	NA	NA
23. Steam Pressure (psi)	N/A	N/A	NA	NA
24 Steam Type	N/A	N/A	☐ Saturated ☐ Superheated	☐ Saturated ☐ Superheated

OPERATING LIMITS & SCHEDULE

25. Imposed Operating Limits (hours/year, or gallons fuel/year, etc.):	NA
26. Operating Schedule (hours/day, months/year, etc.):	NA
27. NSPS Applicability: ☐ Yes ☒ No	If Yes, which subpart:

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Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.

3. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: Flanders	5. Baghouse Model: NA, HEPA filter	6. Baghouse Equipment ID: NA, integral to Class 2 B2 Biological Safety Cabinet EF 3-4

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	0.005 gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	100 % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
;). Baghouse flow rate	1104 dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	_____ % PM control _____ % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name.
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.

3. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: Donaldson-Torit	5. Baghouse Model: DFO-3-12	6. Baghouse Equipment ID: C9-1

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	0.005 gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	100 % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
(c). Baghouse flow rate	5675 dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	_____ % PM control _____ % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

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ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.

3. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: Flanders	5. Baghouse Model: NA, HEPA filter	6. Baghouse Equipment ID: NA, Integral to TPA Lab Hood, EF 9-4

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	0.005 gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	100 % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
;). Baghouse flow rate	5650 dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	_____ % PM control _____ % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

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IDENTIFICATION

1. Company Name	2. Facility Name
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.

3. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: United Air Specialists	5. Baghouse Model: SFC-6-3	6. Baghouse Equipment ID: EF 10-2

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	0.005 gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	100 % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
7 (c). Baghouse flow rate	1000 dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	_____ % PM control _____ % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

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Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

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IDENTIFICATION

1. Company Name	2. Facility Name
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.

3. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: Vector (Fluid Bed dryer with internal cartridge filters followed by HEPA filter.)	5. Baghouse Model: NA, internal cartridge filters followed by HEPA.	6. Baghouse Equipment ID: NA (Included in Fluid Bed, EF 10-3)

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	.005 gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	100 % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
). Baghouse flow rate	1700 dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	_____ % PM control _____ % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

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Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

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1. Company Name	2. Facility Name
ALK-Abelló Source Materials, Inc.	ALK-Abelló Source Materials, Inc.

3. Brief Project Description: Convert PTC Facility Emissions Cap to stand-alone PTC Permit

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: Spencer, (integral to vacuum) + Flanders HEPA	5. Baghouse Model: NA, integral to vacuum	6. Baghouse Equipment ID: EF-Vac

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	0.005 gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	100 % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
c). Baghouse flow rate	491 dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	_____ % PM control _____ % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

ALK-Abello Air Permit - Combustion Equipment Emissions Comparison

March 2013

Permitted & Future Combustion Equipment List

Equip. Tag	Location	Service	Description	CAPACITY	CAPACITY UNITS	EMISSION FACTORS															Fuel Heating Value	Fuel Heating Value	Fuel Usage Per hour[1]	Operating Hrs per year	Fuel Usage Per Year[1]	POTENTIAL EMISSIONS							
						NOx	Units	Reference	CO	Units	Reference	PM10	Units	Reference	VOC	Units	Reference	SOx	Units	Reference						NOx		CO		PM10		VOC		SOx	
																										lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
HB-1	1st Flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 125 BHP	5,103,000	Btu/hr	50	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	84.0	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	4,860	8,760	42,573,600	0.24	1.1	0.4	1.8	0.04	0.16	0.03	0.12	0.003	0.013
HB-2	1st Flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 125 BHP	5,103,000	Btu/hr	50	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	84.0	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	4,860	8,760	42,573,600	0.24	1.1	0.4	1.8	0.04	0.16	0.03	0.12	0.003	0.013
HB-3	1st Flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 125 BHP. (Future)	5,103,000	Btu/hr	50	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	84.0	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	4,860	8,760	42,573,600	0.24	1.1	0.4	1.8	0.04	0.16	0.03	0.12	0.003	0.013
GB-1	1st flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 300,000BTU/hr	300,000	Btu/hr	50	lb/MMCF	AP-42 Section	84	lb/MMCF	AP-42 Section	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	AP-42 Section	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	285.7143	8760	2502857.14	0.014286	0.062571	0.024	0.10512	0.002171	0.009511	0.001571	0.006883	0.000171	0.000751
GB-2	1st flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 300,000BTU/hr	300,000	Btu/hr	50	lb/MMCF	AP-42 Section	84	lb/MMCF	AP-42 Section	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	AP-42 Section	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	285.7143	8760	2502857.14	0.014286	0.062571	0.024	0.10512	0.002171	0.009511	0.001571	0.006883	0.000171	0.000751
MAU-9	Roof	Tablet Pollen Area	, 100% OA, DX packaged rooftop AHU, indirect gas fired	400,000	Btu/hr	50	lb/MMCF	AP-42 Section	84	lb/MMCF	AP-42 Section	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	AP-42 Section	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	380.9524	8760	3337142.86	0.019048	0.083429	0.032	0.14016	0.002895	0.012681	0.002095	0.009177	0.000229	0.001001
SB-2	1st Flr	Humidification	Natural gas-fired, fire-tube steam boiler, 50 BHP. (Future)	2,500,000	Btu/hr	50	lb/MMCF	AP-42 Section	84	lb/MMCF	AP-42 Section	8	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	6	lb/MMCF	AP-42 Section	1	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1,050	Btu/SCF	2,381	8,760	20,857,143	0.1190	0.5214	0.2000	0.8760	0.0181	0.0793	0.0131	0.0574	0.0014	0.0063
EG-1	Ground	Emergency	1000 kW Generator (1)	1,000	kW	5.61	g/kW-hr	40 CFR §60.4205(b)	3.5	g/kW-hr	40 CFR §60.4205(b)	0.2	g/kW-hr	40 CFR §60.4205(b)	0.79	g/kW-hr	40 CFR §60.4205(b)	15	ppm	40 CFR §60.4207	140000	Btu/gallon	71.3	500	35,650	12.36	3.09	7.72	1.93	0.44	0.11	1.75	0.44	0.02	0.00

FutureSources

[1] Natural Gas External Combustion is in SCF and IC Engine is gallons

Totals 13.26 7.01 9.22 8.52 0.58 0.71 1.85 0.87 0.03 0.05

Actual & Future Combustion Equipment List

Equip. Tag	Location	Service	Description	CAPACITY	CAPACITY UNITS	EMISSION FACTORS															Fuel Heating Value	Fuel Heating Value	Fuel Usage Per hour[1]	Operating Hrs per year	Fuel Usage Per Year[1]	POTENTIAL EMISSIONS							
						NOx	Units	Reference	CO	Units	Reference	PM10	Units	Reference	VOC	Units	Reference	SOx	Units	Reference						NOx		CO		PM10		VOC		SOx	
																										lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy	lbs/hr	tpy
HB-1	1st Flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 125 BHP	5,103,000	Btu/hr	50	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	84.0	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	4,860	8,760	42,573,600	0.24	1.1	0.4	1.8	0.04	0.16	0.03	0.12	0.003	0.013
HB-2	1st Flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 125 BHP	5,103,000	Btu/hr	50	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	84.0	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	4,860	8,760	42,573,600	0.24	1.1	0.4	1.8	0.04	0.16	0.03	0.12	0.003	0.013
HB-3	1st Flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 125 BHP. (Future)	5,103,000	Btu/hr	50	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	84.0	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	4,860	8,760	42,573,600	0.24	1.1	0.4	1.8	0.04	0.16	0.03	0.12	0.003	0.013
GB-1	1st flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 300,000BTU/hr	300,000	Btu/hr	50	lb/MMCF	AP-42 Section	84	lb/MMCF	AP-42 Section	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	AP-42 Section	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	285.7143	8760	2502857.14	0.014286	0.062571	0.024	0.10512	0.002171	0.009511	0.001571	0.006883	0.000171	0.000751
GB-2	1st flr	Heating Hot Water system	Natural gas-fired, fire-tube hot water boiler, 300,000BTU/hr	300,000	Btu/hr	50	lb/MMCF	AP-42 Section	84	lb/MMCF	AP-42 Section	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	AP-42 Section	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	285.7143	8760	2502857.14	0.014286	0.062571	0.024	0.10512	0.002171	0.009511	0.001571	0.006883	0.000171	0.000751
MAU-9-1	Roof	Tablet Pollen Area	, 100% OA, DX packaged rooftop AHU, indirect gas fired	450,000	Btu/hr	50	lb/MMCF	AP-42 Section	84	lb/MMCF	AP-42 Section	7.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	5.5	lb/MMCF	AP-42 Section	0.6	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1050	Btu/SCF	428.5714	8760	3754285.71	0.021429	0.093857	0.036	0.15768	0.003257	0.014266	0.002357	0.010324	0.000257	0.001126
SB-2	1st Flr	Humidification	Natural gas-fired, fire-tube steam boiler, 30 BHP	1,360,000	Btu/hr	50	lb/MMCF	AP-42 Section	84	lb/MMCF	AP-42 Section	8	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	6	lb/MMCF	AP-42 Section	1	lb/MMCF	USEPA, AP-42 Section 1.4, 07/98	1,050	Btu/SCF	1,295	8,760	11,346,286	0.0648	0.2837	0.1088	0.4765	0.0098	0.0431	0.0071	0.0312	0.0008	0.0034
EG-1	Ground	Emergency	1000 kW Generator (1)	1,000	kW	5.61	g/kW-hr	40 CFR §60.4205(b)	3.5	g/kW-hr	40 CFR §60.4205(b)	0.2	g/kW-hr	40 CFR §60.4205(b)	0.79	g/kW-hr	40 CFR §60.4205(b)	15	ppm	40 CFR §60.4207	140000	Btu/gallon	71.3	500	35,650	12.36	3.09	7.72	1.93	0.44	0.11	1.75	0.44	0.02	0.00

FutureSources
Changed Sources

[1] Natural Gas External Combustion is in SCF and IC Engine is gallons

Totals 13.21 6.79 9.13 8.14 0.57 0.67 1.84 0.84 0.03 0.05

ALK-Abelló Air nit Particulate Emissions Comparison. Marci 13

2012 Permit Installed and Proposed Particulate Emission Sources								
Potential Emissions								
	EU#	CE#	Source	CFM	Hours/yr	gr/dscf	lb/hr	ton/yr
House Vacuum	EF-Vac	HEPA	EF-Vac	491	8760	0.005	0.02	0.09
USM Hoods	EF 2-1		EF 2-1	1995	8760	0.001	0.02	0.07
SSM Hoods	EF 3-1		EF 3-1	6845	8760	0.001	0.06	0.26
SMD Hoods	EF 4-1		EF 4-1	3140	8760	0.001	0.03	0.12
Class 2 B2	EF 3-4	HEPA	EF 3-4	1104	8760	0.001	0.01	0.04
TPA Dust Coll.	EF 9-1	C 9-1	EF 9-1	5675	8760	0.005	0.24	1.07
TPA Lab Hoods	EF 9-4	HEPA	EF 9-4	5650	8760	0.001	0.05	0.21
MTX Lab Hoods	EF 10-1		EF 10-1	3770	8760	0.001	0.03	0.14
Minox Screener	EF 10-2	C10-2	EF 10-2	1000	8760	0.005	0.04	0.19
Mitizax Fluid Bed Dryer	EF 10-3	HEPA	EF 10-3	1700	8760	0.005	0.07	0.32
Combustion Sources							0.58	0.71
				Totals			**1.15**	**3.22**

2013 Installed and Proposed Particulate Emission Sources														
Potential Emissions									Actual Emissions				
	EU#	CE#	Source	CFM	Hours/yr	gr/dscf	lb/hr	ton/yr	CFM	Hours/yr	gr/dscf	lb/hr	ton/yr
House Vacuum	EF-Vac	HEPA	EF-Vac	491	8760	0.005	0.02	0.09	491	4680	0.005	0.02	0.05
USM Hoods	EF 2-1		EF 2-1	1995	8760	0.001	0.02	0.07	1995	2600	0.001	0.02	0.02
SSM Hoods	EF 3-1		EF 3-1	6845	8760	0.001	0.06	0.26	6845	2600	0.001	0.06	0.08
SMD Hoods	EF 4-1		EF 4-1	3140	8760	0.001	0.03	0.12	3140	2600	0.001	0.03	0.03
Class 2 B2	EF 3-4	HEPA	EF 3-4	1104	8760	0.001	0.01	0.04	1104	2600	0.001	0.01	0.01
TPA Dust Coll.	EF 9-1	C 9-1	EF 9-1	5675	8760	0.005	0.24	1.07	5675	2600	0.005	0.24	0.32
TPA Lab Hoods	EF 9-4	HEPA	EF 9-4	4760	8760	0.001	0.04	0.18	4760	8760	0.001	0.04	0.18
MTX Lab Hoods	EF 10-1		EF 10-1	3770	8760	0.001	0.03	0.14	3770	4680	0.001	0.03	0.08
Minox Screener	EF 10-2	C10-2	EF 10-2	1000	8760	0.005	0.04	0.19	1000	4680	0.005	0.04	0.10
Mitizax Fluid Bed Dryer	EF 10-3	HEPA	EF 10-3	1700	8760	0.005	0.07	0.32	1700	4680	0.005	0.07	0.17
MITIZAX® Purification 1 hood	EF 10-4		EF 10-4	825	8760	0.001	0.01	0.03	825	4680	0.001	0.01	0.02
Combustion Sources							0.57	0.67				0.55	0.25
				Totals			**1.14**	**3.18**				**1.12**	**1.30**

* Actual ton/yr emissions for combustion sources based on 3; HW Boilers at 2000 hour/yr and 1 Emerg Gen at 500 hour/yr
Analytical Lab hoods exempt so not included.

Changed sources
Future Source

Proposed Minor Modification to an existing Minor Facility
Change in Potential to Emit

Table 1 **Pre-Project Potential to Emit for NSR Regulated Pollutants**

	NOx		CO		PM10		Acetone		Ethanol		Methanol		IPA		Perc		VOC		SOx		Pb	
Emissions Unit	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**
HB-1	0.24	1.06	0.41	1.79	0.04	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.12	0.0029	0.0128	NA	NA
HB-2	0.24	1.06	0.41	1.79	0.04	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.12	0.0029	0.0128	NA	NA
HB-3	0.24	1.06	0.41	1.79	0.04	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.12	0.0029	0.0128	NA	NA
GB-1	0.01	0.06	0.02	0.11	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0002	0.0008	NA	NA
GB-2	0.01	0.06	0.02	0.11	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0002	0.0008	NA	NA
MAU-9	0.02	0.08	0.03	0.14	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0002	0.0010	NA	NA
SB-2	0.12	0.52	0.20	0.88	0.02	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.06	0.0014	0.0063	NA	NA
EG-1	12.36	3.09	7.72	1.93	0.44	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	0.44	0.0156	0.0039	NA	NA
EF-Vac	0	0	0	0	0.02	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	NA	NA
EF 2-1	0	0	0	0	0.02	0.07	0.00	0.00	0.15	0.19	0.01	0.01	0.02	0.03	0.00	0.00	0.18	0.23	0	0	NA	NA
EF 3-1	0	0	0	0	0.06	0.26	1.85	2.40	0.00	0.00	0.00	0.00	0.23	0.30	0.86	0.08	1.09	0.38	0	0	NA	NA
EF 4-1	0	0	0	0	0.03	0.12	0.61	0.80	0.05	0.06	0.00	0.00	0.03	0.04	0.00	0.00	0.08	0.10	0	0	NA	NA
EF 3-4	0	0	0	0	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	NA	NA
EF 9-1	0	0	0	0	0.24	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	NA	NA
EF 9-4	0	0	0	0	0.05	0.21	5.46	14.22	0	0	0.00	0.00	0.23	0.30	0.00	0.00	0.23	0.30	0	0	NA	NA
EF 10-1	0	0	0	0	0.03	0.14	0.00	0.00	0.66	1.54	0.03	0.08	0.13	0.30	0.00	0.00	0.82	1.92	0	0	NA	NA
EF 10-2	0	0	0	0	0.04	0.19	0	0	0	0	0.00	0.00	0	0	0	0	0.00	0.00	0	0	NA	NA
EF 10-3	0	0	0	0	0.07	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	NA	NA
Totals	**13.26**	**7.01**	**9.22**	**8.52**	**1.15**	**3.22**	**7.92**	**17.42**	**0.86**	**1.79**	**0.04**	**0.09**	**0.64**	**0.97**	**0.86**	**0.08**	**4.25**	**3.80**	**0.03**	**0.05**	**0.00**	**0.00**

Acetone emissions for MAU 9-4 assumes running 20 hr/day Birch or Ragweed

Table 2 **Post-Project Potential to Emit for NSR Regulated Pollutants**

	NOx		CO		PM10		Acetone		Ethanol		Methanol		IPA		Perc		VOC		SOx		Pb	
Emissions Unit	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**	**lb/hr**	**Ton/yr**
HB-1	0.24	1.06	0.41	1.79	0.04	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.12	0.0029	0.0128	NA	NA
HB-2	0.24	1.06	0.41	1.79	0.04	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.12	0.0029	0.0128	NA	NA
HB-3	0.24	1.06	0.41	1.79	0.04	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.12	0.0029	0.0128	NA	NA
GB-1	0.01	0.06	0.02	0.11	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0002	0.0008	NA	NA
GB-2	0.01	0.06	0.02	0.11	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0002	0.0008	NA	NA
MAU-9-1	0.02	0.09	0.04	0.16	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.0003	0.0011	NA	NA
SB-2	0.06	0.28	0.11	0.48	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.0008	0.0034	NA	NA
EG-1	12.36	3.09	7.72	1.93	0.44	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75	0.44	0.0156	0.0039	NA	NA
EF-Vac	0	0	0	0	0.02	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	NA	NA
EF 2-1	0	0	0	0	0.02	0.07	0.00	0.00	0.15	0.19	0.01	0.01	0.02	0.03	0.00	0.00	0.18	0.23	0	0	NA	NA
EF 3-1	0	0	0	0	0.06	0.26	1.85	2.40	0.00	0.00	0.00	0.00	0.23	0.30	0.86	0.08	1.09	0.38	0	0	NA	NA
EF 4-1	0	0	0	0	0.03	0.12	0.61	0.80	0.05	0.06	0.00	0.00	0.03	0.04	0.00	0.00	0.08	0.10	0	0	NA	NA
EF 3-4	0	0	0	0	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	NA	NA
EF 9-1	0	0	0	0	0.24	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	NA	NA
EF 9-4	0	0	0	0	0.04	0.18	10.92	14.22	0	0	0.00	0.00	0.23	0.30	0.00	0.00	0.23	0.30	0	0	NA	NA
EF 10-1	0	0	0	0	0.03	0.14	0.00	0.00	0.66	1.54	0.03	0.08	0.13	0.30	0.00	0.00	0.82	1.92	0	0	NA	NA
EF 10-2	0	0	0	0	0.04	0.19	0	0	0	0	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0	0	NA	NA
EF 10-3	0	0	0	0	0.07	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	NA	NA
EF 10-4	0	0	0	0	0.01	0.03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	**13.21**	**6.79**	**9.13**	**8.14**	**1.14**	**3.18**	**13.38**	**17.42**	**0.86**	**1.79**	**0.04**	**0.09**	**0.64**	**0.97**	**0.86**	**0.08**	**4.24**	**3.77**	**0.03**	**0.05**	**0.00**	**0.00**

Note: Acetone emissions for MAU 9-4 assumes running 10 hr/day Birch and Ragweed similtaneously
Future Sources
Changed Sources

Table 3 Changes in Potential to Emit for NSR Regulated Pollutants (Totals)

	NOx		CO		PM10		Acetone		Ethanol		Methanol		IPA		Perc		VOC		SOx		Pb	
Emissions Unit	lb/hr	Ton/yr	lb/hr	Ton/yr	lb/hr	Ton/yr	lb/hr	Ton/yr	lb/hr	Ton/yr	lb/hr	Ton/yr	lb/hr	Ton/yr	lb/hr	Ton/yr	lb/hr	Ton/yr	lb/hr	Ton/yr	lb/hr	Ton/yr
HB-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
HB-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
HB-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
GB-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
GB-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
MAU-9-1	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
SB-2	-0.05	-0.24	-0.09	-0.40	-0.01	-0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EG-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.03	0.00	0.00	0	0
EF-Vac	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 2-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 3-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 4-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 3-4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 9-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 9-4	0.00	0.00	0.00	0.00	-0.01	-0.03	5.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 10-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 10-2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 10-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
EF 10-4	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0
Totals	-0.05	-0.23	-0.09	-0.38	-0.02	-0.07	5.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.03	0.00	0.00	0.00	0.00

Future Sources Changed Sources

Toxic Air Pollutant Emissions Inventory
Pre and Post Project Non-Carcenogenic TAP Emissions Summary, Potential to Emit
Table 1

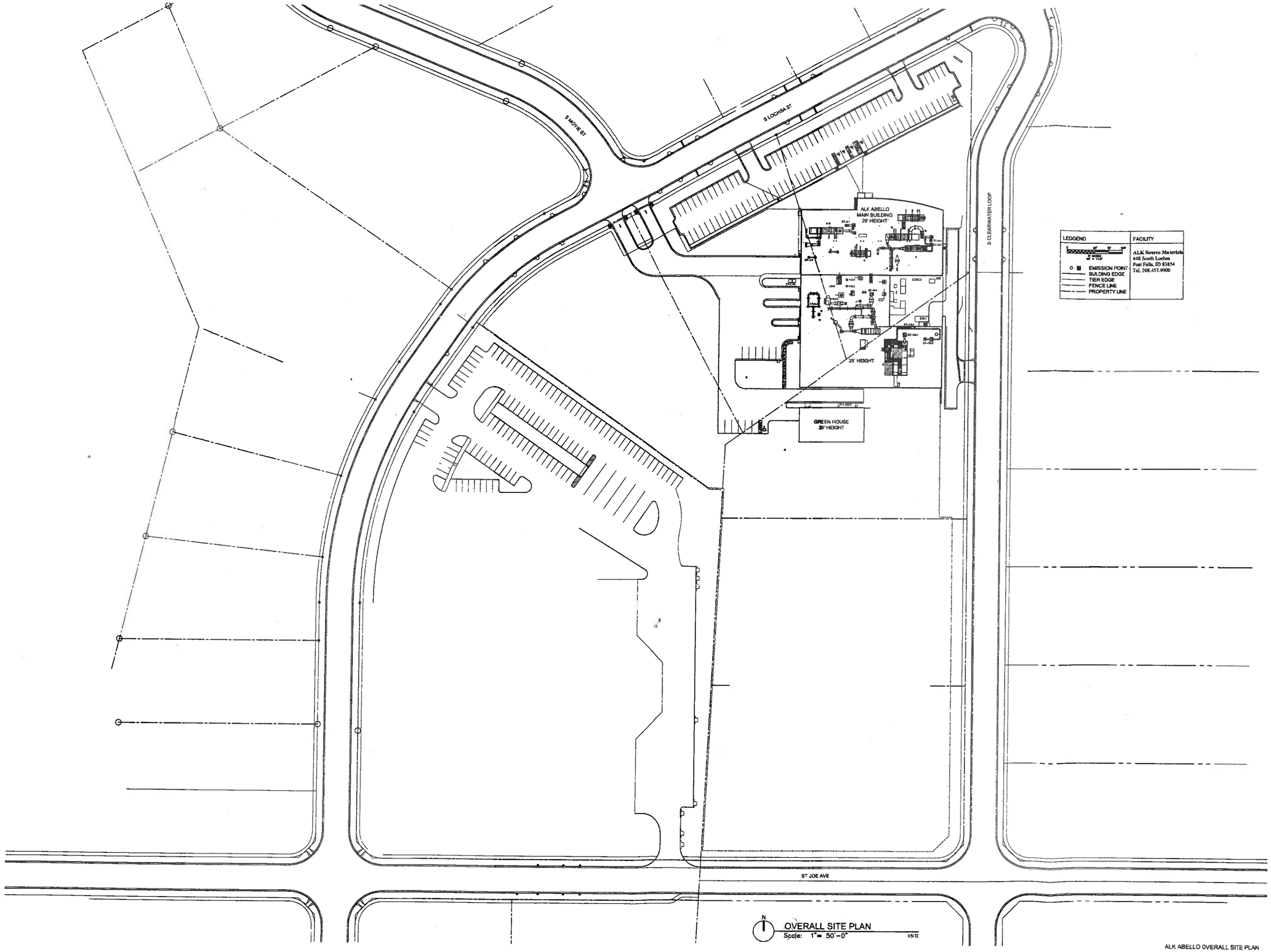
Non-Carcenogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project 24-hour Average Emission Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcenogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)	Change exceeds 10% of Screening Level? (BRC)
Acetone	7.92	13.38	5.46	119	No	No
Ethanol	0.86	0.86	0.00	125	No	No
Isopropyl Alcohol	0.64	0.64	0.00	65.3	No	No
Methanol	0.04	0.04	0.00	17.3	No	No

Carcenogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project 24-hour Average Emission Rates for Units at the	Post Project 24-hour Average Emissions Rates for Units at the	Change in 24-hour Average Emissions Rates for Units at the	Carcenogenic Screening Emission Level	Exceeds Screening Level? (Y/N)	Change exceeds 10% of Screening Level? (BRC)
Tetrachloroethylene	0.86	0.86	0.00	0.013	No	No

Facility Wide Hazardous Air Pollutant Potential to Emit

Table x HAP Potential to Emit Emissions Summary

HAP Pollutants	PTE (T/yr)
Methanol	0.09
Tetrachloroethylene	0.08



ALK ABELLO OVERALL SITE PLAN

A1

E AVE

GREEN HOUSE
20' HEIGHT

25' HEIGHT

ALK ABELLO
MAIN BUILDING
28' HEIGHT

S LOCHSA ST

S CLEARWATER LOOP

EF 10-4

Not To Scale

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline - 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
4/5/2007

Please see instructions on page 2 before filling out the form.

Company Name:	ALK-Abello Source Materials, Inc.
Facility Name:	Post Falls Facility
Facility ID No.:	055-00072
Brief Project Description:	Construction of Allergen Purification Facility

SUMMARY OF AIR IMPACT ANALYSIS RESULTS - CRITERIA POLLUTANTS

		1.		2.	3.	4.		5.
Criteria Pollutants	**Averaging Period**	**Significant Impact Analysis Results (µg/m3)**	**Significant Contribution Level (µg/m3)**	**Full Impact Analysis Results (µg/m3)**	**Background Concentration (µg/m3)**	**Total Ambient Impact (µg/m3)**	**NAAQS (µg/m3)**	**Percent of NAAQS**
PM_{10}	24-hour	NA	5	43.80	67.00	110.80	150	74%
	Annual	NA	1	13.90	23.70	37.60	50	75%
SO_2	3-hr	NA	25	NA	NA	NA	1300	NA
	24-hr	NA	5	NA	NA	NA	365	NA
	Annual	NA	1	NA	NA	NA	80	NA
NO_2	Annual	NA	1	15.30	32.00	47.30	100	47%
CO	1-hr	NA	2000	NA	NA	NA	10000	NA
	8-hr	NA	500	NA	NA	NA	40000	NA

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline - 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
3/27/2007

Please see instructions on page 2 before filling out the form.

Company Name:	ALK-Abello Source Materials, Inc
Facility Name:	Post Falls Facility
Facility ID No.:	055-00072
Brief Project Description:	Construction of Allergen Purification Facility

POINT SOURCE STACK PARAMETERS

1.	2.	3a.	3b.	4.	5.	6.	7.	8.	9.	10.
Emissions units	**Stack ID**	**UTM Easting (m)**	**UTM Northing (m)**	**Base Elevation (m)**	**Stack Height (m)**	**Modeled Diameter (m)**	**Stack Exit Temperature (K)**	**Stack Exit Flowrate (acfm)**	**Stack Exit Velocity (m/s)**	**Stack orientation (e.g., horizontal, rain cap)**
Point Source(s)										
USM Purification Lab Hood Exhausts	EF 2-1	499,719.5	5,283,286.5	641.00	12.20	0.30	294.30	1,963.00	12.50	Vertical, no rain cap
Pollen Lab Hood Exhausts	EF 3-1	499,681.9	5,283,290.5	641.94	12.20	0.60	294.30	7,850.00	12.50	Vertical, no rain cap
Process Development Lab Hood Exhausts	EF 4-1	499,719.5	5,283,290.0	641.00	12.20	0.70	294.30	11,304.00	12.50	Vertical, no rain cap
Class 2 B2 Biological Safety Cabinet	EF 3-4	499,665.9	5,283,276.0	642.00	12.20	0.22	294.30	1,104.00	12.50	Vertical, no rain cap
House Vacuum	EF VAC	499,658.0	5,283,262.5	642.19	3.00	0.15	294.30	491.00	12.50	Vertical, no rain cap
2 Future, 2 Present Natural gas fired boilers (125 bhp)	SRC 1	499,666.7	5,283,265.5	642.06	10.80	0.41	480.40	3,471.00	12.50	Vertical, no rain cap
Natural gas fired boiler (50 bhp)	SRC 5	499,671.3	5,283,259.5	642.10	10.80	0.15	474.30	491.00	12.50	Vertical, no rain cap
Emergency Generator (1,000 KW)	SRC 6	499,711.9	5,283,250.0	640.96	3.70	0.30	797.00	7,772.00	49.50	Vertical, no rain cap
Timothy Building Dust Collector (Future)	EF 9-1	499,664.9	5,283,248.0	642.37	9.30	0.51	294.30	5,672.00	12.50	Vertical, no rain cap
Spanish Mite Building media prep vent (Future)	SRC 24	499,718.9	5,283,232.5	640.70	9.30	0.24	294.30	1,256.00	12.50	Vertical, no rain cap
Spanish Mite Fluid Bed Dryer	EF SMDRY	499,718.9	5,283,227.5	640.70	9.30	0.12	310.90	298.00	12.50	Vertical, no rain cap
Spanish Mite Building pneumatic vent (Future)	SRC 26	499,718.9	5,283,223.0	640.70	9.30	0.37	294.30	2,826.00	12.50	Vertical, no rain cap
Ragweed fluid bed dryer (Future)	SRC 27	499,661.9	5,283,232.5	642.60	9.30	0.49	310.90	5,024.00	12.50	Vertical, no rain cap
Ragweed pneumatic vent (Future)	SRC 29	499,683.1	5,283,232.0	641.90	9.30	0.18	294.30	707.00	12.50	Vertical, no rain cap
Birch fluid bed dryer (Future)	SRC 30	499,666.4	5,283,225.5	642.45	9.30	0.49	310.90	5,024.00	12.50	Vertical, no rain cap
Birch pneumatic vent (Future)	SRC 31	499,698.6	5,283,250.0	641.38	9.30	0.18	294.30	707.00	12.50	Vertical, no rain cap
(insert more rows as needed)										

Instructions for Form MI2

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline - 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
4/5/2007

Please see instructions on page 2 before filling out the form.

Company Name:	ALK-Abello Source Materials, Inc.
Facility Name:	Post Falls Facility
Facility ID No.:	055-00072
Brief Project Description:	Construction of Allergen Purification Facility

BUILDING AND STRUCTURE INFORMATION

1. Building ID Number	2. Length (ft)	3. Width (ft)	4. Base Elevation (m)	5. Building Height (m)	6. Number of Tiers	7. Description/Comments
Main Building	213.00	96.50	642.00	8.84	1	
Utilities Section	135.00	50.00	642.38	7.62	1	
Timothy Pollen Section	135.00	28.00	642.59	7.62	1	
Shell Space	213.00	90.00	642.74	7.62	1	
Future Space	213.00	60.00	642.74	7.62	1	

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
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Air Permit Hotline – 1-877-5PERMIT

AIR PERMIT APPLICATION

Revision 6
10/7/09

For each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name: ALK -Abello Source Materials, Inc.	2. Facility Name: ALK - Abello Post Falls Facility
3. Brief Project Description: Permit to construct without facility emissions cap.	

APPLICABILITY DETERMINATION	
4. List applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). Examples of NSPS affected emissions units include internal combustion engines, boilers, turbines, etc. The applicant must thoroughly review the list of affected emissions units.	List of applicable subpart(s): **40 CFR 60 Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines** ☐ Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAP) found in 40 CFR part 61 and 40 CFR part 63. Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. EPA has a web page dedicated to NESHAP that should be useful to applicants.	List of applicable subpart(s): ☑ Not Applicable
6. For each subpart identified above, conduct a complete a regulatory analysis using the instructions and referencing the example provided on the following pages. **Note** - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation applies. Regulatory reviews that are submitted with insufficient detail will be determined incomplete.	☑ A detailed regulatory review is provided (Follow instructions and example). ☐ DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.

IF YOU ARE UNSURE HOW TO ANSWER ANY OF THESE QUESTIONS, CALL THE AIR PERMIT HOTLINE AT 1-877-5PERMIT

It is emphasized that it is the applicant's responsibility to satisfy all technical and regulatory requirements, and that DEQ will help the applicant understand what those requirements are prior to the application being submitted but that DEQ will not perform the required technical or regulatory analysis on the applicant's behalf.

ATTACHMENT A

ALK-ABELLÓ SOURCE MATERIALS, INC.

FEDERAL AND IDAHO STATE REGULATORY APPLICABILITY

Table 1 – Applicable Requirements

Table 2 – Non-Applicable Requirements

TABLE 1: FEDERAL AND IDAHO STATE APPLICABLE REQUIREMENTS

Regulatory Citation	Applicable Requirement*	Required Monitoring, Recordkeeping, Reporting or Test Methods	Proposed Monitoring, Recordkeeping, Reporting or Test Methods Adequate to Assure Compliance
IDAPA 58.01.01 - Rules for the Control of Air Pollution in Idaho			
003	Administrative Appeals		Annual Certification by a responsible official.
004	Catchlines		Annual Certification by a responsible official.
005 - 011	Definitions		Annual Certification by a responsible official.
106	Abbreviations		Annual Certification by a responsible official.
107	Incorporations by Reference		Annual Certification by a responsible official.
121	Compliance Requirements by Department		Annual Certification by a responsible official.
122	Information Orders by the Department		Annual Certification by a responsible official.
123	Certification of Documents	Certification by a responsible individual of all documents, including but not limited to, application forms for permits to construct, application forms for operating permits, progress reports, records, monitoring data, supporting information, requests for confidential treatment, testing reports or compliance certifications submitted to the Department. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.	
124	Truth, Accuracy And Completeness of Documents		Annual Certification by a responsible official.
125	False Statements		Annual Certification by a responsible official.
126	Tampering		Annual Certification by a responsible official.
127	Format of Responses		Annual Certification by a responsible official.
128	Confidential Information		Annual Certification by a responsible official.
130	Startup, Shutdown, Scheduled Maintenance, Safety Measures, Upset And Breakdown		Annual Certification by a responsible official.
131	Excess Emissions		Annual Certification by a responsible official.
132	Correction of Condition		Annual Certification by a responsible official.
133	Startup, Shutdown And Scheduled Maintenance Requirements		Annual Certification by a responsible official.

Regulatory Citation	Applicable Requirement*	Required Monitoring, Recordkeeping, Reporting or Test Methods	Proposed Monitoring, Recordkeeping, Reporting or Test Methods Adequate to Assure Compliance
133.01	General Provisions	Notify the Department of any startup, shutdown, or scheduled maintenance event that is expected to cause an excess emissions event no later than two (2) hours prior to the start of the excess emissions event.	
133.02	Excess Emissions Procedures	Prepare, implement and file with the Department specific procedures which will be used to minimize excess missions during such events.	
134	Upset, Breakdown And Safety Requirements		
134.02	Excess Emissions Minimization and Notification	Notify the Department of any upset/breakdown/safety event that results in excess emissions no later than twenty-four hours after the event.	
134.04	Excess Emissions Procedures	Prepare, implement, and file with the Department specific procedures.	
134.05	Amendments to Procedures.	Amend the procedures from time to time to ensure that the procedures are and remain consistent with good pollution control practices.	
135	Excess Emissions Reports	A written report for each excess emissions event shall be submitted to the Department no later than fifteen (15) days after the beginning of each such event.	
136	Excess Emissions Records	Maintain excess emissions records at the facility for the most recent five (5) calendar year period.	
140 - 149	Variances		Annual Certification by a responsible official.
155	Circumvention		Annual Certification by a responsible official.
156	Total Compliance		Annual Certification by a responsible official.
157	Test Methods And Procedures	Any source test performed to satisfy a performance test requirement imposed by state or federal regulation, rule, permit, order, or consent decree, must be conducted as specified.	

Regulatory Citation	Applicable Requirement*	Required Monitoring, Recordkeeping, Reporting or Test Methods	Proposed Monitoring, Recordkeeping, Reporting or Test Methods Adequate to Assure Compliance
157.04	Reporting Requirements	For any source test performed to satisfy a performance test requirement imposed by state or federal regulation, rule, permit, order, or consent decree, submit a written report to the Department within thirty (30) days of the completion of the test.	
160	Provisions Governing Specific Activities And Conditions		Annual Certification by a responsible official.
161	Toxic Substances		Annual Certification by a responsible official.
175 - 181	Procedures And Requirements For Permits Establishing A Facility Emissions Cap	The facility is currently permitted under a facility emission cap (FEC). This PTC will eliminate the FEC, and once approved, the facility will no longer be subject to these requirements.	
200 - 203	Procedures And Requirements For Permits To Construct	A permit to construct must be obtained prior to the commencement of construction or modification of any stationary source, facility, major facility or major modification.	
206 - 213	Procedures And Requirements For Permits To Construct	A permit to construct must be obtained prior to the commencement of construction or modification of any stationary source, facility, major facility or major modification.	
220 - 223	General Exemption Criteria for Permit to Construct Exemptions		Annual Certification by a responsible official.
224 - 228	Procedures And Requirements For Permits To Construct		Annual Certification by a responsible official.
510 - 516	Stack Heights And Dispersion Techniques		Annual Certification by a responsible official. Facility does not rely on a stack height in excess of GEP stack height in its dispersion modeling analysis.
561	General Rules		Annual Certification by a responsible official.
562	Specific Emergency Episode Abatement Plans For Point Sources		Annual Certification by a responsible official.
585	Toxic Air Pollutants Non-carcinogenic Increments		Annual Certification by a responsible official.
586	Toxic Air Pollutants Carcinogenic Increments		Annual Certification by a responsible official.

Regulatory Citation	Applicable Requirement*	Required Monitoring, Recordkeeping, Reporting or Test Methods	Proposed Monitoring, Recordkeeping, Reporting or Test Methods Adequate to Assure Compliance
587	Listing Or Delisting Toxic Air Pollutant Increments		Annual Certification by a responsible official.
590	New Source Performance Standards		Annual Certification by a responsible official.
600	Rules For Control of Open Burning		Annual Certification by a responsible official.
601	Fire Permits, Hazardous Materials, And Liability		Annual Certification by a responsible official.
602	Nonpreemption of Other Jurisdictions		Annual Certification by a responsible official.
603	General Restrictions		Annual Certification by a responsible official.
606	Categories of Allowable Burning		Annual Certification by a responsible official.
607	Recreational And Warming Fires		Annual Certification by a responsible official.
609	Training Fires		Annual Certification by a responsible official.
625	Visible Emissions		Annual Certification by a responsible official.
650	Rules For Control of Fugitive Dust		Annual Certification by a responsible official.
651	General Rules		Annual Certification by a responsible official.
700	Particulate Matter -- Process Weight Limitations		Annual Certification by a responsible official.
701	Particulate Matter -- New Equipment Process Weight Limitations		Annual Certification by a responsible official.
725	Rules For Sulfur Content of Fuels.	Maintain fuel oil supplier certification records verifying compliance with ASTM D 396-05.	
775 - 776	Rules For Control of Odors		Annual Certification by a responsible official.
Federal Requirements			
40 CFR 52 Subpart NN	Idaho State SIP		Annual Certification by a responsible official.
40 CFR 60 Subpart IIII	New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units	Applies to 1000 kW emergency generator only. Maintain a record of the time of operation of the engine and the reason the engine was in operation during that time.	
40 CFR 82 Subparts E	Protection of stratospheric ozone – labeling of products containing		Annual Certification by a responsible official.
40 CFR 82 Subparts F	Protection of stratospheric ozone – recycling and emissions reduction		Annual Certification by a responsible official.

* All applicable requirements apply facility wide with the exception of 40 CFR 60 Subpart IIII, which applies only to the,1,000 kW Kohler emergency generator.

ATTACHMENT A

ALK-ABELLÓ SOURCE MATERIALS, INC.

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005 - 011	Definitions		Annual Certification by a responsible official.
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121	Compliance Requirements by Department		Annual Certification by a responsible official.
122	Information Orders by the Department		Annual Certification by a responsible official.
123	Certification of Documents	Certification by a responsible individual of all documents, including but not limited to, application forms for permits to construct, application forms for operating permits, progress reports, records, monitoring data, supporting information, requests for confidential treatment, testing reports or compliance certifications submitted to the Department. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.	
124	Truth, Accuracy And Completeness of Documents		Annual Certification by a responsible official.
125	False Statements		Annual Certification by a responsible official.
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132	Correction of Condition		Annual Certification by a responsible official.
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134	Upset, Breakdown And Safety Requirements		
134.02	Excess Emissions Minimization and Notification	Notify the Department of any upset/breakdown/safety event that results in excess emissions no later than twenty-four hours after the event.	
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134.05	Amendments to Procedures.	Amend the procedures from time to time to ensure that the procedures are and remain consistent with good pollution control practices.	
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140 - 149	Variances		Annual Certification by a responsible official.
155	Circumvention		Annual Certification by a responsible official.
156	Total Compliance		Annual Certification by a responsible official.
157	Test Methods And Procedures	Any source test performed to satisfy a performance test requirement imposed by state or federal regulation, rule, permit, order, or consent decree, must be conducted as specified.	

Regulatory Citation	Applicable Requirement*	Required Monitoring, Recordkeeping, Reporting or Test Methods	Proposed Monitoring, Recordkeeping, Reporting or Test Methods Adequate to Assure Compliance
157.04	Reporting Requirements	For any source test performed to satisfy a performance test requirement imposed by state or federal regulation, rule, permit, order, or consent decree, submit a written report to the Department within thirty (30) days of the completion of the test.	
160	Provisions Governing Specific Activities And Conditions		Annual Certification by a responsible official.
161	Toxic Substances		Annual Certification by a responsible official.
175 - 181	Procedures And Requirements For Permits Establishing A Facility Emissions Cap	The facility is currently permitted under a facility emission cap (FEC). This PTC will eliminate the FEC, and once approved, the facility will no longer be subject to these requirements.	
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220 - 223	General Exemption Criteria for Permit to Construct Exemptions		Annual Certification by a responsible official.
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510 - 516	Stack Heights And Dispersion Techniques		Annual Certification by a responsible official. Facility does not rely on a stack height in excess of GEP stack height in its dispersion modeling analysis.
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562	Specific Emergency Episode Abatement Plans For Point Sources		Annual Certification by a responsible official.
585	Toxic Air Pollutants Non-carcinogenic Increments		Annual Certification by a responsible official.
586	Toxic Air Pollutants Carcinogenic Increments		Annual Certification by a responsible official.

Regulatory Citation	Applicable Requirement*	Required Monitoring, Recordkeeping, Reporting or Test Methods	Proposed Monitoring, Recordkeeping, Reporting or Test Methods Adequate to Assure Compliance
587	Listing Or Delisting Toxic Air Pollutant Increments		Annual Certification by a responsible official.
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601	Fire Permits, Hazardous Materials, And Liability		Annual Certification by a responsible official.
602	Nonpreemption of Other Jurisdictions		Annual Certification by a responsible official.
603	General Restrictions		Annual Certification by a responsible official.
606	Categories of Allowable Burning		Annual Certification by a responsible official.
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609	Training Fires		Annual Certification by a responsible official.
625	Visible Emissions		Annual Certification by a responsible official.
650	Rules For Control of Fugitive Dust		Annual Certification by a responsible official.
651	General Rules		Annual Certification by a responsible official.
700	Particulate Matter -- Process Weight Limitations		Annual Certification by a responsible official.
701	Particulate Matter -- New Equipment Process Weight Limitations		Annual Certification by a responsible official.
725	Rules For Sulfur Content of Fuels.	Maintain fuel oil supplier certification records verifying compliance with ASTM D 396-05.	
775 - 776	Rules For Control of Odors		Annual Certification by a responsible official.
Federal Requirements			
40 CFR 52 Subpart NN	Idaho State SIP		Annual Certification by a responsible official.
40 CFR 60 Subpart IIII	New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units	Applies to 1000 kW emergency generator only. Maintain a record of the time of operation of the engine and the reason the engine was in operation during that time.	
40 CFR 82 Subparts E	Protection of stratospheric ozone – labeling of products containing		Annual Certification by a responsible official.
40 CFR 82 Subparts F	Protection of stratospheric ozone – recycling and emissions reduction		Annual Certification by a responsible official.

* All applicable requirements apply facility wide with the exception of 40 CFR 60 Subpart IIII, which applies only to the,1,000 kW Kohler emergency generator.

TABLE 2: FEDERAL AND IDAHO STATE NON-APPLICABLE REQUIREMENTS

Regulatory Citation	Requirement	Explanation of Non-Applicability
IDAPA 58.01.01 - Rules for the Control of Air Pollution in Idaho		
000	Legal Authority	Applies to Board of Environmental Quality only.
001	Title and Scope	Administrative description of Rules
002	Written Interpretations	Administrative discussion of interpretation of rules.
012 - 105	*(Reserved)*	
108 - 120	*(Reserved)*	
129	*(Reserved)*	
137 - 139	*(Reserved)*	
150 - 154	*(Reserved)*	
158 - 159	*(Reserved)*	
162	Modifying Physical Conditions	Administrative function of Board
163	Source Density	Administrative function of Board
164	Polychlorinated Biphenyls (PCBs)	Facility does not burn any materials containing PCBs
165 - 174	*(Reserved)*	
182 - 199	*(Reserved)*	
204 - 205	Permit Requirements for Major Facilities of Major Modifications	Facility is not a major facility.
214	Demonstration of Preconstruction Compliance for New and Reconstructed Major Sources of Hazardous Air Pollutants	Facility is not a major source of hazardous air pollutants.
215	Mercury Emission Standards for New or Modified Sources	Facility does not result in an increase in annual potential emissions of mercury of twenty-five pounds or more.
216 - 219	*(Reserved)*	
229 - 299	*(Reserved)*	
300 - 397	Procedures And Requirements For Tier I Operating Permits	Facility is not a major source and thus not subject to Tier I permitting.
388 - 399	*(Reserved)*	
400 - 410	Procedures And Requirements For Tier II Operating Permits	Facility is not requesting a Tier II operating permit.
411 - 439	*(Reserved)*	
440	Requirements For Alternative Emission Limits (Bubbles)	Facility is not proposing an alternative emission limit.
441	Demonstration of Ambient Equivalence	Facility is not proposing emission trades.
442 - 459	*(Reserved)*	
460	Requirements For Emission Reduction Credit	Facility is not requested emission reduction credits.
461	Requirements For Banking Emission Reduction Credits (ERC's)	Facility is not requesting to bank emission reduction credits.
462 - 499	*(Reserved)*	
500	Registration Procedures And Requirements For Portable Equipment	Facility does not operate portable equipment
501 - 509	*(Reserved)*	
517 - 526	Motor Vehicle Inspection And Maintenance Program	Requirements apply to specified counties, not individual sources.
527 - 549	*(Reserved)*	

Regulatory Citation	Requirement	Explanation of Non-Applicability
550 - 560	Air Pollution Emergency Rule	Administrative rules defining air pollution emergencies.
563 - 574	Transportation Conformity	Administrative rules for adoption and implementation of CAA Section 176 (c) and 23 USC 109(j).
575 - 582	Air Quality Standards And Area Classification	Rules requiring the state to establish ambient air quality standards and classification areas
583 - 584	*(Reserved)*	
588 - 589	*(Reserved)*	
591	National Emission Standards For Hazardous Air Pollutants	The facility does not fall under any National Emission Standards for Hazardous Air Pollutants under 40 CFR 61 or 40 CFR 63.
592 - 598	Stage 1 Vapor Collection	Facility does not meet applicability requirements.
599	Gasoline Cargo Tanks	Facility does not operate gasoline cargo tanks.
604 - 605	*(Reserved)*	
608	Weed Control Fires	Facility does not utilize weed control fires.
610	Industrial Flares	Facility does not contain industrial flares.
611	Residential Solid Waste Disposal Fires	Facility is not a residential facility.
612	Landfill Disposal Site Fires	Facility is not a landfill disposal site.
613	Orchard Fires	Facility does not utilize orchard fires.
614	Prescribed Burning	Facility does not perform prescribed burning.
615	Dangerous Material Fires	Facility does not conduct dangerous materials burning.
616	Infectious Waste Burning	Facility does not handle infectious waste.
617 - 623	Crop Residue Disposal	Facility dos not conduct crop residue burning.
626	General Restrictions On Visible Emissions From Wigwam Burners	Facility does not utilize wigwam burners
627 - 649	*(Reserved)*	
652 - 664	*(Reserved)*	
665 - 668	Regional Haze Rules	Facility is not located in a Class 1 Area
669 - 674	*(Reserved)*	
676 - 681	Fuel Burning Equipment - Particulate Matter	No sources at the facility were constructed prior to October 1, 1979 and all facility boilers a maximum rated heat input less than 10 MMBtu / hr or more.
682 - 699	*(Reserved)*	
702 - 703	Particulate Matter -- Existing Equipment Process Weight Limitations	Facility was constructed after the October 1, 1979 applicability date.
704 - 724	*(Reserved)*	
726 - 749	*(Reserved)*	
750 - 751	Rules For Control of Fluoride Emissions	Facility does not include a phosphate fertilizer plant.
752 - 759	*(Reserved)*	
760 - 764	Rules For The Control of Ammonia From Dairy Farms	Facility does not include a dairy farm.
765 - 774	*(Reserved)*	
777 - 784	*(Reserved)*	
785 - 787	Rules For Control of Incinerators	Facility does not include an incinerator.
788 - 789	*(Reserved)*	
790 - 799	Rules For The Control of Nonmetallic Mineral Processing Plants	Facility does not include a nonmetallic mineral processing plant.

Regulatory Citation	Requirement	Explanation of Non-Applicability
800 - 802	Registration Fee For Permit By Rule	Facility does not include any operations covered by a permit by rule.
803 - 804	*(Reserved)*	
805 - 808	Rules For Control of Hot-Mix Asphalt Plants	Facility does not include a hot-mix asphalt plant.
809 - 814	*(Reserved)*	
815 - 826	Rules For Control of Kraft Pulping Mills	Facility does not include a kraft pulping mill.
827 - 834	*(Reserved)*	
835 - 839	Rules For Control of Rendering Plants	Facility does not include a rendering plant.
840 - 844	*(Reserved)*	
845 - 848	Rules For Control of Sulfur Oxide Emissions From Sulfuric Acid Plants	Facility does not include a sulfuric acid plant.
849 - 854	*(Reserved)*	
855 - 858	Combined Zinc And Lead Smelters	Facility does not include a combined zinc and lead smelter.
859 - 860	Standards of Performance For Municipal Solid Waste Landfills	Facility does not include a municipal solid waste landfill.
861 - 862	Standards of Performance For Hospital/Medical/Infectious Waste Incinerators	Facility does not include hospital/medical/infectious waste incinerator.
863 - 999	*(Reserved)*	
Federal Requirements		
40 CFR 52.21	Prevention of Significant Deterioration (PSD)	Facility is not a major source, thus PSD requirements do not apply.
40 CFR 60	New Source Performance Standards (NSPS), except 40 CFR 60 Subpar IIII	Facility does not contain specified sources except for a small industrial-commercial-institutional steam generating unit which falls under 40 CFR 60 Subpart IIII.
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units	Facility does not operate steam generating units greater than 10 MMBtu/hr.
40 CFR 61	National Emission Standards for Hazardous Air Pollutants (NESHAPS)	Facility does not contain or process specified toxic chemicals.
40 CFR 63	National Emission Standards for Hazardous Air Pollutants (NESHAP), except as designated below	Facility not subject to these standards except as listed below.
40 CFR 63 Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.	According to Subpart ZZZZ, §63.6590(c)(1), as a new stationary RICE located at an area source meeting the requirements of 40 CFR 60 Subpart IIII, no further requirements apply under this subpart.
40 CFR 63 Subpart JJJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources	Facility is not subject to this rule as the facility utilizes only gas-fired boilers as defined in the regulation.
40 CFR 64	Compliance Assurance Monitoring	Facility is not a major facility having at least one controlled emission with pre-control emissions in excess of the major source threshold.
40 CFR 68	Chemical Accident Prevention Provisions	Facility does not use regulated materials above threshold quantities, thus the Chemical Accident Prevention Provisions do not apply.
40 CFR 70	Standard permit requirements	Facility is not a major source, and thus not required to obtain a Title V operating permit.

40 CFR 60 Subpart IIII

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Source: 71 FR 39172, July 11, 2006, unless otherwise noted.

What This Subpart Covers

§ 60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

ALK-Abelló operates one Kohler Model 1000REOZDC generator with a displacement of less than 30 liters per cylinder, constructed in 2007, and is thus subject to Subpart IIII requirements. The generator is for emergency backup service only. ALK-Abelló does

not meet the exemptions listed in §60.4200(b)-(e).

Emission Standards for Manufacturers

§ 60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the Federal Aid Highway System (FAHS); and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

ALK-Abelló is not a stationary compressed ignition internal combustion engine manufacturer, and thus the requirements of §60.4201 are not applicable.

§ 60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) [Reserved]

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater

than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;

(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and

(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the FAHS; and

(2) Marine offshore installations.

(h) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (f) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

ALK-Abelló is not a stationary compressed ignition internal combustion engine manufacturer, and thus the requirements of §60.4202 are not applicable.

§ 60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

ALK-Abelló is not a stationary compressed ignition internal combustion engine manufacturer, and thus the requirements of §60.4203 are not applicable.

Emission Standards for Owners and Operators

§ 60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart.

Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $9.0 \cdot n^{-0.20}$ g/KW-hr ($6.7 \cdot n^{-0.20}$ g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in §60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

ALK-Abelló does not operate any non-emergency engines. As defined in this §63.4219, ALK-Abelló operates one emergency standard internal combustion engine. Thus the requirements of §60.4204 are not applicable.

§ 60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of

less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

ALK-Abelló does not operate any stationary compression ignition internal combustion engines with a model year pre-2007.

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

ALK-Abelló operates one 2007 model year or later emergency stationary compressed ignition internal combustion engine with a displacement of less than 30 liters per cylinder, and is thus subject to the emission standards in §60.4202. Manufacturer certification is on file at facility.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

ALK-Abelló does not operate any fire pump engines.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$g/KW-hr ($34 \cdot n^{-0.2}$g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$g/KW-hr ($33 \cdot n^{-0.23}$g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

ALK-Abelló does not operate any stationary compressed ignition engines with a displacement of greater than or equal to 30 liters per cylinder.

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in §60.4212.

ALK-Abelló is not required to conduct performance tests pursuant to §60.4211.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

ALK-Abelló does not operate any modified or reconstructed stationary compression ignition internal combustion engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§ 60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 over the entire life of the engine.

ALK-Abelló acknowledges that the emission standards as required in §60.4205 must be met over the entire life of the engine.

[76 FR 37969, June 28, 2011]

Fuel Requirements for Owners and Operators

§ 60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

As an owner and operator of a stationary compression ignition internal combustion engine subject to this subpart, beginning June 1, 2007, ALK-Abelló must meet the following per gallon standards, according to 40 CFR 80.510(a):

(1) Sulfur content. 500 parts per million (ppm) maximum.

(2) Cetane index or aromatic content, as follows:

(i) A minimum cetane index of 40; or

(ii) A maximum aromatic content of 35 volume percent.

Documentation is maintained at the facility.

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must purchase diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel.

As of June 1, 2010, ALK-Abelló must meet the following per gallon standards, according to 40 CFR 80.510(b):

(1) Sulfur content. 15 ppm maximum for nonroad diesel fuel.

(2) Cetane index or aromatic content, as follows:

(i) A minimum cetane index of 40; or

(ii) A maximum aromatic content of 35 volume percent.

Documentation is maintained at the facility.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

ALK-Abelló does not operate as stationary compressed ignition internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder.

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

ALK-Abelló does not have a national security exemption under §60.4200(d), thus this exemption does not apply.

Other Requirements for Owners and Operators

§ 60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

ALK-Abelló acknowledges the requirements for importing or installing stationary compressed ignition internal combustion engines produced in previous model years.

§ 60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does

not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

The ALK-Abelló emergency generator is equipped with a non-resettable hour meter, which was installed prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

As an emergency stationary compression ignition internal combustion engine, the ALK-Abelló generator is not subject to the emission standards of §60.4204.

Compliance Requirements

§ 60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and (e) and §60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89, 40 CFR part 94 or 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the

labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate, but the words "stationary" must be included instead of "nonroad" or "marine" on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR parts 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words "and stationary" after the word "nonroad" or "marine," as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as "Fire Pump Applications Only".

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or

engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

ALK-Abelló is not a stationary compression ignition internal combustion engine manufacturer, and thus the requirements of §60.4210 are not applicable.

§ 60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

As the owner or operator of a stationary compression ignition internal combustion engine, ALK-Abelló operates in compliance with the requirements of §60.4211(a)(1)-(2).

The emergency generator does not meet the applicability requirements for "nonroad" compression ignition engines under 40 CFR part 89, nor the applicability requirements of "marine" compression ignition engines in 40 CFR part 94. The emergency generator does not meet the applicability requirements under 40 CFR 1068, as the engine does not require performance testing or certification using the provisions of 40 CFR 1039 as indicated in this subpart (40 CFR 60 Subpart IIII).

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards

according to the requirements specified in §60.4212, as applicable.

ALK-Abelló does not operate any stationary compressed ignition internal combustion engine with a model year pre-2007, and is thus not subject to the requirements of §60.4211(b).

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

As the owner or operator of a 2007 model year and later stationary compressed ignition internal combustion engine, ALK-Abelló has purchased an engine certified to the emission standards in §60.4205(b). Manufacturer certification is on file at facility.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO_X and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_X and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

ALK-Abelló does not operate any stationary compression ignition engines with a displacement of greater than or equal to 30 liters per cylinder, and is thus not subject to the requirements of §60.4205(d).

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(e) or §60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this

section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4204(e) or §60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4212 or §60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

ALK-Abelló does not operate any modified or reconstructed stationary compressed ignition internal combustion engines.

(f) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. Emergency stationary ICE may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply non-emergency power as part of a financial arrangement with another entity. For owners and operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as permitted in this section, is prohibited.

ALK Abelló recognizes that operation of the emergency stationary internal combustion engine for maintenance checks and readiness testing is limited to 100 hours per year.

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable,

maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011]

The ALK-Abelló engine is installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions. Therefore, §60.4211(g) does not apply.

Testing Requirements for Owners and Operators

§ 60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year

engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

ALK-Abelló is not required to conduct performance tests pursuant to §60.4211.

§ 60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 2)}$$

Where:

C_i= concentration of NO_Xor PM at the control device inlet,

C_o= concentration of NO_Xor PM at the control device outlet, and

R = percent reduction of NO_Xor PM emissions.

(2) You must normalize the NO_Xor PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{adj} = C_d \frac{5.9}{20.9 - \%O_2} \qquad \text{(Eq. 3)}$$

Where:

C_{adj}= Calculated NO_Xor PM concentration adjusted to 15 percent O_2.

C_d= Measured concentration of NO_Xor PM, uncorrected.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2correction value, percent.

$\%O_2$= Measured O_2concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent $O_2$and CO_2concentration is measured in

lieu of O_2concentration measurement, a CO_2correction factor is needed. Calculate the CO_2correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific $F_o$value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209_E}{F_c} \quad \text{(Eq. 4)}$$

Where:

F_o= Fuel factor based on the ratio of O_2volume to the ultimate CO_2volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2, percent/100.

F_d= Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

F_c= Ratio of the volume of CO_2produced to the gross calorific value of the fuel from Method 19, dsm^3 /J (dscf/10^6 Btu).

(ii) Calculate the CO_2correction factor for correcting measurement data to 15 percent O_2, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad \text{(Eq. 5)}$$

Where:

X_{CO2}= CO_2correction factor, percent.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2correction value, percent.

(iii) Calculate the $NO_X$and PM gas concentrations adjusted to 15 percent O_2using CO_2as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad \text{(Eq. 6)}$$

Where:

C_{adj}= Calculated NO_Xor PM concentration adjusted to 15 percent O_2.

C_d= Measured concentration of NO_Xor PM, uncorrected.

$\%CO_2$= Measured CO_2concentration, dry basis, percent.

(e) To determine compliance with the NO_Xmass per unit output emission limitation, convert the concentration of NO_Xin the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{\text{KW-hour}} \quad \text{(Eq. 7)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_d= Measured NO_Xconcentration in ppm.

1.912×10^{-3}= Conversion constant for ppm $NO_X$to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the

concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{\text{KW-hour}} \quad \text{(Eq 8)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj}= Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

ALK-Abelló does not operate any stationary compressed ignition engines with a displacement of greater than or equal to 30 liters per cylinder, and is thus not subject to the requirements of §60.4213.

Notification, Reports, and Records for Owners and Operators

§ 60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

ALK-Abelló does not operate a non-emergency stationary compressed ignition internal combustion engine and is thus not subject to the requirements of §60.4214(a).

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency

engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

As ALK-Abelló operates an emergency stationary internal combustion engine, no initial notification is required. The internal combustion engine does not fall within the model years listed in Table 5. Thus, no recordkeeping or reporting is required.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

The ALK-Abelló stationary compressed ignition internal combustion engine is not equipped with a diesel particulate filter.

Special Requirements

§ 60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§60.4202 and 60.4205.

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in §60.4207.

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

The ALK-Abelló internal combustion engine is located in Post Falls, Idaho and thus not subject to the requirements of §60.4215.

§ 60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than

30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in areas of Alaska not accessible by the FAHS may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in sections §§60.4201(f) and 60.4202(g) of this subpart.

(c) Manufacturers, owners and operators of stationary CI ICE that are located in areas of Alaska not accessible by the FAHS may choose to meet the applicable emission standards for emergency engines in §60.4202 and §60.4205, and not those for non-emergency engines in §60.4201 and §60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in §60.4201 and §60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of §60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS.

(e) The provisions of §60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and §60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011]

The ALK-Abelló internal combustion engine is located in Post Falls, Idaho and thus not subject to the requirements of §60.4216.

§ 60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4204 or §60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

The ALK-Abelló engine does not use special fuels, and thus is not subject to the requirements of §60.4217.

General Provisions

§ 60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

ALK-Abelló acknowledges the general provisions listed in Table 8 as applicable to the internal combustion engine, except that §60.8 and §60.13 do not apply since the

emergency generator does not have a displacement ≥ 30 liters per cycle, and §60.7 does not apply as the generator is not subject to §60.4214(a).

Definitions

§ 60.4219 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Engine manufacturer means the manufacturer of the engine. See the definition of "manufacturer" in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

Installed means the engine is placed and secured at the location where it is intended to be operated.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means the calendar year in which an engine is manufactured (see "date of manufacture"), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see "date of manufacture"), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see "date of manufacture").

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

ALK-Abelló acknowledges the definitions above as applicable to the internal combustion engine.

Subpart means 40 CFR part 60, subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007–2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007–2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 2 to Subpart IIII of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder
[As stated in §60.4202(a)(1), you must comply with the following emission standards]

	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
Engine power	Model year(s)	NO_X+ NMHC	CO	PM
KW<8 (HP<11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines
As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202(d)[1]
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

[1]Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC + NO_X	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011+	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+[1]	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+[1]	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+[2]	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+[3]	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+[3]	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

[1]For model years 2011–2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

[2]For model years 2010–2012. manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

[3]In model years 2009–2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in §60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode No.	Engine speed[1]	Torque (percent)[2]	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

[1]Engine speed: ±2 percent of point.

[2]Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

[As stated in §60.4213, you must comply with the following requirements for performance tests for stationary CI ICE with a displacement of ≥30 liters per cylinder:]

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a displacement of ≥30 liters per cylinder	a. Reduce NO_X emissions by 90 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for NO_X concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO_X concentration.
		iv. Measure NO_X at the inlet and outlet of the control device	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO_Xin the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. (continued)	b. (continued)	ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location; and,	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurement for NO_X concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and,	(3) Method 4 of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_X concentration.
		iv. Measure NO_X at the exhaust of the stationary internal combustion engine	(4) Method 7E of 40 CFR part 60, appendix A, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348–03 (incorporated by reference, see §60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.

For each	Complying with the requirement to	You must	Using	According to the following requirements
1. (continued)	c. (continued)	iv. Measure PM at the inlet and outlet of the control device	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2concentration of the stationary internal combustion engine exhaust at the sampling port location; and	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A	(b) Measurements to determine O_2concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine	(4) Method 5 of 40 CFR part 60, appendix A	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4219.
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4214(a).
§60.8	Performance tests	Yes	Except that §60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	Yes	Except that §60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

ATTACHMENT 1.0

PROJECT DESCRIPTION

1.1 PROJECT BACKGROUND

1.2 PROCESS DESCRIPTION

1.2.1 Boilers
1.2.2 Electric Generator
1.2.3 Makeup Air Handler
1.2.4 Small Scale Manufacturing
1.2.5 US Mites production
1.2.6 Tablet Pollen Area (Large Scale Pollen Processing)
1.2.7 Mitizax Dust Mite (Large Scale Mite Processing)
1.2.8 Source Material Development (SMD) Labs
1.2.9 Quality Control Labs
1.2.10 House Vacuum Systems

FIGURES

1.0 PROJECT DESCRIPTION

1.1 PROJECT BACKGROUND

This project is to remodel the Tablet Processing production area permitted under PTC P-2008.01.176 and to correct or add any changes in permitted equipment.

ALK-Abelló Source Materials, Inc (ALK) operates an allergen source material purification facility in an industrial park on Lochsa Street in Post Falls, Idaho. The facility receives and purifies harvested pollens, hairs, insects, and other allergenic materials from various sources for further processing elsewhere to produce a vaccine for individuals with allergies. Two additional processes at the facility involve the growing, harvesting and purification of dust mites for similar processing into a vaccine at other facilities.

The facility was constructed under PTC P-2008.01.176 and is a minor source of air pollutant emissions, for which the appropriate permit is a Permit to construct, pursuant to IDAPA 58.01.01.200. To obtain the maximum operating flexibility, ALK requested a Facility Emission Cap (FEC) permit, pursuant to IDAPA 58.01.01.176-181. Modifications and additions to the permitted equipment have been installed during the term of the permit with notification and approval from DEQ. A greenhouse is also located on-site and is used to grow difficult to collect pollens and start plants for transplant in order to extend the growing season. In July 2012 the FEC permit was converted to a stand-alone permit to construct.

The primary function of the facility is to purify allergens and in the case of dust mites, grow and then purify the allergens.

Emission control equipment includes MERV 15 Cartridge Baghouses on the Minox Sieve and the TPA Dust Collector. High efficiency particulate air (HEPA) filters are present prior to discharge on the existing fluidized bed dryers, a filter dryer in the PD Lab, the TPA Process Hood, the Class 2 B2 Biological Safety Cabinet and the house vacuum used for facility cleanup. All facility emission rates are below the applicability thresholds of the PSD and non-attainment New Source Review programs.

1.2 PROCESS DESCRIPTION

1.2.1 Boilers

The facility includes five boilers – (i) two 125-hp, fire-tube, natural gas-fired package boilers (Cleaver Brooks), (ii) two stacked 300,000 BTU/hour condensing boilers in the Greenhouse and (iii) a 30 hp fire tube steam boiler used for humidification. Future plans include a third 125 hp Cleaver Brooks hydronic boiler used for facility heating. The rated heat input for each of the 125-hp boilers is 5.1 MMBTU/hr; maximum natural gas consumption is 4,860 cubic feet per hour. The 30-hp boiler has a rated heat input of 1.36 MMBTU/hr and will burn 1,295 cubic feet of natural gas per hour. The boilers will be equipped with low-NO_x burners. All boilers are

located in the Boiler Room, UTL-1007. The Cleaver Brooks boilers and are used exclusively to satisfy space heating needs, and will generate hot water, not steam. The stacks for the Cleaver Brooks boilers are 12 inches in diameter and discharge 39 feet above grade. The Burnham steam boiler is used for humidification purposes and has a 8" stack also discharging 39 feet above grade.

1.2.2 Electric Generator

A Kohler Power Systems 1000, diesel-fired, 1,000-kW electric generator is located in the Utility yard. The maximum diesel fuel firing rate is 71.3 gallons per hour. The unit provides back-up electricity to the facility in the event that the two primary power supplies are interrupted. In addition to emergency operation, it is tested for approximately ½ hour per week, under no load.

1.2.3 Makeup Air Handler

The main driver for this permit modification is the replacement of the TPA air handler, MAU-9. The current air handler has inadequate cooling capacity to control humidity and is being replaced with a new air handler with double the cooling capacity. The new air handler is a Governair Model WF-TL-43-18-E and compares to the existing MAU-9 as follows:

Unit	Heat Input	Cooling Input
MAU-9 (old)	400,000 btu/hr	195,400 btu/hr
MAU-9-1 (new)	450,000 btu/hr	395,553 btu/hr

1.2.4 Small Scale Manufacturing

Small Scale Manufacturing includes the small scale production facility for growing and processing U.S. Mites, as well as the processing for all other allergens that do not have an independent production facility. These include pollens, rusts, smuts, foods, insects, animal epidermal products, certain concentrated allergens, and various other environmental products. Activities included in allergen processing include grinding, sieving, defatting with acetone, ambient drying, vacuum drying, freeze drying, filtration, and infrequently, cleaning with perchloroethylene. Solvents used in the non-mite processing conducted in the SSM area include acetone used for defatting, isopropyl alcohol used for equipment cleaning and disinfection, and perchloroethylene used for cleaning pollens which cannot be cleaned by mechanical means. Figure 1-1 presents a flow diagram of the Small Scale Manufacturing process.

1.2.5 US Mite Manufacturing

The U.S. Mite processing area uses food grade glycerin and ethyl alcohol to clean and purify the mite product. The ethyl alcohol used is denatured with 5 percent methanol.

Figure 1-2 presents a general process flow diagram for the U.S. dust mite processing operations. Here, the mites will be grown, killed, and purified on a lab-scale or pilot-scale basis. A section of this area will house the preparation of the media that is used to feed the mites during their inoculation and incubation/cultivation stages.

The initial step in the US Mite process is to prepare the media that is used to feed the mites. The media is made up of multiple components, including yeast, and other nutrients. The components are mixed appropriately and then stored for future use.

The media is then dispensed into growing containers and an appropriate amount of live dust mites are added. The filled containers are then placed into an incubation chamber where the temperature and humidity are optimized to facilitate mite growth. After an appropriate growing time, the mites are killed by freezing and then stored in a freezer until purification. Mites are purified by density separation in glycerine followed by ethyl alcohol. The cleaned and purified mites are then stored until shipped to customers.

1.2.6 Tablet Pollen Area (TPA)

The Tablet Pollen Area is designed to process Timothy, Ragweed, and Birch pollens in a large scale production facility.

Pollen is collected using various methods and dried and precleaned in the field. The collected material is transported into the Post Falls facility where it is purified and dried using air and mechanical based methods. The purified pollen is stored until it is ready to be processed.

Processing involves suspending the pollen in acetone and mixing to effect removal of the lipid layer around the pollen grains. This may occur 1 or more times as needed to appropriately defat the pollen. Following defatting, the acetone is separated from the pollen by filtration and collected. The pollen is further dried to remove water and residual acetone. The acetone that is removed is collected and sold as a product.

The dry processed pollen powder may be further processed using air classification to remove contaminants and/or then packaged and stored until ready for shipment.

Figure 1-3 presents a general process flow diagram for the Tablet Pollen Area. It should be noted that the pollen collection and initial cleaning operations take place in the field, not at the Post Falls facility. The same equipment and processing methods are used for all pollens although Birch and Ragweed pollens require more acetone washes to adequately defat the pollen.

This project has added one additional fume hood to process the pollen however, the air flows through all the equipment connected to the TPA hood exhaust fan is lower than before thus reducing particulate emissions. The previous process contemplated 2 shifts per day through the single fume hood however we were unable to process more than 1 shift per day due to pollen drying requirements. The second fume hood allows ALK to process all required material in 1 work shift. We have also added hepa filtered recirculating particulate hoods to replace the hood connected to the dust collector, EF 9-1. While the dust collector is not currently in use, ALK intends to keep it permitted for future use as needed.

1.2.7 Mitizax Mites (MTX) Processing

The Mitizax Mites production process is a large scale but similar in concept to the U.S. Mites process. The process involves media preparation, mites inoculation, growth, killing, and cleaning. A Vector Fluid Bed dryer and a Minox Sieve are used to dry and mechanically clean the dust mites after growth. The fluid bed utilizes integral cartridge filters followed by a hepa filter system to remove particulate from emission stream. The Minox sieve includes a cyclone that is process equipment rather than emission controls. The cyclone recovers a specific allergen product from the sieving operation. Final emission control from the Minox is provided by baghouse EF 10-2 which contains MERV 15 filters. The final cleaning process uses glycerine and alcohol much like the US Mite process.

The air handling system in MITIZAX® purification 1 is being changed to add low wall air returns to facilitate air exchanges in the processing area. As a part of this change, we are adding a field built hood in one of the air returns to collect particulate which is generated during sampling of the final product. This hood is only used during the sampling operation and the rest of the time the hood will be closed so the air returns through the low wall opening. Due to building constraints, the low wall returns will require a new exhaust fan, designated as EF 10-4.

Figure 1-4 presents a general flow diagram for the Mitizax (MTX) Dust Mite process.

1.2.8 Source Material Development (SMD) Laboratories

The SMD labs are used to develop and pilot new processes and process improvements. All Small Scale production procedures may at some time be conducted in the SMD labs. Pilot scale equipment such as filter dryers, mechanical sieves, and fluidized bed dryers are contained in these labs but all emission points are through the fume hoods within the labs. The SMD labs will process pilot plant scale quantities of acetone, ethanol and methanol in the development of future plant scale processes and equipment. Emissions from this area are all collected by the laboratory fume hood collection system and will be intermittent.

1.2.9 Quality Control Laboratories

The QC labs consist of analytical and microbiological laboratories and will conduct chemical and physical testing on incoming, in process, and final products. They will use the normal laboratory chemicals including acids, bases, solvents, and reagents but in lab scale quantities. All chemical emissions will exit through laboratory fume hoods. Emissions of acetone, ethanol, methanol, and isopropyl alcohol will be measured and included with all other plant emissions as the emissions of these solvents are calculated as the difference between purchased and recovered quantities. This emission source is exempt under 222.01.a.

1.2.10 House Vacuum Systems

The facility includes one Spencer, vacuum system for housekeeping purposes. This unit contains 19 nylon filter bags with a total filter area of 75 square feet followed by a HEPA filter. The rated air flow is 500 scfm and operates at a vacuum of 8.4 inches of mercury.

Figure 1-1 ALK Small Scale Manufacturing Process Flow

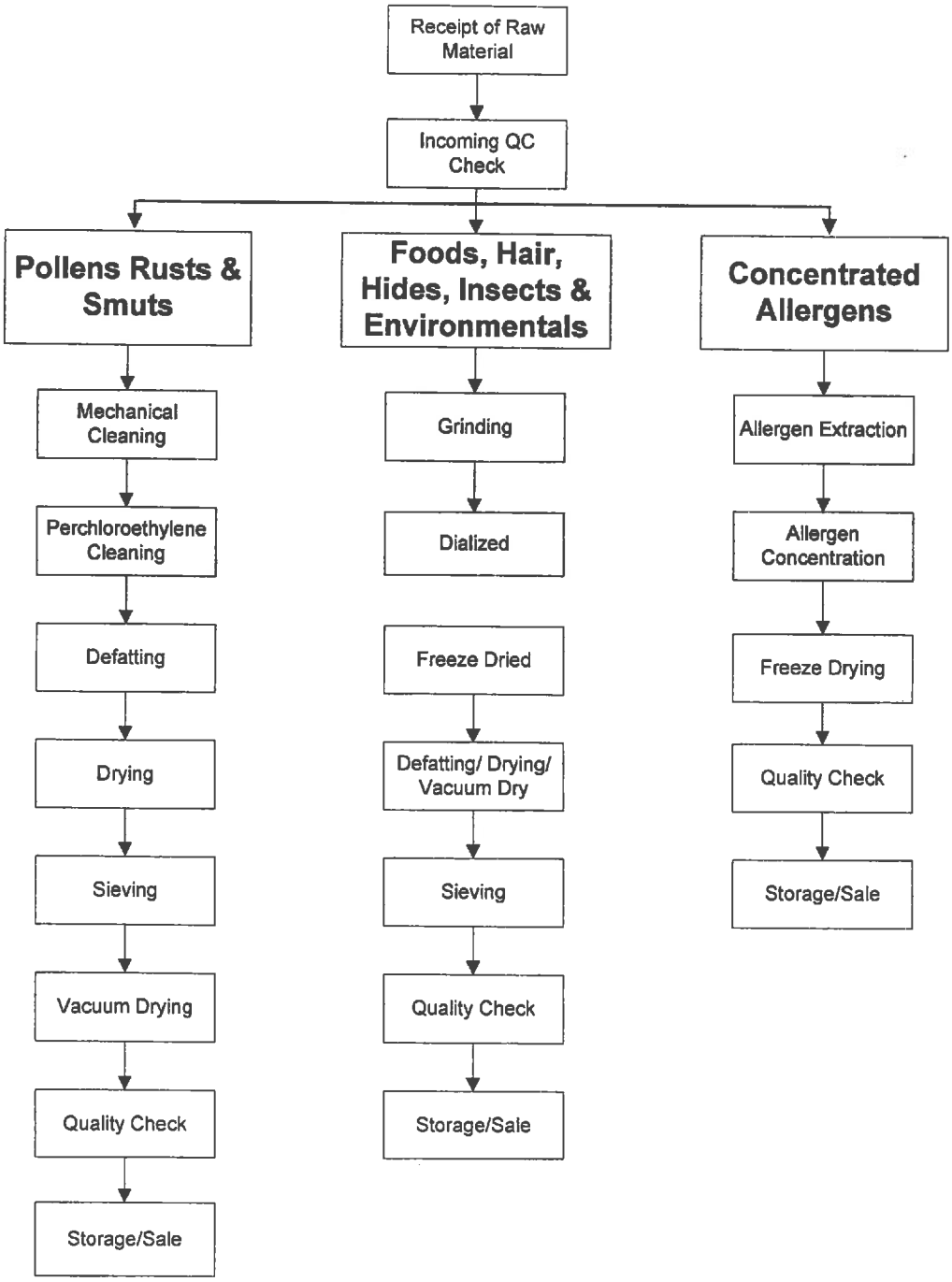
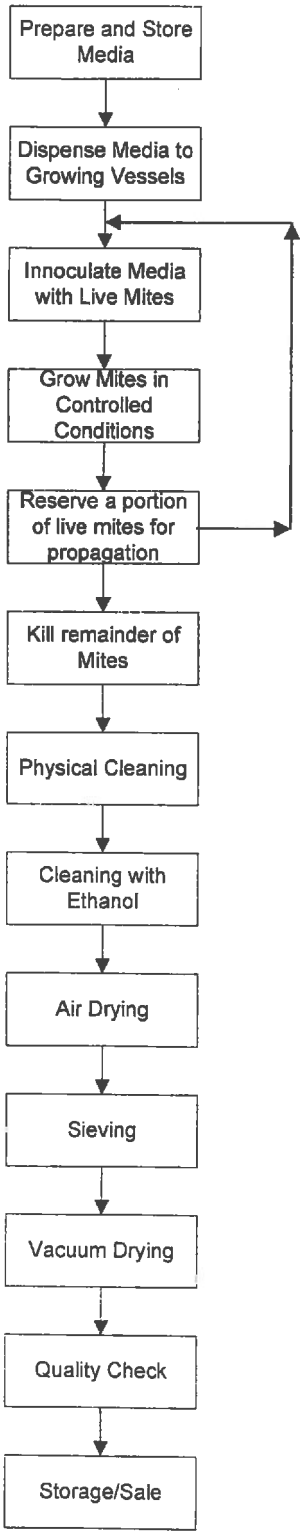


Figure 1-2 ALK US Mite Process Flow



ATTACHMENT 1.0

PROJECT DESCRIPTION

FIGURES

1.0 PROJECT DESCRIPTION

1.1 PROJECT BACKGROUND

This project is to remodel the Tablet Processing production area permitted under PTC P-2008.01.176 and to correct or add any changes in permitted equipment.

ALK-Abelló Source Materials, Inc (ALK) operates an allergen source material purification facility in an industrial park on Lochsa Street in Post Falls, Idaho. The facility receives and purifies harvested pollens, hairs, insects, and other allergenic materials from various sources for further processing elsewhere to produce a vaccine for individuals with allergies. Two additional processes at the facility involve the growing, harvesting and purification of dust mites for similar processing into a vaccine at other facilities.

The facility was constructed under PTC P-2008.01.176 and is a minor source of air pollutant emissions, for which the appropriate permit is a Permit to construct, pursuant to IDAPA 58.01.01.200. To obtain the maximum operating flexibility, ALK requested a Facility Emission Cap (FEC) permit, pursuant to IDAPA 58.01.01.176-181. Modifications and additions to the permitted equipment have been installed during the term of the permit with notification and approval from DEQ. A greenhouse is also located on-site and is used to grow difficult to collect pollens and start plants for transplant in order to extend the growing season. In July 2012 the FEC permit was converted to a stand-alone permit to construct.

The primary function of the facility is to purify allergens and in the case of dust mites, grow and then purify the allergens.

Emission control equipment includes MERV 15 Cartridge Baghouses on the Minox Sieve and the TPA Dust Collector. High efficiency particulate air (HEPA) filters are present prior to discharge on the existing fluidized bed dryers, a filter dryer in the PD Lab, the TPA Process Hood, the Class 2 B2 Biological Safety Cabinet and the house vacuum used for facility cleanup. All facility emission rates are below the applicability thresholds of the PSD and non-attainment New Source Review programs.

1.2 PROCESS DESCRIPTION

1.2.1 Boilers

The facility includes five boilers – (i) two 125-hp, fire-tube, natural gas-fired package boilers (Cleaver Brooks), (ii) two stacked 300,000 BTU/hour condensing boilers in the Greenhouse and (iii) a 30 hp fire tube steam boiler used for humidification. Future plans include a third 125 hp Cleaver Brooks hydronic boiler used for facility heating. The rated heat input for each of the 125-hp boilers is 5.1 MMBTU/hr; maximum natural gas consumption is 4,860 cubic feet per hour. The 30-hp boiler has a rated heat input of 1.36 MMBTU/hr and will burn 1,295 cubic feet of natural gas per hour. The boilers will be equipped with low-NO_x burners. All boilers are

Figure 1-3 Tablet Pollen Area Process Flow

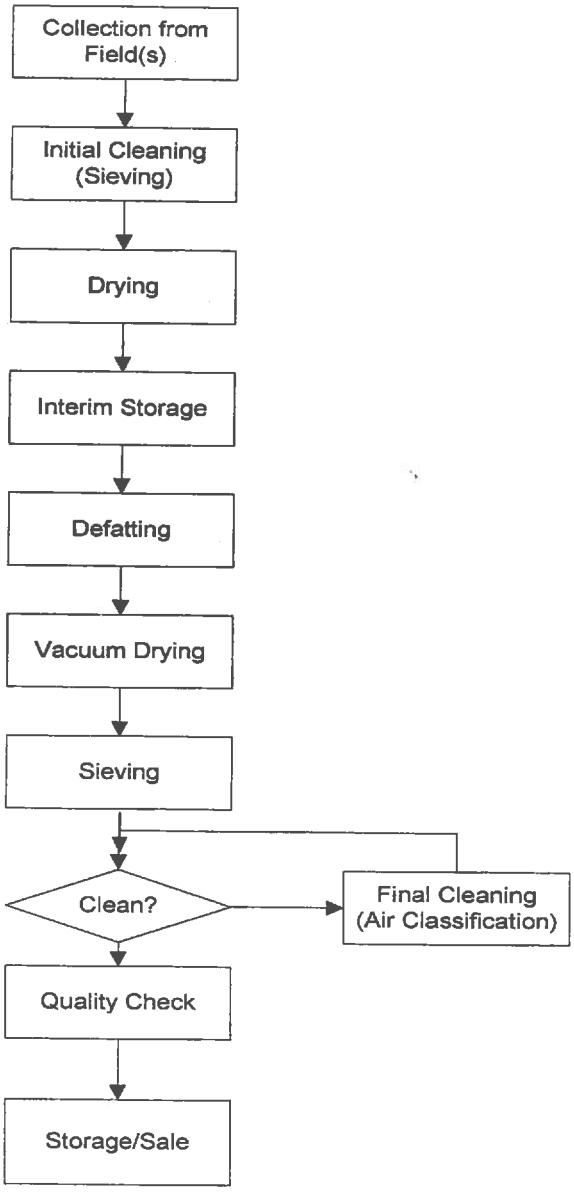
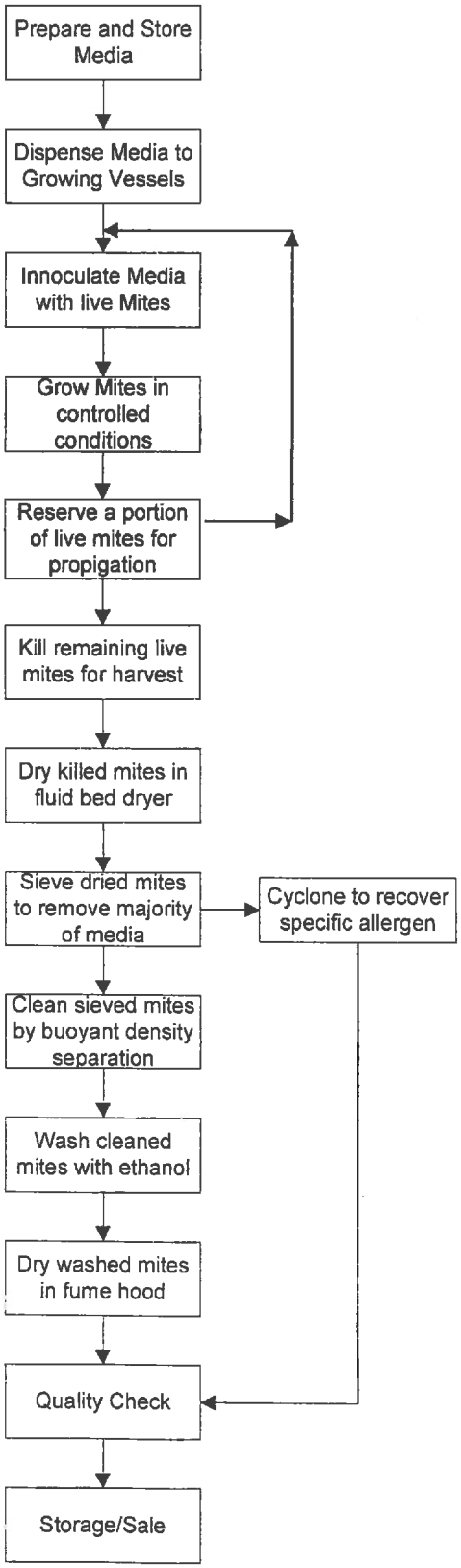


Figure 1-4 Mitizax Mite Processing Flow



located in the Boiler Room, UTL-1007. The Cleaver Brooks boilers and are used exclusively to satisfy space heating needs, and will generate hot water, not steam. The stacks for the Cleaver Brooks boilers are 12 inches in diameter and discharge 39 feet above grade. The Burnham steam boiler is used for humidification purposes and has a 8" stack also discharging 39 feet above grade.

1.2.2 Electric Generator

A Kohler Power Systems 1000, diesel-fired, 1,000-kW electric generator is located in the Utility yard. The maximum diesel fuel firing rate is 71.3 gallons per hour. The unit provides back-up electricity to the facility in the event that the two primary power supplies are interrupted. In addition to emergency operation, it is tested for approximately ½ hour per week, under no load.

1.2.3 Makeup Air Handler

The main driver for this permit modification is the replacement of the TPA air handler, MAU-9. The current air handler has inadequate cooling capacity to control humidity and is being replaced with a new air handler with double the cooling capacity. The new air handler is a Governair Model WF-TL-43-18-E and compares to the existing MAU-9 as follows:

Unit	Heat Input	Cooling Input
MAU-9 (old)	400,000 btu/hr	195,400 btu/hr
MAU-9-1 (new)	450,000 btu/hr	395,553 btu/hr

1.2.4 Small Scale Manufacturing

Small Scale Manufacturing includes the small scale production facility for growing and processing U.S. Mites, as well as the processing for all other allergens that do not have an independent production facility. These include pollens, rusts, smuts, foods, insects, animal epidermal products, certain concentrated allergens, and various other environmental products. Activities included in allergen processing include grinding, sieving, defatting with acetone, ambient drying, vacuum drying, freeze drying, filtration, and infrequently, cleaning with perchloroethylene. Solvents used in the non-mite processing conducted in the SSM area include acetone used for defatting, isopropyl alcohol used for equipment cleaning and disinfection, and perchloroethylene used for cleaning pollens which cannot be cleaned by mechanical means. Figure 1-1 presents a flow diagram of the Small Scale Manufacturing process.

1.2.5 US Mite Manufacturing

The U.S. Mite processing area uses food grade glycerin and ethyl alcohol to clean and purify the mite product. The ethyl alcohol used is denatured with 5 percent methanol.

Figure 1-2 presents a general process flow diagram for the U.S. dust mite processing operations. Here, the mites will be grown, killed, and purified on a lab-scale or pilot-scale basis. A section of this area will house the preparation of the media that is used to feed the mites during their inoculation and incubation/cultivation stages.

The initial step in the US Mite process is to prepare the media that is used to feed the mites. The media is made up of multiple components, including yeast, and other nutrients. The components are mixed appropriately and then stored for future use.

The media is then dispensed into growing containers and an appropriate amount of live dust mites are added. The filled containers are then placed into an incubation chamber where the temperature and humidity are optimized to facilitate mite growth. After an appropriate growing time, the mites are killed by freezing and then stored in a freezer until purification. Mites are purified by density separation in glycerine followed by ethyl alcohol. The cleaned and purified mites are then stored until shipped to customers.

1.2.6 Tablet Pollen Area (TPA)

The Tablet Pollen Area is designed to process Timothy, Ragweed, and Birch pollens in a large scale production facility.

Pollen is collected using various methods and dried and precleaned in the field. The collected material is transported into the Post Falls facility where it is purified and dried using air and mechanical based methods. The purified pollen is stored until it is ready to be processed.

Processing involves suspending the pollen in acetone and mixing to effect removal of the lipid layer around the pollen grains. This may occur 1 or more times as needed to appropriately defat the pollen. Following defatting, the acetone is separated from the pollen by filtration and collected. The pollen is further dried to remove water and residual acetone. The acetone that is removed is collected and sold as a product.

The dry processed pollen powder may be further processed using air classification to remove contaminants and/or then packaged and stored until ready for shipment.

Figure 1-3 presents a general process flow diagram for the Tablet Pollen Area. It should be noted that the pollen collection and initial cleaning operations take place in the field, not at the Post Falls facility. The same equipment and processing methods are used for all pollens although Birch and Ragweed pollens require more acetone washes to adequately defat the pollen.

This project has added one additional fume hood to process the pollen however, the air flows through all the equipment connected to the TPA hood exhaust fan is lower than before thus reducing particulate emissions. The previous process contemplated 2 shifts per day through the single fume hood however we were unable to process more than 1 shift per day due to pollen drying requirements. The second fume hood allows ALK to process all required material in 1 work shift. We have also added hepa filtered recirculating particulate hoods to replace the hood connected to the dust collector, EF 9-1. While the dust collector is not currently in use, ALK intends to keep it permitted for future use as needed.

1.2.7 Mitizax Mites (MTX) Processing

The Mitizax Mites production process is a large scale but similar in concept to the U.S. Mites process. The process involves media preparation, mites inoculation, growth, killing, and cleaning. A Vector Fluid Bed dryer and a Minox Sieve are used to dry and mechanically clean the dust mites after growth. The fluid bed utilizes integral cartridge filters followed by a hepa filter system to remove particulate from emission stream. The Minox sieve includes a cyclone that is process equipment rather than emission controls. The cyclone recovers a specific allergen product from the sieving operation. Final emission control from the Minox is provided by baghouse EF 10-2 which contains MERV 15 filters. The final cleaning process uses glycerine and alcohol much like the US Mite process.

The air handling system in MITIZAX® purification 1 is being changed to add low wall air returns to facilitate air exchanges in the processing area. As a part of this change, we are adding a field built hood in one of the air returns to collect particulate which is generated during sampling of the final product. This hood is only used during the sampling operation and the rest of the time the hood will be closed so the air returns through the low wall opening. Due to building constraints, the low wall returns will require a new exhaust fan, designated as EF 10-4.

Figure 1-4 presents a general flow diagram for the Mitizax (MTX) Dust Mite process.

1.2.8 Source Material Development (SMD) Laboratories

The SMD labs are used to develop and pilot new processes and process improvements. All Small Scale production procedures may at some time be conducted in the SMD labs. Pilot scale equipment such as filter dryers, mechanical sieves, and fluidized bed dryers are contained in these labs but all emission points are through the fume hoods within the labs. The SMD labs will process pilot plant scale quantities of acetone, ethanol and methanol in the development of future plant scale processes and equipment. Emissions from this area are all collected by the laboratory fume hood collection system and will be intermittent.

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The QC labs consist of analytical and microbiological laboratories and will conduct chemical and physical testing on incoming, in process, and final products. They will use the normal laboratory chemicals including acids, bases, solvents, and reagents but in lab scale quantities. All chemical emissions will exit through laboratory fume hoods. Emissions of acetone, ethanol, methanol, and isopropyl alcohol will be measured and included with all other plant emissions as the emissions of these solvents are calculated as the difference between purchased and recovered quantities. This emission source is exempt under 222.01.a.

1.2.10 House Vacuum Systems

The facility includes one Spencer, vacuum system for housekeeping purposes. This unit contains 19 nylon filter bags with a total filter area of 75 square feet followed by a HEPA filter. The rated air flow is 500 scfm and operates at a vacuum of 8.4 inches of mercury.

Figure 1-1 ALK Small Scale Manufacturing Process Flow

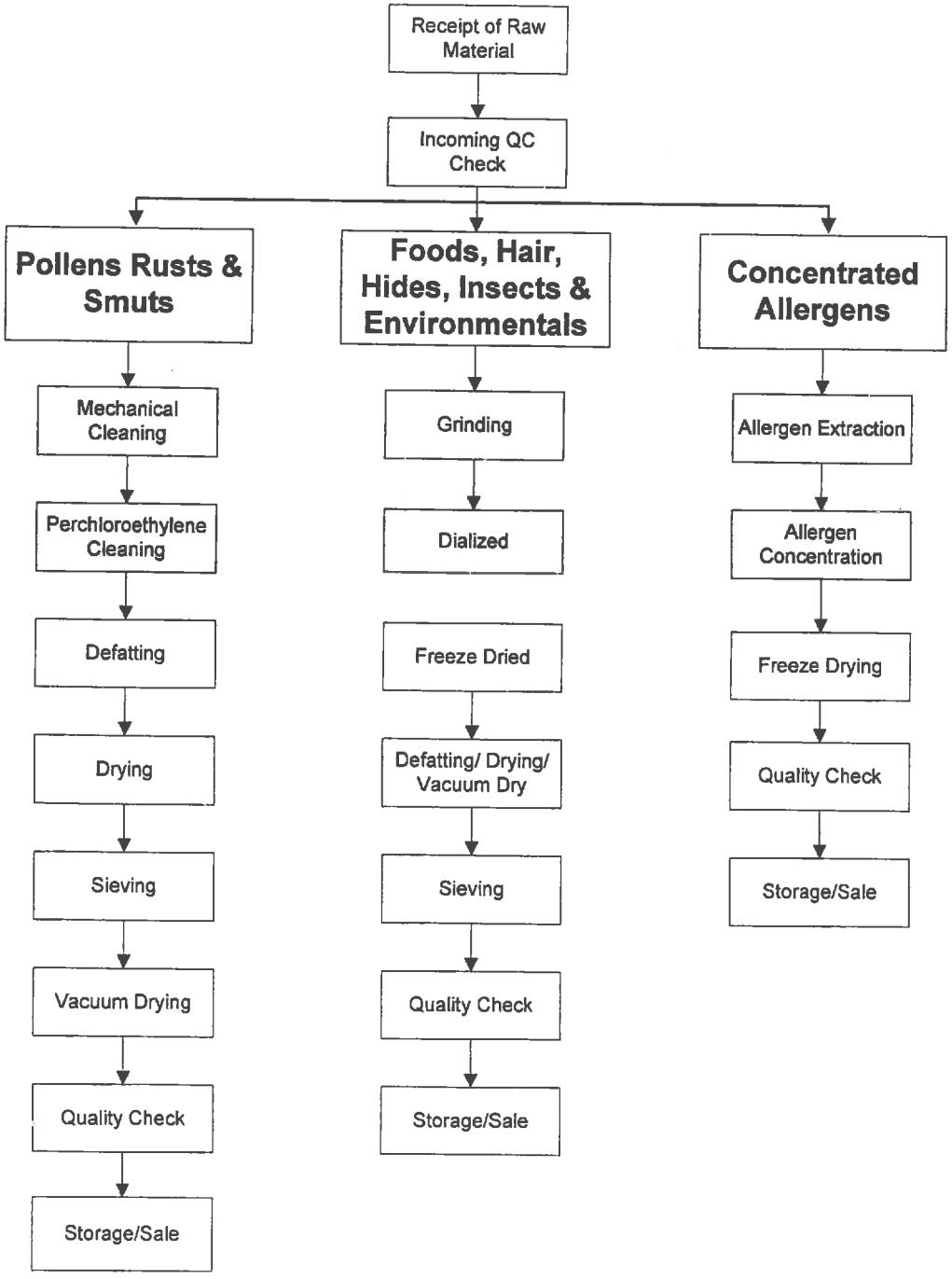


Figure 1-2 ALK US Mite Process Flow

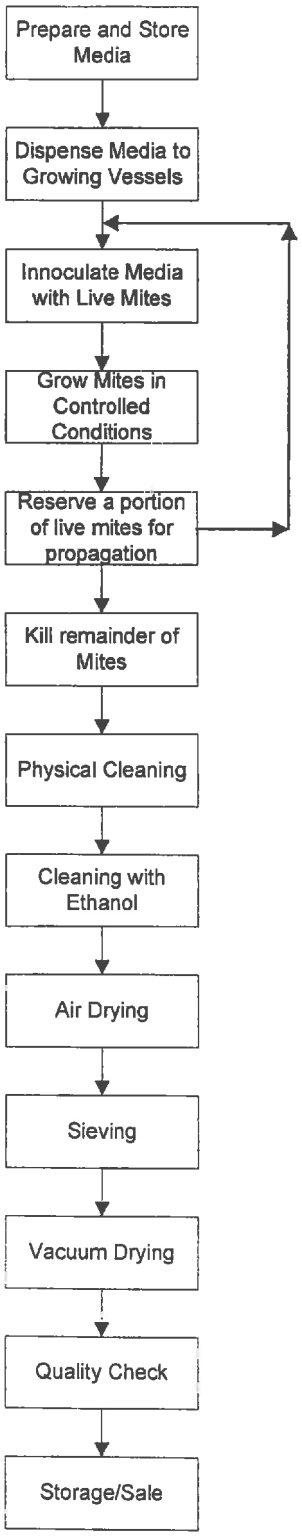


Figure 1-3 Tablet Pollen Area Process Flow

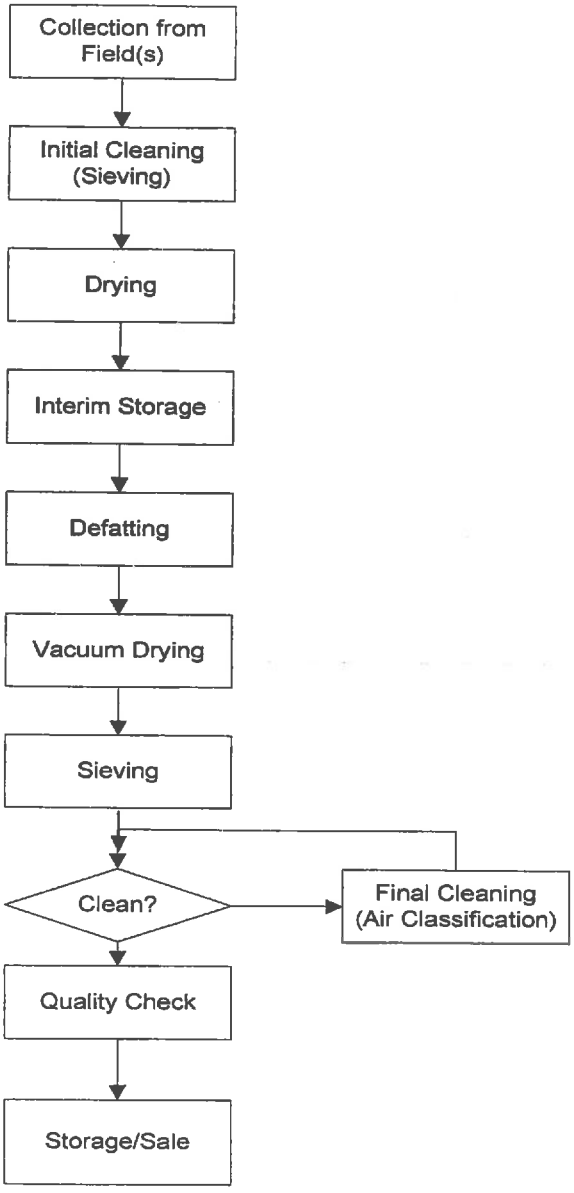
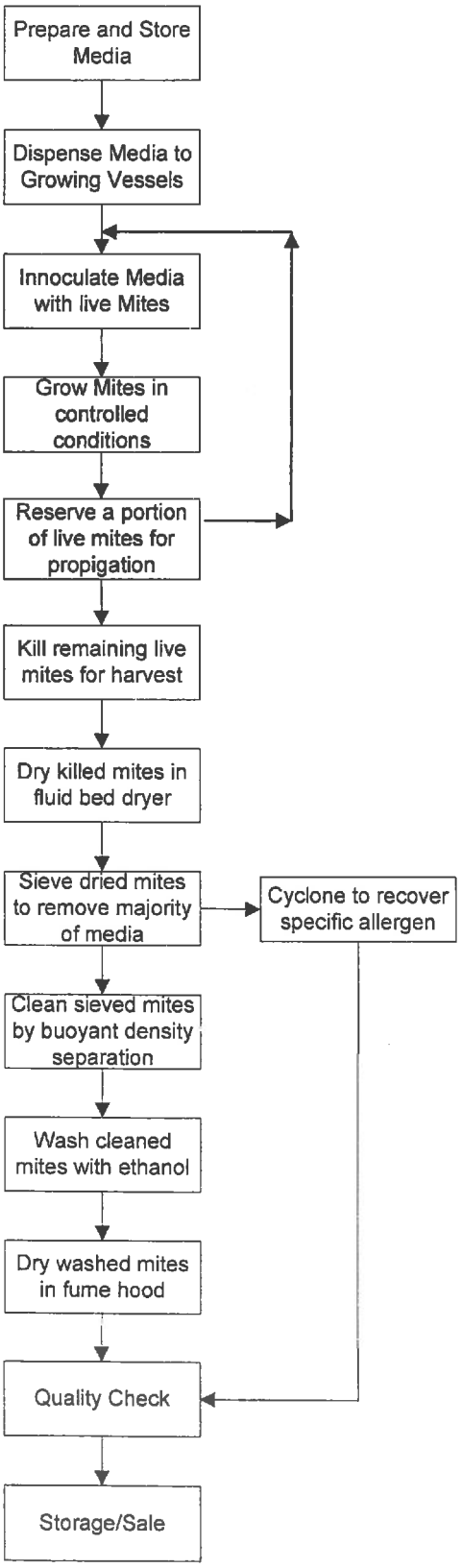


Figure 1-4 Mitizax Mite Processing Flow



ATTACHMENT 2
EMISSION CALCULATIONS

Emissions of regulated (criteria and toxic) air pollutants from each source or source group are calculated below. Potential emissions represent the maximum theoretical emissions that would occur if the source was operated at its full capacity on a continuous basis (8,760 hours per year). Actual emissions represent the expected baseline emissions, which reflect the actual operating level and schedule of each source. The related emission spreadsheets located in Section EI show the existing and proposed combustion and particulate emission rates and the pre and post project potential to emit rates for NSR, TAP, and HAP emissions.

BOILERS

The facility will include three 125-hp, fire-tube, natural gas-fired boilers, two (2) natural gas-fired, fire-tube hot water boilers serving the greenhouse at 300,000BTU/hr each, and one 30-hp fire-tube, natural gas-fired boiler, all equipped with low-NO_x burners. Two of the 125-hp boilers have been installed during the initial construction phase, The 30 hp steam boiler was installed in 2012 and the other 125-hp boiler will be added in the future.

Emissions are calculated using emission factors in the EPA publication, AP-42, A Compilation of Air Pollutant Emission Factors, 5th Edition, Volume I, Section 1.4, Natural Gas Combustion:

NO_x	50 lb/10^6 cf natural gas
CO	84 lb/10^6 cf natural gas
SO_x	0.6 lb/10^6 cf natural gas
PM	7.6 lb/10^6 cf natural gas
VOC	5.5 lb/10^6 cf natural gas

Actual hourly and annual emissions are summarized in the table on the following pages.

Hydronic Boilers – Source Nos. HB1, HB2, and HB3
Actual Emissions

Actual emissions reflect the fact that the boilers will not operate around the clock at maximum capacity. In reality, no more than two of the boilers will operate at any time; the third boiler will serve as a standby unit. For purposes of calculating actual emissions, ALK assumes the following boiler operations:

- Maximum hourly emissions – two of the 125-hp boilers operating at maximum capacity
- Annual emissions – three of the 125-hp boilers operating at the equivalent of maximum capacity for 2,000 hr/yr.

Maximum Actual Hourly Emissions:

NO_x 50 lb/10^6 cf x 4,860 cf/hr = 0.243 lb/hr x 2 boilers = .49 lb/hr
CO 84 lb/10^6 cf x 4,860 cf/hr = 0.408 lb/hr x 2 boilers = .82 lb/hr
SO_x 0.6 lb/10^6 cf x 4,860 cf/hr = 0.0029 lb/hr x 2 boilers = .006 lb/hr
PM 7.6 lb/10^6 cf x 4,860 cf/hr = 0.037 lb/hr x 2 boilers = .07 lb/hr
VOC 5.5 lb/10^6 cf x 4,860 cf/hr = 0.027 lb/hr x 2 boilers = .05 lb/hr

Actual Annual Emissions:

NO_x 0.243 lb/hr x 3 boilers x 2,000 hr/yr x 1 ton/2,000 lb = 0.73 ton/yr
CO 0.408 lb/hr x 3 boilers x 2,000 hr/yr x 1 ton/2,000 lb = 1.22 ton/yr
SO_x 0.0029 lb/hr x 3 boilers x 2,000 hr/yr x 1 ton/2,000 lb = 0.009 ton/yr
PM 0.037 lb/hr x 3 boilers x 2,000 hr/yr x 1 ton/2,000 lb = 0.11 ton/yr
VOC 0.027 lb/hr x 3 boilers x 2,000 hr/yr x 1 ton/2,000 lb = 0.08 ton/yr

Greenhouse Boilers, Source Nos. GB-1 and GB-2.

The Greenhouse boilers are a stacked configuration with the duplicate sized boilers alternating as primary to even out the wear. It is estimated that at full capacity, one 300,000 btu/hr boiler will run at maximum load. Actual emissions reflect that Greenhouse heating is not needed for significant portions of the year. It is estimated that, one 300,000 btu/hr boiler will run at maximum capacity for 50% of the year.

Maximum Actual Hourly Emissions:

NO_x 50 lb/10^6 cf x 286 cf/hr = 0.0143 lb/hr
CO 84 lb/10^6 cf x 286 cf/hr = 0.024 lb/hr
SO_x 0.6 lb/10^6 cf x 286 cf/hr = 0.00017 lb/hr
PM 7.6 lb/10^6 cf x 286 cf/hr = 0.0022 lb/hr
VOC 5.5 lb/10^6 cf x 286 cf/hr = 0.0016 lb/hr

Actual Annual Emissions:

NO_x 0.0143 lb/hr x 4380 hr/yr x 1 ton/2,000 lb = 0.031ton/yr
CO 0.024 lb/hr x 4380hr/yr x 1 ton/2,000 lb = 0.053 ton/yr
SO_x 0.00017 lb/hr x 4380 hr/yr x 1 ton/2,000 lb = 0.0004 ton/yr
PM 0.0022 lb/hr x 4380hr/yr x 1 ton/2,000 lb = 0.005 ton/yr
VOC 0.0016 lb/hr x 4380 hr/yr x 1 ton/2,000 lb = 0.0035 ton/yr

Humidfication Boiler, Source SB-2

A 30 hp natural gas fired steam boiler was installed to provide humidification needs to the facility. Humidification requirements increase in the winter months and decrease in the summer. It is estimated that the humidification boiler will operate at an average of 50% of capacity on an annual basis.

Maximum Actual Hourly Emissions:

NO_x 50 lb/10^6 cf x 1,295 cf/hr = 0.065 lb/hr
CO 84 lb/10^6 cf x 1,295 cf/hr = 0.11 lb/hr
SO_x 0.6 lb/10^6 cf x 1,295 cf/hr = 0.0008 lb/hr
PM 7.6 lb/10^6 cf x 1,295 cf/hr = 0.010 lb/hr
VOC 5.5 lb/10^6 cf x 1,295 cf/hr = 0.007 lb/hr

Actual Annual Emissions:

NO_x 0.065 lb/hr x .5 x 8,760 hr/yr x 1 ton/2,000 lb = 0.14 ton/yr
CO 0.11 lb/hr x .5 x 8,760 hr/yr x 1 ton/2,000 lb = 0.24 ton/yr
SO_x 0.0008 lb/hr x .5 x 8,760 hr/yr x 1 ton/2,000 lb = 0.002 ton/yr
PM 0.010 lb/hr x .5 x 8,760 hr/yr x 1 ton/2,000 lb = 0.022 ton/yr
VOC 0.007 lb/hr x .5 x 8,760 hr/yr x 1 ton/2,000 lb = 0.015 ton/yr

ELECTRIC GENERATOR – Source No. EG-1

ALK currently has installed one (1) electric generator rated at 1,000 kW (1 MW), which is equivalent to 1,495 brake horsepower (bhp). It will fire diesel fuel at a rate of 71.3 gal/hr at 100% load. SO_x emissions are calculated using the NSPS regulatory limit of 15 ppm. NO_x, non-methane hydrocarbons (NMHC), CO, and PM emissions are based on the allowable limits established in the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines (40 CFR 60, Subpart IIII):

NO_x + NMHC	6.4 gm/kW-hr[a]
CO	3.5 gm/kW-hr
PM	0.2 gm/kW-hr

[a] It is assumed that NO_x represents approximately 88 percent of the total (5.61 gm/kW-hr) and NMHC represents 12 percent of the total 0.79 gm/kW-hr). These fractions are derived from the EPA Tier 1 standards for each pollutant.

Potential Emissions

The engine will serve strictly as an emergency power source. Therefore, in accordance with EPA guidance, potential emissions are based on 500 hours of operation per year. The potential emissions are presented in the following spreadsheet, which also lists the boiler and air handler emissions.

Actual Emissions

ALK will limit the generator operation to no more than 500 hours per year, including ½ hr of testing per week (at full load, i.e. 71 gph) and emergency power generation when the primary power supply to the facility is interrupted.

1000 KW Generator
Hourly Actual Emissions

NO_x: 5.61 gm/kW-hr x 1,000 kW x 1 lb/453.59 gm = 12.36 lb/hr
CO: 3.5 gm/kW-hr x 1,000 kW x 1 lb/453.59 gm = 7.72 lb/hr
SO_x: 71.3 gal/hr x 7.3 lb/gal x 0.000015 lb S/lb oil x 2 lb SO_2/lb S = 0.0156 lb/hr
PM: 0.20 gm/kW-hr x 1,000 kW x 1 lb/453.59 gm = 0.44 lb/hr
VOC: 0.79 gm/kW-hr x 1,000 kW x 1 lb/453.59 gm = 1.75 lb/hr

Annual Actual Emissions

Annual actual emissions are based on the generator operating 500 hr/yr

NO_x: 12.36 lb/hr x 500 hr/yr x 1 ton/2,000 lb = 3.09 ton/yr
CO: 7.72 lb/hr x 500 hr/yr x 1 ton/2,000 lb = 1.93 ton/yr
SO_x: 0.0156 lb/hr x 500 hr/yr x 1 ton/2,000 lb = 0.0039 ton/yr
PM: 0.44 lb/hr x 500 hr/yr x 1 ton/2,000 lb = 0.11 ton/yr
VOC: 1.75 lb/hr x 500 hr/yr x 1 ton/2,000 lb = 0.44 ton/yr

Makeup AIR HANDLING UNIT – Source Nos. MAU- 9-1

Makeup air unit MAU-9 was installed under the FEC permit in 2010. It is being replaced with MAU-9-1 which had slightly more heating capacity and double the cooling capacity. MAU-9-1 is the only gas fired air handler at the site. All other air handling units are heated by the hydronic loop from the boilers and have no additional emissions. Potential emissions presented below are based on AP-42 emission factors.

Actual Emissions

Actual emissions are calculated using the same emission factors and the assumption that this unit will operate for the equivalent of maximum capacity for 4380 hr/yr. The following tables summarize the actual maximum hourly emissions and actual annual emissions from MAU-9-1.

Hourly Actual Emissions

NO_x: 50lb/MMCF/1000000SCF/MMCF*450000 BTU/hr / 1050BTU/SCF= 0.021lb/hr
CO: 84lb/MMCF/1000000SCF/MMCF*450000 BTU/hr / 1050BTU/SCF= 0.0.036lb/hr
SO_x: 0.6lb/MMCF/1000000SCF/MMCF*450000 BTU/hr / 1050BTU/SCF= 0.00026lb/hr
PM: 7.6lb/MMCF/1000000SCF/MMCF*450000 BTU/hr / 1050BTU/SCF= 0.0.0033lb/hr
VOC: 5.5lb/MMCF/1000000SCF/MMCF*450000 BTU/hr / 1050BTU/SCF= 0.0.0024lb/hr

Annual Actual Emissions:

NO_x 0.0210 lb/hr x 4380 hr/yr x 1 ton/2,000 lb = 0.047 ton/yr
CO 0.036 lb/hr x 4380 hr/yr x 1 ton/2,000 lb = 0.078 ton/yr
SO_x 0.00026 lb/hr x 4380 hr/yr x 1 ton/2,000 lb = 0.00057 ton/yr
PM 0.0033 lb/hr x 4380 hr/yr x 1 ton/2,000 lb = 0.0072 ton/yr
VOC 0.0024 lb/hr x 4380 hr/yr x 1 ton/2,000 lb = 0.0052 ton/yr

Combustion Equipment Actual Emissions Summary

Source	NOx		CO		SOx		PM-10		VOC	
	Lb/hr	Ton/yr	Lb/hr	Ton/yr	Lb/hr	Ton/yr	Lb/hr	Ton/yr	Lb/hr	Ton/yr
Boilers, HB-1 – HB-3	0.49	0.73	.82	1.22	.006	.009	.07	.11	.05	.08
Boilers, GB-1 – GB-2	0.014	0.31	0.024	0.05	.0002	.0004	.0022	.005	.0016	.004
Boiler, SB-2	0.065	0.14	0.11	0.24	.0008	.002	.010	.022	.007	.015
Emerg. Generator, EG-1	12.4	3.09	7.7	1.93	.0156	.004	.44	.11	1.74	.44
Air Handler, MAU-9-1	.021	0.05	.036	.078	.0003	.0006	.0033	.007	.0024	.005
Totals:	**12.99**	**4.32**	**8.69**	**3.52**	**0.023**	**0.016**	**0.526**	**0.25**	**1.80**	**0.54**

PROCESS EMISSIONS:
Process emissions (particulate, acetone, ethanol, methanol, isopropanol and perchloroethylene) will occur from the following operations at the facility: (i) Tablet Pollen Area (TPA) (ii) Small Scale Manufacturing (SSM), (iii) U.S. Mites Processing, (USM), (iv) Mitizax Mite processing (MTX), (v) and the Source Materials Development (SMD) Laboratories.

Particulate
Particulate emissions from allergen processing in fume hoods were estimated using 2010 actual production starting vs. ending pollen weights from the Small Scale manufacturing area. Assuming all the losses went up the stack and airflows calculated using 8 hours per day 5 days/week and 52 weeks per year, the resulting emission rate was 0.0037 gr/dscf. Allergens in these hoods range in size from 15-30 microns so ALK estimates that PM 2.5 or PM-10 emissions would be no more than 10% of the total particulate emissions or 0.00037gr/dscf. For the calculated emissions below, ALK conservatively used 2.5 times this calculated rate or 0.001 gr/dscf for fume hood emissions. For emissions controlled by a baghouse, ALK used 0.005 gr/dscf. Actual particulate emissions for the SSM, USM, and SMD areas are based on 2600 hours per year times the respective air flow rates and appropriate gr/dscf emission rates. Actual particulate emissions for the TPA hood 9-4 are based on 8760 hours/year as this area is now planned to handle all three tablet pollens, (Timothy, Ragweed, and Birch). MTX particulate emission rates are based on 4680 hours per year at the respective air flow rates and the appropriate gr/dscf emission rates. These estimates result in a reduction in potential particulate emissions from those estimated in the 2008 permit.

Solvent Emissions
(Acetone, Ethanol, Methanol, Isopropyl Alcohol, and Perchloroethylene)
Acetone is used to remove the lipid layer surrounding pollen during the defatting operation. Most acetone is recovered and sold as a byproduct although a small amount of recovered acetone is contaminated with perchloroethylene and is managed as a hazardous waste. Ethanol is used to wash contamination from dust mites. The majority is recovered and sent offsite for reprocessing into a usable ethanol product. The ethanol used is denatured with 5% methanol so any ethanol lost to evaporation also contains 5% methanol. Isopropyl alcohol (70%) is used for disinfection cleaning of equipment and work surfaces and is all lost to evaporation. Perchloroethylene, (tetrachloroethylene) is used to clean pollens and is mostly recovered. The recovered used perchloroethylene is managed as a hazardous waste. Hourly acetone emissions are increased from the 2012 Permit application due to addition of a second processing area and fume hood in the Tablet Pollen Area (TPA). Total annual acetone emissions are unchanged from the 2012 permit. Ethanol and Methanol use and emissions are reduced from the maximums estimated in the 2008 permit as the facility is not fully built out. Perchloroethylene use and emission estimates are unchanged from the 2008 permit. Isopropyl Alcohol use and emission estimates are increased from the 2008 permit based on measured quantities and scale up for increased production.

SMALL SCALE MANUFACTURING, (SSM), Sources EF 3-1 and EF 3-4:

Potential Particulate Emissions

Table 2-1. Potential Particulate Emissions, 8760 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Potential Emissions	
				lb/hr	ton/yr
EF 3-1	SSM Hoods	.001	6845	0.06	0.26
EF 3-4	Class 2 B 2 Hood	.001	1104	0.01	0.04

Table 2-2. Actual Particulate Emissions 2600 hours/year

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Actual Emissions	
				lb/hr	ton/yr
EF 3-1	SSM Hoods	.001	6845	0.06	0.08
EF 3-4	Class 2 B 2 Hood	.001	1104	0.01	0.01

Solvent Emissions

Compound	VOC	HAP	TAP
Acetone			Non-Carcinogen
Isopropyl Alcohol	X		Non-Carcinogen
Tetrachloroethylene	X	X	Carcinogen

Emissions of these compounds are calculated below.

Acetone

3 x 1,600 lb/year = 4,800 lb/yr
4,800 lb/yr ÷ 2,600 hr/yr = **1.85 lb/hr**
4,800 lb/yr ÷ 2,000 lb/ton = **2.4 ton/yr**

Isopropyl Alcohol

600 lb/yr
600 lb/year ÷ 2,600 hr/yr = **0.23 lb/hr**
600 lb/year ÷ 2,000 lb/ton = **0.30 ton/yr**

Tetrachloroethylene

Tetrachloroethylene (perchloroethylene) will be used intermittently for processing certain pollens which cannot be cleaned mechanically. ALK projects that 500 lb/yr of tetrachloroethylene will be used, of which ⅔ will be recovered and ⅓ emitted.

0.333 x 500 = 166 lbs/year

Since tetrachloroethylene will not be used routinely throughout the year, worst-case hourly emissions are calculated assuming that the entire year's production will occur during a two-week period:

166 lbs/year ÷ (16 hr/day x 6 day/wk x 2 weeks) = **0.86 lb/hr**
166 lb/year ÷ 2,000 lb/ton = **0.083 ton/yr**

US MITES, (USM), SOURCE EF 2-1:

Potential Particulate Emissions, 8760 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Potential Emissions	
				lb/hr	ton/yr
EF 2-1	USM Hoods	.001	1895	0.02	0.07

Actual Particulate Emissions, 2600 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Potential Emissions	
				lb/hr	ton/yr
EF 2-1	**USM Hoods**	**.001**	**1895**	**0.02**	**0.02**

Solvent Emissions

Compound	VOC	HAP	TAP
Isopropyl Alcohol	X		Non-Carcinogen
Ethanol	X		Non-Carcinogen
Methanol	X	X	Non-Carcinogen

Isopropyl Alcohol

10% of Small Scale emissions = 600/10 = 60 lb/yr
60 lb/year ÷ 2,600 hr/yr = **0.023 lb/hr**
60 lb/year ÷ 2,000 lb/ton = **0.03 ton/yr**

Ethanol

3 x 127 lb/yr = 381 lb/yr
381 lb/yr ÷ 2,600 hr/yr = **0.15 lb/hr**
381 lb/yr ÷ 2,000 lb/ton = **0.19 ton/yr**

Methanol

Methanol emissions are projected to be 5 percent of the ethanol emissions:

0.05 x 381 = 19.1 lb/year
19.1 lb/year ÷ 2,600 hr/yr = **0.007 lb/hr**
19.1 lb/year ÷ 2,000 lb/ton = **0.01 ton/yr**

TABLET POLLEN AREA, (TPA) SOURCES EF 9-1 and EF 9-4

Tablet Pollen processing is a scale up of the Small Scale Manufacturing process and uses the same ingredients. Particulate and acetone emissions are generated in the fume hoods used to defat the pollen. Isopropyl Alcohol emissions are generated when cleaning and disinfecting work surfaces and equipment with IPA. Timothy, Ragweed, and Birch pollens are all processed in this same TPA area however only 2 pollens may be processed at any one time. Emission Source 9-1 has been disconnected but permitted emissions are still included as this source may be needed in the future.

Potential Particulate Emissions, 8760 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Potential Emissions	
				lb/hr	ton/yr
EF 9-1	**TPA Dust Collector**	**.005**	**5675**	**0.24**	**1.07**
EF 9-4	**TPA Lab Hoods**	**.001**	**4760**	**0.04**	**0.18**

Actual Particulate Emissions

Source ID	Source	Hr/yr	gr/dscf	Exhaust Air Flow, cfm	Potential Emissions	
					lb/hr	ton/yr
EF 9-1	**TPA Dust Collector**	**2600**	**.005**	**5675**	**0.24**	**0.32**
EF 9-4	**TPA Lab Hoods**	**8760**	**.001**	**4760**	**0.04**	**0.18**

Solvent Emissions

Compound	VOC	HAP	TAP
Acetone			Non-Carcinogen
Isopropyl Alcohol	X		Non-Carcinogen

Acetone
Solvents will be emitted from the removal of the lipid layer surrounding the pollen, referred to as de-fatting the pollen, which is accomplished by washing the pollen in acetone, filtering and drying the pollen in a hood, and finally vacuum drying the pollen at a controlled temperature. ALK projects that 4,740 lb/yr of acetone will be emitted from defatting Timothy pollen and 3 times this amount will be emitted when processing either Birch or Ragweed pollen.

4,740 lb/yr ÷ 2,000 lb/ton = **2.37 ton/yr** (Timothy)
3 x 2.37 ton/yr = **7.11ton/yr** (Birch or Ragweed)

Based on an operating schedule of 2,600 hr/yr, hourly emissions will be:

4,740 lb/yr ÷ 2,600 hr/yr = **1.82 lb/hr** (Timothy)
3 x 1.82 lb/hr = **5.46 lb/hr** (Birch or Ragweed)

Acetone emissions from the TPA area at full production are calculated assuming both Ragweed and Birch pollens running 5 days/week. Therefore TPA acetone emissions are:
10.92 lb/hr and
2 * 7.11 = 14.22 ton/year

It should be noted that acetone is not a VOC or a HAP, but is a non-carcinogenic TAP.

Isopropyl Alcohol

600 lb/yr
600 lb/year ÷ 2,600 hr/yr = **0.23 lb/hr**
600 lb/year ÷ 2,000 lb/ton = **0.30 ton/yr**

MITIZAX DUST MITE, (MTX) AREA, SOURCES EF 10-1, EF 10-2, EF 10-3 and EF 10-4:

Mitizax dust mite processing includes preparing the food for the dust mites, growing, killing, and harvesting the mites, and purifying the mites from the mite media following harvest. Particulate emissions are generated when making media (food) for the mites and when drying, sieving and purifying the mites following harvest. Ethanol and Methanol emissions are generated when purifying the dried and sieved mites and Isopropyl Alcohol emissions are generated from cleaning and disinfecting the work spaces and equipment.

Currently one cell of MTX processing is constructed (Sources EF 10-1 – EF 10-3). An additional exhaust fan to provide low wall air returns in MTX Purification 1 (EF 10-4) is planned for 2013 and will incorporate a fume hood to capture particulate emissions when sampling dried product in 1 of the air ducts.

Potential Particulate Emissions, 8760 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Potential Emissions	
				lb/hr	ton/yr
EF10-3	MTX Fluid Bed Dryer	.005	1700	0.07	0.32
EF10-1	MTX Lab Hoods	.001	3800	0.03	0.14
EF10-2	Minox Screener	.005	1000	0.04	0.19
EF10-4	MTX Purification 1 air return	.001	825	0.01	0.03

Actual Particulate Emissions, 4680 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Actual Emissions	
				lb/hr	ton/yr
EF10-3	MTX Fluid Bed Dryer	.005	1700	0.07	0.17
EF10-1	MTX Lab Hoods	.001	3800	0.03	0.08
EF10-2	Minox Screener	.005	1000	0.03	0.08
EF10-4	MTX Purification 1 air returns	.001	825	0.01	0.02

Solvent Emissions

Compound	VOC	HAP	TAP
Isopropyl Alcohol	X		Non-Carcinogen
Ethanol	X		Non-Carcinogen
Methanol	X	X	Non-Carcinogen

Ethanol

Initial (baseline) ethanol emissions from Mitizax Mites processing are projected to be 563 lb/yr (0.28 ton/yr). Using a production schedule of 4680 hr/yr, baseline hourly ethanol emissions are:

563 lb/yr ÷ 4680 hr/yr = **0.22 lb/hr**

Ethanol emissions from processing Mitizax Mites in cell 1 are projected to eventually increase to 3072 lb/yr (1.54 ton/yr). Using a production schedule of 4680 hr/yr, maximum hourly ethanol emissions will be:

3072 lb/yr ÷ 4680 hr/yr = **0.66 lb/hr (cell 1)**

Methanol

Methanol emissions are 5% of ethanol emissions or:
.05 * 0.22 lb/hr = **0.011 lb/hr (initially)**
.05 * 0.66 lb/hr – **0.03 lb/hr (full production on cell 1)**

Isopropyl Alcohol

600 lb/yr
600 lb/year ÷ 4680 hr/yr = **0.128 lb/hr**
600 lb/year ÷ 2,000 lb/ton = **0.30 ton/yr**

HOUSE VACUUM SYSTEM - Source EF-Vac

The present house vacuum system has an initial baghouse followed by a hepa filter. Potential emissions from the vacuum systems are based on an outlet concentration of 0.005 gr/dscf and 8760 hours per year as summarized in the following table.

Potential Particulate Emissions, 8760 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Potential Emissions	
				lb/hr	ton/yr
EF-Vac	House Vacuum	.005	491	0.021	0.09

The vacuum systems is used for keeping the labs and processing areas as free of airborne and settled particulate matter as possible. It is conservatively estimated that this unit will run 4680 hours per year and emit particulate at a rate of 0.005 gr/dscf. Actual emissions are estimated in the following table:

Actual Particulate Emissions, 4680 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Actual Emissions	
				lb/hr	ton/yr
EF-Vac	House Vacuum	.005	491	0.021	0.05

SOURCE MATERIAL DEVELOPMENT (SMD) LABS

Potential Particulate Emissions, 8760 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Potential Emissions	
				lb/hr	ton/yr
EF 4-1	SMD Hoods	.001	3140	.03	0.12

Actual Particulate Emissions, 2600 hours/yr

Source ID	Source	gr/dscf	Exhaust Air Flow, cfm	Actual Emissions	
				lb/hr	ton/yr
EF 4-1	SMD Hoods	.001	3140	0.03	0.03

Solvent Emissions

Acetone, IPA, ethanol, and methanol emissions from this area will be measured and included with all other plant emissions since the emissions of these solvents are calculated as the difference between purchased and recovered quantities. Actual emissions are estimated to be equivalent to those measured from the Spokane facility in 2006.

Compound	VOC	HAP	TAP
Acetone			Non-Carcinogen
Isopropyl Alcohol	X		Non-Carcinogen
Ethanol	X		Non-Carcinogen
Methanol	X	X	Non-Carcinogen

Emissions of these compounds are estimated below.

Acetone

1,600 lb/yr
1,600 lb/yr ÷ 2,600 hr/yr = **0.61 lb/hr**
1,600 lb/yr ÷ 2,000 lb/ton = **0.80 ton/yr**

Isopropyl Alcohol

78 lb/yr
78 lb/yr ÷ 2,600 hr/yr = **0.03 lb/hr**
78 lb/yr ÷ 2,000 lb/ton = **0.04 ton/yr**

Ethanol

127 lb/yr
127 lb/yr ÷ 2,600 hr/yr = **0.05 lb/hr**
127 lb/yr ÷ 2,000 lb/ton = **0.06 ton/yr**

Methanol

Methanol emissions are based on 5 percent of ethanol emissions:

0.05 x 127 lb/yr = 6.4 lbs/year
6.4 lbs/year ÷ 2,600 hr/yr = **0.002 lb/hr**
6.4 lb/year ÷ 2,000 lb/ton = **0.003 ton/yr**

EMISSIONS SUMMARY

See Section EI, Emission Inventory Forms

ATTACHMENT 3.0
AIR QUALITY ANALYSIS

TABLES

APPENDICES

3.0 AIR QUALITY ANALYSIS

3.1 PURPOSE

ALK-Abelló Source Material, Inc. (ALK-Abelló), formerly Biopol Laboratory, Inc., is constructing a new allergen purification facility in an industrial park on Lochsa Street in Post Falls, Idaho. The facility will purify harvested pollen from timothy hay and other allergens for further processing elsewhere to produce vaccines for individuals with allergies. Modeling the sources at this facility serves two purposes: (i) to determine the potential impacts of the proposed project on the ambient air quality; and (ii) to establish emission limits to be incorporated in a Facility Emission Cap (FEC) permit.

A modeling analysis was completed and submitted to Idaho Department of Environmental Quality (Department) in 2007. Since that submission, some changes have been made to the configuration of the buildings and the emission sources. In general, these changes include:

- Change in the building height and configuration
- Elimination of the fuel-fired rooftop air handing units
- Reconfiguration of the emission sources

This report and analysis incorporates the changes at the facility since the original modeling effort. The specific changes made are tracked in Section 3.11. This revision includes changes at the facility as a result of the proposed installation of a Greenhouse.

Since the facility is being constructed in phases, the modeling analysis provides for the equipment that will be included in all phases anticipated over the next five years.

At buildout, emission sources at the facility will include boilers, an electric generator, water heaters, a house vacuum system, laboratory hood exhaust vents, and process operations, including a fluidized bed dryer and a filter/dryer. These operations will emit criteria pollutants: oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), volatile organic compounds (VOCs), particulate matter (PM); and the following toxic air pollutants (TAPs): acetone, ethanol, isopropyl alcohol, methanol, and tetrachloroethylene (perchloroethylene).

Based on emission calculations, the facility will be a minor source for all pollutants. In order to obtain the maximum operating flexibility, ALK-Abelló applied for and received a FEC permit that establishes caps for each regulated pollutant and allows for the installation of currently unspecified equipment without having to re-open the permit.

As part of the FEC requirements, air dispersion modeling is being performed for all pollutants greater than the modeling thresholds established by the Department. The Department uses two levels of modeling thresholds. The first level is an emissions level below which modeling is rarely needed. If facility-wide emissions will remain below these levels, modeling is not necessary, even for a FEC permit. These thresholds are as follows:

- CO: 14 pounds per hour (lb/hr)
- NO_x: 1 ton per year (tpy)
- SO_2: 1 tpy and 0.2 lb/hr
- PM_{10}: 1 tpy and 0.2 lb/hr

The second level of modeling thresholds identifies emissions rates below which modeling is typically not required; however, the Department may make the determination on a case-by-case basis considering the characteristics of the release and the potentially exposed public. These threshold levels are as follows:

- CO: 70 lb/hr
- NO_x: 7 tpy
- SO_2: 7 tpy and 0.9 lb/hr
- PM_{10}: 7 tpy and 0.9 lb/hr

Based on worst-case emission estimates, emissions of CO are below the levels of the first threshold; therefore, modeling is not required for this pollutant. SO_2 emissions are above the first threshold for hourly emissions assuming the units operate continuously for an hour, but below the second threshold. However, annual SO_2 emissions are well below the first threshold level. The emergency generator is the primary source of the SO_2 emissions. Based on discussions with the Department's modeling staff, SO_2 modeling is not required because during normal operations (i.e., non-emergencies), emissions will remain below the first level threshold. However since worst-case emissions of NO_x and PM_{10} will be above the second threshold, modeling was conducted for these two pollutants.

Additionally, the modeling will be used to demonstrate that emissions of perchloroethylene (a TAP) will not cause an exceedance of the Acceptable Ambient Concentration (AACs) set forth in IDAPA 58.01.01.585 and 586. Other TAPs are below the Department's threshold levels, so modeling is not required.

In summary, the present modeling analysis is being conducted to: (i) demonstrate that at the worst-case scenario of emissions and exhaust parameters, emissions under the facility emission cap will not cause an exceedance of the National Ambient Air Quality Standards (NAAQS) for PM_{10} and NO_2; and (ii) demonstrate that emissions of perchloroethylene (the only TAP that exceeds the Screening Emission Level in IDAPA 58.01.01.586) will not exceed the AAC. Modeling is being also used to show future growth at the facility and demonstrate that it can be accommodated with the assurance that the emissions will not cause adverse impacts as long as they remain below the FEC.

3.2 MODEL DESCRIPTION/JUSTIFICATION

The American Meteorological Society (AMS) and the U.S. Environmental Protection Agency (EPA) jointly formed the AMS/EPA Regulatory Model Improvement Committee (AERMIC) to develop an accurate air quality model. They developed the AERMIC Dispersion Model (AERMOD). The AERMOD model (Version 07026) is accepted for regulatory analyses and is

the recommended model for determining ground-level ambient air concentrations in all types of terrain. AERMOD was used for the criteria and TAP pollutant analyses.

Under stable conditions, AERMOD uses a steady-state, Gaussian plume equation to calculate ambient concentrations from stacks. In unstable conditions, AERMOD uses a non-Gaussian probability density function to calculate ambient concentrations. Input variables to the model include: emission rates, stack heights, meteorological data, receptor locations, terrain elevations, and stack gas characteristics. The model can also be used to evaluate the effects of aerodynamic wakes and eddies that are formed by buildings and other structures on plume dispersion (PRIME model).

Review of a topographic map of the area around the proposed Biopol facility indicates that some of the receptors are in complex terrain. AERMOD has been developed to incorporate complex terrain considerations into the model output.

EPA's Building Profile Input Program (BPIP) algorithms were to determine the impacts of building downwash. Buildings on site were in the analysis; there are no significant structures off site. The results of the BPIP analysis were incorporated into the AERMOD model.

IES uses a purchased software package (Trinity Breeze, Version 7.0) to interface with AERMOD to assist in setting up and running the model.

AERMOD is classified by the EPA as a preferred/recommended air quality model for refined analyses. Based on the model's incorporation of algorithms to address complex terrain, multiple buildings and stacks, and EPA's "approval" of this model, AERMOD is an appropriate model for this application.

The proposed methodology for conducting the air dispersion analysis was submitted to the Department for review on March 21, 2007, and approved on March 27, 2007. Several changes to the protocol were discussed with the Department and were documented in an e-mail to the Department. Correspondence with the Department is provided in Attachment 3-A.

3.3 EMISSION AND SOURCE DATA

Table 3-1 presents a summary of the modeled emission rates for this project. Emission calculations are provided in Attachment 2 of the FEC application. This is a new facility, so there are no existing emission sources at the facility; actual emissions are not provided. Table 3-1 presents potential (worst-case) emissions.

All of the sources were modeled running for 8,760 hours per year, except for the emergency generator. The generator was modeled at 500 hours per year; therefore, two model runs were conducted for PM_{10} – one for the higher short-term emission rate and a second for the annual rate. Additionally, for the short-term model run, the model was set up so that the generator operated for 1 hour each day.

TABLE 3-1
POTENTIAL EMISSION RATES USED IN AIR DISPERSION
ALK-ABELLÓ, POST FALLS, IDAHO

Model ID	Source Description	NO_2		PM_{10}		Perc.	
		lb/hr	tpy	lb/hr	tpy	lb/hr	tpy
EF 2-1	USM Purification Lab Hood Exhausts	NA	NA	0.0831	0.364	NA	NA
EF 3-1	Pollen Lab Hood Exhausts	NA	NA	0.5841	2.559	0.0379	0.166
EF 4-1	Process Development Lab Hood Exhausts	NA	NA	0.2691	1.179	NA	NA
EF 3-4	Class 2 B2 Biological Safety Cabinet	NA	NA	0.0429	0.188	NA	NA
EF-VAC	House vacuum	NA	NA	0.0429	0.188	NA	NA
SRC 1	Natural gas-fired boiler (125 bhp)	0.3000	1.3	0.0500	0.2	NA	NA
SRC 1	Natural gas-fired boiler (125 bhp)	0.3000	1.3	0.0500	0.2	NA	NA
SRC 1	Natural gas-fired boiler (125 bhp) (Future)	0.3000	1.3	0.0500	0.2	NA	NA
SRC 1A	Natural gas-fired boiler at Greenhouse (125 bhp)	0.3000	1.3	0.0500	0.2	NA	NA
SRC 5	Natural gas-fired boiler (50 bhp) (Future)	0.1200	0.5	0.0200	0.08	NA	NA
SRC 6	Emergency generator (1,000 KW)	16.93[1]	3.1	0.4400[2]	0.110	NA	NA
EF 9-1	Timothy Building dust collector (Future)	NA	NA	0.2422	1.061	NA	NA
SRC 24	Spanish Mite Building media prep vent (Future)	NA	NA	0.110	0.482	NA	NA
EF SMDRY	Spanish Mite Fluid Bed Dryer	NA	NA	0.0253	0.111	NA	NA
SRC 26	Spanish Mite Building pneumatic vent (Future)	NA	NA	0.260	1.139	NA	NA
SRC 27	Ragweed Building fluid bed dryer (Future)	NA	NA	0.215	0.942	NA	NA
SRC 29	Ragweed Building pneumatic vent (Future)	NA	NA	0.040	0.175	NA	NA
SRC 30	Birch Building fluid bed dryer (Future)	NA	NA	0.215	0.942	NA	NA
SRC 32	Birch Building pneumatic vent (Future)	NA	NA	0.040	0.175	NA	NA

[1] A scaled emission rate was used in the model to show maximum impact at 500 hr/yr. This value reflects to scaled rate.
[2] lb/hr was scaled in the model for the annual run to simulate 500 hr/yr operation.

All of the emission sources listed on Table 3-1 were included in the modeling analysis; none were treated as inconsequential.

Table 3-2 provides anticipated source parameters (stack height, diameter, velocity, etc.) for the modeled sources of PM_{10} emissions as well as source parameters that were actually used in the model for the modeled scenario. There may be differences between the anticipated parameters and the modeled parameters as the intent of the modeling was to show worst-case release scenarios.

As presently designed, all emission sources are point sources. However, in order to show worst-case dispersion and because the precise location of each exhaust vent on the roof has not been finalized, the laboratory exhaust for the perchloroethylene emissions was modeled as a volume source. A note regarding the boiler exhausts, there are three identical boilers that will be located in the same area. In order to reduce model run times, the boilers were modeled with all of the emissions exhausting through a single stack.

The initial lateral dimensions (σ_y) for the point sources that were modeled as volume sources were calculated by dividing the length of the building, which included the emission source, by 4.3. The initial vertical dimensions (σ_z) were calculated by dividing the height of the building, which included the emission source, by 2.15. The release height was the height of the building as all of the sources will be located on top of buildings. Table 3-3 includes a summary of the source dimensions for each point source modeled as a volume source.

Attachment 3-B includes a facility plot plan for the site. Building dimensions are summarized on Table 3-4.

The ambient air boundary for the facility is the property line. The facility is located in an industrial park and is not used by the general public. Security measures, including signs, will be implemented to discourage public access to the property. This was discussed with the Department during a pre-application meeting on January 31, 2007; the Department concurs with this approach.

As indicated by the Department, there are no other emission sources in the vicinity of ALK-Abelló proposed site that need to be included in the modeling analysis.

The UTM coordinates of the approximate center of the facility are 499,676 meters east and 5,283,201 meters north. The street address of the facility is at the intersection of Lochsa Street and Clearwater Loop (east of Moyie Street) in Post Falls, Idaho.

TABLE 3-2
STACK PARAMETERS USED IN PM_{10} MODELING SCENARIOS
ALK-ABELLÓ, POST FALLS, IDAHO

Model ID	Source Description	Type of Source	Base Elevation (ft)	Exhaust Temp. (F)	Anticipated Parameters			Modeled Parameters		
					Velocity (fpm)	Stack Diameter (ft)	Stack Height (ft)	Velocity (fpm)	Stack Diameter (ft)	Stack Height (ft)
EF 2-1	USM Purification Lab Hood Exhausts	Point	2,103.1	70	2,800	1	40	2,500	1	40
EF 3-1	Pollen Lab Hood Exhausts	Point	2,106.1	70	3,800	2	40	2,500	2	40
EF 4-1	Process Development Lab Hood Exhausts	Point	2,103.1	70	3,300	2.4	40	2,500	2.4	40
EF 3-4	Class 2 B2 Biological Safety Cabinet	Point	2,106.4	70	2,500	0.75	40	2,500	0.75	40
EF-VAC	House vacuum	Point	2,107.1	70	2,500	0.50	10	2,500	0.50	10
SRC 1	Natural gas-fired boiler (125 bhp)	Point	2,106.7	405	2,570	1.34	35.4	2,500	1.34	35.4
SRC 1	Natural gas-fired boiler (125 bhp)	Point	2,106.7	405	2,570	1.34	35.4			
SRC 1	Natural gas-fired boiler (125 bhp) (Future)	Point	2,106.7	405	2,570	1.34	35.4			
SRC 1A	Natural gas-fired boiler at Greenhouse (125 bhp)	Point	2,107.1	95	2,570	0.75	22	2,500	0.75	22
SRC 5	Natural gas-fired boiler (50 bhp) (Future)	Point	2,106.7	394	2,570	0.5	35.4	2,500	0.50	35.4
SRC 6	Emergency	Point	2,103.1	975	9,900	1	12	9,900	1	12

TABLE 3-2
STACK PARAMETERS USED IN PM_{10} MODELING SCENARIOS
ALK-ABELLÓ, POST FALLS, IDAHO

Model ID	Source Description	Type of Source	Base Elevation (ft)	Exhaust Temp. (F)	Anticipated Parameters			Modeled Parameters		
					Velocity (fpm)	Stack Diameter (ft)	Stack Height (ft)	Velocity (fpm)	Stack Diameter (ft)	Stack Height (ft)
	generator (1,000 KW)									
EF 9-1	Timothy Building dust collector (Future)	Point	2,107.7	70	2,500	1.7	35.4	2,500	1.7	30.4
SRC 24	Spanish Mite Building media prep vent (Future)	Point	2,102.1	70	2,500	0.8	35.4	2,500	0.8	30.4
EF SMDRY	Spanish Mite Fluid Bed Dryer	Point	2,102.1	100	2,500	0.39	30.4	2,500	0.39	30.4
SRC 26	Spanish Mite Building pneumatic vent (Future)	Point	2,102.1	70	2,500	1.2	35.4	2,500	1.2	30.4
SRC 27	Ragweed fluid bed dryer (Future)	Point	2,108.4	100	2,500	1.6	35.4	2,500	1.6	30.4
SRC 29	Ragweed pneumatic vent (Future)	Point	2,106.1	70	2,500	0.6	35.4	2,500	0.6	30.4
SRC 30	Birch Building fluid bed dryer (Future)	Point	2,108.0	100	2,500	1.6	35.4	2,500	1.6	30.4
SRC 32	Birch Building pneumatic vent (Future)	Point	2,104.4	70	2,500	0.6	35.4	2,500	0.6	30.4

TABLE 3-3
SUMMARY OF SOURCE DIMENSIONS FOR POINT SOURCES MODELED AS VOLUME SOURCES PERCHLOROETHYLENE ALK-ABELLÓ, POST FALLS, IDAHO

Model ID	Source Description	Initial Lateral Dimension (m)	Initial Vertical Dimension (m)	Release Height (m)
SRC 40	Laboratory exhaust of PCE emissions	15.1	4.1	8.8

TABLE 3-4
BUILDING PARAMETERS
ALK-ABELLÓ, POST FALLS, IDAHO

Building Name	Height (ft)	Length (ft)	Width (ft)	Base Elevation (m)
Main Building	29	~211[1]	~113.5[1]	642.00
Utilities Section	25	135	50	642.38
Timothy Pollen Section	25	135	28	642.59
Future Section 1	25	213	92	642.74
Greenhouse (including future sections)	20	192	120	642.74

[1] Approximate maximum dimensions; building is irregularly shaped.

3.4 RECEPTOR NETWORK

A Cartesian receptor grid was used to determine the maximum off-site impact. Based on preliminary model runs, the maximum off-site concentration occurs at or near the property line. Therefore, a fine receptor grid was used near the property boundary and a course grid was used further away. The Cartesian receptor grid spacing around the facility for the analysis was as follows:

Along Fenceline:	25-meter spacing (minimum)
0 to 0.2 km:	25-meter spacing
0.2 to 1.5 km:	100-meter spacing
1.5 to 4 km:	500-meter spacing

3.5 ELEVATION DATA

United States Geological Survey (USGS) Digital Elevation Model (DEM) files were imported to determine elevations. 7½-minute DEMs with a resolution of 30 meters were used. Based on the size of the proposed receptor grid, the Post Falls, Idaho and Liberty Lake, Washington-Idaho quadrangle DEM files were used.

3.6 METEOROLOGIGAL DATA

Meteorological data was provided by the Department. A 5-year period of data (1987-1991) from Spokane, Washington, was used for the analysis. The Department processed the data using AERMET and land use classification data for the vicinity of the meteorological station.

3.7 LAND-USE CLASSIFICATION

The area around the proposed site is classified as rural based on a review of the topographic maps of the area and first hand knowledge of the site. The specific break-down of the classification of the area for use in AERMET was provided by the Department.

3.8 BACKGROUND CONCENTRATIONS

Background concentrations for the area were provided by the Department and are as follows:

PM_{10}:	67 $\mu g/m^3$ for 24-hour averaging period
	23.7 $\mu g/m^3$ for annual averaging period
NO_2:	32 $\mu g/m^3$ for annual averaging period

PM_{10} background concentrations are based on monitoring data for the Post Falls area and the NO_2 background concentration is based on default background concentrations used by the Department for small town and suburban areas.

As requested by the Department, modeled impacts (before the inclusion of background concentrations) were increased by 20 percent to account for uncertainties in the meteorological data.

Additionally, as provided by the Department, there are no co-contributing sources in the area of the proposed facility, so only emissions from the ALK-Abelló facility were included in the analysis.

3.9 EVALUATION OF COMPLIANCE WITH STANDARDS

The results of the analysis show that under worst-case release parameters and maximum emission rates, the off-site ambient impact is below the NAAQS for PM_{10} and NO_2 and below the AAC for perchloroethylene.

Table 3-5 shows that the results of the PM_{10} analysis for the off-site impact from the proposed ALK-Abelló facility are below the primary and secondary National Ambient Air Quality Standards (NAAQSs) of 150 $\mu g/m^3$ on 24-hour basis and 50 $\mu g/m^3$ on an annual basis. The maximum off-site impacts, including background concentrations, are 110.4 $\mu g/m^3$ (sixth highest) on a 24-hour basis and 37.8 $\mu g/m^3$ on an annual basis. The results include the additional 20 percent factor requested by the Department. The maximum values occurred at the property line.

Table 3-6 shows the results for the NO_2 analysis. The results are below the NAAQS of 100 $\mu g/m^3$ on an annual basis. The maximum off-site concentration is 46.5 $\mu g/m^3$ (including the background concentration) on an annual basis. These results also include the additional 20 percent factor requested by the Department. The maximum values occurred at the property line.

Table 3-7 shows the results of the perchloroethylene analysis. The results indicate that highest estimated ambient concentration is 0.36 $\mu g/m^3$, which is below the AAC of 2.1 $\mu g/m^3$. The maximum concentration includes the 20 percent factor requested by the Department. The maximum values occurred at the property line and the emission source was modeled as a volume source.

The Department's completed checklist (Appendix C of the Department's Guidance Document) is provided in Attachment 3-C.

3.10 ELECTRONIC COPIES OF MODELING FILES

Data input and output files are included in Attachment 3-D. The files were compressed using WINZIP.

The following 7.5-minute USGS DEM files are being submitted:

- Post Falls
- Liberty Lake

TABLE 3-5
SUMMARY OF AERMOD MODEL RESULTS: PM_{10}
AIR DISPERSION ANALYSIS – NAAQS EVALUATION
ALK-ABELLÓ , POST FALLS, IDAHO

Averaging Period	Primary NAAQS ($\mu g/m^3$)	Secondary NAAQS ($\mu g/m^3$)	Year	Highest Off-site Concentration ($\mu g/m^3$)		Sixth Highest Off-site Concentration ($\mu g/m^3$)	
				Without Background	Including Background	Without Background	Including Background
24-hour	150	150	1987 - 1991	--	--	43.4	110.4
Annual	50	50	1987 - 1991	14.1	37.8	--	--

Note: Off-site concentrations include 20 percent "safety factor" as requested by the Department.

TABLE 3-6
SUMMARY OF AERMOD MODEL RESULTS: NO_2
AIR DISPERSION ANALYSIS – NAAQS EVALUATION
ALK-ABELLÓ, POST FALLS, IDAHO

Averaging Period	Primary NAAQS ($\mu g/m^3$)	Secondary NAAQS ($\mu g/m^3$)	Year	Highest Off-site Concentration ($\mu g/m^3$)	
				Without Background	Including Background
Annual	100	100	1987	12.4	44.4
			1988	13.8	45.8
			1989	12.8	44.8
			1990	14.5	46.5
			1991	12.9	44.9

Note: Off-site concentrations include 20 percent "safety factor" as requested by the Department.

TABLE 3-7
SUMMARY OF AERMOD MODEL RESULTS: PERCHLOROETHYLENE
AIR DISPERSION ANALYSIS – TAPS EVALUATION
ALK-BELLÓ, POST FALLS, IDAHO

Averaging Period	TAP ($\mu g/m^3$)	Year	Highest Off-site Concentration ($\mu g/m^3$)	
			Without Background	Including Background
Annual	2.1	1987-1991	0.36	0.36

Note: Offsite concentrations include 20 percent "safety factor" as requested by the Department.

3.11 REPORT REVISION LOG

April 2009 Revision – The report was revised to reflect changes to the model to include a proposed Greenhouse at the facility. Specifically, the revisions include the following:

- A Greenhouse, including future portions, replaced the portion of the building previously labeled as Future Section 2.
- One of the four boilers that was previously modeled as SRC 1 was moved to a new source, SRC 1A. SRC 1 now consists of three boilers exhausting through one stack (a conservative assumption) and SRC 1A includes one boiler venting through its own stack.
- The models were re-run to account for to the change in building footprint and the relocation of one of the boilers.

ATTACHMENT 3-A

DISPERSION MODELING PROTOCOL, DEPARTMENT COMMENTS, AND FOLLOW-UP CORRESPONDENCE

ENGINEERS

1720 Walton Road, Blue Bell, PA 19422 610-828-3078 Fax 610-828-7842

March 21, 2007

E-MAIL AND FIRST CLASS MAIL
Mr. Kevin Schilling
Air Quality Division
Idaho Department of Environmental Quality
1410 North Hilton
Boise, ID 83706

Subject: Dispersion Modeling Protocol
Biopol Laboratory, Inc.
Post Falls, Idaho
IES Project No. EHS07308.01

Dear Mr. Schilling:

On behalf of Biopol Laboratory, Inc. (Biopol), IES Engineers is pleased to submit this protocol for conducting the air dispersion modeling for the proposed Biopol facility in Post Falls, Idaho. The purpose of the modeling is twofold: (i) to determine the potential impacts of the proposed construction on the ambient air quality; and (ii) to establish emission limits to be incorporated in a Facility Emission Cap (FEC) permit.

As you know, Biopol will be submitting an application for a FEC permit under the Permit-to-Construct (PTC) program. The project schedule is very tight; therefore, we would appreciate the Department's expeditious review of this protocol. Additionally, as we discussed during our March 7, 2007, conference call, the Department will be providing the following information, which we would also appreciate obtaining as soon as possible:

- Five years of pre-processed meteorological data for the Post Falls area
- Background ambient air quality concentrations
- Source parameters for any nearby facilities that may need to be included in the model

This protocol is being submitted to satisfy the requirements of IDAPA 58.01.01.175 through181. The protocol follows the Department's *Modeling Protocol Template* as well as the appropriate requirements contained in the *State of Idaho Air Quality Modeling Guideline*. The following sections are included in this protocol:

- Project Description and Purpose of Modeling
- Modeling Applicability Assessment – including criteria pollutants and toxic air pollutants (TAPs)
- Modeling Analyses Methodology
- Model Input Data
- Outline for Modeling Report

1.0 PROJECT DESCRIPTION AND PURPOSE OF MODELING

Biopol Laboratory, Inc. (Biopol) is proposing to construct a new allergen purification facility in an industrial park on Lochsa Street in Post Falls, Idaho. The UTM coordinates of the approximate center of the facility are 499,676 meters east and 5,282,972 meters north. The facility will purify harvested pollen from timothy hay and other allergens for further processing elsewhere to produce vaccines for individuals with allergies. The facility will be constructed in phases; the modeling analysis will provide for the equipment that will be included in all phases anticipated over the next five years.

Emission sources at the facility will include boilers, an electric generator, water heaters, rooftop air handling units (which include pre-heating and humidification sections), house vacuum systems, laboratory hood exhaust vents, and process operations, which include a fluidized bed dryer and a filter/dryer. These operations will emit criteria pollutants: oxides of nitrogen (NO_x), carbon monoxide (CO), sulfur oxides (SO_x), volatile organic compounds (VOC), particulate matter; and toxic air pollutants (TAPs): acetone, ethanol, isopropyl alcohol, methanol, tetrachloroethylene (perchloroethylene), and petroleum ether. Emission control equipment is used to reduce emissions from two process sources: a high efficiency particulate air filter (HEPA) on the fluidized bed dryer/separator, and a vent condenser on the filter/dryer (de-fatting operation), both of which are associated with the Timothy Pollen processing operations.

Based on preliminary emission calculations, the proposed facility will be a minor source for all pollutants. In order to obtain the maximum operating flexibility, Biopol will be applying for a FEC permit, which will establish caps for each regulated pollutant and will allow the installation of currently unspecified equipment without having to re-open the permit. As part of the FEC requirements, air dispersion modeling must be performed for particulate matter less than or equal to 10 micrometers (PM_{10}), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and CO. Additionally, the model will be used to demonstrate that emissions of perchloroethylene (a TAP) will not cause an exceedance of the Acceptable Ambient Concentration (AACs) set forth in IDAPA 58.01.01.585 and 586.

The modeling analysis is being conducted to: (i) demonstrate that at the worst-case scenario of emissions and exhaust parameters, emissions under the facility emission cap will not cause an exceedance of the National Ambient Air Quality Standards (NAAQS) for PM_{10}, SO_2, NO_2, and CO; and (ii) demonstrate that emissions of perchloroethylene (the only TAP that exceeds the Screening Emission Level in IDAPA 58.01.01.586) will not exceed the AAC. In establishing the FEC, we will identify a number of scenarios of stack heights and locations, exhaust gas directions and velocities, and emission rates. We will use the model to evaluate each of these scenarios and identify the worst-case scenario from an ambient air quality perspective. Accordingly, future growth at the facility can be accommodated with the assurance that the emissions will not cause adverse impacts as long as they remain below the FEC.

2.0 EMISSION DATA

Biopol is proposing to limit its combined emissions of all regulated pollutants to between one and ten tons per year. Preliminary estimates of the potential facility-wide emissions are as follows:

Pollutant	Preliminary Estimate (tpy)	Sources
PM_{10}	0.80	Natural gas and diesel fuel combustion, process sources
SO_2	0.59	Natural gas and diesel fuel combustion
NO_2	3.08	Natural gas and diesel fuel combustion
CO	2.97	Natural gas and diesel fuel combustion
Perchloroethylene	0.08	Process sources

Peak, or worst-case emissions will be used in the dispersion analysis. As a conservative measure, we propose to model the peak emissions assuming 8,760 hours of operation per year. For sources whose design does not allow continuous operation (e.g., emergency electric generator), separate model runs will be conducted to demonstrate worst-case short-term and long-term ambient impacts.

All facility emission rates are well below the applicability thresholds of the Prevention of Significant Deterioration (PSD) and non-attainment New Source Review programs.

3.0 MODELING APPLICABILITY ASSESSMENT

3.1 Criteria Pollutant Modeling Applicability

A modeling analysis is generally required with each permit application for new construction with emissions exceeding the modeling thresholds. In Biopol's case, emissions are below the Department's internal modeling thresholds; however, since Biopol is applying for a FEC permit, modeling is required for criteria pollutants (PM_{10}, SO_2, NO_2, and CO). As we discussed, lead and volatile organic compounds (VOCs) are not being included in the analysis. The only source of lead emissions would be trace quantities from combustion of natural gas or diesel fuel. VOC emissions are low (approximately 0.69 tons per year) and there is no viable model available for modeling VOC emissions from individual facilities.

All stationary sources at the facility with the potential to emit PM_{10}, SO_2, NO_2, or CO will be included in the analysis, except that PM_{10} emissions from vehicle traffic on the facility property will not be included. "Trivial" activities, as defined by the Department, will also not be included

in the assessment. The facility roadways and parking lots will be paved, and given the nature of the operations at the facility, emissions from traffic will be minimal.

3.2 TAPs Modeling Applicability

Dispersion analysis of TAP emissions associated with the project is required if total emissions increases exceed TAP-specific regulatory screening emission levels (ELs). In Biopol's case, perchloroethylene is the only TAP for which emissions exceed the EL for carcinogens set forth in IDAPA 58.01.01.586; therefore, an air dispersion analysis is required for this pollutant. Perchloroethylene will be used in Timothy pollen processing and the Small Scale Manufacturing (SSM) operations and will be exhausted to the atmosphere through the laboratory ventilation system.

4.0 MODELING METHODOLOGY

4.1 Model Used

The American Meteorological Society (AMS) and the U.S. Environmental Protection Agency (EPA) jointly formed the AMS/EPA Regulatory Model Improvement Committee (AERMIC) to develop an accurate air quality model. They developed the AERMIC Dispersion Model (AERMOD). The AERMOD model (Version 07026) is accepted for regulatory analyses and is the recommended model for determining ground-level ambient air concentrations in all types of terrain. We propose to use AERMOD for the criteria and TAP pollutant analyses.

Under stable conditions, AERMOD uses a steady-state, Gaussian plume equation to calculate ambient concentrations from stacks. In unstable conditions, AERMOD uses a non-Gaussian probability density function to calculate ambient concentrations. Input variables to the model include: emission rates, stack heights, meteorological data, receptor locations (including sensitive receptors such as schools or hospitals), terrain elevations, and stack gas characteristics. The model can also be used to evaluate the effects of aerodynamic wakes and eddies that are formed by buildings and other structures on plume dispersion (PRIME model).

Review of a topographic map of the area around the proposed Biopol facility indicates that some of the receptors are in complex terrain. AERMOD has been developed to incorporate complex terrain considerations into the model output.

EPA's Building Profile Input Program (BPIP) algorithms will be used to determine the impacts of building downwash. Buildings on site will be included in the analysis; there are no significant structures off site. The results of the BPIP analysis will be incorporated into the AERMOD model.

IES uses a purchased software package (Trinity Breeze, Version 5.2.1) to interface with AERMOD to assist in setting up and running the model. However, we anticipate running the model without a graphical user interface as well.

4.2 Criteria Pollutant Modeling Methodology

This is a new facility; therefore, all proposed emission sources that potentially emit criteria pollutants (PM_{10}, SO_2, NO_2, and CO) will be included in the analysis, except that PM_{10} emissions from the paved roads will not be included.

As we discussed, other nearby sources (those within approximately 1,000 feet) will be included in the modeling analysis. Buck Knives is located adjacent to the property. As requested, we provided UTM coordinates (see Section 1.0) so that the Department can provide emissions, coordinates, and exhaust parameters for nearby sources that should be included in this analysis.

Modeling will be conducted to demonstrate compliance with the following ambient concentrations and averaging periods:

Pollutant	Averaging Time	Standard ($\mu g/m^3$)	Model Value Used
CO	1-hour	40,000	Second highest hourly value (i.e., not to be exceeded more than once a year)
	8-hour	10,000	Second highest hourly value (i.e., not to be exceeded more than once a year)
NO_2	Annual	100	Maximum value (i.e., not to be exceeded in any calendar year)
SO_2	3-hour	1,300	Second highest hourly value (i.e., not to be exceeded more than once a year)
	24-hour	365	Second highest hourly value (i.e., not to be exceeded more than once a year)
	Annual	80	Maximum value (i.e., not to be exceeded in any calendar year)
PM_{10}	24-hour	150	Second highest daily value (i.e., not to be exceeded more than once a year)
	Annual	50	Maximum value (i.e., not to be exceeded in any calendar year)

Background concentrations will be included in the analysis. The Department will provide the background concentrations for each modeled criteria pollutant (PM_{10}, SO_2, NO_2, and CO).

4.3 TAP Modeling Methodology

A screening-level dispersion analysis will be conducted to demonstrate that the maximum off-site concentration of perchloroethylene will not exceed the AAC (2.1 $\mu g/m^3$ averaged over a 1-year period). We will model the maximum perchloroethylene emission rate and the worst-case dispersion parameters. The modeling will be conducted using AERMOD and the highest annual concentration will be compared against the AAC.

5.0 MODEL INPUT DATA

Table 1 presents a summary of the model input parameters that are proposed for the analysis using AERMOD.

The ambient air boundary for the facility is the property line. The facility is located in an industrial park and is not used by the general public. Security measures, including signs, will be implemented to discourage public access to the property. This was discussed with the Department during a pre-application meeting on January 31, 2007; the Department concurs with this approach.

A Cartesian receptor grid and a discrete receptor grid will be used to determine the maximum off-site impact. Based on screening-level model runs conducted using EPA's SCREEN 3 model, the anticipated maximum off-site concentration is well within 1 kilometer of the facility. A receptor grid extending 3 kilometers in all directions from the approximate center of the facility is proposed. The grid spacing for the grid is 50-meters. Receptors will be placed along the property line at a minimum spacing of 25 meters.

Table 1
Summary of AERMOD Model Input Parameters for
Air Dispersion Analysis

Model Option	Value Selected
Calculate concentration or deposition	Concentration
Rural or urban option	Rural; specific breakdown, by sector, to be provided by DEQ.
Dry or wet depletion	None
Regulatory default option	Yes
Averaging period	PM_{10}: 24-hour and annual CO: 8-hour and 1-hour SO_2: 3-hour, 8-hour, and annual NO_2: annual TAP: annual
Meteorological data	Data to be provided by DEQ.
Wind profile exponents	Default
Vertical temperature gradients	Default
Grid system	Discrete receptors every 25 m at property line and Cartesian grid system as 3 km around the plant at 50-m spacing.
Terrain elevations	Elevated; elevations are imported from 7.5-Minute USGS Digital Elevation Models at 30 m resolution
Flagpole receptors	Option not used
Building wake effects	Yes, as determined by EPA's BPIP model and incorporated into AERMOD.

5.1 Meteorological Data

Based on our recent discussions, the Department will provide meteorological data for the most recent five-year period, to be used in the AERMOD analysis. The Department has determined that these data are representative of the Post Falls area. It is our understanding that the Department has already processed the meteorological data.

5.2 Emission Release Parameters

Source parameters will be based on anticipated worst-case information, such as emission rates and release parameters. IES anticipates performing several modeling runs to ensure that the worst-case release scenario has been established. If the worst-case parameters include a horizontal release, vertical release with a rain cap, volume or area source, IES will consult with the Department's modeling staff.

5.3 Elevation Data

United States Geological Survey (USGS) Digital Elevation Model (DEM) files will be imported to determine elevations. 7½-minute DEMs with a resolution of 30 meters will be used. Based on the size of the proposed receptor grid, the Post Falls, Idaho and Liberty Lake, Washington-Idaho quadrangle DEM files will be used. Copies of the actual DEM data used in the analysis can be provided with the modeling report.

6.0 TECHNICAL REPORT

A technical report will be prepared and included as a section with the FEC application discussing the results of the air dispersion analysis. This report will include the following information:

- Introduction/Background – including purpose of modeling analysis
- Discussion of Methodology – including justification for model
- Input Parameters – including source input data, building downwash information, receptor locations, and meteorological data in electronic format.
- Results of Ambient Impact Analysis – including maximum off-site concentrations, and comparisons with the AAC or NAAQSs. Copies of the model input and output files will also be included in electronic format.

We greatly appreciate your efforts in expediting review of this protocol. Please do not hesitate to contact Bob Schlosser or me if you should have any questions.

Sincerely,

Marjorie J. Fitzpatrick /e/
Marjorie J. Fitzpatrick, QEP
Principal Project Manager

cc: W. Rogers, DEQ
J. Pettit, DEQ
S. Sonde, Biopol
M. Sawatzky, Biopol
E. Tannebaum, IPS
E. Flagg, IPS
R. Schlosser, IES
A. Soni, IES

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton, Boise, ID 83706 · (208) 373-0502

C. L. "Butch" Otter, Governor
Toni Hardesty, Director

March 27, 2007

Marjorie J. Fitzpatrick
IES Engineers
Blue Bell, PA

RE: Modeling Protocol for the Biopol Laboratory, Inc. Facility Located in Post Falls, Idaho

Marjorie:

DEQ received your dispersion modeling protocol on March 21, 2007. The modeling protocol was submitted on behalf of Biopol Laboratory, Inc. The modeling protocol proposes methods and data for use in the ambient impact analyses of a Permit to Construct application, utilizing a Facility Emissions Cap (FEC), for a new allergen purification facility in Post Falls, Idaho.

The modeling protocol has been reviewed and DEQ has the following comments:

- Comment 1: DEQ modeling staff utilizes two types of modeling thresholds. The first is an emissions level below which modeling is rarely needed. If facility-wide emissions will remain below these levels, modeling is not necessary, even for a FEC permit. These thresholds are as follows: CO = 14 pounds per hour; NOx = 1 ton per year; SO2 = 1 ton per year and 0.2 pounds per hour; PM10 = 1 ton per year and 0.2 pounds per hour; lead = 100 pounds per month. The second level of modeling thresholds identifies emissions rates below which modeling is typically not required; however, DEQ will make the determination on a case-by-case basis considering the characteristics of the release the potentially exposed public. These threshold levels are as follows: CO = 70 pounds per hour; NOx = 7 ton per year; SO2 = 7 ton per year and 0.9 pounds per hour; PM10 = 7 ton per year and 0.9 pounds per hour. For most FEC permits, modeling should be conducted if emissions are greater than the first-level threshold and les than the second-level threshold.

  The modeler should compare the thresholds to the projected emissions to generally govern the refinement of the analyses needed to demonstrate compliance for a FEC permit. For emissions substantially above the thresholds, especially if resulting modeled impacts are near applicable air quality standards, the FEC modeling analysis should thoroughly evaluate potential scenarios for operational variability and future growth, evaluating multiple scenarios of stack configurations and/or potential building configurations. If emissions are only slightly greater than first-level thresholds, then a more simplistic approach may be adequate.

- Comment 2: The application should provide documentation and justification for stack parameters used in the modeling analyses, clearly showing how stack gas temperatures

and flow rates were estimated. In most instances, applicants should use typical parameters, not maximum temperatures and flow rates.

- Comment 3: Spokane, Washington meteorological data are the most representative of reasonably available, processed data, although these data are of questionable representativeness for conditions in Post Falls, Idaho. To account for this greater uncertainty, modeled impacts (before inclusion of a background concentration) should be increased by 20 percent. If compliance cannot be demonstrated with this increase, DEQ dispersion modeling staff should be consulted to evaluate potential alternative methods.

- Comment 4: The proposed receptor grid appears reasonable. However, it is the applicant's responsibility to use a sufficiently tight receptor network such that the maximum modeled concentration is reasonably resolved. If DEQ conducts verification modeling analyses with a tighter receptor grid and compliance with standards is no longer demonstrated, the permit will be denied.

- Comment 5: When modeling carcinogenic TAPs (IDAPA 58.01.01.586), the applicant may use a 5-year meteorological data set, using the period average concentration, rather than five separate 1-year data sets. When modeling for short-term PM10 standard compliance the applicant may use a 5-year combined data set and use the maximum 6th high modeled concentration, rather than using the maximum 2nd high of each year modeled separately.

- Comment 6: A PM10 background concentration of 67 $\mu g/m^3$ for the 24-hour averaging period and 23.7 $\mu g/m^3$ for the annual averaging period is based on Post Falls monitoring data. For other criteria pollutants DEQ determined default background concentrations for small town/suburban areas are most appropriate for the Post Falls areal: CO 1-hr = 10,200 $\mu g/m^3$; CO 8-hr = 3,400 $\mu g/m^3$; NO_2 annual = 32 $\mu g/m^3$; SO_2 3-hr = 42 $\mu g/m^3$; SO_2 24-hr = 26 $\mu g/m^3$; SO_2 annual = 8 $\mu g/m^3$; Pb quarterly = 0.03 $\mu g/m^3$.

- Comment 7: No co-contributing sources were identified by DEQ in the area where the proposed facility will be located.

- Comment 8: Attached are Spokane meteorological files as processed through AERMET.

DEQ's modeling staff considers the submitted dispersion modeling protocol, with resolution of the additional items noted above, to be approved. It should be noted, however, that the approval of this modeling protocol is not meant to imply approval of a completed dispersion modeling analysis. Please refer to the *State of Idaho Air Quality Modeling Guideline*, which is available on the Internet at http://www.deq.state.id.us/air/permits_forms/permitting/modeling_guideline.pdf, for further guidance.

To ensure a complete and timely review of the final analysis, our modeling staff requests that electronic copies of all modeling input and output files (including BPIP, raw meteorological data files, AERMET input and output files, and AERMAP input and output files) are submitted with an analysis report. If DEQ provided model-ready meteorological data files, then these do not need to be resubmitted to DEQ with the application. If you have any further questions or comments, please contact me at (208) 373-0112.

Sincerely,

Kevin Schilling
Stationary Source Air Modeling Coordinator
Idaho Department of Environmental Quality
208 373-0112

Quintiliano, Sharon

From: Fitzpatrick, Marjorie
Sent: Tuesday, April 17, 2007 10:14 AM
To: Quintiliano, Sharon
Subject: FW: Biopol Issue with DEM Imports (EHS07308.01)

Marj Fitzpatrick, QEP
IES Engineers
1720 Walton Road
Blue Bell, PA 19422
610-828-3078
Fax: 610-828-7842
mfitzpatrick@iesengineers.com

-----Original Message-----
From: Kevin.Schilling@deq.idaho.gov [mailto:Kevin.Schilling@deq.idaho.gov]
Sent: Tuesday, April 03, 2007 6:18 PM
To: MFITZPATRICK@iesengineers.com
Subject: RE: Biopol Issue with DEM Imports (EHS07308.01)

Marjorie,

I opened your model input file a looked over things from the standpoint of how fast the model will run. I think the main issue is the 14,000 receptors. I would recommend you use multiple grid spacing within the same run. At locations along the property line out to about 50 meters you may want to use 10 - 25 meter spacing, but after you get out over 200 meters, you could probably go 100 meter spacing; and you could probably go to something like 500 meter spacing out beyond 1500 meters.

I'm still looking into the dem problem.

Kevin

From: Fitzpatrick, Marjorie [mailto:MFITZPATRICK@iesengineers.com]
Sent: Monday, April 02, 2007 1:05 PM
To: Kevin Schilling
Cc: Schlosser, Robert; Maye, Christopher
Subject: FW: Biopol Issue with DEM Imports (EHS07308.01)

As you requested, we are forwarding the issue we are having with the Biopol DEM files. Since we spoke, I found out that we also sent an e-mail to EPA to see if they have any thoughts on this as well. Since we are expecting the max at or near the property line, the unreasonable rise in elevation doesn't seem like something we want in the model runs.

If this isn't resolved in the next day, we will take you up on your suggestion of just running it in flat terrain. If we end up doing that, I'll send you an e-mail as a way to "document" our change in approach from the approved protocol.

Thanks for your assistance.

Marj Fitzpatrick, QEP
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1720 Walton Road
Blue Bell, PA 19422
610-828-3078
Fax: 610-828-7842
mfitzpatrick@iesengineers.com
-----Original Message-----
From: Maye, Christopher
Sent: Friday, March 30, 2007 5:04 PM
To: support@trinityconsultants.com
Cc: Fitzpatrick, Marjorie
Subject:

Please Help

I just called this request in at about 4:30 PM today.

The problem I am having is that I am getting abnormally high Height Scale values when I import the dem elevation data using AERMAP for the entire receptor grid.

Things I have tried:
I initially tried to import just the boundary receptors with the dem that surrounds the facility (8270 dem file). That yielded reasonable results.

I then tried a small discrete receptor grid that slightly extended into the dem file immediately east of the 8270 dem file, and the height scale appeared to give reasonable results.

However, when I tried to import the entire grid elevations, the height scales looked abnormally high in bands of receptors (as scrolling down in table view). I tried obtaining the dems from different sources (webgis.com first, then went to data.geocomm.com to determine if the problem was with the original dem, but had the same result.

Please let me know if you find anything that may help me resolve the problem.

I can be reached at this email address, and by phone at 610-828-3078, extension 302.

Thanks so much for your help.

Chris Maye
Senior Project Engineer
IES Engineers

Fitzpatrick, Marjorie

From: Darrin.Mehr@deq.idaho.gov
Sent: Monday, March 23, 2009 12:56 PM
To: Fitzpatrick, Marjorie
Cc: Michael.Sawatzky@alk-abello.com; Carole.Zundel@deq.idaho.gov
Subject: RE: ALK Abello Greenhouse Modeling (EHS09873.01)

Hi Marjorie,

The modeling of this source should be done as a point source. The building downwash algorithms should properly account for the two feet of stack height above the roofline. If it is a condensing type of boiler the exhaust temperature is going to be pretty low. I assume the vent will exhaust vertically and uninterrupted so the plume will at least have the momentum buoyancy to help out on impacts.

Am I correct in assuming that this modeling will be submitted as an addendum to your facility emission cap PTC application? If the permit has not been issued then that would be appropriate.

I've asked Carole Zundel to evaluate whether this will be part of the same project in the event the ALK Abello permit has not been issued yet.

Darrin Mehr
Air Quality Analyst
Monitoring, Modeling & Emissions Inventory
Idaho Department of Environmental Quality
Phone: 208-373-0536
Fax: 208-373-0143
e-mail: Darrin.Mehr@deq.idaho.gov

From: Fitzpatrick, Marjorie [mailto:MFITZPATRICK@iesengineers.com]
Sent: Friday, March 20, 2009 10:03 AM
To: Darrin Mehr
Cc: Michael Sawatzky (MSAUS)
Subject: ALK Abello Greenhouse Modeling (EHS09873.01)

We are doing some additional modeling for ALK Abello's facility in Post Falls to determine ambient impacts from a proposed Greenhouse. ALK Abello is proposing to replace one of the building sections that we identified as "future" in the last modeling report with a Greenhouse. The structure would be shorter than the "future" building section, but have a larger footprint. Additionally, one of the boilers that we modeled will be relocated to the Greenhouse.

Based on information that ALK Abello has received on the boiler, it will be a condensing type and it does not require a tall stack – only about 2 feet above the roof. Some state agencies have asked us to treat short stacks like this as a volume source. I didn't see anything in your modeling guidance regarding this situation and wanted to get your input before we complete the model runs. How would you like us to treat the short boiler stack at the proposed Greenhouse?

Thanks – if you have any questions, please contact me or Mike Sawatzky at 509-456-7794 x213.

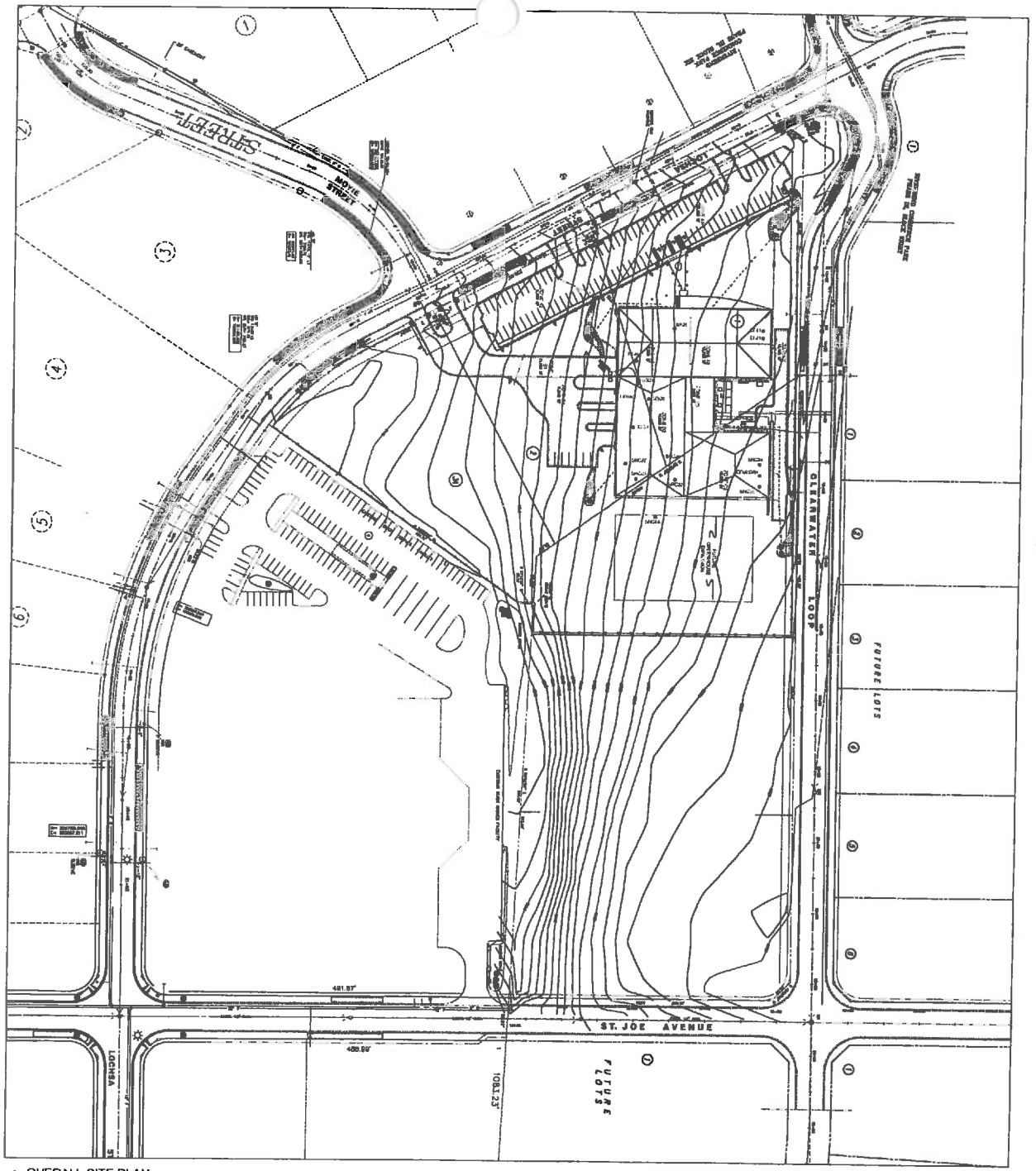
Marj Fitzpatrick, QEP
Principal Project Manager
IES Engineers
1720 Walton Road
Blue Bell, PA 19422
(610) 828-3078
(610) 828-7842 (fax)
mfitzpatrick@iesengineers.com

Think GREEN AND SUSTAINABILITY! Please do not print this email unless it is necessary.

APPENDIX 3-B

FACILITY SITE PLAN

STACK INFORMATION		
STACK I.D.	STACK DIA. (FT)	STACK HEIGHT (FT)
EF 2-1	1	40
EF 3-1	2	40
EF 4-1	2.4	40
EF 3-4	0.75	40
EF VAC	0.5	10
SRC 1	1.34	33.4
SRC 1A	0.75	42
SRC 5	0.5	33.4
SRC 8	1	12
EF 8-1	1.7	30.4
SRC 24	0.8	30.4
EF SMOKY	0.33	30.4
SRC 26	1.2	30.4
SRC 27	1.8	30.4
SRC 29	0.8	30.4
SRC 30	1.8	30.4
SRC 32	0.8	30.4



1 OVERALL SITE PLAN
1" = 60'-0"

Integrated Project Services

BIOPOL LABORATORY, INC.
IDAHO PROJECT

OVERALL SITE PLAN

A1.0

APPENDIX 3-C

DEPARTMENT'S APPENDIX C FORM

Idaho DEQ Air Dispersion Modeling Checklist

As a requirement of the air permitting process, an air dispersion modeling analysis (screening and/or refined) must be conducted. Air dispersion models are used to predict the potential impact a source may have on the air shed in which it is located. This checklist will aid in collecting all of the necessary information to perform a complete modeling analysis. The EPA's *Guideline on Air Quality Models* (EPA 2001) and this guideline should be used as a reference to ensure that the modeling techniques used will meet federal and state requirements. Please include sufficient computer disk copies of the DOS versions of input and output files so DEQ can reproduce model runs. DEQ must be able to rerun the input files on the DOS versions of the models. Copies of the meteorological data files used and all building information must also be included. A scaled plot plan showing the location of all structures and emission points needs to be submitted as part of the permitting application. It is strongly recommended that the facility contact the DEQ modeling coordinator prior to performing an air quality assessment to negotiate a modeling protocol. Units must be noted where appropriate, both English and metric units are acceptable.

It is important that the **most recent model versions** be utilized in any analysis.

1. Name of Applicant/Company:

   ALK-Abelló Source Material, Inc.

   Facility Description:

   Facility will purify allergens for subsequent production of vaccines at other locations.

   Dispersion Model(s) Used:

   AERMOD

2. Source Classification:

	PM_{10}	NO_x	PCE
Number of Point Sources (Section 3)	17	4	0
Number of Area Sources (Section 4)	0	0	0
Number of Volume Sources (Section 5)	0	0	1

3. Stack/Point Source Parameters (please include for each stack/point source modeled). List the **maximum** emissions rate(s) for each pollutant. NOTE: If the stack is not circular, use equivalent dimensions determined by AREA = $\pi d^2/4$, where d is the inner stack diameter. Units must be noted where appropriate, both English and metric units are acceptable. (Note: $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers)

Source SRC 1

PM_{10} 0.15 lb/hr $PM_{2.5}$ _____ NO_x 0.9 lb/hr SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 35.4 ft. Stack Diameter 1.34 ft. Stack Temperature 405 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source SRC 5

PM_{10} 0.02 lb/hr $PM_{2.5}$ _____ NO_x 0.12 lb/hr SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 35.4 ft. Stack Diameter 0.5 ft. Stack Temperature 394 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source SRC 6

PM_{10} 0.44 lb/hr[1] $PM_{2.5}$ _____ NO_x 12.36 lb/hr[2] SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 12 ft Stack Diameter 1 ft. Stack Temperature 975 °F

Stack Exit Velocity 9,900 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

[1] **0.60 lb/hr was used in the annual model run to show maximum impact at 500 hr/yr.**

[2] **16.93 lb/hr was used in the annual model run to show maximum impact at 500 hr/yr.**

3. Stack/Point Source Parameters (please include for each stack/point source modeled). List the **maximum** emissions rate(s) for each pollutant. NOTE: If the stack is not circular, use equivalent dimensions determined by AREA = $\pi d^2/4$, where d is the inner stack diameter. Units must be noted where appropriate, both English and metric units are acceptable. (Note: $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers)

Source EF 2-1

PM_{10} 0.0831 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 40 ft. Stack Diameter 1 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source EF 3-1

PM_{10} 0.5841 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 40 ft Stack Diameter 2 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source EF 4-1

PM_{10} 0.2691 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 40 ft. Stack Diameter 2.4 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

3. Stack/Point Source Parameters (please include for each stack/point source modeled). List the **maximum** emissions rate(s) for each pollutant. NOTE: If the stack is not circular, use equivalent dimensions determined by AREA = $\pi d^2/4$, where d is the inner stack diameter. Units must be noted where appropriate, both English and metric units are acceptable. (Note: $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers)

Source EF 3-4

PM_{10} 0.0429 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 40 ft. Stack Diameter 0.75 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source EF - VAC

PM_{10} 0.0429 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 10 ft. Stack Diameter 0.5 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source EF 9-1

PM_{10} 2422 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 30.4 ft. Stack Diameter 1.7 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

3. Stack/Point Source Parameters (please include for each stack/point source modeled). List the **maximum** emissions rate(s) for each pollutant. NOTE: If the stack is not circular, use equivalent dimensions determined by AREA = $\pi d^2/4$, where d is the inner stack diameter. Units must be noted where appropriate, both English and metric units are acceptable. (Note: $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers)

Source SRC 24

PM_{10} 0.110 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 30.4 ft. Stack Diameter 0.8 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source EF SMDMY

PM_{10} 0.0253 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 30.4 ft. Stack Diameter 0.39 ft. Stack Temperature 100° F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source SRC 26

PM_{10} 0.260 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 30.4 ft. Stack Diameter 1.2 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

3. Stack/Point Source Parameters (please include for each stack/point source modeled). List the **maximum** emissions rate(s) for each pollutant. NOTE: If the stack is not circular, use equivalent dimensions determined by AREA = $\pi d^2/4$, where d is the inner stack diameter. Units must be noted where appropriate, both English and metric units are acceptable. (Note: $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers)

Source SRC 27

PM_{10} 0.215 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 30.4 ft. Stack Diameter 1.6 ft. Stack Temperature 100 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source SRC 29

PM_{10} 0.040 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 30.4 ft. Stack Diameter 0.6 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source SRC 30

PM_{10} 0.215 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 30.4 ft. Stack Diameter 1.6 ft. Stack Temperature 100 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

3. Stack/Point Source Parameters (please include for each stack/point source modeled). List the **maximum** emissions rate(s) for each pollutant. NOTE: If the stack is not circular, use equivalent dimensions determined by AREA = $\pi d^2/4$, where d is the inner stack diameter. Units must be noted where appropriate, both English and metric units are acceptable. (Note: $PM_{2.5}$ refers to particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers)

Source SRC 31

PM_{10} 0.040 lb/hr $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 30.4 ft. Stack Diameter 0.6 ft. Stack Temperature 70 °F

Stack Exit Velocity 2,500 ft/min and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source SRC 1A

PM_{10} 0.05 lb/hr $PM_{2.5}$ 0.30 lb/hr NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height 22 ft. Stack Diameter 0.75 ft. Stack Temperature 95°F

Stack Exit Velocity 2,500 ft/min. and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) Vertical Rain Cap Present (Y or N) N

Source _____

PM_{10} _____ $PM_{2.5}$ _____ NO_x _____ SO_2 _____ CO _____ VOC _____

Toxic(s) (Please List): _____

Stack Height _____ Stack Diameter _____ Stack Temperature _____

Stack Exit Velocity _____ and/or Actual Stack Flow Rate _____

Stack Orientation (Horizontal or Vertical) _____ Rain Cap Present (Y or N) _____

4. Area Source Parameters (please include for each area source modeled). List the **maximum** emissions rate(s) for each pollutant. Units must be noted where appropriate, both English and metric units are acceptable.

Source________________ Not Applicable

PM_{10} __________ $PM_{2.5}$ __________ NO_x __________ SO_2 __________ CO__________ VOC __________

Toxic(s) (Please List):____

Source Height __________ Easterly Dimension __________________ Northerly Dimension ________________

Initial Vertical Dimension ____________________________ Angle from North ____________________

Source________________

PM_{10} __________ $PM_{2.5}$ __________ NO_x __________ SO_2 __________ CO__________ VOC __________

Toxic(s) (Please List):____

Source Height __________ Easterly Dimension __________________ Northerly Dimension ________________

Initial Vertical Dimension ____________________________ Angle from North ____________________

Source________________

PM_{10} __________ $PM_{2.5}$ __________ NO_x __________ SO_2 __________ CO__________ VOC __________

Toxic(s) (Please List):____

Source Height __________ Easterly Dimension __________________ Northerly Dimension ________________

Initial Vertical Dimension ____________________________ Angle from North ____________________

Source________________

PM_{10} __________ $PM_{2.5}$ __________ NO_x __________ SO_2 __________ CO__________ VOC __________

Toxic(s) (Please List):____

Source Height __________ Easterly Dimension __________________ Northerly Dimension ________________

Initial Vertical Dimension ____________________________ Angle from North ____________________

5. Volume Source Parameters (please include for each volume source modeled). List the **maximum** emissions rate(s) for each pollutant. Units must be noted where appropriate, both English and metric units are acceptable.

Source SRC 40

PM_{10} ________ $PM_{2.5}$ ________ NO_x ________ SO_2 ________ CO ________ VOC ________

Toxic(s) (Please List): Perchloroethylene - 0.166 tpy

Source Height 29 ft. Initial Horizontal Dimension 15.1 m

Initial Vertical Dimension 4.1 m

Source ________

PM_{10} ________ $PM_{2.5}$ ________ NO_x ________ SO_2 ________ CO ________ VOC ________

Toxic(s) (Please List): ________

Source Height ________ Initial Horizontal Dimension ________

Initial Vertical Dimension ________

Source ________

PM_{10} ________ $PM_{2.5}$ ________ NO_x ________ SO_2 ________ CO ________ VOC ________

Toxic(s) (Please List): ________

Source Height ________ Initial Horizontal Dimension ________

Initial Vertical Dimension ________

Source ________

PM_{10} ________ $PM_{2.5}$ ________ NO_x ________ SO_2 ________ CO ________ VOC ________

Toxic(s) (Please List): ________

Source Height ________ Initial Horizontal Dimension ________

Initial Vertical Dimension ________

6. Structure Parameters: **(Applies to any and all structures within the property boundary(ies) as well as nearby structures that may influence the dispersion of pollutants emitted by the source(s)).** Units must be noted where appropriate, both English and metric units are acceptable.

All Building Dimensions are in Feet.

Building Main Building ■ Note: Main Building is irregularly shaped.

Building Tier No. 1 Height: 29 Building Tier No. 1 Length: ~211 Building Tier No. 1 Width: 113.5

Building Tier No. 2 Height: _____ Building Tier No. 2 Length: _____ Building Tier No. 2 Width: _____

Building Tier No. 3 Height: _____ Building Tier No. 3 Length: _____ Building Tier No. 3 Width: _____

Building Utilities Section

Building Tier No. 1 Height: 25 Building Tier No. 1 Length: 135 Building Tier No. 1 Width: 50

Building Tier No. 2 Height: _____ Building Tier No. 2 Length: _____ Building Tier No. 2 Width: _____

Building Tier No. 3 Height: _____ Building Tier No. 3 Length: _____ Building Tier No. 3 Width: _____

Building Timothy Pollen Section

Building Tier No. 1 Height: 25 Building Tier No. 1 Length: 135 Building Tier No. 1 Width: 28

Building Tier No. 2 Height: _____ Building Tier No. 2 Length: _____ Building Tier No. 2 Width: _____

Building Tier No. 3 Height: _____ Building Tier No. 3 Length: _____ Building Tier No. 3 Width: _____

Building Future Section 1

Building Tier No. 1 Height: 25 Building Tier No. 1 Length: 213 Building Tier No. 1 Width: 92

Building Tier No. 2 Height: _____ Building Tier No. 2 Length: _____ Building Tier No. 2 Width: _____

Building Tier No. 3 Height: _____ Building Tier No. 3 Length: _____ Building Tier No. 3 Width: _____

Tank N/A Tank Height _____ Tank Diameter _____

Tank _____ Tank Height _____ Tank Diameter _____

Tank _____ Tank Height _____ Tank Diameter _____

Tank _____ Tank Height _____ Tank Diameter _____

6. Structure Parameters: **(Applies to any and all structures within the property boundary(ies) as well as nearby structures that may influence the dispersion of pollutants emitted by the source(s)).** Units must be noted where appropriate, both English and metric units are acceptable.

All Building Dimensions are in Feet.

Building Greenhouse (including future sections)

Building Tier No. 1 Height: 20 Building Tier No. 1 Length: 192 Building Tier No. 1 Width: 120

Building Tier No. 2 Height: ______ Building Tier No. 2 Length: ______ Building Tier No. 2 Width: ______

Building Tier No. 3 Height: ______ Building Tier No. 3 Length: ______ Building Tier No. 3 Width: ______

Building ____________________

Building Tier No. 1 Height: ______ Building Tier No. 1 Length: ______ Building Tier No. 1 Width: ______

Building Tier No. 2 Height: ______ Building Tier No. 2 Length: ______ Building Tier No. 2 Width: ______

Building Tier No. 3 Height: ______ Building Tier No. 3 Length: ______ Building Tier No. 3 Width: ______

Building ____________________

Building Tier No. 1 Height: ______ Building Tier No. 1 Length: ______ Building Tier No. 1 Width: ______

Building Tier No. 2 Height: ______ Building Tier No. 2 Length: ______ Building Tier No. 2 Width: ______

Building Tier No. 3 Height: ______ Building Tier No. 3 Length: ______ Building Tier No. 3 Width: ______

Building ____________________

Building Tier No. 1 Height: ______ Building Tier No. 1 Length: ______ Building Tier No. 1 Width: ______

Building Tier No. 2 Height: ______ Building Tier No. 2 Length: ______ Building Tier No. 2 Width: ______

Building Tier No. 3 Height: ______ Building Tier No. 3 Length: ______ Building Tier No. 3 Width: ______

Tank NA Tank Height ______________ Tank Diameter ______________

Tank ______________ Tank Height ______________ Tank Diameter ______________

Tank ______________ Tank Height ______________ Tank Diameter ______________

Tank ______________ Tank Height ______________ Tank Diameter ______________

7. Scaled Plot Plan: (Make sure that all of the buildings and tanks shown on the scaled plot plan are also listed in section 6.)

Emission Release Locations:_____ Buildings: on-site-only (On site and neighboring) Tanks: on-site-only (On site and neighboring)

Property Boundary(ies):_____ Potential Co-contributor(s):_____

Sensitive Receptors:_____

Note: A sensitive receptor is defined in IDAPA 58.01.01.007.10 as, "any residence, building, or location occupied or frequented by persons who, due to age, infirmity, or health-based criteria, may be more susceptible to the deleterious effects of a toxic air pollutant than the general population including, but not limited to, elementary and secondary schools, day care centers, playgrounds and parks, hospitals, clinics, and nursing homes".

8. Topographic Map Showing: NA - Aermod used.

Source Location(s) _____ Buildings _____ (On site and neighboring) Tanks _____ (On site and neighboring)

Property Boundary(ies) _____ Model Receptors _____

Maximum Impact Locations_____

9. Meteorology Used (upper air and surface data):

Site-Specific: Data provided by DEQ for 1987 - 91

A quality control and quality assurance analysis, consistent with EPA guidelines, should be included for any on-site data used other than that supplied by the NWS. Contact DEQ regarding the adequacy of this data before use.

NWS Data Representative of the Site _____

10. Land Use Classification:

Urban _____ Rural X (DEQ can be contacted for further guidance on source classification)

Justification:

Review of USGS topographic map of area.

Completeness Determination Questions:

- Was a modeling protocol approved by DEQ prior to permit application? Negotiating a modeling protocol with DEQ assures the general modeling approach will be accepted. Yes
- Is a justification given explaining why a particular dispersion model was used? Yes
- Did you document and justify input parameters and model settings? (Please include a written justification.) Yes
- Were grid receptors placed 100 to 500 meters apart for the initial modeling analysis in order to find the area of maximum impact? Yes
- Were grid receptors placed 25 to 50 meters apart in the area of maximum impact? Yes
- What ambient air quality standards apply (e.g., NAAQS, significance standards, acceptable ambient concentration for carcinogens and non-carcinogens (AACC, AAC, respectively), PSD increment standards)? TAP for perchloroethylene -- 2.1 µg/m ^{3} NAAQS for PM_{10} NO_x
- Were DEQ-approved background concentrations included in the modeling analysis (attainment and unclassified areas only)? Yes

Considerations for major pollution sources and sources subject to PSD regulations: NA

- Was DEQ contacted regarding the need for (and quality control of) pre-construction monitoring data?
- Was a visibility analysis performed?
- Was the area of significant impact documented?
- Were impacts included (on disk) at all integral UTM coordinates within the significant impact area?
- If a major facility (as defined in IDAPA 58.01.01.006.55), was cumulative increment consumption analyzed?

Signature of modeler (please print and sign name) Marjorie J. Fitzpatrick

Marjorie J. Fitzpatrick, QEP

Telephone Number 610-828-3078

Name of DEQ Modeling Contact Darrin Mehr

Telephone Number (208) 373-0536

APPENDIX 3-D

ELECTRONIC DATA FILES

Department of Environmental Quality - Air Quality Division
Exemption Criteria and Reporting Requirements for Toxic Air Pollutant (TAP) Emissions Checklist

This checklist is designed to assist in documenting that a facility qualifies and complies with the *Exemption Criteria and Reporting Requirements for Toxic Air Pollutants*, IDAPA 58.01.01.223.

☒ Refer to the Rule. Read the *Exemption Criteria and Reporting Requirements for Toxic Air Pollutant Emissions,* IDAPA 58.01.01.223 (Section 223), Rules for the Control of Air Pollution in Idaho (Rules).

General Information

☒ Fugitive toxic air pollutant emissions shall not be considered in determining whether a source meets the applicable exemption criteria. A list of toxic air pollutants is given in Rules Section 585 and 586.

☒ Toxic air pollutants are regulated in accordance with Rules Section 210 only from emission units constructed or modified on or after July 1, 1995.

☒ Record Retention. In accordance with Rules Section 220 the source shall maintain documentation on site which shall identify the exemption determined to apply to the source and verify that the source qualifies for the identified exemption. Documentation shall be kept for the life of the source (but not less than five years) or until a permit to construct or operating permit is issued which covers operation of the source.

☐ Annual Report. Facilities that have exempted toxic air pollutant emissions in accordance with a Level I, Level II, or Level III exemption shall submit a report labeled "Toxic Air Pollutant Exemption Report" by May 1 each year for exemptions claimed during the previous 12 month period. The report shall state the date construction has or will commence and shall include copies of all exemption determinations by the owner or operator for Level I, Level II, or Level III exemptions (Rules Section 223.05).

Below Regulatory Concern (BRC) Exemption (Rules Section 223.01)

☒ Calculate the uncontrolled emissions (Rules Section 210.05) of each toxic air pollutant from new emissions units. Uncontrolled emission rates are emissions at maximum capacity without the effect of physical or operational limitations. See Quantification of Emission Rates (Rules Section 210.02). Show calculations and state all assumptions.

☒ Calculate the increase of TAP emissions from modified emissions units. Show calculations and state all assumptions. The increase in TAP emissions from modified emission units which are aggregated and compared to the exemption criteria is determined by subtracting the potential to emit the TAP before the modification from the uncontrolled potential to emit after the modification. In conducting this analysis please note the following for TAP emission increase determinations:

- Uncontrolled emission rates after the modification are emissions at maximum capacity without the effect of physical or operational limitations.
- When determining the emissions increase from existing permitted emissions units the emission rate before the modification is equivalent to the TAP emission limits contained in the permit or,if there no emission limits in the permit, by determining what the emission rate is under the physical or operational limitations contained in the permit.
- The emission increase determination for TAPs described above only applies to determine what emissions increases are for comparing to the TAP exemption thresholds. This method shall not be used to determine if a modification will occur. Emissions increases for modifications are determined in accordance with IDAPA 58.01.01.006.63 and IDAPA 58.01.01007.04 (projected actual emissions are subtracted from baseline actual emissions to determine if an emissions increase **will** occur for modification determinations).

- Questions often arise regarding polyaromatic hydrocarbons as they are listed in Rules Section 586 of the Rules. The following two points are provided for clarification.

  1) The following group of 7 PAH's shall be combined and considered as one TAP equivalent in potency to benzo(a)pyrene:

     Benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a, h) anthrancene, chrysene, indeno(1,2,3,-cd) pyrene, benzo (a) pyrene

  2) All other PAH's are considered as a single pollutant and the emission of each is compared to the PAH increment listed in Rules Section 586.

☒ Aggregate the uncontrolled emissions increase of each TAP from new and modified emissions units.

☒ The source qualifies for a BRC exemption if the uncontrolled emission increase for all toxic air pollutants is less than or equal to 10% of the screening emission levels (EL) listed in Rules Section 585 & 586.

Level I Exemption (Rules Section 223.02)

☒ The uncontrolled emission rate from all new and modified emissions units shall be less than the applicable screening emission levels (EL) listed in Rules Section 585 & 586; or the uncontrolled ambient concentration for all toxic air pollutants shall be less than the applicable ambient concentration increment listed in Rules Sections 585 & 586. Calculate and document the uncontrolled emission rate from new and modified sources as described above.

☒ Aggregate the uncontrolled emissions increase of each TAP from new and modified emissions units.

☐ The source qualifies for a Level I exemption if the aggregated uncontrolled emissions from the new and modified emission units is less than or equal to all applicable screening emission levels (EL) listed in Rules Section 585 and 586.

☐ Model the uncontrolled emissions for each TAP from new emissions units and the increase in emissions from all modified emissions units. Refer to Quantification of Ambient Concentrations (Rules Section 210.03) and the State of Idaho Air Quality Modeling Guideline (http://www.deq.idaho.gov/air/data_reports/publications.cfm#model). Maintain electronic input, output, and BIPinput modeling files.

☐ The source qualifies for a Level I exemption if the uncontrolled ambient concentration from each new and modified emission unit is less than or equal to all applicable acceptable ambient concentration increments listed in Rules Section 585 and 586.

Level II and Level III Exemptions (Rules Sections 223.03 & 223.04)

☐ A stationary source may choose to document a Level II or Level III exemption. However Level II and Level III exemption criteria are more stringent than Level I exemption criteria. Consequently there is little practical use for these levels of exemptions. Therefore, this checklist does not detail Level II or Level III exemption criteria.

Department of Environmental Quality - Air Quality Division
Toxic Air Pollutant (TAP) Preconstruction Compliance Application Completeness Checklist

This checklist is designed to aid the applicant in submitting a complete preconstruction compliance demonstration for toxic air pollutants (TAPs) in permit to construct applications. The applicant must place a check mark in the box for each section below that applies.

I. Actions Needed Before Submitting Application

☒ Refer to the Rule. Read the Demonstration of Preconstruction Compliance with Toxic Standards contained in IDAPA 58.01.01.210 (Rules Section 210) Rules for the Control of Air Pollution in Idaho (Rules). Toxic air pollutants (TAPs) are regulated in accordance with Rules Section 210 only from emission units constructed or modified on or after July 1, 1995.

Determine if a new (constructed after June 30, 1995) emission unit has the potential to emit a TAP listed in IDAPA 58.01.01.585 (Rules Section 585) or IDAPA 58.0101.586 (Rules Section 586). Potential toxic air pollutants can be determined by reviewing commonly available emission factors, such as EPA's AP-42, or calculating emissions using a mass balance. For TAPs that are emitted but not listed in Rules Section 585 and 586, contact the Air Permit Hotline at 877-5PERMIT.

Determine if the proposed construction or modification is exempt from the need to obtain a permit to construct in accordance with IDAPA 58.01.01.220-223. Use the Exemption Criteria and Reporting Requirements for TAPs IDAPA 58.01.01.223 checklist to assist you in the exemption determination. If the source does not qualify for an exemption in accordance with IDAPA 58.01.01.220-223 complete the following checklist and submit it with the permit application. Please note that fugitive TAP emissions are not included in the IDAPA 58.01.01.223 exemption determination, but fugitive TAP emissions are included in the analysis if a permit is required. Stated another way: if a source is required to obtain a Permit to Construct because it does not meet the exemption criteria for any reason all TAP emissions, including fugitive TAPs, are included in the compliance demonstration in the application for the permit to construct. Should you have any questions regarding the fact that all TAPs, including fugitive TAPs, are included in the TAP preconstruction compliance demonstration submitted with a permit to construct application you may call the Air Permit Hotline at 877-5PERMIT.

Will the new or modified source result in new or increased potential emissions of TAPs?

☒ Yes. If yes, continue to section II. (Increase in lb/hour of acetone only, no change in tons/year)

☐ No. If no, no further action is required.

II. Application Content

If a new source has the potential to emit a TAP, or if a modification to an existing source increases the potential to emit of a TAP, then one of the following methods (A-J) of demonstrating TAP preconstruction compliance must be documented for each TAP. Standard methods are one of A-C. The applicant may also use one of the specialized methods in D-J. Fugitive TAP emissions shall be included in the analysis. The compliance methods are based on the requirements of Rules Section 210. Applicants are often able to demonstrate preconstruction TAP compliance using a combination of methods A and B.

Emission Calculations

Emissions calculation methodologies used are dependent on whether a specific TAP is a non-carcinogen or a carcinogen and whether the compliance method chosen from the list below calls

for controlled or uncontrolled emissions. Non-carcinogens are regulated based on a 24-hour averaging period and emission rates used for comparison to the non-carcinogen screening emissions level (EL) should be the maximum controlled or uncontrolled emissions quantity during any 24-hour period divided by 24. Carcinogens are regulated as a long term increment and emission rates used for comparison to the carcinogen EL should be the maximum controlled or uncontrolled emissions quantity during any 1 year period divided by 8760.

Modeling Analyses

Atmospheric dispersion modeling is required when controlled TAP emissions rates exceed ELs. Modeling analyses should be conducted in accordance with IDAPA 58.01.01.210.03. Quantification of Ambient Concentrations and the State of Idaho Air Quality Modeling Guideline (http;//www.deq.idaho.gov/air/data_reports/publications.cfm#model). For non-carcinogen 24-hour increments, compliance is demonstrated using the maximum modeled 24-hour-averaged concentration from available meteorological data (typically a five-year data set). For carcinogen long-term increments, compliance is demonstrated using the maximum modeled average concentration for the duration of the data set (one-year to five-year data set).

A submitted modeling report should clearly specify modeled emissions rates and results. All electronic model input files should be submitted, including BPIP input files.

Poly aromatic Hydrocarbons

Questions often arise regarding polyaromatic hydrocarbons as they are listed in Rules Section 586 of the Rules. The following two points are provided for clarification.

1) The following group of 7 PAH's (i.e. named POM), shall be combined and considered as one TAP equivalent in potency to benzo(a)pyrene:

   Benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a, h) anthrancene, chrysene, indeno(1,2,3,-cd) pyrene, benzo (a) pyrene

2) All other PAH's are considered as a single pollutant and the emission of each is compared the PAH increment listed in Rules Section 586.

Compliance Methods

Fill in letter(s) (A-J) from the list below for TAP compliance demonstration method(s) used: A.

A. TAPs Compliance Using Uncontrolled Emissions (Rules Section 210.05)

☒ Calculate the uncontrolled emissions (Rules Section 210.05) of each TAP from new emissions units. Uncontrolled emission rates are emissions at maximum capacity without the effect of physical or operational limitations. See Quantification of Emission Rates (Rules Section 210.02). Show calculations and state all assumptions.

☒ Calculate the increase of TAP emissions from modified emissions units. Show calculations and state all assumptions. The increase in emissions for a modified emission unit is determined by subtracting the potential to emit the TAP before the modification from the uncontrolled potential to emit after the modification. In conducting this analysis please note the following for TAP emission rate increase determinations:

Uncontrolled emission rates after the modification are emissions at maximum capacity without the effect of physical or operational limitations.

When determining the emissions increase from existing permitted emissions units the emission rate before the modification is equivalent to the emission limits contained in the permit for the

TAPs or, if there no emission limits in the permit, by determining what the emission rate is under the physical or operational limitations contained in the permit.

☒ Aggregate the uncontrolled emissions for each TAP from all new emissions units with the increase in emissions from all modified emissions units.

☒ If the aggregated emissions increase for each TAP from the new and modified units, as determined above, are less than or equal to the respective TAP screening emissions level (EL) then preconstruction compliance with toxic standards has been demonstrated and no further analysis is required. Submit a table comparing the uncontrolled emissions rate to the applicable EL.

If aggregated emissions are greater than the respective screening emissions level (EL) for any pollutants, use another compliance demonstration method for those pollutants, such as methods B, C, or D.

B. TAP Compliance Using Uncontrolled Ambient Concentration (Rules Section 210.06)

☐ Determine the uncontrolled emissions of each TAP from new emission units and the increase in emissions from all modified emissions units as described above in compliance Method A. Show calculations and state all assumptions.

☐ Model the uncontrolled emissions of each TAP from new emissions units and the increase in emissions from all modified emissions units.

☐ If the uncontrolled ambient concentration is less than or equal to the acceptable ambient concentration increment listed in Rules Section 585 and 586 no further procedures for demonstrating preconstruction compliance will be required for that TAP as part of the application process. Submit a table comparing uncontrolled ambient concentrations to the applicable acceptable ambient concentration.

C. TAP Compliance Using Controlled Ambient Concentrations (Rules Section 210.08)

☐ Determine the controlled emissions from new emissions units and the controlled emission increase from modified emissions units. Show all calculations and state all assumptions, including the control methods.

☐ Model the controlled emissions of each TAP from new emissions units and the increase in controlled emissions from all modified emissions units.

TAP emissions levels (EL) included in Rules Section 585 and 586 are derived based on generic modeling. If the sum the of emissions from new and modified sources is below the EL compliance is demonstrated without the need to conduct site-specific dispersion modeling.

☐ If the controlled ambient concentration from emission increases from new emissions units and modified emissions units is less than the applicable acceptable ambient concentration no further procedures for demonstrating preconstruction compliance are required.

☐ The Department shall include an emission limit for the TAP in the permit to construct that is equal to or, if requested by the applicant, less than the emission rate that was used in the modeling (Rules Section 210.08.c).

In some instances the Department may consider a throughput limit or other inherently-limiting operational restriction in a permit as an effective emission limit for the TAP, rather than including a specific emission rate limit.. Note that the applicant may model uncontrolled emissions as described in compliance Method B in an attempt to avoid TAPs emissions limitations.

D. TAPs Compliance for NSPS and NESHAP Sources (Rules Section 210.20)

☐ If the owner or operator demonstrates that the TAP emissions from the source or modification is regulated by 40 CFR Part 60, 40 CFR Part 61 or 40 CFR Part 63, no further procedures for demonstrating preconstruction compliance will be required for that TAP.

☐ Provide a demonstration that the TAP is regulated under 40 CFR Part 60, 40 CFR Part 61 or 40 CFR Part 63. This demonstration must be specific for each TAP emitted.

E. TAP Compliance Using Net Emissions (Rules Section 210.09)

An applicant may use TAP net emissions to show preconstruction compliance; however this analysis may require more work than some of the others procedures available to demonstrate preconstruction compliance. When netting, all emissions increases and decreases of the TAP that have occurred within five years must be included in the analysis as described below.

☐ Determine the net emission increase for a TAP. A net emissions increase shall be an emission increase from a particular modification plus any other increase and decreases in actual emissions at the facility that are creditable and contemporaneous with particular modification (Rules Section 210.09). Show all calculations and state all assumptions.

☐ A creditable increase or decrease in actual emissions is contemporaneous with a particular modification if it occurs within five (5) years of the commencement of the construction or modification (Rules Section 210.09.a).

Actual emissions are (Rules Section 006.03):

- ☐ In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a two year period which precedes the particular date and which is representative of normal source operation. The Department shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit's actual operating hours, productions rates, and types of materials processed, stored, or combusted during the selected time period.

- ☐ The Department may presume that the source-specific allowable emissions for the unit are equivalent to actual emissions of the unit.

- ☐ For any emission unit (except electric utility steam generating units) that has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.

☐ Do not include emissions increases from emission units that have an uncontrolled emission rate that is 10% or less than the applicable screening emission level (EL) in Rules Section 585 and 586 (Rules Section 007.09.c.ii) and do not include emission increases from environmental remediation sources (Rules Section 007.09.c.iii). Show all calculations and state all assumptions.

☐ If the net emission increase is less than or equal to the applicable screening emissions level (EL) listed in Rules Section 585 and 586, no further procedures for demonstrating preconstruction compliance will be required (Rules Section 210.09.c).

☐ The Department shall include emission limits and other permit terms for the TAP in the permit to construct that will assure that the facility will be operated in the manner described in the preconstruction compliance demonstration (Rules Section 210.09.d).

In some instances the Department may consider a throughput limit or other inherently-limiting operational restriction in a permit as an effective emission limit for the TAP. rather than including a specific emission rate limit..

F. TAP Compliance Using Net Ambient Concentration (Rules Section 210.10)

☐ Determine the emission increase from the new source or modification, and all other creditable emission increases and decrease using the methods described above in compliance Method E.

☐ Model the emissions increases and decreases for each TAP. Modeling TAP decreases is accomplished by using negative valued emissions rates in the model input.

☐ If the net ambient concentration is less than or equal to the applicable ambient concentration increment listed in Rules Section 585 and 586, no further procedures for demonstrating preconstruction compliance are required.

☐ The Department shall include emission limits and other permit terms for the TAP in the permit to construct that will assure that the facility will be operated in the manner described in the preconstruction compliance demonstration (Rules Section 210.10.d).

In some instances the Department may consider a throughput limit or other inherently-limiting operational restriction in a permit as an effective emission limit for the TAP, rather than including a specific emission rate limit..

G. TAP Compliance Using T-RACT Ambient Concentration for Carcinogens (Rules Section 210.12)

The applicant may use T-RACT to demonstrate preconstruction compliance for TAPs listed in Rules Section 586 only.

T-RACT is an emissions standard based on the lowest emission of TAPs that a particular source is capable of meeting by application of control technology that is reasonably available, as determined by the Department, considering technological and economic feasibility. If control technology is not feasible, the emission standard may be based on the application of a design, equipment, work practice or operational requirement, or combination thereof (Rules Section 007.16).

T-RACT Submittal Requirements

☐ The applicant shall submit the following information to the Department identifying and documenting which control technologies or other requirements the applicant believes to be T-RACT (Rules Section 210.14).

The technical feasibility of a control technology or other requirements for a particular source shall be determined considering several factors including but not limited to:

- ☐ Process and operating procedures, raw materials and physical plant layout.
- ☐ The environmental impacts caused by the control technology that can not be mitigated, including but not limited to, water pollution and the production of solid wastes.
- ☐ The energy requirements of the control technology.

The economic feasibility of a control technology or other requirement, including the costs of necessary mitigation measures, for a particular source shall be determined considering several factors including, but not limited to:

- ☐ Capital costs.
- ☐ Cost effectiveness, which is the annualized cost of the control technology divided by the amount of emission reduction.
- ☐ The difference in costs between the particular source and other similar sources, if any, that have implemented emissions reductions.

☐ Compare the source's or modification's approved T-RACT ambient concentration to the applicable acceptable ambient concentration increment listed in Rules Section 586 multiplied by a factor of 10. If the sources approved T-RACT concentration is less than or equal to 10 times the applicable acceptable ambient concentration increment listed in Rules Section 586, no further procedures for demonstrating preconstruction compliance will be required.

☐ If an application is submitted to the Department without T-RACT and determined complete, and T-RACT is later determined to be applicable the completeness determination of the application will be revoked until a supplemental application is submitted and determined complete. When the supplemental application is determined complete, the timeline for agency action shall be reinitiated (Rules Section 210.13.b).

☐ If the Department determines that the source has proposed T-RACT, the Department shall develop emission standards to be incorporated into a permit to construct.

In some instances, the Department may consider a throughput limit or other inherently limiting operational restriction in a permit as an effective emission limit for the TAP, rather than including a specific emission rate limit..

H. TAP Compliance Using the Short Term Source Factor (Rules Section 210.15)

☐ For short term sources, the applicant may utilize a short term adjustment factor of ten (10) only for a carcinogenic pollutant listed in Rules Section 586. For a carcinogen listed in Rules Section 586 multiply either the applicable acceptable ambient concentration increment or the screening emission rate (EL), but not both, by ten (10) to demonstrate preconstruction compliance (Rules Section 210.15).

☐ A short term source is any new stationary source or modification to an existing source, with an operational life no greater than five (5) years from the inception of any operations to cessation of actual operations (Rules Section 210.15).

I. TAP Compliance for Environmental Remediation Sources (Rules Section 210.16)

☐ For remediation sources subject to or regulated by the Resource Conservation and Recovery Act and the Idaho Rules and Standard for Hazardous Waste, or the comprehensive Environmental Response, Compensation and Liability Act or a consent order, if the estimated ambient concentration is greater than the acceptable ambient impact increment listed in Rules Section 585 and 586, Best Available Control Technology shall be applied and operated until the estimated uncontrolled emission from the remediation source are below the applicable acceptable ambient concentration increment (Rules Section 210.16).

J. TAP Compliance Using Offset Ambient Concentration (Rules Section 210.11)

☐ Contact the Department prior to proposing to utilize Offset Ambient Concentrations to demonstrate preconstruction compliance.

☐ Emission offsets must satisfy the requirements for emission reduction credits (Rules Section 460).

- The proposed level of allowable emissions must be less than the actual emissions of the emissions units providing the offsets (Rules Section 460.01).
- An air quality permit must be issued that restricts the potential to emit of the emission unit providing the offset.
- Emission reduction imposed by local, state or federal regulations or permits shall not be allowed.

☐ Compare the source's or modifications approved emission offset ambient concentration to the applicable acceptable ambient concentration listed in Rules Section 585 and 586. If the source's or modifications approved offset concentration is less than the acceptable ambient concentration listed in Rules Section 585 and 586, no further procedures for demonstrating preconstruction compliance will be required.

☐ The Department shall include emission limits and other permit terms for the TAP in the permit to construct that will assure that the facility will be operated in the manner described in the preconstruction compliance demonstration (Rules Section 210.10.d).

Department of Environmental Quality
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline - 1-877-5PERMIT

Department of Environmental Quality - Air Quality Division
Minor Source Permit to Construct Application Completeness Checklist

This checklist is designed to aid the applicant in submitting a complete permit to construct application.

I. Actions Recommended Before Submitting Application

☒ Refer to the Rule. Read the Permit to Construct requirements contained in IDAPA 58.01.01.200-228, Rules for the Control of Air Pollution in Idaho. The Rules are available on DEQ's website (go to http://adm.idaho.gov/adminrules/rules/idapa58/0101.pdf).

☒ Refer to DEQ's Permit to Construct Guidance Document. DEQ has developed a guidance document to aid applicants in submitting a complete permit to construction application. The guidance document is located on DEQ's website (go to http://www.deq.idaho.gov/air/permits_forms/permitting/ptc_prepermit_guidance.pdf).

☒ Consult with DEQ Representatives. It is recommended that the applicant schedule a pre-application meeting with DEQ to discuss application requirements before submitting the permit to construct application. The meeting can be in person or on the phone. Contact DEQ's Air Quality Hotline at **877-5PERMIT** to schedule the pre-application meeting.

☐ Submit Ambient Air Quality Modeling Protocol. It is strongly recommended that an ambient air quality modeling protocol be submitted to DEQ at least two (2) weeks before the permit to construct application is submitted. Contact DEQ's Air Quality Hotline at **877-5PERMIT** for information about the protocol.

II. Application Content

Application content should be prepared using the checklist below. The checklist is based on the requirements contained in IDAPA 58.01.01.202.

☒ Apply for a Permit to Construct. Submit a Permit to Construct application using forms available on DEQ's website at http://www.deq.idaho.gov/air/permits_forms/forms/ptc_general_application.pdf.

☒ Permit to Construct Application Fee. The permit to construct application fee of $1000 must be submitted at the time the original permit to construct application is submitted. Refer to IDAPA 58.01.01.224. If the permit to construct application is withdrawn or denied and a new application is submitted, a new $1,000 application fee is required to be submitted. The application fee is not transferable or refundable. The application fee can be paid by check, credit card or Electronic Funds Transfer (EFT). If you choose to pay by credit card or EFT, please refer to the following Access Idaho link:
https://www.accessidaho.org/secure/deq/payport/item.html?id=511
If you choose to pay by check, enclose the check with your permit to construct application.

☒ Process Description(s). The process or processes for which construction is requested must be described in sufficient detail and clarity such that a member of the general public not familiar with air quality can clearly understand the proposed project. A process flow diagram is required for each process.

☒ Equipment List. All equipment that will be used for which construction is requested must be described in detail. Such description includes, but is not limited to, manufacturer, model number or other descriptor, serial number, maximum process rate, proposed process rate, maximum heat input capacity, stack height, stack diameter, stack gas flowrate, stack gas temperature, etc. All equipment that will be used for which construction is requested must be clearly labeled on the process flow diagram.

☒ Potential to Emit. Submit the uncontrolled potential to emit (pre-control equipment emissions estimates) and the controlled potential to emit (post-control equipment emissions estimates) for all equipment for which construction is requested. Any limit on the equipment for which is construction is requested may become a

limit on that equipment in the permit to construct.

☒ Potential to Emit and Modeled Ambient Concentration for All Regulated Air Pollutants. All proposed emission limits and modeled ambient concentrations for all regulated air pollutants must demonstrate compliance with all applicable air quality rules and regulations. Regulated air pollutants include criteria air pollutants, toxic air pollutants listed pursuant to IDAPA 58.01.01.585 and 586, and hazardous air pollutants listed pursuant to Section 112 of the 1990 Clean Air Act Amendments (go to http://www.epa.gov/ttn/atw/188polls.html). Describe in detail how the proposed emissions limits and modeled ambient concentrations demonstrate compliance with each applicable air quality rule and regulation. It is requested that emissions calculations, assumptions, and documentation be submitted with sufficient detail so DEQ can verify the validity of the emissions estimates.

☒ Scaled Plot Plan. It is required a scaled plot plan be included in the permit to construct application and it must clearly label the location of each proposed process and the equipment that will be used in the process.

☒ List all Applicable Requirements. All applicable requirements must be cited by the rule or regulation section/subpart that applies for each emissions unit.

☒ Certification of Permit to Construct Application. The permit to construct application must be signed by the Responsible Official and must contain a certification signed by the Responsible Official. The certification must state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Refer to IDAPA 58.01.01.123.

☒ Submit the Permit to Construct Application. Submit the permit to construct application and application fee to the following address:

Air Quality Program Office – Application Processing
Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706-1255