From: Hedgpeth, Zach
To: WESTERSUND Joe * DEQ
Cc: ORMAN Michael * DEQ; Hunt, Jeff
Subject: RE: SCR NOx Control Cost – Four-Factor Analysis NOx Control Cost Effectiveness for GTN Station 13
Date: Thursday, August 5, 2021 10:48:00 AM
Attachments: image001.png

Here are my notes as we discussed during our call today:

Notes:

- Did GTN provide data on NOx control efficiency cases cited? They will need to make the case 90% is not achievable. Vendor quote for 90% is problematic for them. Vendor should consider actual operating conditions and let us know if 90% is not achievable. Three vendors should have been engaged.
-
- Labor citation from pg 75 is from the IPM (large coal boilers).
- Doubtful operator will be paid $100/hr or more. Use actual pay rate, then 35% overhead is ok.
- "Testing and QA/QC" costs – did they provide documentation for the costs and why this is expected to occur for unit 13?
- Admin formula incorrectly references supervisor labor, should be operator labor per eq. 2.69 on pg 80 of new SCR chapter.
- Property tax and insurance – must provide documentation.
-
- Catalyst life issue – Aerinox guarantee is different than actual expected life. Cost manual cites typical 3 year vendor guarantees, but actual life data indicates they last far longer in gas applications. (pgs 29 and 77 of new SCR chapter).
- SCR equipment life range is 20-40 years. Use 30 years unless there is a specific reason shorter lifetime is expected. What specifically will shorten life in this case?
-
- NH3 usage rate in spreadsheet is for 75% per vendor quote from 6/24/21.
- NH3 quote is for $1.0062/gal, so why is $1.05 used?
- Does NH3 quote include fuel surcharge for long distance delivery?

Here's the labor rate lookup link I mentioned. Browse around to look at different job categories.
https://www.bls.gov/oes/current/oes_stru.htm

Zach Hedgpeth, PE
206-553-1217
Pronouns: he/him/his

From: WESTERSUND Joe * DEQ <joe.westersund@deq.state.or.us>
Sent: Thursday, August 5, 2021 8:58 AM
To: Hedgpeth, Zach <Hedgpeth.Zach@epa.gov>
Cc: ORMAN Michael * DEQ <michael.orman@deq.state.or.us>; Hunt, Jeff <Hunt.Jeff@epa.gov>

Subject: RE: SCR NOx Control Cost – Four-Factor Analysis NOx Control Cost Effectiveness for GTN Station 13

Hi Zach,

Here's the most recent DEQ cost analysis we provided to the company- see attached.

-Joe

Joe Westersund
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From: Hedgpeth, Zach <Hedgpeth.Zach@epa.gov>
Sent: Thursday, August 5, 2021 6:38 AM
To: WESTERSUND Joe * DEQ <joe.westersund@deq.state.or.us>
Cc: ORMAN Michael * DEQ <michael.orman@deq.state.or.us>; Hunt, Jeff <Hunt.Jeff@epa.gov>
Subject: RE: SCR NOx Control Cost – Four-Factor Analysis NOx Control Cost Effectiveness for GTN Station 13

Joe,

Could you send me your most recent estimate (spreadsheet) that you provided to the company? Comparing would help me to quickly see their changes.

Thanks,
Zach

From: WESTERSUND Joe * DEQ <joe.westersund@deq.state.or.us>
Sent: Wednesday, August 4, 2021 10:05 AM
To: Hedgpeth, Zach <Hedgpeth.Zach@epa.gov>
Cc: ORMAN Michael * DEQ <michael.orman@deq.state.or.us>; Hunt, Jeff <Hunt.Jeff@epa.gov>
Subject: FW: SCR NOx Control Cost – Four-Factor Analysis NOx Control Cost Effectiveness for GTN Station 13

Hi Zach,

DEQ is looking to wrap up our discussions with TC Energy about SCR costs for Compressor Station #13.

TC Energy has submitted an updated cost estimate (attached). The company questioned the lower administrative charges and zero overhead, property taxes and insurance costs that we included in our most recent estimate based on the cost control manual. They provided limited support for their new estimates for those figures- an email that says that their "Corporate Support rate is currently 35%" and that other numbers are based on "TCE internal review and quote". TC Energy also based their latest estimate on an SCR lifetime of 20 years, not 30.

Would you have time to meet with Michael and I one more time to discuss?

Timing wise, DEQ has a meeting with TC on Friday morning, and a deadline of Monday COB to issue a unilateral order if no agreement is reached and DEQ chooses to move forward to require SCR install.

-Joe

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From: Melinda Holdsworth <melinda_holdsworth@tcenergy.com>
Sent: Tuesday, August 3, 2021 11:00 AM
To: MIRZAKHALILI Ali * DEQ <ali.mirzakhalili@deq.state.or.us>; paul.garrahan@doj.state.or.us; WESTERSUND Joe * DEQ <joe.westersund@deq.state.or.us>; BAILEY Mark * DEQ <mark.bailey@deq.state.or.us>; ORMAN Michael * DEQ <michael.orman@deq.state.or.us>; Erika.Hamilton@doj.state.or.us
Cc: Ruth Jensen <ruth_jensen@tcenergy.com>; Jon Adamson <jon_adamson@tcenergy.com>; Jill Holley <jill_holley@tcenergy.com>; Mike Hatchett <mike_hatchett@tcenergy.com>; James McCarthy <jamesmccarthy@comcast.net>; David C. Weber <DWeber@bdlaw.com>
Subject: SCR NOx Control Cost – Four-Factor Analysis NOx Control Cost Effectiveness for GTN Station 13

Michael and Joe –

Please find enclosed a memorandum and accompanying spreadsheet from our consultant, Innovative Environmental Solutions, Inc. (IES), regarding the cost-effectiveness analysis for GTN's Station 13, Units 13C and 13D. Also attached are a number of documents that are referenced in IES's memorandum.

In conducting its four-factor analysis, DEQ directed GTN to rely on EPA's Guidance on Regional Haze State Implementation Plans for the Second Implementation Period, and EPA's Air Pollution Control Cost Manual.

These guidance documents make clear that DEQ's review of a regulated party's four-factor analysis should prioritize site-specific information. For example, the Control Cost Manual recognizes that EPA's methodology for calculating cost-effectiveness is "more accurate when using detailed site-specific information." Consistent with DEQ's instructions for conducting its four-factor analysis, GTN followed EPA guidance by conducting site-specific analyses across a variety of subject matters that reflect the real-world application of SCR as applied to Station 13 Units 13C and 13D.

The analysis contained in the IES memorandum, supported by the attached Excel spreadsheet, demonstrates that SCR installed at Station 13, Units 13C and 13D, is not cost effective because it exceeds the $10,000 per ton threshold.

GTN desires to continue to work cooperatively with DEQ to supply it with accurate site-specific information where available, such that DEQ can evaluate GTN's analysis in accordance with the above EPA guidance documents.

We look forward to our scheduled call this Friday to discuss the enclosed information.

Thanks,

Mel Holdsworth

List of Attachments

- Memorandum from IES, dated August 2, 2021
- Excel spreadsheet for Units 13C and 13D
- Attachment A (June 2021 Station 13 AeriNOx quote)
- Attachment B (March 2021 Station 12 AeriNOx quote)
- Attachment C (March 2021 IES memo)
- Attachment D (March 2021 Airgas quote)
- Attachment E (Corporate Support Rate)

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Thank you