

Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

David B. Struhs  
Secretary

December 17, 2002

Mr. George K. Allen  
General Manager  
Indiantown Cogeneration, L.P.  
P.O. Box 1799  
13303 SW Silver Fox Lane  
Indiantown, FL 34956

Re: Installation of Pug Mills for Ash Loading  
Indiantown Cogeneration Plant

Dear Mr. Allen:

We have reviewed your request for approval to install pug mills at the Indiantown Cogeneration Plant for ash handling and loading, as described in your letter dated November 25, 2002, and received by the Department on December 4, 2002. Based on the information and data provided with your letter, we believe that the installation of these devices qualifies for a "generic emission unit exemption" from permitting, under Department Rule 62-210.300(3)(b)1., F.A.C., and thus no permitting action needs to be taken at this time.

However, the next time Title V Air Operation Permit No. 0850102-001-AV for the facility is opened for revision or renewal purposes, please include the pug mills in the List of Insignificant Emissions Units and/or Activities, as documented in Appendix I-1 of the permit.

If you have any questions, please contact Tom Cascio at 850/921-9526.

Sincerely,

Scott M. Sheplak, P.E.  
Administrator  
Title V Section

Cc: Tom Tittle, SE District Office

"More Protection, Less Process"

Printed on recycled paper.

Tom / Bruce,

An "insignificant emissions  
unit/activity" ?

BRUCE - IS A PPEHAS  
PM EMISSIONS  
WILL BE RELEVANT.

Sott  
12/8

HOW SHOULD WE  
HANDLE ?

104  
2-10-02

Indiantown Cogeneration, L.P.

Indiantown Cogeneration, L.P.  
P.O. Box 1799  
13303 SW Silver Fox Lane  
Indiantown, FL 34956

772.597.6500  
Fax: 772.597.6210

November 25, 2002

Mr. Scott M. Sheplak, P.E. Administrator  
Title V Section of the Bureau of Air Regulation  
Florida Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

BUREAU OF AIR REGULATION

DEC 04 2002

RECEIVED

RE: Title V Permit (0850102-001-AV)/PSD-FL-168  
Installation of Pug Mills for Ash Loading

*BASED ON PERMITS  
AATA*  
Dear Mr. Sheplak:

*to quantify  
the "GENERIC EMISSIONS UNIT  
EXEMPTION"  
FROM PERMITTING*

*INCLUDE  
IN LIST  
NEXT TIME  
PERMIT IS OPENED  
Appendix I*

*RULE 62-210.300(9)(b)1, FAC*

Indiantown Cogeneration, L.P. desires to increase its options of handling fly ash at the site with the installation of pug mills capable of processing up to 250 tons of ash an hour. A pug mill is an apparatus that will mix water with the ash to improve handling and ultimately reduce fugitive emissions. The equipment mixes ash with water in an enclosed system and will be located beneath the existing fly ash silo.

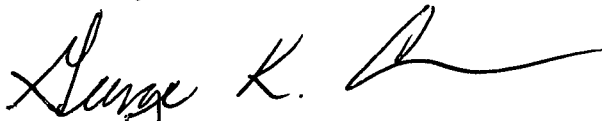
The current fly ash system involves loading dry ash into trucks and sealed rail cars. The system is totally enclosed with air vented through a baghouse. Condition D.3. of the Title V Permit has a visible emissions requirement of 5 percent from the baghouse.

The addition of pug mills will allow removal of ash from the site by other than sealed rail cars and improve the handling of ash in open trucks. Since pug mills will mix ash with water, the potential for fugitive dust emissions will be reduced and would be consistent with the requirements of Rule 62-296.320(4)(c) F.A.C. and Appendix TV-3, Condition 57 of the Title Permit. The estimated emissions of PM and PM<sub>10</sub> from handling all ash using pug mills with the product placed into an open rail car or truck and a

Professional Engineer's Certification is attached. Also attached is the information on the pug mills that would be installed.

Please call Nicholas Laryea, Environmental Manager at 561-597-6500 extension 19 if you have any questions regarding this request.

Sincerely,

A handwritten signature in black ink, appearing to read "George K. Allen", with a long horizontal flourish extending to the right.

George K. "Chip" Allen  
General Manager

cc: H. S. Oven, P.E., FDEP Siting Coordination  
Tom Tittle, P.E., FDEP SE District Administrator Air Program  
Tom Fromm, PG&E NEG  
Greg Fillippelli, PG&E NEG  
David Dee, Landers & Parsons  
Nicholas Laryea, ICLP  
File

**Golder Associates Inc.**

6241 NW 23rd Street, Suite 500  
Gainesville, FL 32653-1500  
Telephone (352) 336-5600  
Fax (352) 336-6603



November 7, 2002

0237617

Indiantown Cogeneration, L.P.  
P.O. Box 1799  
13303 SW Silver Fox Lane  
Indiantown, FL 34956

Attention: Mr. Nicholas Laryea, Environmental Manager

RE: INSTALLATION OF PUG MILLS-EMISSION ESTIMATES AND PROFESSIONAL  
ENGINEER CERTIFICATION

Dear Mr. Laryea:

This correspondence provides Indiantown Cogeneration, L.P. emission estimates and a Professional Engineer certification related to the installation of pug mills for flyash unloading at the facility. The technical information on the pug mills, as well as the current environmental authorizations related to ash handling requirements, have been reviewed. The environmental authorizations include the Title V Air Operating Permit (Final Permit No. 0850102-001-AV) and the Prevention of Significant Deterioration (PSD) approval (PSD-FL-168). Based on this review, it appears that approval of the pug mills is appropriate under the existing Title V permit given that the system is totally enclosed and the potential emissions are insignificant. The attachment provides the maximum potential emissions from unloading using the pug mills that includes conservative assumptions. The calculations clearly show that the maximum potential PM and PM<sub>10</sub> emissions of much less than 1 ton per year (TPY). Sources less than 5 TPY of PM or PM<sub>10</sub> are exempt from permitting pursuant to Rule 62-210.300(3)(b)1.b.(iv) Florida Administrative Code. The use of the pug mills will also reduce any secondary emissions from transportation since the material will be moist thereby reducing emissions from transport.

Please call if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

A handwritten signature in black ink, appearing to read 'Kennard F. Kosky'.

Kennard F. Kosky, P.E.  
Principal  
Professional Engineer Registration No. 14996  
(Golder Associates Certificate of Authorization 00001670)

KFK/jkw



**Calculations of Flyash Unloading using Pug Mill Unloading**

**Fugitive Emissions:**

The equations s the PSD Approval and Title V Permit Application are used  
The equations used to determine fugitive emissions are from AP-42, Section 13.2.4:

$$EF = k \times (0.0032) \times (U/5)^{1.3} / (M/2)^{1.4}$$

where: EF is the emission factor in lb/ton

k is particle size factor used (conservative for ash); 1.0 for PM and 0.7 for PM<sub>10</sub>

U is wind speed; 9.6 miles/hour West Palm Beach 30-year record

M is percent moisture; 15 percent minimum

$$EF_{PM} = 1.0 \times (0.0032) \times (9.6/5)^{1.3} / (10/2)^{1.4}$$

$$EF_{PM} = 0.000444996 \text{ lb/ton}$$

$$EF_{PM10} = 0.7 \times (0.0032) \times (9.6/5)^{1.3} / (10/2)^{1.4}$$

$$EF_{PM10} = 0.000311497 \text{ lb/ton}$$

Control efficiency = 50% based on partial enclosure.

Specific Condition Section III. A5. and A8 limit the amount of fuel and therefore the ash from the facility:

Heat Input:	3,422 MMBtu/hr	Condition III.A5.
Operation	8,760 hours/year	Condition III.A8.
Assumed Coal Heat Content	11,000 Btu/lb	Conservative Minimum (Actual 2000-2001 is 12,480 Btu/lb)
Assumed Coal Ash Content	12%	Conservative Maximum (Actual 2000-2001 is 8.9%)

	<u>Ash</u>	<u>Coal:</u>
Annual	163,509 tons/year	1,362,578 tons/year
Monthly	13,626 tons/month	113,548 tons/month
Hourly	37,331 lb/hr	311,091 lb/hr

PM Emissions from Pug Mill into Rail or Truck:

	<u>Uncontrolled</u>	<u>Controlled</u>
Annual	0.036 tons/year ✓	0.018 tons/year ✓
Monthly	0.003 tons/month	0.002 tons/month
Hourly	0.008 lb/hr	0.004 lb/hr

PM<sub>10</sub> Emissions from Pug Mill into Rail or Truck:

	<u>Uncontrolled</u>	<u>Controlled</u>
Annual	0.025 tons/year ✓	0.013 tons/year ✓
Monthly	0.002 tons/month	0.001 tons/month
Hourly	0.006 lb/hr	0.003 lb/hr



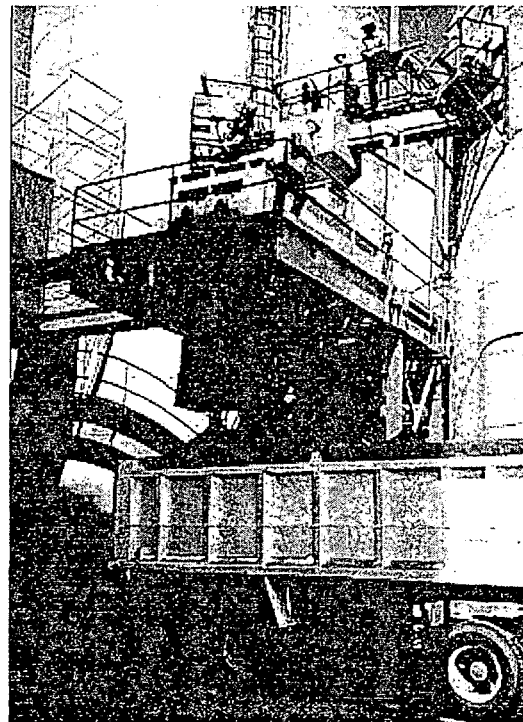
AshTech  
Corporation  
Phone: 440.646.9911

## Mixer-Unloader

### EXPERIENCE

Since its development, the AshTech mixer-unloader system has been installed at hundreds of industrial and utility facilities to solve dust control problems.

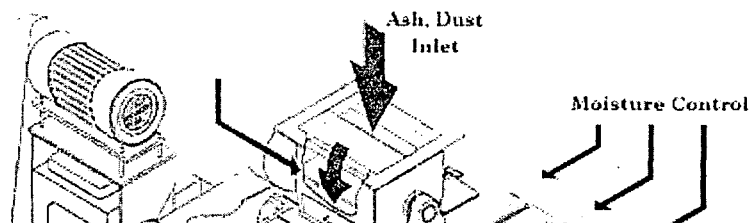
- Unit capacities range from under 5TPH to over 400TPH with multiple unit installations providing unloading capabilities of over 1000TPH.
- Systems are in operation on fly ash from all types of coal-firing, wood, and refuse combustion; on pulverized, stoker, and fluid bed boilers; with cement, lime, coal dust, and other abrasive powders.
- Totally automated systems provide continuous, unattended conditioning, discharging to trucks, storage containers or take-away conveyors.
- Customized designs have been developed to solve difficult retrofit situations.



### OPERATION

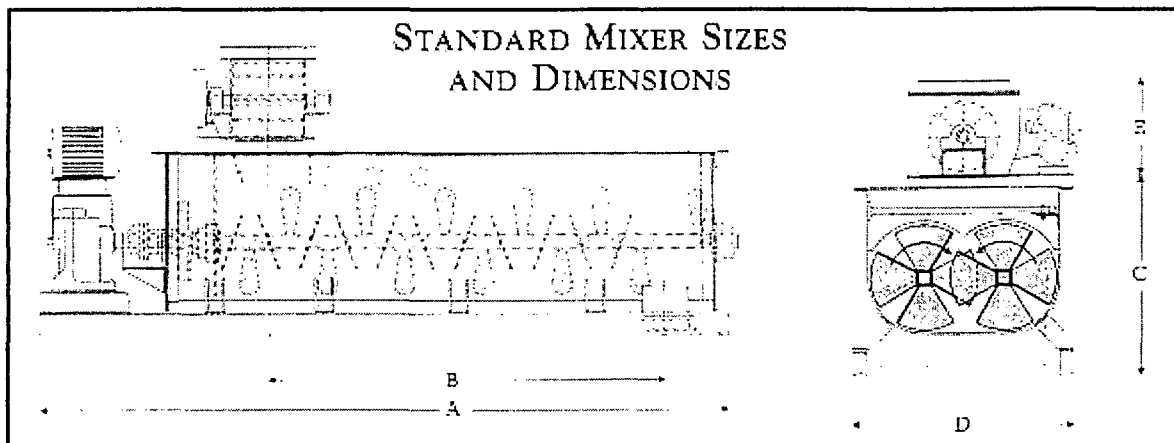
The AshTech mixer-unloader is a totally enclosed, twin-shaft paddle mixer designed to thoroughly condition and blend ash and other dusty, abrasive materials. Material feed rate into the mixer chamber is precisely controlled by a variable-speed rotary feeder. Water spray feed rate is adjusted by control valves.

As material enters the mixer tub, inclined mixer



paddles, mounted on the counter-rotating shafts, blend and mix the material as it is conveyed forward. As the material is moistened by the wetting sprays, the interposing mixing paddles cause all dry surfaces to be exposed, resulting in a forced mixing and wetting of all material.

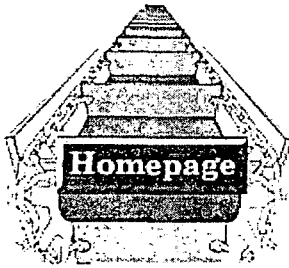
The positive conveying action of the mixer paddles controls the material residence time as it is mixed and as it passes through the mixer and out the discharge chute. The result is a continuous flow of uniformly mixed product with no excess water and no dusting.



Standard Model(1)	Capacity Range (TPH)(2)	HP Range(3)	Standard Dimensions(4)				
			A	B	C	D	E
M-8	2 - 15	2 - 5	8'-10"	4'-2"	2'-5"	2'-2"	2'-0"
M-12	20 - 30	5 - 10	10'-6"	5'-7"	2'-9"	2'-10"	2'-0"
M-16	40 - 80	10 - 15	12'-3"	6'-10"	3'-6"	4'-0"	2'-0"
M-20	90 - 150	15 - 30	14'-8"	8'-6"	4'-2"	4'-7"	2'-6"
M-24	160 - 250	40 - 60	17'-10"	9'-6"	4'-11"	5'-7"	2'-6"

1. Stretched designs and reverse end drive configurations available.
2. Range based on feed material at 40#/ft<sup>3</sup>
3. Based on 30 RPM operation, and actual material density
4. Maximum envelope dimensions, for layout purposes only





*AshTech Corporation*  
*5875 Landerbrook Drive*  
*Cleveland, Ohio 44124*  
*Phone: 440.646.9911*  
*Fax: 440.646.0505*  
*E-Mail: [info@ashtechcorp.com](mailto:info@ashtechcorp.com)*

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