

Todd Stenerson

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEM
OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30

1. REQUISITION NUMBER
REQ-4400-10-0030

PAGE OF
1 2

2. CONTRACT NO.
GS-07F-0158V

3. AWARD/
EFFECTIVE DATE
06/24/2010

4. ORDER NUMBER
CPSC-F-10-0078

5. SOLICITATION NUMBER
CPSC-Q-10-0069

6. SOLICITATION
ISSUE DATE
05/12/2010

7. FOR SOLICITATION
INFORMATION CALL:

a. NAME
Kim Miles

b. TELEPHONE NUMBER
(No collect calls)
301-504-7018

8. OFFER DUE DATE/LOCAL TIME

9. ISSUED BY
CONSUMER PRODUCT SAFETY COMMISSION
4330 EAST WEST HIGHWAY
BETHESDA MD 20814

CODE
CPSC

10. THIS ACQUISITION IS
 UNRESTRICTED OR SET ASIDE: % FOR:
SMALL BUSINESS EMERGING SMALL BUSINESS
HUBZONE SMALL BUSINESS SOLE SOURCE
NAICS:
SIZE STANDARD:
SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS (A)

11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED
SEE SCHEDULE

12. DISCOUNT TERMS
Net 30

13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)

13b. RATING
14. METHOD OF SOLICITATION
 RFQ IFB RFP

15. DELIVER TO
CONSUMER PRODUCT SAFETY COMMISSION
DIRECTORATE FOR ENGINEERING SCI
4330 EAST WEST HIGHWAY
ROOM 611-16
BETHESDA MD 20814

CODE
ES

16. ADMINISTERED BY
CONSUMER PRODUCT SAFETY COMMISSION
DIV OF PROCUREMENT SERVICES
4330 EAST WEST HWY
ROOM 517
BETHESDA MD 20814

CODE
FMFS

17a. CONTRACTOR/OFFEROR
INTERTEK TESTING SERVICES NA INC
3933 US ROUTE 11
CORTLAND NY 13045-9717

CODE
[REDACTED]

FACILITY CODE

18a. PAYMENT WILL BE MADE BY
CONSUMER PRODUCT SAFETY COMMISSION
DIVISION OF FINANCIAL SERVICES
4330 EAST WEST HWY
ROOM 522
BETHESDA MD 20814

CODE
FMFS

TELEPHONE NO.

17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER

18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED SEE ADDENDUM

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	DUNS Number: [REDACTED] The contractor shall provide all labor, materials and equipment necessary to conduct laboratory tests and provide the Consumer Product Safety Commission with laboratory exhaust emission testing results for a prototype generator engine designed for low carbon monoxide (CO) emission rates and EOA Phase 2 emission standards for nonroad small spark-ignition (SI) nonhandheld engines. The services shall be in accordance with the attached Description of Services. <i>(Use Reverse and/or Attach Additional Sheets as Necessary)</i>				

25. ACCOUNTING AND APPROPRIATION DATA
0100A10DPS 2010 2333600000 EXHR004400 253A0

26. TOTAL AWARD AMOUNT (For Govt. Use Only)
\$30,000.00

27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4, FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA ARE ARE NOT ATTACHED.
27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4, FAR 52.212-5 IS ATTACHED. ADDENDA ARE ARE NOT ATTACHED.

28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.

29. AWARD OF CONTRACT REF. OFFER DATED YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS:

30a. SIGNATURE OF OFFEROR/CONTRACTOR

31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)
Donna Hutton

30b. NAME AND TITLE OF SIGNER (Type or print)

30c. DATE SIGNED

31b. NAME OF CONTRACTING OFFICER (Type or print)
Donna Hutton

31c. DATE SIGNED
6/24/10

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
0001	Test and provide laboratory exhaust emission testing results for a prototype generator engine designed for low carbon monoxide (CO) emission rates and EPA Phase 2 emission standards for nonroad small spark-ignition (SI) nonhandheld engines. The total amount of award: \$30,000.00. The obligation for this award is shown in box 26.	1	JB	30,000.00	30,000.00

32a. QUANTITY IN COLUMN 21 HAS BEEN RECEIVED INSPECTED NOTED: _____ ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS

32b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE _____ 32c. DATE _____ 32d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE _____

32e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE _____ 32f. TELEPHONE NUMBER OF AUTHORIZED GOVERNMENT REPRESENTATIVE _____
 32g. E-MAIL OF AUTHORIZED GOVERNMENT REPRESENTATIVE _____

33. SHIP NUMBER _____ 34. VOUCHER NUMBER _____ 35. AMOUNT VERIFIED CORRECT FOR _____ 36. PAYMENT COMPLETE PARTIAL FINAL _____ 37. CHECK NUMBER _____

38. S/R ACCOUNT NUMBER _____ 39. S/R VOUCHER NUMBER _____ 40. PAID BY _____

41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT _____ 42a. RECEIVED BY (Print) _____
 41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER _____ 41c. DATE _____ 42b. RECEIVED AT (Location) _____
 42c. DATE REC'D (YY/MM/DD) _____ 42d. TOTAL CONTAINERS _____

Description of Services

A. Introduction

The U.S. Consumer Product Safety Commission (CPSC) staff has worked to develop a prototype engine design for generator applications that significantly reduces carbon monoxide (CO) emission rates. The prototype generator is a “proof of concept” demonstration of one feasible technical solution to reduce CO emissions. The developmental generator size was based, in part, on dominant portable generators consumer sales and units commonly identified in fatal consumer incidents. The selected OEM generator unit had a single-cylinder 11 horsepower gasoline engine with a tapered crankshaft. The OEM engine was modified with electronic fuel injection (EFI) and coupled with a 400 cells per square inch (cpsi) metal monolithic catalyst mounted in the muffler. This catalyst, which is smaller than a D sized battery, was not necessary for emission controls when the prototype generator had low hours of accumulation. However, the catalyst was integrated because it was not known how wear would affect emission profiles. The prototype engine installed in the generator with the catalyst muffler has accumulated cyclic service hours to fulfill the manufacturer’s indicated useful life.

B. Objective

Under this contract, an emissions test laboratory will conduct laboratory tests and provide CPSC staff with laboratory exhaust emission testing results for a prototype generator engine designed for low carbon monoxide (CO) emission rates and EPA Phase 2 emission standards for nonroad small spark-ignition (SI) nonhandheld engines. The emission test laboratory shall accomplish a series of tasks to document the performance of the prototype portable generator.

C. Contract Type

This procurement is a firm-fixed price performance-based contract for expert services in engine exhaust emission testing that meets applicable federal regulations and test procedures and generator configuration exhaust emission testing that closely mimics applicable federal regulations and test procedures. Performance shall be measured based on 100% conformity to federal regulation emission testing procedures.

D. Statement of Work

The tasks outlined in this contract include: (1) Testing of the prototype engine in the generator configuration with prescribed applied generator load that simulate the rated speed B-cycle for small nonroad engines; (2) Disassembly of the prototype engine shaft from the alternator for testing in the engine configuration; (3) Rated speed, B-cycle dynamometer emission testing of the prototype engine according to Title 40 part 90, Control of Emissions from Nonroad Spark-Ignition Engines at or Below 19 Kilowatts, and part 1065, Engine Testing Procedures, where applicable. CPSC and university engine research staff members may accompany the prototype to the emissions test laboratory facility and be present during the testing. The emission test results and prototype engine performance are considered CPSC proprietary and confidential data; the Contractor will not share the prototype data without CPSC consent.

In all emission tests, the Contractor shall use constant volume sampler (CVS) system that directly measures the diluted exhaust. The Contractor shall use certified test fuel as specified, or substantially equivalent, to those presented in Table 3 of Appendix A in 40 CFR part 90 subpart D or 40 CFR part 1065, subpart H. The engine oil will be provided by the Contractor as recommended in the manufacturer's instruction manual. During emission tests, the air-to-fuel (AFR) values shall be recorded upstream of the muffler through an existing boss in the exhaust manifold; and engine health thermocouple signals, including cylinder head temperatures, muffler surface and shroud temperatures, and exhaust manifold temperatures, will also be recorded. Valid emission tests in each configuration will be performed no less than three times to demonstrate repeatability. For schedule planning purposes, completion of emission testing is anticipated for five to seven days. To avoid interruption of installation or test delays, the test cell equipment should remain readily available.

Independently, and not as an agent of the Government, the Contractor will furnish all necessary personnel, materials, services, and facilities to perform the work set forth below; except as provided in Section H, "Government Furnished Equipment/Supplies."

1. Task A. The Contractor shall conduct prototype engine emission testing in the generator using the prescribed regulations and test methods conforming to 40 CFR part 90 and part 1065, where applicable.
 - a. Six resistive loads, closest to 5.5 kW, 4.7 kW, 3.2 kW, 1.5 kW, 0.6 kW, and no load, shall be applied to the generator through its 240-volt receptacle using a load bank. Through the supply cable attached to the generator receptacle panel, the applied loads shall be measured, verified, and recorded using a power-meter.
 - b. The generator 6 mode emission-test shall be tested in the configurations that include the aged catalyst muffler and a non-catalyst OEM muffler.
 - c. In calculating the weighted mass emission rates for the prototype engine installed in the generator, the efficiency data correlation between the generator and engine power will be provided by CPSC personnel for all six modes.
2. Task B. The Contractor shall disassemble the engine shaft into brushless alternator rotors at the laboratory test facility, if possible.
 - a. CPSC staff and the university staff, who facilitated the research and development of the prototype engine, shall assist in knowledge of the disassembly procedure. This assistance will likely consist of steps and tools used with prior experiences.
3. Task C. The Contractor shall conduct dynamometer prototype engine emission testing using the prescribed regulations and test methods conforming to 40 CFR part 90 and part 1065, where applicable.
 - a. The prototype engine shall be tested in the configurations that include the aged catalyst muffler and a non-catalyst OEM muffler.

E. Deliverable Documents

For each acceptable emission test in all configurations, the Contractor will provide:

1. An electronic file of the non-averaged concentration ppm exhaust gas constituents as raw data files, if possible. In addition, the Contractor will provide an electronic file of the modal CO mass flow rate (g/hr).
2. An electronic file of the engine performance data files that include the recorded, AFR values, engine health thermocouple values for the cylinder head, exhaust manifold, and muffler surface and muffler shroud temperatures, as well as recorded dynamometer data, such as torque, speed and calculated power.
3. A final test report that includes modal averaged rates (g/hr) and combined weighted mass emission results (g/kW hr) in hardcopy and/or electronic form.
4. The contractor will provide a schematic drawing of the CVS full flow diluting system.
5. In hardcopy and/or electronic form, the contractor will provide documentation showing ambient test cell conditions that comply with CFR 40 part 90.311(A) and provide relative humidity test cell controls.

F. Reporting Requirements

1. The Contractor shall submit the test results, as described in Section E, Deliverable Documents, to the Project Officers at:

Janet Buyer and Susan Bathalon
U.S. Consumer Product Safety Commission
4330 East West Hwy, Room 611
Bethesda, MD 20814
jbuyer@cpsc.gov and sbathalon@cpsc.gov

- a. Format – The results of the contractor testing will be provided in Microsoft Excel spreadsheet format for the electronic files and pdf format or printed report for the hardcopy.
- b. Content – The final emission test report shall include the following information:
 - Results obtained from Section D(1), Dynamometer prototype engine emission testing,
 - Results obtained from Section D(3), Generator configuration emission testing

G. Period of Performance

The contract shall begin on the effective date found on page 1, block 31c of this contract. Upon award of the contract, the CPSC staff shall ship the materials and equipment, as presented in Section I, to the emissions test laboratory. Also, upon award of the contract, a CPSC project officer shall telephone the contractor to initiate discussion of the potential test dates that allow for shipment of the equipment and travel by University and/or CPSC staff to the emission laboratory. The finalized emission test schedule through conference call discussions will be concluded no later than 10 business days after award of the contract. Equipment testing shall not exceed forty five (45) days. The forty-five day performance (testing) start date shall be confirmed by the CPSC Project Officer in writing after receipt of the contractor's written acknowledgement that the shipped prototype engine and materials for testing have been received. Performance schedule is as indicted below:

PERFORMANCE SCHEDULE

	Item	Quantity	Delivery & Performance
1.	Initial proposal of start date of Emission Test Schedule	Conference call	Not to exceed 5 days after award of contract.
2.	Finalize Emission Test Schedule	Conference call	Not to exceed 10 days after award of contract
3.	Contact CPSC project officer to confirm performance start date of Emission Test Schedule	Written email correspondences confirming receipt of shipped material and acknowledgement of performance start date.	Upon receipt of the shipped material and not to exceed 45 days after shipment receipt.
4.	Report	2 original hardcopies plus electronic files	Within 7 days of task completion in Section D.
5	Return of CPSC provided test equipment		Within 10 days of task completion in Section D.

H. Delivery

CPSC shall be responsible for delivery of all equipment as indicated in Section I below. Upon completion of all testing, the contractor shall be responsible for proper packaging of the equipment to be returned to CPSC. CPSC shall provide for the return of the equipment back to CPSC.

I. Government (CPSC) and Contractor Provided Materials/Equipment

- a) CPSC furnished equipment/materials: CPSC staff will provide an EFI prototype engine and generator components with installed thermocouples, a power meter, a cable supporting loading of the generator, a load bank, a muffler with an installed catalyst, and an OEM muffler without an integrated catalyst.
- b) Contractor furnished equipment/materials: The Contractor shall provide exhaust emission results supported by:
 - i) AC dynamometer motoring capability and in line torque meters,
 - ii) CVS dilute full flow sampling method,
 - iii) Environmental conditions of the test cell, including ambient air temperature and relative humidity, that support a humidity correction value that approaches one,
 - iv) Test cell laboratory sampling emission correlation with EPA,
 - v) Span gasses that are rated within 1% accuracy and are NIST reference material traceable gasses.
 - vi) Analyzers should consist of flame ionization detectors or a heated flame ionization detector for the measurements of HC, non-dispersive infrared analyzers for CO and CO₂, and chemiluminescence detectors for the measurements of oxides of nitrogen.

Disposition of equipment: Upon completion of tasks, all CPSC provided test equipment shall be properly packaged for shipment/s to designated location/s.