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

1. REQUISITION NUMBER	PAGE OF
REQ-4400-11-0018	1 6

2. CONTRACT NO.	3. AWARD/ EFFECTIVE DATE	4. ORDER NUMBER	5. SOLICITATION NUMBER	6. SOLICITATION ISSUE DATE
CPSC-D-11-0003	08/08/2011	0001		

7. FOR SOLICITATION INFORMATION CALL:	a. NAME	b. TELEPHONE NUMBER (No collect calls)	8. OFFER DUE DATE/LOCAL TIME
	Eddie Ahmad	(301) 504-7884	ET

9. ISSUED BY	CODE	10. THIS ACQUISITION IS
CONSUMER PRODUCT SAFETY COMMISSION DIV OF PROCUREMENT SERVICES 4330 EAST WEST HWY ROOM 517 BETHESDA MD 20814	FMPS	☒ UNRESTRICTED OR ☐ SET ASIDE: % FOR: ☐ SMALL BUSINESS ☐ EMERGING SMALL BUSINESS NAICS: 541380 ☐ HUBZONE SMALL BUSINESS ☐ SOLE SOURCE SIZE STANDARD: $11.00 ☐ SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS ☐ 8(A)

11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED	12. DISCOUNT TERMS	13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	13b. RATING
☐ SEE SCHEDULE	Net 30	☐	14. METHOD OF SOLICITATION ☒ RFQ ☐ IFB ☐ RFP

15. DELIVER TO	CODE	16. ADMINISTERED BY	CODE
CONSUMER PRODUCT SAFETY COMMISSION DIRECTORATE FOR ENGINEERING SCI 4330 EASTWEST HIGHWAY ROOM 611-16 BETHESDA MD 20814	ES	CONSUMER PRODUCT SAFETY COMMISSION DIV OF PROCUREMENT SERVICES 4330 EAST WEST HWY ROOM 517 BETHESDA MD 20814	FMPS

17a. CONTRACTOR/ OFFEROR	CODE	FACILITY CODE	18a. PAYMENT WILL BE MADE BY	CODE
SEA LTD 7349 WORTHINGTON-GALENA RD COLUMBUS OH 43085-1519 TELEPHONE NO.	[redacted]		CPSC Accounts Payable Branch AMZ 160 P. O. Box 25710 Oklahoma City OK 73125	FMFS

☐ 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] TASK ORDER 0001 AGAINST CONTRACT CPSC-D-11-0003 IS HEREBY ISSUED TO PROVIDE FOR ROV TESTING AS NOTED IN THE ATTACHED STATEMENT OF WORK. ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED AND IN FULL FORCE AND EFFECT.				
0004	Dynamic Occupant Protection Performance Testa - Roll Simulation for 8 Vehicles Continued ... *(Use Reverse and/or Attach Additional Sheets as Necessary)*	8	EA	22,092.00	176,736.00

25. ACCOUNTING AND APPROPRIATION DATA	26. TOTAL AWARD AMOUNT *(For Govt. Use Only)*
0100A11DPS-2011-2263800000-EXHR004400-255C0	$208,901.00

☐ 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)*
	[signature]

30b. NAME AND TITLE OF SIGNER *(Type or print)*	30c. DATE SIGNED	31b. NAME OF CONTRACTING OFFICER *(Type or print)*	31c. DATE SIGNED
		Kim Miles	8-9-11

AUTHORIZED FOR LOCAL REPRODUCTION
PREVIOUS EDITION IS NOT USABLE

STANDARD FORM 1449 (REV. 3/2005)
Prescribed by GSA - FAR (48 CFR) 53.212

Fold Stevenson

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
0005	Dynamic Occupant Protection Performance Tests - Autonomous Rollover	1	EA	26,770.00	26,770.00
0006	Shipping of Vehicles - 2 vehicles per shipment	4	EA	1,348.75	5,395.00
	Statement of Work attached.				
	Quote from vendor attached.				
	The total amount of award: $208,901.00. The obligation for this award is shown in box 26.				

32a. QUANTITY IN COLUMN 21 HAS BEEN

☐ RECEIVED ☐ INSPECTED ☐ ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED:

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 ☐ PARTIAL ☐ FINAL	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

Statement of Work
Test and Evaluation of Recreational Off-Highway Vehicles (ROVs)

Contract CPSC-D-11-0003 Task Order 0001

A. Task

1. Dynamic Occupant Protection Performance Tests – Autonomous Rollover

   A. The contractor shall be able to perform autonomous quarter-turn rollovers of an instrumented vehicle with an anthropomorphic test dummy (ATD) to validate the procedures and results of the static roll simulation tests.
   B. The contractor shall conduct test operations on a dirt or asphalt surface. It is recognized that damage to equipment is a possibility and therefore all steps necessary to minimize damage must be exercised.
   C. The data collection test events will consist of left and right turning J-turns executed to produce 90 degree rollover events at or near the rollover threshold for each vehicle. One Hybrid III 50th percentile male ATD shall be on board the vehicle for each event. Instrument data will be recorded continuously beginning just prior to initiating the turn and through completion of the rollover.
   D. Video of each event will be recorded from the initiation of the turn through completion of the rollover. Off board high speed video will be situated to observe the movement of the crash dummy relative to fixed locations on the roll over protective structure (ROPS) of the vehicle.
   E. A robotic steering controller may be used to control the steering rate and the steering angle during each event turn.
   F. The contractor shall design and assemble the remote control (RC) facilities required for operation of vehicle steering, accelerator, and brake controls by an operator while that operator is not located onboard the vehicle.
   G. Features for safe operation must be included in the RC system. A panic switch to release the accelerator and apply full brake pressure is recommended. An audible device to indicate when the vehicle is running is also recommended. Other safety features may be found to be necessary.
   H. Parts of the vehicle may be removed to allow for installation of the RC components except for seats, seat belts, ROPS, and occupant passive restraints. In general, the RC components must not interfere physically or functionally with the driver or passenger spaces so as to affect the objective of the tests.

I. At the completion of testing, the contractor shall restore the vehicle controls to the original, fully functional condition.
J. The RC facilities shall be transferable to all of the vehicles planned for the test series.
K. The contractor shall provide all the equipment necessary for the autonomous vehicle control and shall provide all equipment necessary to make measurements of vehicle motion during the tests.
L. Minimum Technical Requirements:
    1) Record acceleration data in the longitudinal, lateral, and vertical directions at or near the vehicle CG location.
    2) Record roll angle and rates around the pitch, roll, and yaw axes.
    3) Record steering input angle.
    4) On board high speed camera with front view of occupant at rollover.
    5) On board high speed camera with plan view of occupant at rollover.
    6) Off board high speed camera with front view of occupant at rollover.
    7) Shock rated high speed cameras capable of replay up to 1000 frames per second (fps) for documentation and analysis of the roll event.
    8) Additional data parameters may be included by the contractor as deemed necessary or useful.

2. Dynamic Occupant Protection Performance Tests – Roll Simulation

A. The contractor shall be able to perform dynamic vehicle roll simulations with a test device that can reproduce the accelerations and roll rates experienced by a vehicle during tripped and untripped lateral rollovers. The roll simulation test fixture shall be tunable, precise, accurate, and able to produce repeatable input and output parameters on multiple axes. The roll simulation tests shall use anthropomorphic test dummies (ATDs) to evaluate the excursion of occupants from a test vehicle.
B. The contractor shall instrument the vehicle to record accelerations and roll rates in 3 axes. The Contractor shall also instrument a Hybrid III 50th percentile male ATD to record accelerations in 3 axes in the head and chest.
C. The contractor shall use high speed photography to document the head/torso/limb excursion of ATDs from the overturning vehicle. Multiple cameras on board and off board the test vehicle shall capture the ATD kinematics from various angles.
D. Minimum Technical Requirements:
    1) The roll simulation test fixture shall be able to provide controlled linear accelerations between 0.5 to 2.5 g's that is within ± 1% of the target value.

2) The roll simulation test fixture shall be able to provide controlled roll rates of up to 180 deg/sec that is within ± 1% of the target value.
3) The roll simulation test fixture shall have indexable yaw attitude from 0 to 360 degrees, and shall be capable of a full 90 degree roll for occupant excursion analysis.
4) Shock rated high speed cameras capable of replay up to 1000 frames per second (fps) for documentation and analysis of the roll event.

3. Load Conditions

A. Curb weight plus driver and passenger load.
B. Each occupant load shall be a Hybrid III 95th percentile male anthropomorphic test dummy (ATD) or equivalent (213 lb). For dynamic tests, weight may be in forms other than ATDs, to gain the best approximation to the specific load.

B. Deliverables

1. The contractor shall document the condition of the test vehicles and will note any damage or anomalies that could affect test results.
2. The contractor shall reduce the data, plot significant events, analyze the data and prepare reports on the outcomes for each vehicle.
3. The contractor shall provide the written report and data plots to CPSC within four weeks after each phase of the test program is completed. Data shall be retained for future processing.
4. The contractor shall plot the accelerations, roll rates, forces, and any other relevant parameters for actual vehicle rollovers and roll simulation rollovers. The Contractor will provide the analysis that validates the roll simulation rollovers.
5. The contractor shall provide high speed photography of the actual and simulated roll events from various angles.

C. Vehicles to Be Evaluated

1. Yamaha Rhino (Task 1 and 2)
2. Polaris RZR (Task 2)
3. Arctic Cat Prowler (Task 2)
4. Polaris Ranger (Task 2)
5. Kawasaki Teryx (Task 2)
6. Honda Big Red (Task 2)

7. John Deere XUV (Task 2)
8. BRP Can-Am Commander 1000 (Task 2)

D. Schedule

The Contractor shall perform the dynamic occupant protection performance tests by November 30, 2011. The Contractor shall provide a final report of the test results and analysis within 30 days of the completion of the tests.

E. Shipping

The Contractor shall be responsible for shipping of vehicles to and from CPSC facility to test facility and return.