

DEC 23 REC'D

INDEPENDENT REGULATORY
REVIEW COMMISSION**Tate, Michele**

From: gadinra [gadinra@ptd.net]
Sent: Tuesday, December 15, 2009 2:09 PM
To: EP, RegComments
Subject: FW: December 9, 2009 Testimony Chapter 290. Beneficial Use of Coal Ash

From: gadinra [mailto:gadinra@ptd.net]
Sent: Tuesday, December 15, 2009 1:50 PM
To: 'RegComments@state.pa.us'
Subject: December 9, 2009 Testimony Chapter 290. Beneficial Use of Coal Ash

In conjunction with my testimony I submitted a DVD and printed documents(comparison of flyash quality and EPA TVA memo re: disposal of Kingston TVA ash in Hazleton, PA). I would like to include these documents as part of my testimony.

Robert A. Gadinski, PG
105 Main Street
Ashland, PA 17921
(570)590-9912

**TESTIMONY OF ROBERT A. GADINSKI, PG ON:
CHAPTER 290 REGULATIONS, BENEFICIAL USE OF COAL ASH**

**PLACE: POTTSVILLE DISTRICT MINING OFFICE
POTTSVILLE, PA 17901**

DATE: DECEMBER 9, 2009

Please note the following:

1. The difference in the total on and off site disposal at the Kingston Facility versus the attached Cogeneration facilities in PA (Northampton Plant, St. Nicholas, Northeast Power and Westwood)
2. Note the total on site-off site disposal volumes of metals(arsenic, lead, nickel, mercury, barium etc.) generated at the Kingston Site versus the PA locations.
3. The total volume of on end off site waste at the Kingston site is 7million lbs. for 2006. Whereas, the volumes at the PA sites are a fraction of what was generated at the PA locations (i.e. Northampton plant 10%, St. Nicholas 11%, Northeast Power 8%, Westwood 6% of the total waste disposal at the Kingston Plant)
4. The Kingston Plant generated 50260 lbs. of arsenic and the Northampton Plant produced 24843 lbs. of the same contaminant. However the Northampton Plant generated 1/10 th of the total waste volume than the Kingston Plant (7115473 lbs. Kingston Plant whereas the Northampton Plant produced 6909 44 lbs.)
5. Based on this it can be assumed that if the Northampton Plant generated the same total volume of waste it would produce:
 $(24843 \text{ lbs. As N}) / (7115473 \text{ lbs. TW K}) \times (690944 \text{ lbs. TW N}) = 255837 \text{ lbs. of arsenic generated at the Northampton Plant using the same total volume of total waste as Kingston .}$
6. The same exercise can be done with lead : $(42146 \text{ lbs. N}) / (7115473 \text{ lbs. TW K}) \times (690944 \text{ lbs. TW N}) = 434028 \text{ Total Pb if TW at Northampton = TW at Kingston.}$
7. Based on this evaluation based on the provided assumptions the CCW (flyash) from plants in PA has higher concentrations of toxic metals/volume than what was reported for the Kingston Plant. This exercise can be done on all the plants in Northeast PA and based on this evaluation the waste released from Kingston was of better quality of what is being touted as "Beneficial" in Pa.
8. How is the release at Kingston a "Disaster" while the dumping of worse quality waste into unlined, unmonitored strip mine "Beneficial" in PA??

Taken From the Toxic Release Inventory USEPA (2006) TW=Total Waste Volume, K=Kingston, N=Northampton

Row #	Facility and Chemical	Total On-site Disposal or Releases	Total Off-site Disposal or Releases	Total On- and Off-site Disposal or Releases
10	U.S. TVA KINGSTON FOSSIL PLANT, 714 SWAN POND RD. HARRIMAN	7,114,052	1,421	7,115,473
	AMMONIA	35,750	0	35,750
	ARSENIC COMPOUNDS	50,255	5	50,260
	BARIUM COMPOUNDS	1,281,850	5	1,281,855
	BENZO(G,H,I)PERYLENE	1	0	1
	CHROMIUM COMPOUNDS(EXCEPT CHROMITE ORE MINED IN THE TRANVAAL REGION)	92,005	5	92,010
	COBALT COMPOUNDS	38,255	0	38,255
	COPPER COMPOUNDS	130,955	0	130,955
	DIOXIN AND DIOXIN-LIKE COMPOUNDS	**	0	**
	HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)	3,700,000	0	3,700,000
	HYDROGEN FLUORIDE	500,000	0	500,000
	LEAD COMPOUNDS	51,542	1	51,544
	MANGANESE COMPOUNDS	142,000	0	142,000
	MERCURY COMPOUNDS	720	0	720

<u>NAPHTHALENE</u>	250	0	250
<u>NICKEL COMPOUNDS</u>	76,255	0	76,255
<u>POLYCYCLIC AROMATIC COMPOUNDS</u>	104	0	104
<u>SELENIUM COMPOUNDS</u>	19,450	5	19,455
<u>SULFURIC ACID (1994 AND AFTER "ACID AEROSOLS" ONLY)</u>	680,000	0	680,000
<u>VANADIUM COMPOUNDS</u>	188,455	1,400	189,855
<u>ZINC COMPOUNDS</u>	126,205	0	126,205
Total	7,201,003	33,009	7,234,012

7 **COGENTRIX ENERGY NORTHAMPTON GENERATING PLANT, 1 HORWITH DR. NORTHAMPTON** 117,917 573,027 690,944

<u>AMMONIA</u>	2,451	7,085	9,536
<u>ARSENIC COMPOUNDS</u>	30	24,813	24,843
<u>BARIUM COMPOUNDS</u>	65	128,008	128,073
<u>COPPER COMPOUNDS</u>	49	38,308	38,357
<u>DIOXIN AND DIOXIN-LIKE COMPOUNDS</u>	**	**	**
<u>HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)</u>	106,625	0	106,625
<u>HYDROGEN FLUORIDE</u>	8,308	0	8,308
<u>LEAD COMPOUNDS</u>	21	42,125	42,146
<u>MANGANESE COMPOUNDS</u>	58	83,615	83,673
<u>MERCURY COMPOUNDS</u>	3	317	320
<u>SELENIUM COMPOUNDS</u>	50	20,468	20,518
<u>VANADIUM COMPOUNDS</u>	47	36,773	36,820
<u>ZINC COMPOUNDS</u>	210	191,515	191,

17 **SAINT NICHOLAS COGENERATION PROJECT, HWY 54 E TWP RT 851, SHENANDOAH** 791,164 0 791,164

<u>ANTIMONY</u>	16,300	0	16,300
<u>ARSENIC</u>	32,582	0	32,582
<u>BARIUM</u>	336,147	0	336,147
<u>CHROMIUM</u>	45,621	0	45,621
<u>COPPER</u>	38,538	0	38,538
<u>LEAD</u>	40,123	0	40,123
<u>MANGANESE</u>	203,469	0	203,469
<u>MERCURY</u>	402	0	402
<u>NICKEL</u>	15,906	0	15,906
<u>SELENIUM</u>	29,237	0	29,237

NA

12 **NORTHEASTERN POWER CO. RT 309 1 MILE S OF MCADOO, MC ADOO** 432,805 140,198 573,003

<u>BARIUM COMPOUNDS</u>	197,084	85,000	282,084
<u>CHROMIUM COMPOUNDS (EXCEPT CHROMITE ORE MINED IN THE TRANSVAAL REGION)</u>	36,016	15,000	51,016
<u>COPPER COMPOUNDS</u>	21,009	9,000	30,009
<u>DIOXIN AND DIOXIN-LIKE COMPOUNDS</u>	**	0	**
<u>HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)</u>	87,000	0	87,000

<u>HYDROGEN FLUORIDE</u>	17,200	0	17,200
<u>LEAD COMPOUNDS</u>	36,016	15,000	51,016
<u>MANGANESE COMPOUNDS</u>	38,016	16,000	54,016

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<u>WPS WESTWOOD GENERATION LLC, US RT 209, TREMONT</u>	461,489 0	461,489
<u>BARIUM COMPOUNDS</u>	77,104 0	77,104
<u>BENZO(G,H,I)PERYLENE</u>	0 0	0
<u>CHROMIUM COMPOUNDS(EXCEPT CHROMITE ORE MINED IN THE TRANSVAAL REGION)</u>	66,013 0	66,013
<u>COPPER COMPOUNDS</u>	57,011 0	57,011
<u>HYDROCHLORIC ACID (1995 AND AFTER "ACID AEROSOLS" ONLY)</u>	3,200 0	3,200
<u>HYDROGEN FLUORIDE</u>	34 0	34
<u>LEAD COMPOUNDS</u>	20,004 0	20,004
<u>MANGANESE COMPOUNDS</u>	92,017 0	92,017
<u>MERCURY COMPOUNDS</u>	105 0	105
<u>NICKEL COMPOUNDS</u>	20,008 0	20,008
<u>POLYCYCLIC AROMATIC COMPOUNDS</u>	17 0	17
<u>SULFURIC ACID (1994 AND AFTER "ACID AEROSOLS" ONLY)</u>	3,700 0	3,700
<u>VANADIUM COMPOUNDS</u>	85,254 0	85,254

Tennessee Valley Authority
Regulatory Submittal for Kingston Fossil Plant

Documents submitted:
Offsite Ash Disposal Options Plan
(Revised)
Date submitted
6/29/2009

Submitted to whom
Leo Francendese, EPA

Concurrence
Received Not Applicable TVA

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Anda Ray
Mike Scott
Kathryn Copeland
Cynthia Anderson
Dennis Yankee
David Stephenson

Received Not Applicable Jacobs

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John Moebes
Julie Pfeffer
Jack Howard
Donna Cuenoni
Paul Clay

Approvals

TVA *[Signature]*

Date 6/30/09

EPA *Leo Francendese*

Date 7/2/09

Consulted w/ TDEC B. Scott et al.

cc:

- Anda Ray, TVA
- Barbara Scott, TDEC
- Leo Francendese, EPA
- Mike Scott, TVA
- Dennis Yankee, TVA
- Kathryn Copeland, TVA
- Cynthia Anderson, TVA
- John Moebs, Jacobs
- EDM
- Julie Pfeffer, Jacobs
- David Stephenson, TVA
- Michelle Cagley, TVA
- Greg Signer, TVA
- KIF Incident Document Control
- Katie Kline, TVA
- Gretchen Wahl, Jacobs
- Barbara Scott, TDEC
- Dannena Bowman, EPA
- Jeff Gary, Jacobs



Tennessee Valley Authority, 400 W. Summit Hill Drive, Knoxville, Tennessee 37902

Anda A. Ray
Senior Vice President
Office of Environment and Research

June 30, 2009

Mr. Leo Francendese
U. S. Environmental Protection Agency
Region 4
61 Forsyth Street Southwest
Atlanta, Georgia 30303
francendese.leo@epa.gov

By e-mail

Dear Mr. Francendese:

Please find enclosed the Off-Site Ash Disposal Options Analysis Work Plan. The enclosed work plan fulfills the requirements of Section IX, paragraph 28, item of the Administrative Order and Agreement on Consent. Please contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Anda A. Ray'.

for
v
Anda A. Ray
Senior Vice President and Environmental Executive
Office of Environment and Research
WT 11A-K

Enclosures

			abandoned coal mine
State	Alabama	Georgia	Pennsylvania
Rail Distance	327 miles	340 miles	660 miles
Total Ash Capacity (cy)	11,000,000	48,000,000	5,000,000
Max. Daily Capacity (cy)	Currently 6,500; 13,800 by mid July, 2009	Unlimited	8,000

Arrowhead Landfill is located in Perry County, near Uniontown, AL. It is a Subtitle D, Class I landfill served directly by Norfolk Southern rail line. The distance by rail from KIF to the Arrowhead Landfill is 327 miles. The site has 11 million cy of storage capacity and has currently developed capacity to immediately receive 1.5 million cy of KIF material. The State of Alabama has approved the placement of KIF coal ash in the Arrowhead landfill. The site has more than sufficient capacity to accommodate the total volume of ash to be removed from the Emory River. It has existing rail spurs that can accommodate 200 to 250 rail cars. At the site, ash would be off-loaded from the rail cars by hydraulic excavators and loaded into 40 ton trucks for transfer about 1.5 miles to the working landfill face where the TVA ash would be placed.

Veolia-Taylor County Landfill is located near Mauk, GA. It is a Subtitle D, Class I landfill served directly by CSX rail line via Norfolk Southern rail line out of Kingston. The distance by rail from KIF to the site is about 340 miles. At the site, ash would be off-loaded from the rail cars by 30 ton excavators and loaded into 40 ton trucks for transport one half mile to the working face of the landfill. The Veolia landfill has 48 million cy of available storage capacity which could accommodate more than the maximum volume of ash from the KIF site. The facility has an existing rail spur which could accommodate 120 rail cars.

Hazleton Mine Reclamation Site is located within the City of Hazleton, Luzerne County, PA. The site is served directly by Norfolk Southern rail line. The distance by rail from KIF to the Hazleton site is about 660 miles. The property covers about 330 acres and has been impacted by surface and deep mining and land filling. The site has a permit to receive 5 million cy of coal ash for beneficial reuse and has storage capacity to accommodate the total volume of ash from the KIF dredging operations. Currently, there is an existing rail spur on site which could accommodate 40 rail cars. Additional rail car storage is near the existing rail spur. At the site, ash would be off-loaded from the rail cars by a material handler with an elevated cab and hydraulic clam shell bucket into off-road trucks that would transfer the material to designated abandoned mine pits.

TVA has eliminated the Hazleton Site from consideration, as they are unable to commit to installing a liner for placement of KIF material.

Several Subtitle D Class I landfills had been identified for ash transport by truck for disposal. At the Class I landfills, material would be mixed with other waste material, except for Chestnut Ridge, or used as layering material. At Chestnut Ridge, the material would be managed separately. Nearby landfills include:

- Meadow Branch Landfill, Athens, Tennessee
- Chestnut Ridge Landfill, Heiskell, Anderson County, Tennessee

- Volunteer Regional Landfill, Oneida, Tennessee
- Rhea County Landfill in Dayton, Tennessee

Table 3 contains the characteristics of the local landfills with truck access.

Table 3. Local Disposal Sites with Truck Access

Operator	Waste Connections	Waste Management	Waste Connections	Santek Environmental
Facility	Meadow Branch Landfill	Chestnut Ridge Landfill	Volunteer Regional Landfill	Rhea County Landfill
Type	Class 1, Subtitle D landfill	Class 1, Subtitle D landfill	Class 1, Subtitle D landfill	Class 1, Subtitle D landfill
State	Tennessee	Tennessee	Tennessee	Tennessee
Road Distance	57 miles	50 miles	58 miles	37 miles
Total Ash Capacity (cy)	2,000,000	Up to 5,000,000 with volume guarantee	5,000,000	7,125,000
Max. Daily Capacity (cy)	500	8500 tons	500	500

For most of these landfills, TVA would have to use two or more of landfills simultaneously because of limited storage capacity and to reduce the number of vehicles traveling a particular route, thus mitigating potential traffic congestion, noise and diesel emissions. Note that only the Chestnut Ridge Landfill can accept all the dredged ash at the necessary daily rate.

If used, the Anderson County location (Chestnut Ridge Landfill) would be accessed by I-40 E to I-640 E/I-75 N to exit 117, State Highway 170, and right on Fleenor Mill Road. This route is approximately 50 miles in length one way and most of this is interstate highway. The Meadow Branch Landfill in Athens, TN would be accessed by I-40 E to I-75 S to exit 49, TN-30 (Decatur Pike), to right on TN 750, Piney Grove Road. This route is approximately 65 miles one way. The Rhea County Landfill in Dayton, TN would be accessed by I-40 W to exit 347, US 27 toward Harriman/Rockwood to Smyrna Road. This route is approximately 36 miles one way. The Volunteer Regional Landfill in Oneida, TN would be accessed by Ruitan Road, TN-29, to US 27 to Bear Creek Road. This route is approximately 62 miles one way.

Based on most permit requirements for disposal at Subtitle D, Class I landfills, TVA is required to sample and characterize the ash based on waste acceptance criteria determined for each facility. The required tests include TCLP, total metals and paint filters. Following the tests, TVA would notify respective states of its intent to dispose of ash in their landfill(s) and request approval and a letter of certification that the material is acceptable as fill. The ash to be shipped

The full document can be viewed at:

<http://www.epakingstontva.com/Work%20Plan%20Approvals/Transmittal%20Cover%20for%20Regulatory%20Submittal%20-%20Offsite%20Ash%20Disposal%20Options%20Plan%20Approved.pdf>