Desert View Power, LLC an affiliate of
Greenleaf POWER

Mr. Gerardo Rios
Chief Permit Office
Air Division (Mail Code - Air-3)
75 Hawthorne Street
San Francisco, CA 94105

RE: New Source Review Administrative Permit Revision
Desert View Power Facility (Permit No. CB-OP 99-01 – Formally Colmac Energy Inc.)

Dear Mr. Rios,

Desert View Power, LLC (DVP) is submitting to the Environmental Protection Agency Region IX (EPA) an administrative permit amendment pursuant to 40 CFR § 49.159(f) for a pre-construction review of a Hydrochloric Acid (HCl) emissions control systems with associated material handling equipment. Additionally, DVP is requesting that the attached application be incorporated into the previously submitted application for renewal of the Title V Operating Permit (CB-OP 99-01).

DVP is proposing to install one (1) silo and material conveying system to supply dry sorbent and two (2) hoppers to supply ash conditioning material to the existing Boilers 1 & 2. The existing limestone injection system will be utilized to inject the ash conditioning material. The addition of the Dry Sorbent Injection (DSI) will improve Hydrochloric Acid (HCl) emissions control in accordance with the compliance requirements of the April 2016 MACT requirements. The additional hoppers for ash conditioning material will improve the downstream ash characteristics resulting in a reduction in the severity of fouling in the back-pass of the boilers.

The following attachments should complete the application for New Source Review Administrative Permit Revision:

- FEDERAL MINOR NEW SOURCE REVIEW PROGRAM IN INDIAN COUNTRY Application for New Construction (Form NEW)
- Section D Attachments
  - Narrative description of the proposed production process
  - Process flow chart identifying components
  - List and description of all proposed emissions units
  - Type and quantity of fuel
  - Type and quantity of raw materials
  - Proposed operating schedule

- List and description of all proposed emissions control equipment.
- Criteria Pollutant Emissions calculations

The installation and operation of this equipment is necessary to ensure compliance with the April, 2016 MACT requirements for this facility. Prompt processing and approval of this application is critical to DVP's compliance schedule. If you have any questions or comments, please contact Craig Bressan at (916) 596-2515.

Sincerely,

James R. Huffman
Vice President of California Operations
Greenleaf Power, LLC
2600 Capital Ave Suite 430
Sacramento, CA 95816

Desert View Power, LLC
62-300 Gene Welmas Dr., Mecca CA 92254
Phone: (760) 262-1653 Fax: (760) 396-0410

Certification of Truth and Accuracy

Company Name: Desert View Power, LLC	Facility ID: **CB-OP 99-01**

I declare, under penalty of perjury under the laws of the state of California that based on information and belief formed after reasonable inquiry, the statements and information provided in the document are true, accurate, and complete.

Signature of Responsible Official

02/05/2015
Date

James R. Huffman
Name of Responsible Official

Vice President of California Operations
Title of Responsible Official

OMB Control No. 2060-0003
Approval expires 04/30/2017

United States Environmental Protection Agency Region IX, Air Division 75 Hawthorne Street San Francisco, CA 94105 Phone (415) 947-3579 Fax http://www.epa.gov/region9/air/tribal/index.html	*Reviewing Authority* *Program* *Address* *Phone* *Fax* *Web address*

FEDERAL MINOR NEW SOURCE REVIEW PROGRAM IN INDIAN COUNTRY

Application for New Construction

(Form NEW)

Please check all that apply to show how you are using this form:

- ☐ **Proposed Construction of a New Source**
- ☐ **Proposed Construction of New Equipment at an Existing Source**
- ☐ **Proposed Modification of an Existing Source**
- x **Other – Please Explain** *Administrative permit Amendment*

Please submit information to:

U.S. EPA Region 9
75 Hawthorne Street
Air Division (Air-3)
Attn: Tribal NSR
San Francisco, CA 94105

A. GENERAL SOURCE INFORMATION

1. (a) **Company Name** Greenleaf Power, LLC (b) **Operator Name** Desert View Power, LLC		2. **Source Name** Desert View Power, LLC	
3. Type of Operation Electricity Generation		4. Portable Source? ☐ Yes **X** No 5. Temporary Source? ☐ Yes **X** No	
6. NAICS Code 221119		7. SIC Code 4911	
8. Physical Address (home base for portable sources) 62-300 Gene Welmas Drive, Mecca, CA 92254			
9. Reservation* Cabazon Reservation	10. County* Riverside County	11a. Latitude* 33.594255	11b. Longitude* -116.08053
12a. Quarter Quarter Section* Southern	12b. Section* Section 6	12c. Township* 70 South	12d. Range* 90 East of San Bernardino Baseline and Meridian

*Provide all proposed locations of operation for portable sources

B. PREVIOUS PERMIT ACTIONS (Provide information in this format for each permit that has been issued to this source. Provide as an attachment if additional space is necessary)

Source Name on the Permit Colmac Energy, Inc. – Mecca Plant
Permit Number (xx-xxx-xxxxx-xxxx.xx) CB-OP-99-01
Date of the Permit Action 08/02/2000 Final Permit

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

C. CONTACT INFORMATION

Company Contact **Craig Bressan**	Title EH&S Manager
Mailing Address 2600 Capital Ave. Suite 430, Sacramento, CA 95816	
Email Address cbressan@greenleaf-power.com	
Telephone Number (916) 596-2515	Facsimile Number (916) 520-1725
Operator Contact (if different from company contact) Keith Speak	Title DVP Plant Manager
Mailing Address 62-300 Gene Welmas Drive, Mecca, CA 92254	
Email Address kspeak@greenleaf-power.com	
Telephone Number (760) 262-1653	Facsimile Number (760) 396-0410
Source Contact Keith Speak	Title DVP Plant Manager
Mailing Address 62-300 Gene Welmas Drive, Mecca, CA 92254	
Email Address kspeak@greenleaf-power.com	
Telephone Number (760) 262-1653	Facsimile Number (760) 396-0410
Compliance Contact Keith Speak	Title DVP Plant Manager
Mailing Address 62-300 Gene Welmas Drive, Mecca, CA 92254	
Email Address kspeak@greenleaf-power.com	
Telephone Number (760) 262-1653	Facsimile Number (760) 396-0410

D. ATTACHMENTS

Include all of the following information (see the attached instructions)

Details to the following are included in Attachment 1

(N/A) FORM SYNMIN - New Source Review Synthetic Minor Limit Request Form, if synthetic minor limits are being requested.

X Narrative description of the proposed production processes. This description should follow the flow of the process flow diagram to be submitted with this application.

X Process flow chart identifying all proposed processing, combustion, handling, storage, and emission control equipment.

X A list and descriptions of all proposed emission units and air pollution-generating activities.

X Type and quantity of fuels, including sulfur content of fuels, proposed to be used on a daily, annual and maximum hourly basis.

X Type and quantity of raw materials used or final product produced proposed to be used on a daily, annual and maximum hourly basis.

X Proposed operating schedule, including number of hours per day, number of days per week and number of weeks per year.

X A list and description of all proposed emission controls, control efficiencies, emission limits, and monitoring for each emission unit and air pollution generating activity.

Details to the following are included in Attachment 2

X Criteria Pollutant Emissions - Estimates of Current Actual Emissions, Current Allowable Emissions, Post-Change Uncontrolled Emissions, and Post-Change Allowable Emissions for the following air pollutants: particulate matter, PM_{10}, $PM_{2.5}$, sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, ammonia (NH_3), fluorides (gaseous and particulate), sulfuric acid mist (H_2SO_4), hydrogen sulfide (H_2S), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates.

These estimates are to be made for each emission unit, emission generating activity, and the project/source in total.

(N/A) Modeling – Air Quality Impact Analysis (AQIA)

(N/A) ESA (Endangered Species Act)

(N/A) NHPA (National Historic Preservation Act)

E. TABLE OF ESTIMATED EMISSIONS

The following tables provide the total emissions in tons/year for all pollutants from the calculations required in Section D of this form, as appropriate for the use specified at the top of the form.

E(i) – Proposed New Source

Pollutant	Potential Emissions (tpy)	Proposed Allowable Emissions (tpy)
PM	0.57	< 1.0
PM_{10}	0.51	< 1.0
$PM_{2.5}$	0.49	< 1.0
SO_x	NA	NA
NO_x	NA	NA
CO	NA	NA
VOC	NA	NA
Pb	NA	NA
NH_3	NA	NA
Fluorides	NA	NA
H_2SO_4	NA	NA
H_2S	NA	NA
TRS	NA	NA
RSC	NA	NA

PM - Particulate Matter
PM_{10} - Particulate Matter less than 10 microns in size
$PM_{2.5}$ - Particulate Matter less than 2.5 microns in size
SOx - Sulfur Oxides
NOx - Nitrogen Oxides
CO - Carbon Monoxide
VOC - Volatile Organic Compound
Pb - Lead and lead compounds
NH_3 - Ammonia
Fluorides - Gaseous and particulates
H_2SO_4 - Sulfuric Acid Mist
H_2S - Hydrogen Sulfide
TRS - Total Reduced Sulfur
RSC - Reduced Sulfur Compounds

Emissions calculations must include fugitive emissions if the source is one the following listed sources, pursuant to CAA Section 302(j):

(a) Coal cleaning plants (with thermal dryers);
(b) Kraft pulp mills;
(c) Portland cement plants;
(d) Primary zinc smelters;
(e) Iron and steel mills;
(f) Primary aluminum ore reduction plants;
(g) Primary copper smelters;
(h) Municipal incinerators capable of charging more than 250 tons of refuse per day;
(i) Hydrofluoric, sulfuric, or nitric acid plants;
(j) Petroleum refineries;
(k) Lime plants;
(l) Phosphate rock processing plants;
(m) Coke oven batteries;
(n) Sulfur recovery plants;
(o) Carbon black plants (furnace process);
(p) Primary lead smelters;
(q) Fuel conversion plants;
(r) Sintering plants;
(s) Secondary metal production plants;
(t) Chemical process plants
(u) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
(v) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
(w) Taconite ore processing plants;
(x) Glass fiber processing plants;
(y) Charcoal production plants;
(z) Fossil fuel-fired steam electric plants of more that 250 million British thermal units per hour heat input, and
(aa) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

E(ii) – Proposed New Construction at an Existing Source or Modification of an Existing Source

Pollutant	Current Actual Emissions (tpy)	Current Allowable Emissions (tpy)	Post-Change Potential Emissions (tpy)	Post-Change Allowable Emissions (tpy)
PM	< 66	66		
PM_{10}	< 66	< 66		
$PM_{2.5}$	< 66	< 66		
SO_x	< 105	105		
NO_x	< 237	237		
CO	< 394	394		
VOC	< 88	88		
Pb				
NH_3				
Fluorides				
H_2SO_4				
H_2S				
TRS				
RSC				

PM - Particulate Matter
PM_{10} - Particulate Matter less than 10 microns in size
$PM_{2.5}$ - Particulate Matter less than 2.5 microns in size
SOx - Sulfur Oxides
NOx - Nitrogen Oxides
CO - Carbon Monoxide
VOC - Volatile Organic Compound
Pb - Lead and lead compounds
NH_3 - Ammonia
Fluorides - Gaseous and particulates
H_2SO_4 - Sulfuric Acid Mist
H_2S - Hydrogen Sulfide
TRS - Total Reduced Sulfur
RSC - Reduced Sulfur Compounds

[Disclaimers] The public reporting and recordkeeping burden for this collection of information is estimated to average 20 hours per response, unless a modeling analysis is required. If a modeling analysis is required, the public reporting and recordkeeping burden for this collection of information is estimated to average 60 hours per response .Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

ATTACHMENT 1

Narrative description of the proposed production processes. This description should follow the flow of the process flow diagram to be submitted with this application.

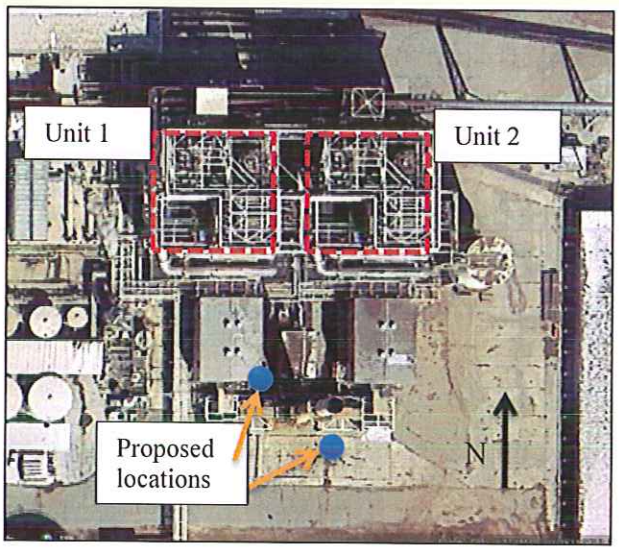
Project Location and Description

Desert View Power, LLC, (DVP) is a biomass-fired power generation facility in Mecca, CA. The facility has two Combustion Engineering 300 MMBTU/hr. circulating fluidized bed (CFB) boilers that feed an Alstom turbine capable of producing 45 MWh net. The facility burns roughly 350,000 bone dry tons on an annual basis with a 75% urban waste, 25% agricultural waste mix.

The facility is subject to the IB MACT standards as set by the EPA. As such, the facility must meet the 0.022 lb/MMBTU limit for HCl. The facility needs to install a Dry Sorbent Injection (DSI) System to reduce the Cl emissions and ensure compliance with the MACT limit. In addition, the existing lime stone injection system will be modified to allow for the injection of ash condition compounds into the combustion zone.

The facility injects approximately 50 lb/hr. of high purity (98%) $CaCO_3$ into the combustion loop of each boiler for SO_2 control, and will add a separate fully enclosed hopper to add an additional 2 – 3 pounds of material for ash conditioning. The Title V permit limit is 12 lb/hr. of SO2 for each boiler as measured at the stack; the facility does not have any exceedances in the past year. Typical temperatures at the outlet of the economizer/air heater inlet are 580-600°F. Typical air heater outlet temperatures range from 300-350°F. The addition of the ash conditioning materials will better control the melting temperature of the ash and minimize the formation of conglomeration on the boiler tubes.

Each unit has a baghouse designed by Environmental Elements Corporation. Each baghouse has a design cloth area of 5,280 sq. ft. per module with 8 modules per unit. The design air to cloth ratio is 3.39 FPM with 1 module offline. The baghouses are pulse-jet type.



The Hydrated Lime (HL) system will include the following equipment:

1. Storage silo:

    a. The silo shall be equipped with a truck unloading line
    b. The storage silo shall have sufficient volume to store 2.0 times the typical truck capacity of hydrated lime
    c. The silo shall be equipped with a bin vent filter meeting the design criteria listed in the attached technical data sheet

2. The unit shall be equipped with gravimetric feeders capable of the full design flow of the project. The accuracy of the gravimetric feeders shall be <5%.

3. Blowers
    a. The unit shall be equipped with 3 x 100% capacity blowers.
    b. The piping shall be configured in such a way that the redundant blower can feed either injection system

4. Convey lines

    a. The unit shall be equipped with a total of two convey lines, one for each boiler
    b. Each convey line should be sized for adequate material flow
    c. Only long radius turns should be used. Every effort should be made to minimize plugging in the lines

5. Injection lances

    a. Injection lances shall be supplied for each unit.
    b. Injection lances should be designed to minimize plugging
    c. The injection system should be designed to minimize sorbent usage and maximize dispersion as there will be a short dwell time in the flue gas path

6. Truck unloading panel

    a. The unit shall be equipped with a truck unloading panel to control the components necessary for offloading sorbent.

The Ash Conditioning Material systems will include the following equipment:

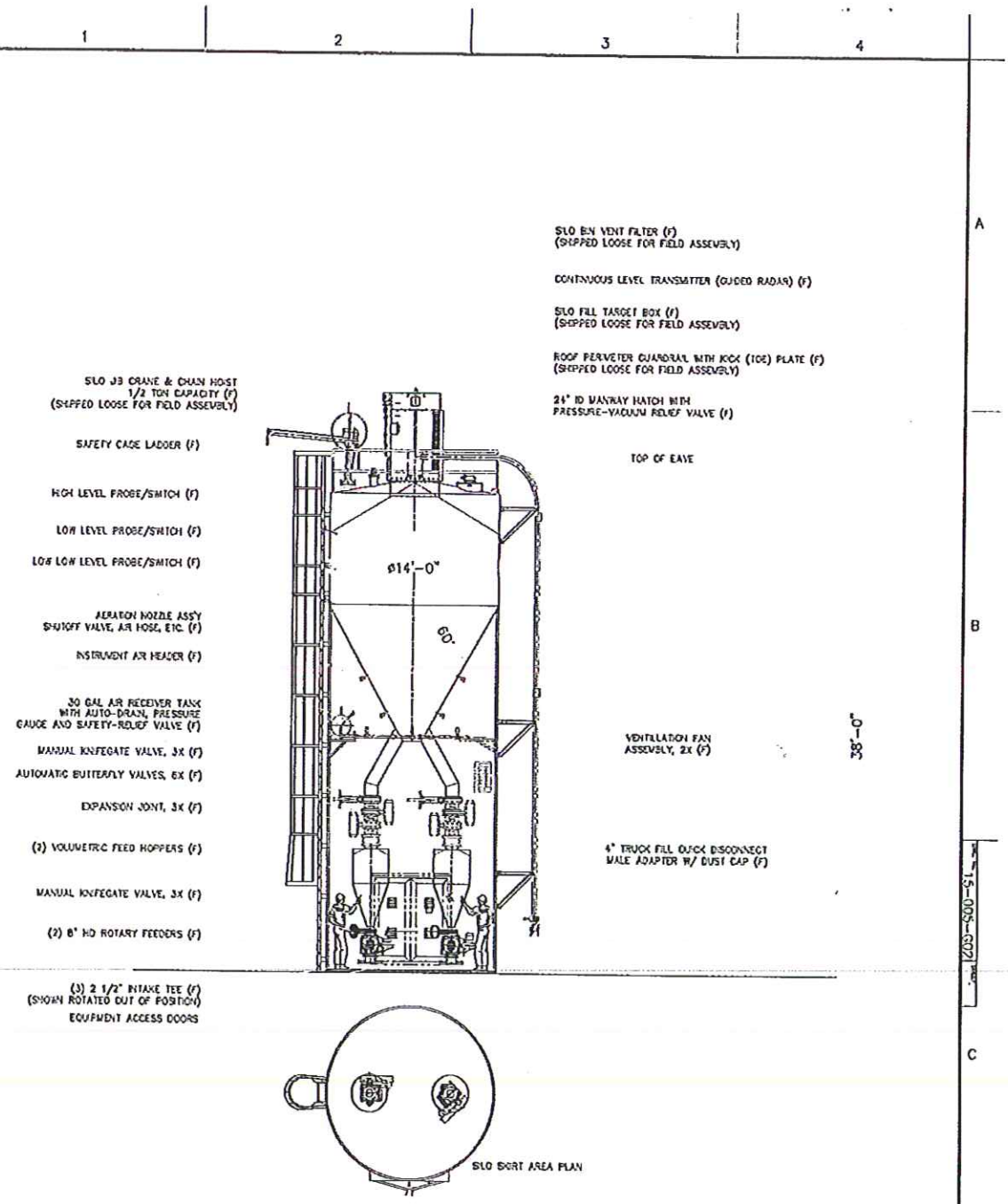
1. Enclosed storage hoppers (one for each combustion unit)

    a. The hoppers shall be equipped with a bulk container unloading capture & control system
    b. The hoppers shall be equipped with all necessary safety equipment
    c. The hoppers shall have means of monitoring level within the hoppers

d. The hoppers shall be equipped with a bin vent filter meeting the air to cloth design criteria listed in the attached technical data sheet
e. The ash conditioning material will utilize the existing lime stone injection system to convey material to the combustion zone.

Process flow chart identifying all proposed processing, combustion, handling, storage, and emission control equipment.

The following drawings detail the silo and associated material handling equipment. The hoppers for ash conditioning materials will utilize the plants existing systems for feeding material from the hoppers to the boilers.



NOTES:

1.) (F) INDICATES MATERIAL/EQUIPMENT SUPPLIED BY CLYDE BERGEMANN.

2.) (FX) INDICATES MATERIAL/EQUIPMENT FURNISHED AT EXTRA COST.

3.) (NF) & (BC) INDICATES MATERIAL/EQUIPMENT SUPPLIED BY CUSTOMER (OTHERS).

4.) THIS DRAWING IS A SCHEMATIC AND IS NOT TO BE USED FOR CONSTRUCTION/INSTALLATION.

5.) ALL COMPRESSED AIR PIPING, AIR DRYERS, FILTERS, ISOLATION VALVES TO BE FURNISHED BY OTHERS (CUSTOMER).

6.) ALL AIR AND WATER PIPING NOT FURNISHED BY CLYDE BERGEMANN UNLESS OTHERWISE NOTED.

5.0 DESCRIPTION:

Bag Removal Type:	Top access with (2) lift-off doors
Access to Bags:	Clean air plenum
Shell Material:	A36 carbon steel
Shell Thickness:	12 gauge; 1/4" x 3" F.B. stiffeners
Inlet Size:	37"x37"; Flanged 2" wide x 1/4" thk
Outlet Size:	<VTS> by <VTS> Square, Rectangular, etc. Sized by filter Manufacturer to limit drop through the outlet including the Weather Hood and Bird Screen (that prevents the elements, rain, snow, etc. from entering the filter) to a maximum of 1.0 "H_2O or less.
Bag Quantity:	16 – Bags ordered separately from filter unit (bags are UCC PN 54320-12-214-1).
Bag Size:	Top load; 6" diameter x 96.5" long
Bag Material:	Nomex with TTG PTFE membrane
Bag Weight:	14 oz./sq yard
Cloth Area:	207 Sq. Ft.
Diaphragm Pulse Valves:	Qty (4); 3/4" single diaphragm valves
Solenoid Valves:	Qty (4); ASCO; Class H; 120V; NEMA 4X, Panel Mounted, with manual operators.
Interconnecting Valve Tubing:	Tubing is to be ASTM A213, grade TP316. Tube fittings are to be grade ASTM A182 Grade F316 OR ASTM A479 Grade TP316. Tube fittings are to be manufactured by Swagelok, and are to be flareless grip type. Tubing is to be used for the interconnections between diaphragm valves and panel mounted solenoid valves. Minimum wall thickness for 1/4" tubing is 0.035". Minimum wall thickness for 1/2" tubing is 0.065".
Cage Material:	Galvanized steel - Cages ordered separately from filter unit (cages are UCC PN 54320-13-214-2). Cages shall be fabricated of minimum 1/8" diameter vertical wires and 3/16" horizontal support rings. Vertical wires of the cage shall terminate in an end cap constructed of the same material as the wires. The wires shall be welded to the end cap.
Tube Sheet:	Carbon steel – 3/16" thick. Shall be suitably reinforced to support the weight of maintenance personnel.
Pulse Air Venturi:	Galvanized, carbon steel; integral to the cages.
Bag Grate:	Yes, sized to prevent bags from dropping down into the silo
Bag Cleaning Method:	Pulse jet – Factory wired for "Timed Pulsing.
Compressed Air Requirements:	Flow: 4.2 SCFM maximum Pressure: 80 to 120 PSIG
Pulse Timer Enclosure:	NEMA 4X, SS
Pulse Timer Card:	10 Point card to allow wiring one point to only one solenoid, using one point to energize two solenoids is not allowed.
Power Supply:	120 VAC +10% -15%, 1 Ph, 60 Hz +/- 3%
Exhaust Duct Configuration:	Weather hood & bird screen
Wiring Specification:	Wiring and electrical work is to comply with UCC specification 54320-12-222.
Customer Specification:	Bin vent filter to comply with customer specification section 11516.2.4.11.1

6.0 ACCESSORIES:

Supplier to provide the following accessories with the filter package:

Mounting Attachments:	Flange
Lifting Lugs:	Yes, 4 per major section, properly spaced to lift vent filter in and out of place

TECHNICAL SPECIFICATION SHEET

1.0 TYPE: Filter, Bag, Bin Vent

2.0 MANUFACTURER'S MODEL NUMBER: 96TB-BVT-16:S6; Style 2; Top Access; Top Doors

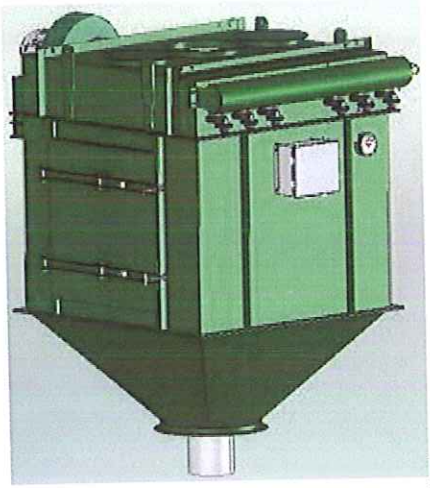
3.0 MANUFACTURER: IAC

4.0 OPERATING CONDITIONS:

Site Elevation:	394 Feet above sea level
Application:	Bin Vent Filter for Hydrated Lime Silo
Ambient Temperature Range:	-23°F to 105°F
Max. Inlet Air Temperature:	125°F
Max. Bin Vent Pressure:	20" WC.
Min. Bin Vent Pressure:	-20" WC.
Air Flow:	830 ACFM at 125 °F
Air to Cloth Ratio:	4:1 (maximum)
Interstitial Velocity:	125 Ft/Min
Guaranteed Emissions:	The guaranteed maximum outlet emissions from the bin vent filter shall be less than 0.005 gr/dscf based on inlet concentration of 100 gr/acf and attached particle size distribution (attached document to spec).

Use the following standard particle size distribution if one is not available:

Screen Size	Inches	Millimeters	% of total
#7 Mesh	0.1110	2830	1.76
#12 Mesh	0.0661	1680	0.77
#20 Mesh	0.0331	840	1.30
#50 Mesh	0.0117	297	4.83
#70 Mesh	0.0083	210	2.50
#100 Mesh	0.0059	149	4.83
#200 Mesh	0.0029	75	17.79
#270 Mesh	0.0021	53	19.71
#325 Mesh	0.0017	45	5.00
- #325 Mesh			41.51



Example of potential hopper design for ash conditioning system.

A list and descriptions of all proposed emission units and air pollution-generating activities.

- Truck traffic for delivery of Hydrated Lime (HL) and ash conditioning materials, controlled by BEST Management Practices (BMPs).
- Loading and unloading of HL from trucks to the HL storage silo, controlled by cartridge filter on the silo.
- Loading and unloading from bulk shipping container to the Ash Conditioner storage hoppers, controlled by cartridge filter on the silos.
- Working losses from the HL storage silo controlled by cartridge filter on the silo.
- Working losses from the Ash Conditioning storage hoppers controlled by cartridge filter on the silos.
- Negligible impact on stack emissions from the combustion source. The addition of HL and ash conditioning material will reduce the Hydrochloric Acid emissions from these emissions units. The negligible addition (less than 3% of current system loading) of particulate matter (PM) will not result in an increase in PM emissions from the system. The reduction of HCl emissions will improve overall baghouse performance.

Type and quantity of fuels, including sulfur content of fuels, proposed to be used on a daily, annual and maximum hourly basis.

Not Applicable - This modification will not impact the existing emissions unit(s) fuel usage.

Type and quantity of raw materials used or final product produced proposed to be used on a daily, annual and maximum hourly basis.

Projected usage of Hydrated Lime (HL):
Daily – 6.5 tons/day
Yearly – 2,365 tons/year
Projected usage of Ash Conditioning Material:
Daily – 1.0 tons/day
Yearly – 365 tons/year

Proposed operating schedule, including number of hours per day, number of days per week and number of weeks per year.

Projected operating schedule:

Hours per day – 24
Days per week – 7
Weeks per year - 50

A list and description of all proposed emission controls, control efficiencies, emission limits, and monitoring for each emission unit and air pollution generating activity.

Primary control for the HL loading and storage:

HL silo bin vent cartridge filter:

Control efficiency:	99.9%
Emission limit:	0.01 gr/dscf
Monitoring:	Pressure drop across the cartridge filter

Primary control for the Ash Conditioning Material loading and storage:

Ash Conditioning Material hopper bin vent cartridge filter:

Control efficiency:	99.9%
Emission limit:	0.01 gr/dscf
Monitoring:	Pressure drop across the cartridge filter

Criteria Pollutant Emissions - Estimates of Current Actual Emissions, Current Allowable Emissions, Post-Change Uncontrolled Emissions, and Post-Change Allowable Emissions for the following air pollutants: particulate matter, PM_{10}, $PM_{2.5}$, sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, ammonia (NH_3), fluorides (gaseous and particulate), sulfuric acid mist (H_2SO_4), hydrogen sulfide (H_2S), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates.

See attached calculations in Attachment 2

ATTACHMENT 2

US EPA emissions calculation guidance:

Hydrated Lime (HL) projected usage rate =	270	lbs./unit per hour	
Potential HL annual usage =	2365.2	tons of HL per year	
Potenail trucks per year =	197	trucks per year (emissions are calculated based on 200 trucks)	
Hydarted Lime Silo vent estimated at by EPC =	830	ACFM	Calculations based on 1,100 ACFM and 4:1 air to cloth ratio
Ash aditives silo vent estimated =	83	ACFM	Calculations based on 110 ACFM and 4:1 air to cloth ratio

Material Handling	Silo Vent SCFM	EF gr/SCF	daily PM lbs.	yearly PM lbs.	PM10 TPY
HL Silo	1100	0.01	0.09	825.94	0.41

Material Handling	Hopper Vent SCFM	EF gr/SCF	daily PM lbs.	yearly PM lbs.	PM10 TPY
Ash Conditioning Hoppe	110	0.01	0.01	82.59	0.04

Material Handling	Hopper Vent SCFM	EF gr/SCF	daily PM lbs.	yearly PM lbs.	PM10 TPY
Ash Conditioning Hoppe	110	0.01	0.01	82.59	0.04

Delivery of HL	Road Type	Vehicle Type	Trucks per year	Truck Weight Empty Tons	Truck Weight Full Tons	Truck Weight Average Tons	Length Miles	Silt Loading (g/m^3)	PM no contol lb/VMT	PM Control Efficiency	PM Annual TPY	PM Daily lbs./day
Delivery of HL	Paved	truck	200	12	24	18	1.4	12	2.01	70%	0.08	0.85

E = k((sL)^0.91)*((w)^1.02)

			PM-10 no contol lb/VMT	PM-10 Control Efficiency	PM-10 Annual TPY	PM-10 Daily lbs./day	PM-2.5 no contol lb/VMT	PM-2.5 Control Efficiency	PM-2.5 Annual TPY	PM-2.5 Daily lbs./day
PM K =	0.011	lb/VMT								
PM-10 K =	0.002	lb/VMT	0.37	70%	0.02	0.15	0.10	70%	0.00	0.04
PM-2.5 K =	0.00054	lb/VMT								
sL =	12									
W =	18									