JUSTIFICATION FOR SOLE SOURCE/BRAND NAME SOLE SOURCE 10 Mar 2016

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

PO Number:		
The effort listed on this form is for: (**please mark one**):	**X** Supply	☐ Service
The material and/or service listed on this form is (**please mark one**):	☐ Sole Source	**X** Brand Name

Restricted to the following source or manufacturer:

- Manufacturer/Source: Teledyne Marine, www.teledynemarine.com
- POC and Phone Number: Paul Devine, Regional Sales Manager, paul.devine@teledyne.com
  Office: (858) 842-2671 Mobile: (858) 254-7204
- Address: 14020 Stowe Drive, Poway, CA 92064

Disributor that sells items below:
Ocean Innovations, www.o-vations.com P.O.C. Brock Rosenthal, brock@o-vations.com, (858) 454-4044

See file: NPS_Teledyne Marine Quote_11 Mar 2016.pdf for Manufacturer and Manuf. Part No.
Description of the item(s) required and the estimated cost(s):

Item Description	Qty	Unit	Estimated Unit Cost	Estimated Total Cost.
Acoustic Doppler Current Profiler, 1000 kHz, 5 beams, 200 m depth rated housing, 300 m pressure sensor, 16GB Micro SD card memory, Wireless/Ethernet Communication, sealed battery pack included, 8 pin right angle connector for external battery pack canister, Deployment software.	1	each	[redacted]	[redacted]
External Battery Case with 8 pin right angle connector end cap, includes two battery packs and "T" cable	1	each	[redacted]	[redacted]
Firmware upgrade for Waves data collection feature	1	each	[redacted]	[redacted]
Test cable connector, straight, 5 meters long	1	each	[redacted]	[redacted]
AC/DC Power Supply Cord with Test Cable connection	1	each	[redacted]	[redacted]
Post-processing software package	1	each	[redacted]	[redacted]
Compass Calibration Stand (40 & 65 degree tilt	1	each	[redacted]	[redacted]

angles)				
Seafloor Mounting Platform, fiberglass tripod frame for gimballed ADCP mount, flanged bottom landing pads, three 316 Stainless Steel lifting eyes, includes ballast and attachment hardware for ballast (three X 50 lbs. each)	1	each	[redacted]	
Clamp and hardware for attaching External Battery Case	1	each		
Gimballed mounting bracket for ADCP	1	each		
Counterbalance Weight Kit for gimballed ADCP bracket	1	each		
Shipping	1	each		
Does not include Shipping to Monterey CA	[redacted]			

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

   RDD is 15 June 2016 or as close as possible.

2. Specify characteristics of the products that limit the availability to a sole source/brand product (unique features, function of the item, etc.).
   The requested instrument, called an Acoustic Doppler Current Profiler (ADCP), must have <u>all</u> the features listed below to meet the experiment requirements for desired sampling schemes, operating and service characteristics, and computational features with associated hardware and software. Teledyne Marine is the only manufacturer of an ADCP that has all the required features. Also, Teledyne Marine is the only known ADCP vendor that can also provide the seafloor mounting platform customized to fit this particular instrument with features as stated below for a stable mounting device. There is one known distributor for Teledyne Marine, called Ocean Innovations, that can also sell these products.

   <u>ADCPs (1000 kHz model) must have the following specifications:</u>

Acoustic beams:	5 "beams" (transducers: 4-convex, 1-vertical)
Transducers:	self-contained, individually replaceable by factory
Measurement Range:	1000 kHz-18 to 32 meters
Measurement Bin Size:	1000 kHz – 0.25 to 4 meters
Acoustic Ping Rate:	selectable, up to 4 Hz
Velocity Resolution:	0.1 cm/s
Velocity Accuracy:	0.3% of velocity relative to ADCP,+/- 0.3 cm/s
Single Ping Standard Deviation:	1000 kHz – 3.6 cm/s for 1m bin size
Signal to Noise data:	very low, based on broadband signal processing
Tilt Measurement Range:	Pitch- +/- 90 degrees, Roll- +/- 180 degrees
TiltAccuracy:	2 degrees RMS (precision – 0.05 degrees RMS)
Tilt Resolution:	0.1 degrees
Compass (Heading) Accuracy:	+/- 2 degrees RMS; max. dip angle – 85 degrees
Compass (Heading) Resolution:	0.1 degrees
Temperature Measurement Range:	-5 to 45 degrees C
Temperature Accuracy:	+/-0.4 degrees C
Temperature Resolution:	0.1 degrees C

Pressure Range	300 meters (pressure sensor- standard with unit)
Pressure Accuracy	0.1% Full Scale
Operating Temperature Range:	-5 to 45 degrees C
Storage Temperature Range:	-30 to 60 degrees C
Housing chambers:	separate electronics and battery chambers
Housing Depth Rating:	200 meters
Communications:	Wireless, 802.11b/g/n (Ethernet-optional)
Internal Storage	Micro SD card, 16 GB minimum
External DC Voltage Input:	12 to 20 VDC
Battery Pack Power:	Alkaline, 510 watt hours @ 5 degrees C
External Battery Case:	holds two alkaline battery packs, required option
Software, pre-deployment	required, included with instrument
Data sampling set-ups	must allow for multiple sampling set-ups simultaneously during data collection
Software, post-processing	required option for processing data
Firmware upgrade for Waves	required option for surface wave data collection
Compass Calibration Stand	required option for calibrating compass
Technical Support:	24 hrs./day, 365 days/yr.; by phone, chat or e-mail

<u>Stable Mounting Device for ADCP must have the following specifications:</u>
Available from ADCP vendor to ensure complete deployment package;
Tripod-shaped (one-piece, stackable) with customized fit for specific ADCPs;
Made of durable material able to withstand long-term immersion;
Height not to exceed 24" on deck with lifting eyes for deployment
Lightweight without ballast (not to exceed 60 lbs.)
Ballast to be easily attached; 150 lbs. total to keep device stable on seafloor with currents
Corrosion-free clamps and 316SS hardware;
Regular or Gimbaled ADCP mounting bracket, specific for ADCP model, as selected
Counter-weight kit available if gimballed ADCP mounting bracket chosen
Clamps for ADCP External Battery Case incorporated and/or available

3. Describe in detail why only this source/brand can furnish the requirements to the exclusion of other sources/brands.

Based on Market Research, five vendors that sell ADCP instruments were found. Only one vendor can offer all the requirements needed. A discussion of each vendor follows:

Vendor: Teledyne Marine
Product: Sentinel V ADCP, Model V20 (1000 kHz) with "Sea Spider" mounting platform
Discussion: Only vendor that satisfies all requirements listed in the Statement of Requirements when options for instrument and mounting platform are selected. Without any mounting platform considerations, this is also the only vendor that satisfies all the requirements for the ADCP instruments.

Vendor: Rowe Technologies
Product: SeaWAVE ADCP, Model 1200 kHz No mounting platform available.
Discussion: Does not meet requirements for mounting platform. Would have to go to separate vendor to purchase customized mounting platforms. Does not meet requirements for ADCP acoustic ping rate (sampling rate). Does not specify separate housing chambers. Based on use by OC members in FY15, these units require significantly more input power than stated by vendor, resulting in unacceptable sampling rates.

Vendor: Link-Quest
Product: FlowQuest 1000 kHz No mounting platform available.
Discussion: Does not meet requirement for number of beams, a critical feature. 5th vertical beam is not available in 600 or 1000 kHz models. Does not meet requirement for bin size range or maximum ping rate. Does not specify separate housing chambers. Does not meet requirements for mounting platform. Would have to go to separate vendor to purchase customized mounting platforms.

Vendor: Sontek
Product: ADP Acoustic Doppler Profiler, 1000 kHz No mounting platform available.
Discussion: Does not meet requirement for number of beams, a critical feature. No 5th beam. Does not specify ping rate, temperature measurement range, operating or temperature range, or communication method. Does not specify separate housing chambers. Does not meet requirements for mounting platform. Would have to go to separate vendor to purchase customized mounting platforms.

Vendor: Nortek Product: Signature 1000 No mounting platform available.
Discussion: Does not meet requirements bin size range, velocity accuracy, storage temperature minimum. Does not specify single ping standard deviation or separate housing chambers. Does not meet requirements for mounting platform. Would have to go to separate vendor to purchase customized mounting platforms.

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

   Yes, the requested material represents the minimum requirements of the Government.

5. Indicate if the material 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.

   Yes, the instrument and customized mounting platform must be completely compatible with existing systems presently owned by the NPS OC Dept. Moored Equipment Lab and used regularly by various OC investigators. The ADCP requested here, Sentinel Model V20, is a shallow water, 5 beam model ADCP. Other Teledyne Marine ADCPs used by the NPS OC Dept. Moored Equipment Lab are for deeper water and of lower frequency (300kHz, 150 kHz and 75 kHz). The NPS OC Dept. Moored Equipment Lab currently owns twelve Teledyne Marine ADCPs and various methods of mounting them. This purchase will be the first for this shallow water, 5 beam ADCP model with a bottom mounted platform. This instrument is compatible with existing systems, hardware, deployment equipment, knowledge and experience of OC technical staff in using Teledyne Marine products and for in-house post-processing data routines written specifically for other Teledyne Marine data sets.

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

   Teledyne Marine ADCP has a patented transducer beam design with proven data reliability, quality and accuracy. Teledyne Marine also has patented broadband signal processing yielding very low noise in

the data. This provides improved data resolution and uses less power. This results in more rapid sampling capability with excellent data accuracy and resolution which our applications require.

7. 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.).

   No, the items are not direct replacement parts/components for existing equipment.

8. 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.

   Using other than Teledyne Marine for this purchase will result in lack of compatibility with existing hardware which would require a duplication of previously incurred costs for hardware and labor for developing in-house data processing software.

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 OPENT COMPETITION.

[redacted]	
Title: Oceanographer	Date: 07 Apr 2016

CONTRACTING OFFICER APPROVAL:

[redacted]