

**REQUEST FOR INFORMATION (RFI)
REPLACEMENT FOR Army Tug Boat**

30 March 2012

I. SYNOPSIS:

The US Army, Product Director, Army Watercraft Systems (PD AWS) intends to replace a quantity of its tug fleet with a versatile medium tug with integrated barge. The purpose of this project is to identify a possible replacement which can meet emerging requirements and force structure changes. This Request for Information (RFI) is intended to gather industry input and data regarding available platforms and support potential future acquisition efforts.

No contract will be awarded from this announcement. This is not a Request for Proposal (RFP) or an announcement of a forthcoming solicitation nor does it imply or guarantee one will be issued in the future. Also, it is not a request seeking contractors interested in being placed on a solicitation mailing list. Response to this questionnaire is voluntary and no reimbursement will be made for any costs associated with providing information in response to the market survey and any follow-on information requests.

It is not required to respond to this announcement in order to be eligible for future contract awards. There is no scheduled date for the release of a Request for Proposal related to this project.

Industry response to this RFI will significantly inform the decision making process.

II. BACKGROUND:

The current Army fleet of tugs consists of the following three systems:

1. Large Tug (LT-800)

A. Functional and physical configuration of Large Tug (LT-800)

Density	Length	Beam	Draft	Range	Horsepower	Payload
6	128 ft	36 ft	16 ft 10 in-aft, loaded	5,000 nautical miles - light	2 ea EMID 645F7B; 2550 bhp @ 900 rpm	Bollard Pull = 58 tons

B. LT 800 mission and general capabilities

The LT-800, 128-foot large tug, is used for ocean and coastal towing operations. Its secondary mission is general-purpose harbor duties such as positioning floating cranes. The LT is equipped to accomplish fire-fighting duties, a significant capability, particularly where ammunition ships are being worked. It is also used to perform salvage and recovery operations for other watercraft disabled or damaged. The LT is self-deployable worldwide.

2. 100-foot Large Tug (Flight III)

A. Functional and physical configuration of 100-foot Large Tug (Flight III)

Density	Length	Beam	Draft	Range	Horsepower	Payload
2	107 ft	26 ft	12 ft 2 in – aft, loaded	3,323 nautical miles - light	1ea EMD 12-F7B; 2050 bhp @ 900 rpm	Bollard Pull = 32 tons

B. LT 100 (Flight III) mission and general capabilities

The 100' tug is used to berth and unberth large oceangoing vessels and for heavy towing within harbor areas. Secondary functions include fire-fighting, and salvage operations; and it may also be used for limited offshore towing between terminals.

3. Small Tug (ST-900)

A. Functional and physical configuration of Small Tug (ST 900)

Density	Length	Beam	Draft	Range	Horsepower	Tow or Push Capability
16	60 feet	22 ft	6 ft	720 nautical mile - light	2ea Cummins KTA19-M3; 640 bhp @ 1800 RPM	Bollard Pull = 15 Tons

B. ST 900 mission and general capabilities

The ST 900 is capable of moving cargo barges and floating craft of various types within a harbor, port, or logistics-over-the-shore (LOTS) anchorage. The ST 900 is shallow draft and has enough horsepower to tow and husband lighter-aboard-ship (LASH) and general cargo barges in harbors, inland waterways, and along coastlines, and is capable of operation in sea state 3. It can also assist larger tugs with utility work, such as docking and undocking of ships of all sizes, movement of floating cranes, and line-handling duties. It is transportable deck loaded aboard LASH ships or heavy lift vessels.

The current Tug fleet consists of two (2) Flight III Tugs, six (6) Large Tugs (LT-800), and 16 Small Tugs (ST-900). Pending approval of a medium tug/barge program outlined herein, the current fleet of tugs would be divested through sale.

III. POTENTIAL REQUIREMENT:

- PD AWS has a goal to issue a single contract to a prime contractor for replacement of its tug fleet.
- The new tug, with integrated or interfacing barge, is expected to be capable of performing both an ocean-going barge or towing mission and also be able to perform inter-coastal and harbor tug missions. It must be worldwide self-deployable.
- The new tug must be of a draft suitable for safe navigation and widespread access in and around inland waterways and littorals.
- The new tug is also expected to exploit remote, unimproved waterways and operate in near coastal areas. It will conduct salvage and port-clearing including retrieval of battle-damaged vessels and clearing of enemy detritus. It will conduct barge transport and repositioning missions; and conduct towing, pushing, docking or undocking missions of larger ships. It must be capable of access and maneuver in austere, denied and degraded harbors.
- The new tug must be able to communicate using standard Army communication systems and interact real-time with deployed forces.
- The new tug will conduct traditional tug fire-fighting missions.
- The tug will be capable of operating with an integrated or interfacing barge or in an "uncoupled" mode and work independently. When coupled with barge it must be capable of maneuver within inland waterways and extensively throughout littorals. Its maneuver capability may support riverine operations.
- The new tug must also be capable of a stern tow of a minimum (threshold) of three (3) medium barges and a maximum (objective) of five (5) medium barges
- While the Army seeks more flexibility with its replacement tug, it also seeks improved payload, protection, and performance characteristics; including better reliability, availability, and maintainability (RAM), which will reduce operation and sustainment (O&S) cost.
- Thresholds and Objectives:
 1. Cargo Capability (Payload)
 - Threshold: Bollard pull – 45 LT
 - Objective: Bollard pull – 58 LT

2. Survivability (Protection):
Threshold: Operational survivability and maneuver in sea state 4
Objective: Operational survivability and maneuver in sea state 5
 3. Range/Speed (Performance):
Threshold: 4,000 nautical miles (NM) at 13 knots (light); 4,000 NM at 12 knots (loaded) in sea state 2 or below and 5 knots at sea state 4
Objective: 5,000 NM at 15 knots (light); 5,000 NM at 13 knots (loaded) in sea state 2 and 7 knots at sea state 4
 4. Draft:
Threshold: Aft – 15 feet loaded
Objective: Aft – 12 feet loaded
 5. Fuel Efficiency:
Threshold: 152 gallons per hour (10% improvement over vessel in paragraph II, 1.A.B.)
Objective: 143 gallons per hour (15% improvement over vessel in paragraph II, 1.A.B)
 6. Propulsion and Auxiliary Engines:
Threshold: Environmental Protection Agency (EPA) Tier III compliant and operate on diesel fuel and Jet Propellant (JP) 8 fuels
Objective: EPA Tier IV compliant and operate on diesel and Jet Propellant (JP) 8 fuels
 7. Habitability:
Threshold: Life support and crew accommodations to support extended, 24-hour operations
Objective: Same as threshold
- The vessel will meet provisions of the applicable Code of Federal Regulations (CFR), and references therein. The vessel will be certified to load line by the American Bureau of Shipping (ABS). The manufacturer will select new shipboard systems, subsystems and equipment that meet or exceed the Army's performance requirements. The engineering design submission will include a technical report on reliability, availability and maintainability (RAM), along with a side-by-side comparison of current and replacement technical specifications to ensure the proposed equipment satisfies the Army's performance requirements.
 - The manufacturer will ensure data bus capability to facilitate the National Marine Electronics Association (NMEA) 2000 bussed data exchange network for existing and future command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR), Navigation, and powertrain systems on board, and include interface compatible with Society of Automotive Engineers

(SAE) J1939 Controller Area Network (CAN Bus) devices and/or diagnostic equipment in current use by the Army and industry.

- Economic Useful Life (EUL):
Threshold: 30 years
Objective: 40 years

Production:

- Anticipated production quantity is 13 tugs with barge.
- The following is a "predecisional" production schedule for tug with interfacing barge:
 - FY15: Two (2) prototypes (testing and logistics development)
 - FY15: Two (2) (low rate initial production (LRIP))
 - FY16: Three (3) (full rate production (FRP))
 - FY17: Three (3)
 - FY18: Three (3)
- The first two production articles will be used for test and development of logistics products.
- Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) suite will be provided as government-furnished material (GFM) during production. This suite will include navigation, tactical, and network component elements. An interface control document (ICD) will be provided as government furnished information (GFI) for integration of the GFM into the vessel.

Production will include Completion of Logistics Management Information and Equipment Training:

- Perform a maintenance analysis, including a Failure Modes Effects Critical Analysis (FMECA), and Level of Repair Analysis (LORA), for all components/systems in order to determine the proper maintenance allocation and component level of repair.
- Develop military specification interactive electronic technical manuals (IETM) that reflect the final configuration of the vessels in accordance with MIL STD 40051. The IETM will contain vessel operation, troubleshooting, maintenance, and replacement parts information necessary to support the Government approved maintenance analysis.
- Research and provide all materiel provisioning data supporting new components/systems and deliver a Logistics Support Analysis (LSA)-036 report.

Provisioning must be performed to the lowest repair part level and be consistent with the Government-approved maintenance analysis. LSA should address all twelve product support elements.

- Provide special tools test equipment (STTE) and basic issue items (BII) required for supporting operation and maintenance of the vessel.
- Provide test, measurement, and diagnostic equipment (TMDE) required to support troubleshooting and IETM functionality.
- Provide software integration, required to enable new component/system fault codes to successfully pass from electronic control modules to IETM software for purposes of troubleshooting measurement and analysis.
- Identify all new manpower skill sets required to operate, troubleshoot, and maintain new components/systems.
- Complete total package fielding of vessel, BII, STTE, TMDE, on-board spares list (OBSL), and associated items of equipment (ASIOE).
- Provide new equipment training to each active and reserve crew, and to the repositioned site personnel in Japan and Kuwait on the new systems.

IV. INSTRUCTIONS FOR COMPLETING THE QUESTIONNAIRE:

Please answer all of the questions below. This is your opportunity to provide information that will be used to determine your design, engineering and manufacturing capabilities. Responses to this market research questionnaire should be sent via e-mail to Tuyen Huynh at tuyen.huynh.civ@mail.mil. You are requested to put "REPLACEMENT FOR TUG FLEET" in the subject line of the e-mail. Any requests for clarification of the questionnaire shall also be addressed to Tuyen Huynh at tuyen.huynh.civ@mail.mil.

Any information that cannot be sent via email can be mailed on a CD to the following address:

U.S. Army Contracting Command-Warren
Force Projection & Tools/Bridging Team
ATTN: Tuyen Huynh/CCTA-HBF-B
6501 East 11 Mile Road
Mail Stop 326 (BLDG 231)
Warren, MI 48397-5000

VI. INFORMATION REQUESTED FROM INDUSTRY:

1. Manufacturer

a. Name:

b. Mailing Address:

c. Website:

d. Location of Production:

2. Personnel Responding to RFI

a. Name:

b. Title:

c. Company Responsibility/Position:

d. Telephone/Fax Numbers:

e. E-Mail Address:

f. Cage Code (if any):

3. Business Type

a. Are you a large or small business? _____

1. If a small business, are you:

2. Small disadvantaged or 8(a) _____

3. In a Hub Zone _____

4. Service-Disabled Veteran-Owned _____

5. Woman Owned _____

- b. List your North American Industry Classification System (NAICS) code(s)._____
- c. Is your company listed in the Central Contractor Registration (CCR)?

4. Materiel Solution

- a. Do you have any vessels that meet the thresholds in paragraph III? Are these vessels commercial items? Are they currently in production?
- b. For all vessels identified, provide any commercial literature, photographs, and characteristics, as well as capability and performance levels.
- c. Can you identify any areas where our requirements or objectives can be exceeded with current or near term technology?

5. Production

- a. What is your production lead time?
- b. What would you envision your minimum sustainment rate (MSR) for production to be?
- c. What would you envision your most efficient production rate to be?

6. Past Performance

- a. How do the requirements in engineering design, shipboard production and logistics management information relate to your current line of business?
- b. Do you have design experience in shipboard systems in accordance with the Code of Federal Regulations (CFR) and American Bureau of Shipping (ABS) for this size of vessel?
- c. Describe your past ship production experience, especially as it relates to tugs.
- d. Describe your experience with integration and production of C4ISR, to include CAN and data bus systems. Describe your experience with integration of GFM/GFI.
- e. Do you have logistics management (provisioning) and technical manual development experience? Provide examples of previous, successfully developed logistics products (LSA, TMs, Provisioning,

various lists, etc.)? Do you have experience in preparing mil-spec IETMs?

- f. What is your experience with contractor logistics support (CLS)?
- g. What is your experience in military contracting?

7. Contract Type

- a. Based on the proposed program schedule would a firm fixed price contracting mechanism be feasible? If not, please provide inherent risks?
- b. Do you have experience with system technical services (STS) contracts? If so, describe.
- c. Do you have experience with Performance Based logistics (PBL) contracts or arrangements? If so, describe.

8. Program Structure

- a. How would you structure a program to complete this task? For instance:
 - (1) What type of contracting mechanism would you recommend?
 - (2) Please identify program risks (schedule, design, maturity, length)?
 - (3) Is the predecisional production schedule provided above attainable, plausible or achievable? Explain. What are your suggestions?
 - (4) If what we have outlined doesn't meet your commercial products, describe the difficulty in modifying your design to meet stated requirements. If not in a mature state, how long would it take to deliver a mature product?
 - (5) How would you plan to achieve CLS with low (less than three days) customer wait time and high availability (95%)?

9. Budgetary Estimate

- a. PD AWS would like to obtain a unit or "per vessel" budgetary estimate in order to prepare a realistic cost budget for the replacement of Tugs. Provide a per vessel budgetary estimate based on historic or commercial pricing. Include a per vessel cost for all the commercial-off-the-shelf (COTS) vessels that you feel may meet or exceed the requirements in this RFI. Provide this per unit price for both the minimum sustaining production rate and the most efficient production rate and define those rates.

- b. Reference the predecisional production schedule provided and the logistics management information required, estimate costs required by year to meet this schedule and intent.

10. Intellectual Property

- a. Would you be willing to sell technical data package (TDP)? If so, what cost range do you anticipate? What is included in the TDP and what format do you use.
- b. What is your recommendation for a cost effective method of addressing intellectual property which will allow government a means to effect material change and maintain configuration management during sustainment while fairly representing original equipment manufacturer (OEM) rights?
- c. Would you provide an indentured bill of materials (IBOM)?

11. Warranties

What kind of commercial warranties are offered for material and labor?