

Justification and Approval For Sole Source Procurement

1. Name of Requiring and Contracting activity.

NAVAL POSTGRADUATE SCHOOL

2. Nature and/or description of the action being approved.

Advanced Controls Teaching / Research Laboratory Setup items from Quanser, Inc.

3. A description of the supplies and services being procured and their estimate value.

The items include four ground vehicles, one rotorcraft, one rotary mechanism with a flexible joint, six IR cameras and supplemental equipment and software licenses.

4. Statutory authority to procure requirement under sole source procedures. The Contracting Officer shall state here that the procurement is under the "test program" for commercial items. (Regulatory authority will be either Clinger-Cohen Act 10 U.S.C. 2304 (g)(1)(B) or 41 U.S.C. 253)

5. A description of the unique capabilities or qualifications, which requires acquisition under sole source procedures.

The Advanced Control Laboratory at the Naval Postgraduate School is actively pursuing research in navigation and control. The Quanser, Inc.

- **Offers a complete controls teaching solution from very basic controls all the way up to control very complex systems requiring advanced control theory**
- **Their software is user-friendly and works directly under Matlab/Simulink, the environment we are offering in our other classes on controls. On top of this, Quanser software is a real-time control tool. It takes Simulink diagrams and allows them to run in real-time. As the controller is running, students can tweak gains and immediately see its effect on the hardware**
- **All experiments are open architecture, so they we can easily tweak them for use on research projects for the US Navy, US Army and US Air Force**
- **Complete curriculum enabling full capacity of the hardware/software**

The NPS currently has no such laboratory, so we are pursuing buying a complete set, not just a single piece of equipment, which would allow us to start using this complete set in our classes to support all content of the control courses at three different departments right away

No other company in the US or Canada offers such an equipment.

6. A description of efforts made to ensure that offers are solicited from as many potential sources as is practicable. (i.e. FACNET, CBD Synopsis or documentation explaining exception to synopsis requirement)

To the best of our knowledge the Quanser system is unique, because they offer a complete Autonomous Systems Controls setup as opposed to a single robots. The Quanser setup will allow us to explore coordinated and collaborative control between multiple agent and its friendly environment will allow our students to be easily and fully involved into designing low and high-level control algorithms for multiple agent.

7. A determination that the anticipated cost to the Government will be "fair and reasonable".

A comparison of previous purchases of separate lab units and robots indicates that the current quote provided by Quanser, Inc. is fair and reasonable to the Government.

8. A description of the "Market Research" conducted and the results or a statement explaining the reason market research was not conducted.

Ongoing surveillance of the related market indicates that no other source can satisfy the requirements identified in paragraph 5.

9. Any other documentation that would lend support to the sole source justification.

N/A

10. Listing of Interested Sources.

11. A statement of the actions, if any, to remove barriers to competition.

12. Contracting Officer certification that the justification is accurate and complete to the best of the contracting officer's knowledge and belief. Supporting data is required.

13. Total estimated dollar value of the Acquisition covered by this J&A

14. Contracting activity point of contact.

Program Manager

Date

Contracting Officer Certification
(Actions between \$100,000 - \$500,000)
