From: Shileikis, Dale [mailto:dale.shileikis@urs.com]
Sent: Wednesday, April 10, 2013 3:55 PM
To: Worl, Robert@Energy
Cc: Heiser, John@Energy; Rushmore, Kathy; Marisa Mascaro (mmascaro@scsenergyllc.com); Mitchell, Julie
Subject: RE: Requested information Re: HECA
Importance: High

Bob:

In response to the questions in your email on Friday about MW and fluxant, I have provided answers in Red (**bold**). In response to your second email requesting an energy balance, at this time HECA does not have a complete energy balance that would meet your needs, and it will take some time to prepare this balance.

Please let me know if this addresses your concerns, or if you need additional information. A short call with the appropriate people can also be an efficient way to provide a quick answer. Please forward this on to anyone else at the energy commission that might be interested.

Dale

Questions about MWs and parasitic load:
Different aspects of the project (notably the PDOC, the AFC, and certain data responses and emails) use differing values for the total MW output of the plant. Which is the most accurate currently? The SJV air district is using 431 MW gross, and 300 MW net;
In other areas the gross is listed as 405 MW gross and 267 MW net;
Net output may range from 267 – 300 MW and gross output may range from 405 – 431 MW. Engineers are designing to optimize to the higher end of these ranges, but for some emission factor calculations it is more conservative to use the low end value (i.e. for the SB1368 CO2 EPS and MATS mercury standard), that is why these different values have been used.

Table 210 lists parasitic loads including 60 MW for 'Other'--does this include the Air Separation Unit?
No

If the answer is no, why isn't the ASU considered as such?
The ASU will be owned and operated by a separate company and they will buy their power directly from the grid. HECA will have no control in determining the power source for the ASU.

Also, at the Air District's workshop on the PDOC, a discussion took place which noted that in addition to the coal and pet coke a limestone fluxant would be used. We have no information about this, and we understand the intent is to provide that information prior to the FSA but since it has been identified and discussed, we need to include a level of information in the PSA publication to avoid an inconsistency.

Regarding the limestone fluxant please provide the following:

1) The quantity of fluxant needed (pounds per hour, day, yearl)…[this will confirm the trip values and help with other balances]. **On average 175 ton/day or 59,000 tons/yr of fluxant will be used.**
2) Identify the increase in the slag waste, identify how it will change the properties of the waste or the eventual disposition/disposal options for the slag waste. **The average gasification solids flow rate increases from 850 tons/day to 938 tons/day. The properties of the gasification**

solids will not change. The options for eventual disposition of the gasification solids will not change due to the addition of flux

3) Would the fluxant be trucked in under both transportation alternatives, or brought in by train if the rail spur is built? **Fluxant will be delivered by truck for both alternatives.**
4) Would the fluxant, regardless of transport means, be secured: covered—tarped, enclosed, other? **Either tarped or enclosed, thus there won't be any fugitive dust from the material as it travels to the site.**
5) Confirm that any dry handling would meet the standards of the feedstock handling emissions containment/control**. Fluxant unloading and silo will have a baghouse to control dust.**
6) Identify the storage volume, type (open, contained, tank, etc.) and location of the fluxant storage. **The fluxant will be stored in a silo that will be approximately 30 feet in diameter and 80 feet tall. It will be located to the north of the feedstock barn.**
7) Identify where the fluxant is added in the gasification system; Is it mixed with the feedstock prior to the gasifier or added separately at a specific point/section of the gasifier? **The flux is added to the feedstock on the conveyor at the point where it exits the feedstock storage barn.**
8) Describe where the carbon in the limestone will go in the process…will the CO2 (44 tons of CO2 per 100 tons of limestone) be evolved and separated at 90 percent like the rest of the CO2…causing small increases in the exported CO2 and the emitted CO2? **The limestone enters the gasifier with the feedstock. In the gasifier, The limestone splits into two components, calcium oxide and carbon dioxide. The calcium oxide becomes part of the gasification solids. The carbon dioxide becomes part of the syngas stream and is captured in the Rectisol Unit. The carbon dioxide flowing to enhanced oil recovery and the carbon dioxide emitted from the turbine/feedstock dryer and CO2 vent increase proportionally. Carbon capture remains 90% or greater of the carbon in the syngas exiting the gasifier.**

9) Please confirm given the new availability of calcium carbonate (limestone), there is no potential to amend the fertilizer manufacturing to include the manufacturing and transportation of calcium ammonium nitrate (CAN). **The security issues associated with ammonium nitrate remain unchanged. No solid ammonium nitrate is produced. Based on a search of the literature, calcium ammonium nitrate (CAN) must be processed to remove the calcium and obtain solid ammonium nitrate before it is suitable for use as a component in improvised explosive devices**.

I added the last one as CAN is really easy to make if you have the two basic ingredients, mix and serve…and they'll have both onsite now…it would raise some security issues for Alvin as it can be used in IEDs. One thing to note is that Julie Mitchell indicated that the fluxant trips would be similar to the ammonia trips in number, so there would be a rough balance of adding/subtracting…but we do need to get the actual numbers to be sure.

For alternative 1: Maximum daily trucks increase by 10 fluxant trucks and 2 gasification solids trucks. Ammonia trucks decrease from 30 trucks per day to zero.
For alternative 2: Maximum daily trucks increase by 10 fluxant trucks and 9 gasification solids trucks. Ammonia trucks decrease from 40 trucks per day to zero.

Dale Shileikis
Vice President
Energy Services / California Regional Power Lead
URS Corporation / One Montgomery Street / Suite 900
San Francisco, CA 94104-4538
415 243 3708 (Office Direct) / 415 509 3708 (Cell)
dale.shileikis@urs.com