CONTRACT DATA REQUIREMENTS LIST
(1 Data Item)

Form Approved
OMB No. 0704-0188

A. CONTRACT LINE ITEM NO.	B. EXHIBIT	C. CATEGORY
	A	TDP ___(DRPR)_____ TM _____ OTHER

D. SYSTEM/ITEM	E. CONTRACT/PR NO.	F. CONTRACTOR
HIGH PRESSURE CYLINDERS		

1. DATA ITEM NO.	2. TITLE OF DATA ITEM	3. SUBTITLE
	Engineering Drawings	Shop Drawings & Calculations

4. AUTHORITY *(Data Acquisition Document No.)*	5. CONTRACT REFERENCE	6. REQUIRING OFFICE
DI-DRPR-80651	Spec Para 14	PSNS&IMF C/270TS

7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION	14. DISTRIBUTION
N/A	N/A	OTIME	SEE BLOCK 16	See Block 16
8. APP CODE		**11. AS OF DATE**	**13. DATE OF SUBSEQUENT SUBMISSION**	
A		SEE BLOCK 16	N/A	

16. REMARKS

BLOCK 3:

A. THE CONTRACTOR SHALL PROVIDE ASSEMBLY DRAWINGS AND CALCULATIONS REQUIRED BY High Pressure Cylinder Spec Para 14.

BLOCK 11 & 12: DRAWINGS AND CALCULATIONS SHALL BE PROVIDED TO THE POC LISTED BELOW WITH THE DELIVERY OF THE HP AIR CYLINDERS TO PSNS.

BLOCK 14: 1 ea. Copy of the Drawings and Calculations shall be delivered assembled in a 3-ring binder.

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A. ADDRESSEE	b. COPIES		
	Draft	Final Reg	Final Repr
PSNS C/270TS	0	1	0
TOTAL	0	1	0

17. PRICE GRO

18. ESTIMATED TOTAL PRIC

G. PREPARED BY	H. DATE	I. APPROVED BY	J. DATE
R. Balter C/380.3	30 JUNE 2016		

DATA ITEM DESCRIPTION

Title: Engineering Drawings
Number: DI-DRPR-80651 **Approval Date: 880718**
AMSC Number: N4494 **Limitation: N/A**
DTIC Applicable: N/A **GIDEP Applicable: N/A**
Office of Primary Responsibility: N/SEA 55Z3
Applicable Forms: N/A
Distribution Statement A: Approved for public release, distribution is unlimited.

Description/Purpose: The Engineering Drawings are the documentation necessary to satisfy the Government's requirements of Level 1 (Conceptual and Developmental Design); Level 2 (Production Prototype and Limited Production); and Level 3 (Production), as defined in DOD-D-1000.
Application/Interrelationship: This Data Item Description (DID) contains the format and content preparation instructions for engineering drawings generated by the specific and discrete task requirement as delineated in the contract. The applicable specification containing the technical content for the engineering drawings shall be stated in Block 16 of the DD Form 1423, Contract Data Requirements List.

Preparation Instructions:

1 Reference Documents. The applicable issue of the documents cited herein, including their approval dates and dates of any applicable amendments, notices, and revisions, shall be as specified in the contract.

2 General Content and Format. Level 1, 2 or 3 Engineering Drawings and Associated Lists shall meet the requirements of DOD-D-1000 and as defined on the DD Form 1423, Contract Data Requirements List, in accordance with the Ordering Data (paragraph 6.2) of DOD-D-1000, as attached or included in the contract or order.

3 Technical Content. Technical content shall be in accordance with the Appendix entitled "Engineering Drawings Technical Content Requirements" contained in the applicable military specification as stated in the DD Form 1423, Contract Data Requirements List.

Specification:

Description:

Item:	Two (2) pressure vessels for high pressure compressed air storage mounted horizontally in modular frames.
Spec:	Seamless pressure vessels to ASME UPV Code Section VIII, Division 1, Appendix 22, with an internal corrosion allowance of .0625".
Vessel material:	Steel.
Design temperature:	–20°F to +200°F.
Vessel size:	20" OD minimum
Volume:	56 minimum cu ft per vessel.
Design pressure:	5,500 psi minimum
Operating pressure:	5,000 psi; Customer supplied relief valve will be set at 5,500 psi.

Specification:

1. End plugs: The cylinder shall have a threaded plug at each end, one referred to as the "inlet plug" and the other referred to as the "back plug". The inlet plug shall have a ¾" IPS bore and 2"-12 UN-3A external threads and a stainless steel dip-tube. The plug shall have a stamped marking indicating the orientation of the dip-tube. The back plug shall also have a ¾" IPS bore and 2"-12 UN-3A external threads, but shall not be equipped with a dip tube.
2. Each cylinder shall be independently mounted in a steel frame. The frames shall be designed to permit permanent installation of the cylinders in the weather, upon a concrete pad, secured with studs anchored in the concrete. The frames shall permit the cylinders to be stacked upon and beside each other, with the frames bolted together. Lifting the cylinders shall be accomplished using the two cylinder necks. The cylinders and their frames shall be lifted one cylinder at a time. The frames shall be coated using the same surface preparation and paint system as is used on the cylinder exterior. An isolation material shall be installed between the cylinders and the mounting brackets to prevent direct contact of the mounting brackets with the cylinders.
3. The cylinders shall not be certified for hydrogen or CNG service and shall be so marked.
4. Pneumatically test the assembled cylinders at 5000 psi. The cylinders and plugs shall be leak free.
5. Packaging: The cylinders, assembled to the foundation brackets, shall be packaged for shipment by the contractor.
6. Exterior Preservation: Cylinder exterior shall be abrasive blasted to near-white metal as defined by SSPC-SP10. After blast cleaning and prior to coating, visible deposits of oil, grease, or other contaminants shall be removed. Cylinder exterior, end plug exterior, and support frames shall be coated with a three part paint system applied in accordance with the coating manufacturer's instructions. The primer shall be an Epoxy Zinc Rich Primer with a dry film thickness DFT of 3 to 5 mils, applied within 24 hours of blasting, similar to Sherwin Williams Zinc Clad IV. Intermediate paint coat shall be 4-8 mils (DFT) of epoxy similar to Sherwin Williams Duraplate 235 applied in either one or two coats. The top coat shall be 3-4 mils (DFT) of urethane enamel similar to Sherwin Williams HI-Solids Polyurethane applied in one or two coats. The top coat shall be gloss white. When delivered, the paint shall be free of voids, drips, runs, sags, visual variations in color, or damage which exposes the metal substrate. The paint shall not obscure the stamped markings.
7. Interior Painting: Interior of vessel shall be first steam-cleaned, then steel grit blasted to near-white metal as defined by SSPC-SP10. Vessel interior shall be vacuum cleaned to remove all visible loose particles. Internal surface of the vessel shall be inspected under ultraviolet light to detect any evidence of hydrocarbon fluorescence. If the presence

of oil is detected, the cylinder shall be re-cleaned and re-examined as necessary until all oil is removed. Interior painting shall take place not later than 24 hours after cleaning.

Interior of vessel shall be coated, utilizing an approved procedure, with 0.004 inch dry film thickness (DFT) of epoxy-polyamide green primer in accordance with MIL-DTL-24441/29, Typ IV, Formula 150. When the coating is dry, the interior surfaces shall show no oil contamination when inspected with an ultraviolet light. Any evidence of fluorescence on the flask interior, flask threaded surfaces, or on the end plug will constitute failure of the examination. Flasks which fail the test shall be re-cleaned as stated above, recoated, and reexamined until the flask passes the oil-free test. The interior coating shall be fully cured prior to shipment. Upon receipt, the cylinders interior shall not have a detectable odor.

8. Cleanliness: The cylinder shall be delivered, "commercially clean". The cylinder interiors and plug threads shall be dry and free of contamination. The plug openings shall be fitted with reusable seals which will maintain the internal cleanliness of the cylinders during shipping.
9. Calibration Standards: All measuring and test equipment shall be calibrated in accordance with established procedure. The procedure for establishing and maintaining measuring and test equipment calibration shall conform to ANSI/NCSL Z540.3-2006 or Z540.1-1995.
10. Ultrasonic Testing: Prior to beginning production, all pipe will be ultrasonically measured to confirm minimum required wall thickness. The equipment used shall be capable of continually monitoring the acoustic coupling to assure 100% pipe wall coverage during UT examination. The area for inspection coverage shall be 100% of the pipe section that will be used for a production piece. Records of ultrasonic inspection shall be delivered with the cylinders.
11. Vessel Face and Thread Inspection: In addition to ASME Code Section VIII Non-Destructive Test requirements, the machined face and bore surfaces of the pressure vessel shall be inspected with Liquid Dye Penetrant. Any relevant linear indications detected by this method shall be cause for rejection of the pressure vessel. Records of all NDT testing shall be delivered with the cylinders.
12. Plug Thread Lubricant: Plug threads shall be lubricated with graphite in isopropanol.
13. O-rings: Shall be Viton.
14. Documentation: The cylinders shall bear an ASME stamp. Documentation detailing the construction, coatings, and testing of the cylinders, including documentation of ASME certification, shall be delivered with the cylinders, assembled in 3-ring binder. The construction drawing shall identify all parts, coatings, and lubricants. The drawing shall also show the recommended technique for crane lifting the cylinder assemblies.
15. Markings: Each skid shall be stamped with a serial number matching the unique serial number used on the associated cylinder. The brackets shall also be permanently marked with the contract number and the manufacturer's name and address.

PSNS Code 270TS shall review all "or equal" bids.
Technical POC:
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