

1. Page 4, Paragraph beginning with "It is expected..." – The second sentence says "All properties except RON and MON will be checked against the specifications without consideration of the test precision". What does "without consideration of the test precision" mean?

Response: This means that the measurements must be within the specified range with no extra allowance for test tolerance.

2. Page 5, Paragraph 2 – Is it acceptable to assume CRC will cover the cost to ship the five vehicle which CRC currently owns to the testing location?

Response: Yes.

3. Page 5, Paragraph 2 – Can the 10,000 miles of accumulated age be from driving the SRC on a mileage accumulation dynamometer (we recognize the RFP says "10,000 miles of customer driving")?

Response: Our preference is for the vehicle to have at least 10,000 miles of accumulated prior to acquisition. If the contractor is unable to find a specified vehicle that meets this requirement, CRC may consider granting permission to use a mileage accumulation dynamometer.

4. Page 5, Paragraph 3 – Is it correct to assume that factory replacement catalysts and oxygen sensors shall be used?

Response: Yes.

5. Page 5, Paragraph 3 – The RFP states that 30 ppm sulfur fuel should be used to age the catalysts. Should this be Fuel A (the 3% olefin fuel), Fuel B (the 15% olefin fuel) or can it be cert fuel with 30ppm sulfur?

Response: 30 ppm cert fuel may be used for catalyst aging.

6. Page 5, Last Paragraph – Does the vehicle have to go through the catalyst sulfur purge cycle and the coast downs before each LA-92 test or after these two items have been performed once at the start of testing, they do not need to be repeated?

Response: The purge cycle and coast downs are to be performed before each test.

7. Page 5, Last Paragraph – It appears that there is no LA-4 cycle performed to precondition the vehicles, only the catalyst sulfur purge cycle, however it says on Page 6 in the Second Paragraph that if the vehicle sits for more than three days an LA-4 cycle should be conducted. This seems inconsistent to perform an LA-4 in one case and not the other. Should an LA-4 also be performed between the catalyst sulfur purge cycle and the beginning of the LA-92 official testing?

Response: In the case where the vehicle sits for more than three days a certain amount of inconsistency is inevitable, since even if an LA-4 is added to the regular procedure such vehicles would then have two (or more) LA-4s instead of one. For the purpose of bidding this work, the contractor should assume that this paragraph will be followed as written. CRC may modify the

procedure based on discussion with the contractor prior to finalization of the contract so that any modifications will be reflected in the contract.

8. Page 5, Last Paragraph – It is noted that there are one or two additional drain/fills per vehicle. We see it will be an average of two because there could be three possible random combinations which cause fuel changes:

	Example 1	Example 2	Example 3
Test 1	Fuel 1	Fuel 1	Fuel 1
Test 2	Fuel 1	Fuel 2	Fuel 2
Test 3	Fuel 2	Fuel 2	Fuel 1
Test 4	Fuel 2	Fuel 1	Fuel 2

Response: Contractor should assume that vehicle preparation will be identical regardless of whether the new fuel is the same or different than the previous test fuel. All vehicles will therefore undergo at least two drain/fills prior to each test. Half of the vehicles should be assumed to require a third drain and refill due to vehicle design factors that result in excessive fuel retain in spite of the drain.

9. In Example 1 there would be one additional fuel change, in example two there would be two additional fuel changes and in example three there would be three additional fuel changes. Are we interpreting this correctly and should we plan for an average of three fuel changes (the initial change and two additional changes) per vehicle?

Response: Please see the response to question 8.

10. Page 6, First Paragraph – It says the “replicates” shall be randomized. Are the combinations in Examples 1, 2, and 3 what CRC had in mind (assuming the fuel 1 and fuel two could be either 3% or 15% olefin fuel)? Looking at Example 1, the test could be 3%, 3%, 15%, 15% olefin fuel or could be 15%, 15%, 3%, 3% olefin fuel?

Response: That is correct: there are three basic randomization patterns.

11. Page 6, Paragraph 3 – It states that if modal measurements are taken, pre and post catalyst temperature shall be taken. Does CRC want the exhaust gas temperature just prior to it entering the catalyst measured or does CRC want the catalyst modified slightly so a thermocouple can be inserted in the face of the catalyst and the actual catalyst face temperature can be monitored?

Response: The temperature just prior to entering the catalyst bed should be measured; the catalyst bed should not be modified.

12. Exhibit A – Attachment C (Catalyst Sulfur Purge Cycle) – In the third sentence it states that the catalyst inlet temperature must be monitored. Does CRC want the exhaust gas temperature just prior to it entering the catalyst measured or does CRC want the catalyst modified slightly so a thermocouple can be inserted in the face of the catalyst and the actual catalyst face temperature can be monitored?

Response: Please see the response to question 11.

13. Page 5. 1st paragraph reads – “The contractor should check each vehicle to make sure it is in sound mechanical condition and that its emissions are acceptable for that class of vehicle”. Does this mean that a preliminary emission test cycle (FTP-72 as prep cycle followed by FTP-75) with certification fuel and bag emissions utilizing the vehicle’s stock system is required. Please confirm.

Response: Yes, in addition to a basic mechanical inspection.

14. Measurements for benzene 1, 3-butadiene, formaldehyde and acetaldehyde will be post catalyst only (i.e. bag). Please confirm.

Response: Yes.

15. Does CRC feel that the sulfur purge and coast down test will allow sufficient stabilization of the system and maturity of the ECU learning algorithms with the introduction of the aged catalyst(s) and sensors or should another cycle be added as part of the pre-conditioning phase?

Response: Yes, the Catalyst Sulfur Purge Cycle as defined in Attachment C of the RFP should be acceptable.

16. For the aging process, are the catalytic converters and OEM oxygen sensors required to be placed and aged consistent with the test vehicle OEM catalytic converter configuration (i.e., maintain the relative distance between catalytic converter(s) and oxygen sensor(s) - flow path consideration)?

Response: Consistency would be the preferred method.

17. Regarding the RAT-A cycle, mode 1 normally calls for a target space velocity of 80 SCFM. Please confirm.

Response: PENDING

18. If vehicles can be leased from a dealership, can the dealership be disclosed on the intent of the program or is this considered proprietary information?

Response: Disclosing the intent is left to the discretion of the Contractor; the preference is that, like any research project, it not be discussed with anyone but the sponsor.

19. Can the task of vehicle procurement or lease be based on a separate time and material purchase order with a maximum assumed cost rather than included as a fixed price? With this approach, only the direct cost of the vehicles and associated effort will be invoiced to CRC separately which would be more cost effective rather than assuming a fixed price minus the salvage value.

Response: This is an acceptable approach; all bidders should provide enough detail such that their proposed cost structure can be clearly understood.

20. If quoting separately for the fuel and lubricant portion of the project should this also include the 30 ppm sulfur fuel for the catalyst aging and engine oil or just the olefin blends?

Response: Please provide the cost for everything that you are proposing to provide, and make it very clear what that is.

21. If quoting only on the vehicle procurement and emission testing section, should the cost of the 30 ppm sulfur fuel and engine oil be included?

Response: Please provide the cost for everything that you are proposing to provide, and make it very clear what that is.

22. How many different laboratories are required to verify fuel properties? Will two (2) suffice?

Response: The blended fuels will each be tested by five laboratories. Contractor will be responsible for sampling the fuels and shipping samples to the laboratories.

23. What engine types will be used for the five (5) vehicles listed in Attachment A?

Response: Specific information about those vehicles are included in the report for CRC E-74b, posted on the CRC web site.

24. Are the exact vehicle models listed in the RFP required or can a similar vehicle with the same engine by the same OEM (for example: Pontiac G6 vs Chevrolet Cobalt) be substituted?

Response: Our preference is for the models listed. Alternatives are subject to CRC approval.

25. Can a 2010 MY vehicle be substituted for the 2007-2009 listed? Depending upon when the project starts some of the major rental companies may have already started changing out their fleets with new model year vehicles.

Response: A 2010 MY vehicle will be considered by CRC if it meets the minimum mileage requirement. CRC approval will be required to allow for consultation with the vehicle manufacturer.

26. Will CRC review the test data from each vehicle prior to the next step or are these decisions up to the Contractor? This has a major impact on the cost of renting test vehicles; BIDDER routinely processes In-Use Verification Test vehicles for major OEMs in 3-5 days from receipt until release. If CRC requires each step of the vehicle testing process to be reviewed by your technical committee and/or sponsors, this could take significantly longer and raise rental costs.

Response: Consultation with CRC will not be required. Acceptance of individual test results will be the responsibility of the contractor, with the ability to consult with CRC if questions arise. CRC will provide criteria for the determination of whether a third test is required for a given vehicle/fuel combination.

27. What is the exact test sequence requested:

- a. Back to Back LA-92/UDC plus a randomized third replicate?
- b. Or LA-92/UDC plus a randomized replicate?

Response: b, plus an additional replicate if the results of the first two replicates do not agree to within CRC-provided criteria. The additional replicate will be treated as an additional, independent test.

28. Will full FTP type prep sequences plus canister load be required?

Response: The prep sequence is specified in the SOW. Canister load will not be required.

29. How much "hand-blended" fuel will be required for 3rd party analysis?

Response: Third party analysis will not be required for the hand blends.

30. Who pays for preliminary 3rd party analysis?

a. How many analyses of the bulk test fuel will be required?

b. Who arranges/pays for the shipment of the 5 CRC provided test vehicles to/from the test laboratory?

Response: a.) The contractor is only required to perform a single analysis of each of the bulk test fuels; contractor will prepare and ship samples of each test fuel to five labs identified by CRC for independent testing. B.) CRC will ship those vehicles.

31. Will CRC want to retain possession of the aged test catalysts following completion of the test program?

Response: No.

32. Can there be some clarification on the "one or two additional drain and fills" specified in the pre-conditioning discussion on page 5. What criteria would be used to determine whether a vehicle will get one or two additional drain and fills.

Response: The default will be two drain/fills (i.e., one drain/fill + one additional drain/fill). Some vehicles that will be identified by CRC will require a third drain/fill due to excessive fuel retention after the drain.

33. For the speciated measurements, will the designated toxics tests (benzene, 1,3 butadiene, formaldehyde, and acetaldehyde) be carried for every test, as opposed to a subset of tests.

Response: Yes.

34. Should we assume all emissions testing will be performed with the bench aged catalyst other than running an initial baseline test to verify the vehicles emissions are OK.

Response: Yes.

35. Is the use of one particular engine model acceptable for aging all 15 vehicle catalysts as long as all of the cycle requirements are met?

Response: The contractor may propose this method along with a technical justification of why it is appropriate; the technical proposal review panel will consider the technical merits of all proposed approaches to meeting the project objectives.

36. With regards to the test fuel, if we contract with a recognized supplier of test fuel, such as Haltermann or Chevron-Phillips, would this obviate the need to prepare and present a blending plan, some hand-blended test fuel and to have the fuel analyzed at multiple independent laboratories? We would expect our supplier to provide a certificate of analysis with the fuel.

Response: No - the requirements of the statement of work are not obviated by the choice of subcontractor.

37. On question 7, the question discussed the fact that there appears to be no requirement for performing an LA-4 as part of the preconditioning given in the RFP. The answer indicates that there would be two or more LA-4s instead of one on days when the vehicle sits for more than 3 days. Can more details be provided on the preconditioning sequences as to whether an LA-4 should be done in conjunction with the drain and fills.

Response: PENDING

38. On question 18, if the intent and nature of the testing program is not revealed to the dealership, might this expose to the contractor to issues with violating the lease agreement? Also, the removal and reinstallation of catalysts might also be considered a warranty violation.

Response: (This question was posed while the response to Question 18 was still pending). See the response to Question 18. The contractor will be responsible for the vehicles that they procure under the contract.

39. Does the 10 page limit for the technical proposal exclude attachments that might include information on qualifications and information related to the catalyst aging and sulfur purge cycle?

Response: It is acceptable to append information to the technical proposals, outside of the 10 page limit, if the information is of a reference nature and is not appropriate for the body of the proposal.

40. The RFQ requests speciated emissions measurements to be carried out for the designated toxics benzene, 1.3-butadiene, formaldehyde and acetaldehyde. To measure the benzene or 1.3-butadiene, these compounds require a cryogenic trap. Taking this into consideration, are the benzene and 1.3-butadiene mandatory measurements?

Response: All tasks are mandatory unless otherwise identified in the RFP. Bidders may choose to omit certain tasks, at the risk of being deemed technically non-responsive.