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Mr. Weyman Lee
BAAQMD
939 Ellis Street
San Francisco, CA 94109

Subject: Russell City Energy Center - Public Comment

Dear Mr. Lee,

Fuel Tech would like to share with you a number of important and pertinent comments regarding BAAQMD Application number 15487, for Russell City Energy Center. In particular, our comments center on Section IV, "NO2 BACT ISSUES", subsection B. "Potential Risks From Ammonia Spills/Releases."

In this section, it is acknowledged that "an accidental ammonia release could potentially cause very significant impacts, and that this point is clear and indisputable". We agree completely with this statement. Ammonia release can be a deadly situation, and the risks associated with this potential should carry significant weight. Although it is possible to mitigate these risks with well engineered transport, storage and handling systems, the risk remains serious.

In this section, a reference is made to the Fuel Tech, Inc. NOxOUT ULTRA® system that is used in many utility applications to substitute a safe aqueous urea solution for ammonia. The urea solution is decomposed to produce SCR reagent before injection into the flue gas. The risks associated with the transport, handling and storage of dangerous anhydrous or aqueous ammonia are eliminated.

In this BAAQMD report, it was determined by the Air District that, even acknowledging the known dangers of ammonia release, that this safer alternative would "not be the most appropriate BACT alternative." This statement was based entirely on un-official and incomplete testing performed during ad-hoc feasibility testing (see your reference 85, *Valid Results, Inc*.) The results were not published in any peer-reviewed setting and do not constitute a valid scientific finding, as disclaimers in the report clearly state.

In fact, the Fuel Tech urea decomposition system that was operating during this testing was an early non-commercial prototype that does not represent any of the commercial installations currently in operation since 2003. In addition, this unit was not functioning correctly, as it had not been officially started. The test-rig utilized during the non-optimized testing referred to in the un-official report quoted above was frequently operated below temperature and without proper control.

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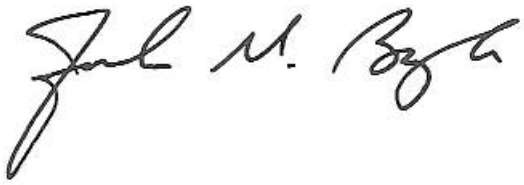
This test unit was officially tuned and optimized two months after this testing, and was utilized for a successful subsequent long-term demonstration.

A rigorous scientific evaluation must consider that the decomposition temperature for formaldehyde is 572 degrees Fahrenheit. The decomposition temperature in a commercial ULTRA chamber is from 1200F to 650F. This process stream resides in the Ultra chamber for approximately 3 seconds, after which there is some time in the ammonia injection piping and injection grid, the AIG. The system is designed to decompose urea at low pressure and high temperature and does not encourage the formation of byproducts.

In summary, both ammonia and urea have been successfully applied to utility and industrial SCR applications with success. There are many factors, including cost and safety that must be considered in choosing a chemical reagent for each application. Your comments correctly acknowledge the considerable safety concerns associated with the use of anhydrous or aqueous ammonia. Ultra has been show to be a safe and effective alternative to on-site ammonia. There is no credible evidence that finds any increased emission of formaldehyde associated with the Ultra process.

The Calpine test results of June 13, 2002 reflect incomplete and carefully labeled "unofficial" test results of an early feasibility test. These results do not form a credible basis for the conclusion of "offsetting negative environmental impacts," especially in light of the known dangers and potential risk of accidental or unintended ammonia release and spills during transport, handling or storage on site.

Sincerely yours,



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