QUESTIONS AND ANSWERS

CRC RFP DP-07-16-1
Date: July 19, 2016

1. Table 2 of the SOW lists a Genomic Profile using a SwRI In-House method. It is not clear to us how that got into the SOW. Especially since we do not have such a method in place at this time. We have done some internal, exploratory work and we have some preliminary plans to do additional development; but, there is not a useful method at this time. So we could not propose the method nor is there an analysis that we could do for someone else. (The bidder should respond to the best of their abilities in response to the Statement of Work.)

2. How do we get the Marathon In-House method analysis that is listed in Table 2? Has it been published? Will Marathon make it available so we know how to bid? Or is Marathon going to run all the samples? (Whatever lab is selected, Marathon will provide them with the conditions under which they run the GCMS for this type of analyses. Depending upon the number of total samples, it may be possible for Marathon to conduct this test or at least split some samples with the lab that does it for comparison purposes.)

3. It is not clear to us which analyses to use for each of the various additives that we are required to blend into the fuel. It would help if we knew specific chemistries but specific analytical methods are really what we need. Can someone provide the methods that the committee would expect us to use? (We would expect to analyze the individual additives via GCMS to identify specific markers and then compare these against the blended fuel samples and/or water samples to confirm their presence.)

4. On page 11, Item number 6 asks for total dissolved solids and total petroleum hydrocarbon. What are the methods for these analyses? (EPA OPPTS 830.7550. The method uses n-octanol, but there's no reason why ULSD can't be substituted as the non-polar solvent.)

5. Would the CRC considering placing corrosion coupons in UST's similar to the tanks studied in Battelle's 10001550 study? Placing coupons in USTs was not considered as part of the original project as we are looking to control variables as much as possible in a laboratory setting. This may be a good way to quickly ascertain potential corrosion issues in USTs. But determining the causal factors may prove challenging. Moreover, determining where to place coupons in a retail dispensing system is not a trivial exercise. It would probably be easier to photo-document the condition of a common component (for example, the leak detector screen). This could be a parallel or independent effort to the lab work.

6. Has corrosion mitigation been demonstrated in the field? Anecdotally, corrosion mitigation has been demonstrated. Speedway (retail division of ~3,000 sites owned by MPC) has aggressive water and microbial management programs. There is no evidence of excess corrosion on any of the alloys found in the retail USTs for these sites. When appropriate condition monitoring and contamination control programs are established and followed, the incidence of corrosion issues generally plummets. For all alloys, one alloy, or selected alloys.

7. Has the CRC used Rid X in other corrosion testing in fuel-based simulated environments? What bacteria species does it introduce to the test? Is it representative of a UST environment? Rid-X has NOT been used by CRC in this type of testing but has been used by individual companies in microbial studies of this type. CRC prefers to use "real world tank bottoms" to introduce the "bugs" for the program but believes Rid-X is a viable option.

   Comments from Panel member: I've been using Rid-X as a surrogate inoculum for the past 15 to 20 years. It's has turned out to be a reliable inoculum starter for ASTM E1259 (fuel biocide performance testing), because the population does a consistent job of growing in various fuel grades over water, and is designed to attack fats, oils and greases that are generally problematic in septic tanks for which Rid-X was developed. My "discovery" as really an act of desperation when I first tried it out. I had to run a series of E1259 tests, ATCC cultures had become quite expensive and controls on their purchase had become draconian (all sorts of lab certifications were needed), and the bugs in the supposedly contaminated bottoms-water samples my client had provided failed to thrive in the control microcosms. I tried Rid-X and it worked like a charm. Since then, I've routinely recommended it to clients who want to run E1259 in-house, but do not have a ready source of contaminated bottoms-water. The feedback I've received has consistently been positive. Note, that I've used Rid-X to test the relative biodegradability of different fuel grades and to test biocide performance. I have not used it to test MIC or MIC control. Therefore I cannot speak to Rid-X's suitability for MIC evaluations other than to note that if one assumes that organic acid, EPS (biofilm material) and biosurfactant production all play significant roles in MIC, then Rid-X challenged microcosms should show substantial MIC on corrosion coupons. However, my hypothesis should be tested to ensure that MIC is substantial on coupons placed in Rid-X inoculated, control microcosms .