Virginia City Hybrid Energy Center
Response to Data Request
Bruce Buckheit, Member, Virginia Air Pollution Control Board

Question (Page No. 17):

Discuss why air to cloth ration of 2:1 is not appropriate

Response:

The VCHEC facility will have an air to cloth ratio of 2.9 to 1. A 2.0 to 1 air to cloth ratio is typically required for Reverse Air Baghouses. VCHEC will have a pulse Jet Baghouse. Allied uses 2.9:1 for the CFB Scrubber application as a conservative design practice. For an undersized baghouse where the flow rate through individual bags is excessive, lowering the Air to Cloth ratio reduces emissions. For a conservatively sized baghouse, such as this one, lowering the Air to Cloth Ratio has no impact on emissions, but it does increase capital cost and equipment footprint.

Filtration media alternatives for bag materials include fiberglass, P84, Nomex, and Gortex. The Ryton filter bag material selected for the VCHEC AQCS project provides the best combination of particulate collection, resistance to acid attack, pressure drop, and expected service life of the bag materials available from which to choose.