

JUSTIFICATION FOR SOLE SOURCE/BRAND NAME SOLE SOURCE <\$150K

PLEASE FILL IN ALL APPLICABLE BLOCKS BELOW.
 A NARRATIVE MUST BE ADDED TO ALL APPLICABLE SECTIONS.

PO Number: Requisition - RPJRR TDK Power supplies' with Id # 1109583		
The effort listed on this form is for: (<u>please mark one</u>):	<input checked="" type="checkbox"/> Supply	<input type="checkbox"/> Service
The material and/or service listed on this form is (<u>please mark one</u>):	<input checked="" type="checkbox"/> Sole Source	<input type="checkbox"/> Brand Name

Restricted to the following source or manufacturer:

- Manufacturer/Source: TDK-Lambda
- POC and Phone Number: TDK-Lambda (732 922-9300 Ext: 342, Toni.Blas@us.tdk-lambda.com) or its authorized West Coast representative LaRan Sales & Solutions (760-715-5599).
- Address:

Description of the item(s) or service(s) required and the estimated cost(s):

Item#	MFG Name	MFG Part#	Description	Qty	U/I	Unit Price	Ext Price
		802L-10kV-POS	802L series High Voltage Capacitor Charging Power Supply	3		\$13110	
		26922200NT	Long Charge Adapter for a 802 supply	3		\$650	

*** If additional items are required, please provide on a separate spreadsheet

1. List the Required Delivery Date (RDD) or Period of Performance (POP):

12 weeks after contract award

*** If additional space is required, please attach a continuation sheet.

2. Specify characteristics of the material or service that limit the availability to a sole source/brand product (unique features, function of the item, etc.). Describe in detail why only this source/brand can furnish the requirements to the exclusion of other sources/brands.

The Navy currently operates similar capacitor bank systems at NSWC Dahlgren and NRL. To ensure compatibility of safety and standard operating procedures as well as scientific results with other systems operated by the Navy, this purchase requires sole-source authority for TDK-Lambda or its West Coast representative LaRan Sales & Solutions to procure three High Voltage Capacitor Charging Power Supplies.

We did extensive research to contact other Navy scientists with experience on comparable systems. We spoke with Dr. David Belt, Mr. Jim Garbus, Mr. John Stark, among others, who are all part of the Pulse Power team at Dahlgren using TDK-Lambda power supplies. In all cases, each investigator confirmed TDK-Lambda was the only possible offeror for this project, and that to ensure similarity with other the systems at Dahlgren and NRL a sole-source to TDK-Lambda was the best option. All investigators had gone through similar contracting processes that resulted in a sole-source award to TDK-Lambda.

3. Indicate if the requested material or service represents the minimum requirements of the Government.

The minimum requirements, met by the supplier are:

- Fully adjustable output voltage, from 0-10 kV, with 1.8 A nominal current at maximum voltage output.
- Full current output available at rated voltage to supply a peak charge rate of 9 kJ/s
- Average charging capability of 8 kJ/s over an extended period of charging time. Because each power supply will be used to charge two Kirk modules, this means a charging time of 250 s.
- Because of the long charging time, the charger needs to be controlled with Long Charge Adapter technology in order to control power supply to a maximum of 9 kJ/s of charging over the extended period to ensure power supply does not overheat during operation.
- Integrated passive Power Factor of at least 0.85 and an efficiency of at least 85%
- 10+ feet of Dielectric Science P/N; 2124 Output Cable to ensure trouble free operation for our high capacitor bank application.
- Shipping to the Railgun Lab at the NPS Applied Physics facility.
- Operation manual.

4. Indicate if the material or service must be compatible in all aspects (form, fit, and function) with existing systems presently installed/performing. Describe the equipment/function you have now and how the new item/service must coordinate, connect or interface with the existing system.

The required High Voltage Capacitor Charging Power supplies will be used to energize six Kirk Capacitor modules (1 MJ each) currently in place in the railgun lab in Bldg. 230. Each module has a nominal cost of \$500k, so compatibility with capacitor charging power supply is of great technical and financial importance. The TDK-Lambda HV Capacitor Charging Power Supplies are fully compatible with these modules. Safety and standard operating procedures compatibility with other systems operated by the Navy is also a driving requirement.

5. Does a patent, copyright or proprietary data limit competition?

YES. The Large Charge Adapter technology is proprietary.

*** If additional space is required, please attach a continuation sheet.

6. Are the items "direct replacement" parts/components for existing equipment? If so, provide the information about the Next Higher Assembly (NHA)/equipment which the replacement parts are going into (e.g., description, model, part number, Original Equipment Manufacturer (OEM), etc.).

As indicated in 4, these power supplies are compatible with the Kirk Capacitor modules, currently in place in the Railgun lab in Bldg. 230.

7. Provide any additional information to support a sole source/brand name sole source procurement. The rationale must justify "either" substantial duplication of cost to the Government that is not recovered through competition or unacceptable delays in fulfilling the mission of the agency.

The High Voltage Capacitor Charging Power supplies we are requesting are highly specialized and only used by a handful of researchers in the DoD. It is unlikely the market will expand beyond these stakeholders, but if it does then it may be possible in the future for additional companies to offer similar range setups.

TDK-Lambda has a history of being awarded government contracts for very similar capacitor bank systems, and are considered world experts in their design. During our efforts to contact other Navy personnel who had contracted with TDK-Lambda the universal response was that their performance had been excellent and their prices very reasonable, especially considering there were no other companies in the United States with expertise in this area. As there are potentially significant safety issues if the system in question is poorly designed, prior performance is especially critical

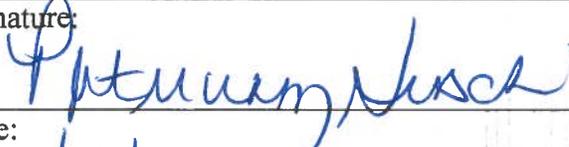
*** If additional space is required, please attach a continuation sheet.

TECHNICAL OR REQUIREMENTS CERTIFICATION

I CERTIFY THAT THE STATEMENTS CHECKED, AND INFORMATION PROVIDED ABOVE ARE COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THE PROCESSING OF THIS SOLE SOURCE/BRAND NAME SOLE SOURCE JUSTIFICATION PRECLUDES THE USE OF FULL AND OPEN COMPETITION.

Printed Name: Andres Larraza	Signature: 
Title: Associate Professor	Date: 23 Oct 2015

CONTRACTING OFFICER APPROVAL:

Printed Name: Patricia M. Hirsch	Signature: 
Title: Director, Contracting & Logistics Mgmt	Date: 11/18/2015