PERMIT TO CONSTRUCT (new equipment)

COMPANY NAME, LOCATION ADDRESS:

DeMenno/Kerdoon, Inc.
2000 North Alameda Street
Compton, CA 90222

SCAQMD ID # 800037

EQUIPMENT DESCRIPTION:

Section H of DeMenno/Kerdoon Facility Permit, ID# 800037

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions And Requirements	Conditions
Process 5 : OIL/WATER SEPARATION					
System 3 : STORAGE SILO					
STORAGE SILO, FLY ASH, CEMENT KILN DUST, 2800 CU FT CAPACITY, WITH A SEALED 10" DISCHARGE AUGER AND A 10 HP ELECTRIC MOTOR, HEIGHT: 30 FT; DIAMETER: 10 FT 10 IN WITH A/N: 530589 Permit to Construct Issued: **xx/xx/xx** FILTER, VENT, 225 SQ FT TOTAL FILTER AREA, WITH 18 FILTER BAGS, EACH, LENGTH: 6 FT; DIAMETER: 8 IN	D557 C558			**PM:** (9) [**RULE 404, 2-7-1986; RULE 405, 2-7-1986**]	C1.13, D323.1, E184.1, H23.12, K67.18, K171.1

Conditions

C1.13 The operator shall limit throughput to no more than 200,000 lb(s) in any one calendar month.

For the purpose of this condition, throughput shall be defined as the total weight of materials transferred to the silo.

RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002
[Devices subject to this condition: D557]

D323.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a semi-annual basis, at least, unless the equipment did not operate during the entire semi-annual period. The routine semi-annual inspection shall be conducted while the equipment is in operation and during daylight hours.

If any visible emissions (not including condensed water vapor) are detected that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or

2). Have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures in the CARB manual "Visible Emission Evaluation", within three business days and report any deviations to AQMD.

The operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

1). Stack or emission point identification;

2). Description of any corrective actions taken to abate visible emissions;

3). Date and time visible emission was abated; and

4). All visible emission observation records by operator or a certified smoke reader.

RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997;
[Devices subject to this condition: D557]

E184.1 The operator shall thoroughly clean the filters in the filter vents immediately after each load of material is received.

RULE 204, 10-8-1993
[Devices subject to this condition: D557]

H23.12 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
Visible Emissions	District Rule	1155

RULE 1155, 12-4-2009
[Devices subject to this condition: D557]

K67.18 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or items(s):

All materials stored during each year.

The date(s) any materials are received.

The total weight of materials received.

Records shall be kept and maintained for at least five years, and shall be made available to the Executive Officer or his authorized representative upon request.

RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997;
RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002
[Devices subject to this condition: D557]

K171.1 The operator shall provide to the District the following items:

Final drawings and/or specifications of the equipment installed/constructed/modified, including but not limited to PFD, P&ID and revisions/updates, shall be submitted to the SCAQMD within 60 days after completion of the project.

RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002;
[Devices subject to this condition: D557]

BACKGROUND:

DeMenno/Kerdoon, Inc. (D/K, Facility ID #800037) operates a Title V, NOx-RECLAIM facility in the city of Compton. The initial Title V permit (A/N 334197) was issued on 7/1/2011.

This facility receives used oil, used antifreeze and oily wastewater. These materials are delivered by truck and unloaded into fixed roof storage tanks. Oil and antifreeze are processed into recycled products. Oily water is processed in an industrial wastewater treatment system, and discharged to Los Angeles County Sanitation Districts (LACSD). Recycled products are loaded into tanker trucks or drums for shipment. D/K operations are also subject to a permit issued by the California Department of Toxic Substance Control (DTSC).

This storage silo is used for storing powdered materials such as cement kiln dust or fly ash. These materials are used as a drying aid for the sludge generated in the wastewater treatment and truck washout units. Powdered material is added to a pug mill and portable hoppers as needed to remove free liquid from the sludge. The solidified sludge is stored onsite in roll-off bins prior to being shipped offsite for disposal.

Application number 530589 was received on December 20, 2011 (deemed complete January 6, 2012) for one storage silo (new equipment). This application is included in the RECLAIM/TitleV deMinimis Significant Revision, A/N 527512.

PROCESS DESCRIPTION:

This storage silo is used for storing powdered materials such as cement kiln dust or fly ash. Materials are delivered by truck and pneumatically transferred to the storage silo. Particulate emissions are controlled by a vent filter. The powdered material is transferred to a pug mill and portable hoppers as needed to remove free liquid from sludge generated in the wastewater treatment and truck washout units. PM_{10} emissions from the truck delivery to the silo are included in this permit unit. PM_{10} emissions from material transfer out of the silo are included in the Sludge Dewatering unit (P5:S2).

FEE EVALUTION

The fees paid for the application are:

Table 1 – Application Fees Paid

A/N	Equipment	BCAT	Type	Status	Fee Schedule	Fees Required, $	Fees Paid, $
530589	Storage Silo	101920	30	21	A	1,332.65	1,332.65

EMISSIONS CALCULATIONS:

Silo Throughput

Per applicant: one storage silo at 200,000 lb/month

NSR (30-day average)

Emission factor from AP-42, Table 11.12-2, for cement supplement unloading to elevated storage silo (pneumatic) = 1.10 lb PM_{10} / ton

R1(PM_{10}) = (1.10 lb/ton)*(200,000 lb/month)/(2000 lb/ton)

= 3.67 lb/day
= 0.153 lb/hr

Assume the silo filter vent efficiency = 99%

Manufacturer's literature claims 99.99% PM_{10} control efficiency.

R2(PM_{10}) = (3.67 lb/day)*(1 – 0.99)

= 0.037 lb/day
= 0.0015 lb/hr

AEIS (maximum 1-hour)

Per Form 400-E-16 submitted by applicant, the maximum delivery rate is 120,000 lb/hr for 45 minutes.

R1 = (120,000 lb/hr)*(45/60 hr/cycle)*(1.10 lb/ton)/(2000 lb/ton) = 49.50 lb PM_{10} per loading cycle

Since truck deliveries are infrequent, the maximum 1-hour PTE (uncontrolled) = 49.50 lb/hr PM_{10}

R1(MHU) = 49.5 lb/hr PM_{10}

R2(MHC) = (49.5 lb/hr)*(1 – 0.99) = 0.495 lb/hr PM_{10}

Rule 404 Calculation

Per Form 400-E-16 submitted by applicant, the delivery pneumatic flow rate is 600 scfm.

0.128 grain/ft^3 = (0.495 lb)*(7000 grain/lb)/{(600 ft^3/min)*(45 min)}

The Rule 404 limit is 0.196 grain/ft^3 for 600 cfm ➔ passes

Rule 405 Calculation

R2(MHC) = 0.495 lb/hr PM_{10}

(120,000 lb/hr)*(45 minutes/cycle)/(60 minutes/hr) = 90,000 lb/cycle

The Rule 405 limit is 16.7 lb/hr PM_{10} for 90,000 lb/cycle ➔ passes

Rule 1401 Calculation

Based on the MSDS submitted by the applicant for Cement Kiln Dust and Fly Ash, there are no Rule 1401 materials present.

Filter Vent

Filter area = 225 ft^2 from filter specification sheet

CFM = 600 cfm from Form 400-E-16

Air-to-Cloth Ratio = 600/225 = 2.7

AP-40, Table 41, pg. 130 recommends a maximum A/C ratio of 7 ➔ passes

Toxics Emissions Calculation

This storage silo will be used for fly ash and/or cement kiln dust storage. D/K submitted MSDS data for fly ash and cement kiln dust from Diversified Minerals (Attachments #3 & #4) which list no Rule 1401 compounds. However, MSDS data from LaFage N.A. (Attachments #5 & #6) state that trace amounts of arsenic, beryllium, lead, manganese, chromium and nickel may be present. For the risk screening assessment, assume 10 ppmw of each metal is present in the PM10 emissions (controlled):

(0.0015 lb/hr PM10)x(10 x 10^{-6} metal/PM10) = 1.5 x 10^{-8} lb/hr for each metal

Further, a literature reference (Attachment #7) suggests that fly ash may contain ammonium sulfate salts from the NOx controls on coal combustion. The ammonium salts may be converted to free ammonia on contact with alkaline solutions (in this case, the sludge drying process). For the risk screening assessment, assume 200 ppmw NH_3/flyash:

(200,000 lb/month flyash)/(30 day/month)/(24 hr/day)x(200 x 10^{-6} NH_3/flyash) = 0.056 lb/hr Ammonia

The Rule 1401 Risk Screening Assessment results using the estimated controlled TAC emissions are included as Attachment #8. Passed Tier 2 Assessment at 200,000 lb/month throughput, with the MICR for residential and commercial receptors less than 1 x 10^{-6}.

MICR – residential	1.38 x 10^{-8} @ 25 meters
MICR – commercial	2.63 x 10^{-9} @ 25 meters
HIA & HIC	all < 1.0

REVIEW OF COMPLIANCE DATABASE:

As of January 5, 2012, the AQMD Compliance Database shows that this facility has no open Notices of Violation (NOV), Attachment #1. The violation of sulfur emission limits is the subject of Order of Abatement Case 5753-1, specifying a schedule for the installation and performance testing of SOx scrubbers on the facility afterburners. D/K submitted a Compliance Schedule/Plan Progress Report on January 1, 2012 (Attachment #2).

RULES EVALUATION:

PART 1 STATE REGULATIONS

California Environmental Quality Act (CEQA)	
	DeMenno/Kerdoon has submitted Form 400-CEQA, which indicated that this is not a significant project.

PART 2 SCAQMD REGULATIONS

Rule 212	**Standards for Approving Permits** **November 14, 1997**
	This equipment meets all the criteria in Rule 212 for permit approval. **Rule 212(c)(1) public notice is required.**
212(a)	The equipment is designed so the silo can operate without emitting air contaminants in violation of Division 26 of the State Health and Safety Code or in violation of AQMD's rules and regulations.
212(b)	Does not apply; this is a Permit to Construct.
212(c)(1)	**The storage silo is located within 1000 feet of a school.** Rule 212 public notice is required.
212(c)(2)	There is no PM_{10} emission increase exceeding 30 lb/day.
212(c)(3)	The storage silo does not have an increased cancer risk greater than, or equal to, one in a million (1x 10^{-6}) during a lifetime of 70 years or pose a risk of nuisance.

Rule 401	**Visible Emissions** **November 9, 2001**
	Visible emissions are not expected under normal operation.

Rule 402	**Nuisance** **May 7, 1976**
	Nuisance complaints are not expected under normal operating conditions.

Rule 403	**Fugitive Dust** **June 3, 2005**
	Visible fugitive emissions are not expected under normal operation.

Rule 404	**Particulate Matter – Concentration** **February 7, 1986**
	The discharged concentration of particulate matter is less than the limit shown in Table 404(a).

Rule 405	**Solid Particulate Matter - Weight** **February 7, 1986**
	The discharged weight of particulate matter is less than the limit shown in Table 405(a).

Rule 1155	**Particulate Matter (PM) Control Devices** **December 4, 2009**
1155(b)	Applicability. The filter vent attached to this storage silo is a “bin vent” as defined in this rule.
1155(d)(1)	Visible emissions are not expected under normal operation.
1155(d)(3)	Filter vent is operated and maintained per manufacturer’s specifications.
1155(d)(9)	PM collected by the filter vent is returned to the silo.
1155(d)(11)	Filter vent meets BACT requirements.
1155(g)	The filter vent controls a non-continuous process. The filter vent is exempt from the monitoring requirements of 1155(e).

REG XIII	**New Source Review (NSR)** **December 6, 2002** **Application Deemed Complete: January 6, 2012**
	Emissions Summary – Criteria Pollutants

Pollutant	**R2** (lb/hr)	**R2** (lb/day)	**R1** (lb/hr)	**R1** (lb/day)
CO	0.	0.	0.	0.
NOX	0.	0.	0.	0.
PM10	0.0015	0.037	0.153	3.67
ROG	0.	0.	0.	0.
SOX	0.	0.	0.	0.

1303(a)	BACT: A filtered vent is BACT for PM_{10} control from a storage silo.
1303(b)(1)	Modeling: Controlled PM_{10} emissions of 0.0015 lb/hr (30-day average) are less than the allowable emissions from a noncombustion source given in Table A-1.
1303(b)(2)	Offsets: PM_{10} emissions of 0.037 lb/day do not require offsets.
1303(b)(3)	Sensitive Zone Requirements. ERC's are not required.
1303(b)(4)	Facility Compliance. This facility complies with all applicable District rules and regulations.
1303(b)(5)	Major Polluting Facilities. This is not a new major polluting facility or major modification at an existing major polluting facility. Therefore, the provisions of this paragraph do not apply to this equipment.

Rule 1401	**New Source Review of Toxic Air Contaminants** — **September 10, 2010** **Application Deemed Complete: January 6, 2012**
	Estimates for MICR, cancer burden and chronic HI are calculated per Rule 1401(f)(1) and acute HI is calculated per Rule 1401(f)(2), based on permit conditions. MICR – residential: 1.38×10^{-8} @ 25 meters MICR – commercial: 2.63×10^{-9} @ 25 meters HIA & HIC: all < 1.0 Cancer burden: N/A, MICR < 1×10^{-6} The storage silo passes the Tier 2 Screening Risk Assessment at 25 meters (included in Attachment #8).
1401(d)(1)(A)	Permit unit is constructed with BACT; MICR is $\leq 1 \times 10^{-6}$
1401(d)(1)(C)	Cancer burden is less than 0.5.
1401(d)(2)	The cumulative increase in total chronic HI for any target organ system will not exceed 1.0 at any receptor location.
1401(d)(3)	The cumulative increase in total acute HI for any target organ system will not exceed 1.0 at any receptor location.
1401(d)(4)	The risk per year will not exceed 1/70 of the maximum allowable risk (1×10^{-6}) at any receptor locations in residential areas.
	Federal NSR for toxics does not apply since this equipment is not located at a plant site that is a major source as defined in 40CFR63, Subpart A, §63.2. This facility emits less than 10 tons per year of any HAP and 25 tons per year of all hazardous air pollutants (HAPs).

Rule 1401.1	**Requirements for New and Relocated Facilities Near Schools** — **November 4, 2005**
1401.1(b)	This is an existing facility.

REG XX	**RECLAIM** — **May 6, 2005**
	D/K has been designated as a NOx RECLAIM facility. This storage silo does not emit NO_x; therefore, RECLAIM requirements do not apply.

REG XXX	**Title V**	**November 5, 2011**

D/K was issued a Title V permit effective on July 1, 2011. This is a **de minimis significant permit revision** as defined in Rule 3000(b)(7), where the cumulative emission increases of non-RECLAIM pollutants or hazardous air pollutants (HAP) from all de minimis significant permit revisions during the term of the Title V permit are not greater than the threshold levels given in this rule. The VOC increase is from A/N 527509; the PM10 increase is from this application (A/N 530589).

Air Contaminant	Prior revisions	This revision	Total	Threshold level
HAP	0.	0.	0.	30. lb/day
VOC	0.25	2.24	2.49	30. lb/day
PM10	0.00	0.04	0.04	30. lb/day
CO	0.	0.	0.	220. lb/day
SOx	0.	0.	0.	60. lb/day

Rule 3000 (b)(15)(A)(i)	This revision does not require or change a case-by-case evaluation of: reasonably available control technology (RACT) pursuant to Title I of the federal Clean Air Act; or maximum achievable control technology (MACT) pursuant to 40 CFR Part 63, Subpart B.
(b)(15)(A)(ii)	This revision does not violate a regulatory requirement.
(b)(15)(A)(iii)	This revision does not require any significant change in monitoring terms or conditions in the permit.
(b)(15)(A)(iv)	This revision does not require relaxation of any recordkeeping, or reporting requirement, or term, or condition in the permit.
(b)(15)(A)(vii)	This revision does not result in an increase in GHG emissions of >75,000 tpy CO_2e.
(b)(15)(A)(viii)	This revision does not establish or change a permit condition that the facility has assumed to avoid an applicable requirement.
(b)(15)(A)(ix)	This revision is not an installation of a new permit unit subject to a New Source Performance Standard (NSPS) pursuant to 40 CFR Part 60, or a National Emission Standard for Hazardous Air Pollutants (NESHAP) pursuant to 40 CFR Part 61 or 40 CFR Part 63.
(b)(15)(A)(x)	This revision is not a modification or reconstruction of an existing permit unit, resulting in new or additional NSPS requirements pursuant to 40 CFR Part 60, or new or additional NESHAP requirements pursuant to 40 CFR Part 61 or 40 CFR Part 63.

A de minimis significant permit revision is subject to a **45-day EPA review**, Rule 3003(j) and not subject to public participation requirements, Rule 3006(b).

PART 3 FEDERAL REGULATIONS

40CFR Part 61 Subpart FF	**National Emission Standard for Benzene Waste Operations**
§61.340	Applicability (a) This facility is not a chemical manufacturing plant, coke by-product recovery plant or petroleum refinery as defined in §61.341. (b) This facility does not treat, store or dispose of hazardous waste generated by any facility listed in paragraph (a). This storage silo is not subject to the requirements of 40CFR Part 61 Subpart FF.

40CFR Part 63 Subpart DD	**National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations**
§63.680(a)	Applicability – This storage silo is not located at a plant site that is a major source as defined in 40CFR §63.2. This facility emits less than 10 tons per year of any HAP and 25 tons per year of all hazardous air pollutants (HAPs).

CONCLUSION

Based on the above evaluation, it is recommended that the following be issued:

A/N	Recommendation
530589	Issue Permit to Construct (PC) – Section H with conditions listed in the Conditions Section

List of Attachments

1. AQMD Compliance Database (1/5/2012)
2. 40 CFR Part 70 Compliance Schedule/Plan Progress Report, dated 1/1/2012
3. MSDS – Type F Fly Ash – Diversified Minerals
4. MSDS – Cement Kiln Dust – Diversified Minerals
5. MSDS – LaFarge Fly Ash and Bottom Ash – LaFarge N.A.
6. MSDS – Cement Kiln Dust – La Farge N.A.
7. Removing Ammonia from Fly Ash
8. Rule 1401 Tier 2 Screening Risk Assessment