From: Jerry.Salamy@CH2M.com
Sent: Wednesday, December 12, 2012 12:39 PM
To: CPerri@aqmd.gov; stephen.okane@AES.com
Cc: Robert.Mason@CH2M.com; JAMCKINSEY@stoel.com; mafoster@stoel.com; Miller, Felicia@Energy; Jiang, Tao@Energy; Bemis, Gerry@Energy; Keith.McGregor@CH2M.com; Elyse.Engel@ch2m.com
Subject: RE: HBEP start/stop emissions and GHG performance

Chris,

The design engineers estimated that within 12.5 minutes of fuel initiation, the SCR would be reach the minimum operating temperature for ammonia injection to commence for either a hot, warm, or cold start. Therefore, the NOx removal efficiency is 0 percent for the first 12.5 minutes after fuel combustion is initiated and 70 percent thereafter.

For a hot or warm start, the oxidation catalyst system is functional at the initiation of combustion with an average CO and VOC removal efficiencies of 72 percent and 28 percent, respectively. For a cold start, the oxidation catalyst system reaches the minimum operating temperature at 4 minutes of initiating combustion and is fully functional by minute 9. The an average CO and VOC removal efficiencies during the 9 minute period are 31 percent and 9 percent, respectively.

For shutdowns, the SCR and oxidation catalyst systems are functional over the entire shutdown period with an average NOx, CO, and VOC removal efficiencies of 30 percent, 80 percent, and 30 percent, respectively.

Thanks,

Jerry Salamy
Principal Project Manager
CH2M HILL/Sacramento
Phone 916-286-0207
Fax 916-614-3407
Cell Phone 916-769-8919

From: Chris Perri [mailto:CPerri@aqmd.gov]
Sent: Wednesday, December 12, 2012 9:58 AM
To: Stephen O'Kane
Cc: Mason, Robert/SCO; McKinsey, John A.; Foster, Melissa A.; Salamy, Jerry/SAC; Miller, Felicia@Energy; 'Tao.Jiang@energy.ca.gov'; 'Gerry.Bemis@energy.ca.gov'
Subject: RE: HBEP start/stop emissions and GHG performance

Stephen,

Thanks. A follow up question on the start ups – at what point after start up would the SCR become functional?

Chris Perri
Air Quality Engineer
South Coast Air Quality Management District
(909) 396-2696

From: Stephen O'Kane [mailto:stephen.okane@AES.com]
Sent: Friday, December 07, 2012 4:34 PM
To: Chris Perri
Cc: Robert.Mason@CH2M.com; McKinsey, John A.; Foster, Melissa A.; Jerry.Salamy@CH2M.com; Miller, Felicia@Energy; 'Tao.Jiang@energy.ca.gov'; 'Gerry.Bemis@energy.ca.gov'
Subject: HBEP start/stop emissions and GHG performance

Chris,

In response to your questions regarding detail on the estimated start/stop emissions for the Huntington Beach Energy Project turbines and the assumptions that went in to our calculation of GHG emissions per MW-hr, please see the attached letter and accompanying data. If you require further information or explanation for any of our assertions please don't hesitate to ask.

Thanks

Per: Stephen O'Kane
Permitting and Regulatory Approvals, Southland Repower Team

AES
the power of being global

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