

Phillips, Cindy

From: Sims, Jeff [SimsJ@epchc.org]
Sent: Tuesday, April 13, 2004 3:28 PM
To: Phillips, Cindy
Cc: Harman, Alice; Dennis, Ron
Subject: TECO Transloading

Cindy,

We have been reviewing the proposed project from TECO and wish to provide some general comments. Unfortunately, Ron is off on Fridays and wasn't in the office when you asked for comments on the DRAFT. We agree with your request for additional information and would suggest some further details about the layout of the project be provided.

The calculations generally seem reasonable regarding the loading and transport; however, the most significant variable that was questioned was the distance of the truck travel on TECO property. The distance used was 1600 ft one way. An increase to 2800 ft would put the total PM over 5 tpy. Based on the limited information regarding the actual loading location at the coalfield, it was impossible to validate this distance. Where is the loading actually to occur? Where will the trucks turn around? If possible, we would suggest requesting a better layout of the project be provided including the specified location of loading and projected path of the trucks along with documented distances from entry to exit of the plant.

Some general comments that I recorded during the review and a spreadsheet mimicking TECO's calculations are provided for your review as an attachment.

If you have any questions or comments, please let me know.

Jeff Sims
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TECO Transloading

TECO calculations:

- 1) If loading is to occur in North Yard, aren't more conveyors and transfer points needed than indicated in the correspondence? This wouldn't effect TECO's calculations, but would change the total increase of handling material from ship to truck.
- 2) TECO calculations were for 1) truck loading and 2) truck movement. Is a calculation including total emissions from handling coal all the way from the ship warranted? They did not ask for an increase in facility throughput.
- 3) Correspondence indicated 125,000 tons to be loaded while calculations were done with 150,000 tons. What is accurate? Calculation would be worst case.
- 4) Used 1040 hr/yr as basis for determining hourly loading. Is this appropriate?
- 5) Both processes assumed 90% control efficiency. Are these accurate? Significantly affects results.

Truck Loading:

- 6) Used AP-42 equation for batch loading ... this would seem to account for loading into truck but not for disruption of material on pile by front-end loader. Is this significant? Total emissions for this part are low.
- 7) Moisture Content listed as 7%. This is outside the range referenced by AP-42 for equation. Is this number truly valid?

Truck Movement:

- 8) *** Listed 1600 feet as distance traveled each way by the trucks. This is a significant figure because it directly affects the calculations. An increase to 2800 feet would translate to > 5 tons of total PM. Fuel Yard is located in rear of plant. Initial thought is that the distance from entrance of plant to the end of the coal field is possibly > 1600'. Is the plant entrance the appropriate point to start the measurement and is that how it was determined?
- 9) TECO used silt loading factor for iron and steel production with 90% control efficiency. This number appears significantly lower than factors for more similar type operations (i.e. asphalt batching, gravel processing).
- 10) Calculations accounted for truck movement on paved roads into and out of plant. What about the PM generated from movement of the front-end loader from the stockpile to the truck or if the truck has to move onto an unpaved surface to reach the stockpile?

Additional Information/Discussion:

Marigold ... This facility handles coal and aggregate in Hillsborough County and was permitted last year. The drop equation was used in submitted applications (AP-42 Chpt. 13), however EPC proposed use of Chpt. 11 for certain aspects of the operation. Included in the final draft of the AC was the use of the equation from Table 11.9-1 (AP-42) for uncontrolled truck loading. For PM it is:

$$EF_{1b/ton} = 1.16/M^{1.2}$$

If translated to TECO's proposal, this would equate to 8.4 ton/yr from the truck loading portion of the plan. Note that the EF is for uncontrolled dust sources. The 90% control efficiency for TECO's proposal would reduce this value to 0.84 ton/yr. Marigold did not assume a control efficiency in their permit.

Should TECO's proposal be calculated the same way? It would still be <5 tpy based on submitted figures.

Jeff Sims
4/6/04

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4/6/04

TECO Transloading 4/5/2004

TECO calculations

Assumed hrs of operation = 1040 (8 hr/day, 5 days/wk, 26 wk/yr)

		k, particle size mult.	U, mean wind speed mph	M, moisture content %	Material transfer rate ton/hr	ton/yr
Stockpile unloading	PM	0.74	8.6	7	144.2307692	150000
	PM10	0.35	8.6	7	144.2307692	150000

Truck traffic

Material transfer (ton/yr) = 150000
 Truck load (tons) = 13
 Assumed driving distance (ft) = 1600
 Trucks per year (13 ton load) = 11538.46
 Trucks per hour (13 ton load) = 11.09

		k, particle size mult. lb/VMT	sL, silt loading g/m ²	W, average weight tons	C, EF for brake wear lb/VMT	P, # of wet days
Empty trucks in	PM	0.082	0.97	13	0.00047	100
	PM10	0.016	0.97	13	0.00047	100
Full trucks out	PM	0.082	0.97	26	0.00047	100
	PM10	0.016	0.97	26	0.00047	100

Control eff. %	Potential PM lb/hr	Potential PM ton/yr
90	0.0120	0.0062
90	0.0057	0.0029

VMT, Vehicle miles		Control eff.	Potential PM	
VMT/hr	VMT/yr	%	lb/hr	ton/yr
3.36	3497	90	1.446	0.752
3.36	3497	90	0.281	0.146
3.36	3497	90	4.092	2.128
3.36	3497	90	0.797	0.415

Note: used control efficiency in det.
of silt loading factor .. Higher calc. than using at end