REQUEST FOR INFORMATION - FedBizOpps

Posted: 3/13/2013

NAICS Code: TBD

Solicitation Number / RFP Number: BARDA-RFI-13-Smart DME/Power Generation

Title: "Building "Health Resilience Technology" to Withstand Disasters: Smart Durable Medical Equipment (DME) and Sources of Emergency Power"

THIS REQUEST FOR INFORMATION (RFI) IS NOT AN RFP. An anticipated RFP date has NOT been determined at this time. This RFI does not bind the government to release an RFP. A set-aside determination will be made based in part on the capabilities a firm is able to demonstrate in response to this REQUEST FOR INFORMATION.

Background:

The Assistant Secretary for Preparedness and Response (ASPR) and the Federal Emergency Management Agency (FEMA) are working together to enhance community and individual resiliency before, during and after a disaster. This initiative is in support of the complementary core missions of the Agencies which are to build and sustain our nation's capability to prepare for, respond to and recover from disasters and to engage local resources to ensure the "whole community" is supported. ASPR and FEMA have partnered to help identify potential solutions to enable individuals with access and functional needs to sustain and extend the use of their durable medical equipment (DME), or medical devices powered by electricity, such as oxygen concentrators, ventilators, and intravenous infusion pumps, and to shelter at home or with friends/ family during prolonged power outages. Additionally, this technology can enable local government agencies and/ or local community organizations to know where devices are located in order to help identify locations/areas where services and resources are needed.

In addition to "health resilience technology" utility during disasters, the technologies should have day to day utility for DME dependents. Ideally solutions with a data component will leverage existing open source technologies that could be readily utilized or adapted to deliver capabilities in the following areas of focus:

- Low-power consumption sensor units (ideally composed of open source hardware) that can interface with DME and automatically transmit location, type of DME, remaining charge, time stamp and other relevant information over several spectrum (e.g. zigbee, Wi-Fi, CDMA, amateur radio).
- Power generation / storage devices (batteries) that do not require frequent recharging to provide electricity to DME during periods of electrical outage.
- The ability to share relevant device data with state, regional, and local government and with community organizations in format that can be universally consumed.

Requirements:

The Biomedical Advanced Research and Development Authority (BARDA) requests capability statements from entities with experience working successfully in any or all of the aforementioned health resilience technology focus areas listed above. Please address as many of the following activities in your capability statement that are feasible and relevant:

I. Development of low unit cost and low power consumption integrated sensor-transmitter units that interface and or integrate with DME, and that transmit device diagnostic information over multiple communication methods including WiFi, cellular networks, mban, zigbee, other radio networks:

a. Sensor unit capable of capturing essential data
    i. Loss of external power.
    ii. Power level and status of internal battery.
    iii. Brand and model of DME or unique identifier of the DME.
    iv. GPS location.
    v. Current time.
    vi. Other device diagnostic information to determine operational status of the DME.
    vii. Ability to send captured information securely to an online repository.

b. Low power consumption transmitter capable of securely sending all captured data over various spectrum
    i. Receive information over PAN and MBAN (zigbee, mban, Bluetooth).
    ii. Transmit over different spectrums / technologies; e.g. Ethernet, Wi-Fi, Mobile (CDMA, GSM, LTE), Amateur Radio to a secure repository.
    iii. Ability to switch between/ rollover spectrum / technologies depending on resource availability.
    iv. Ability to send data at specified intervals of time, on-demand, or when triggered by external events.
    v. No interference with the operation of the DME.
    vi. Securely transmit all data collected from DME (either tethered or wirelessly collected).
    vii. Ensure all information collected from the DME or sensor network is “read only”.
    viii. Ensure the device or sensor cannot modify or change the operation of the DME.
    ix. Ability for an external device or sensor to join or be “paired” to the transmitter so the network capabilities of the transmitter.

c. Integration of either sensors and/or data transmitter
    i. Ideally be constructed of readily available open source components.
    ii. Uses standards in the transition of data to a central repository or to an external transmitter.
    iii. Ability to share (with DME users consent) data collected from the device with local and state Public Health and / or emergency management operation centers.
    iv. Draws low level of standby power as to not significantly impact DME performance.

v. Consumes low level of power as to not significantly impact DME performance, has its own power source separate than the DME.
vi. All information presented from the DME to be read-only.
vii. Ideally integrated into DME.

II. Providing power generation solutions that are electric power grid and / or fossil fuels independent:

a. Utilize chemical or other reactions to generate sufficient mAh output to power DME such as an oxygen concentrator for a reasonable (ideally 7-10 days) operational timeframe during normal operating conditions.
b. Operate safely in closed, unventilated environments for extended periods of time
c. Provide standard receptacles (3 prong, USB, etc.) and easily adapted for use by various DME and communication devices.
d. Maintain long shelf life with wide range of temperature differences.
e. Capable of being "recharged" or re-energized by non AC power.
f. Ideally comprised of non-toxic, low-waste materials
g. Lightweight and durable

III. Providing Universal batteries that can be utilized by all DME devices:

a. Quickly and easily adapted for use by various DME
b. Capable of producing sufficient mAh output to power various DME such as an oxygen concentrator for a reasonable operational timeframes under normal operating conditions
c. Operate safely in closed environments for extended periods of time
d. Lightweight and durable

Additional factors:

1. Green or low-waste products are preferred
2. Products should have application to both everyday use and disaster scenarios

Submission Information / Instructions:

Respondents are asked to provide only the most pertinent information, data, and materials necessary to adequately convey a declaration of capability in line with this notice. Respondent Capability Statements shall not exceed 10 pages total. Nine (9) pages of the Capability Statement shall include all technical information. Respondents are asked to provide one (1) page that contains the following information:

- All Point of Contact information (email addresses, phone numbers, mailing address,
- DUNS information, etc).

- Respondents are asked to list all relevant NAICS codes.
- Respondents must indicate whether their firm is a small or large business. If small, indicate the classification.
- Respondents must indicate whether they offer the required services on ANY Federal Supply Schedules. If so, please list the schedule numbers.

Data contained in excess of the 10 page limit will not be reviewed

Proprietary information, if any, should be minimized and MUST BE CLEARLY MARKED. To aid HHS, please segregate and clearly mark proprietary information. Please be advised that all submissions become the property of the Government and will not be returned.

This REQUEST FOR INFORMATION is in accordance with FAR 52.215-3 Request for Information or Solicitation for Planning Purposes (Oct 1997), as such, any information received will be for the purpose of planning only.

Responses to this REQUEST FOR INFORMATION notice, along with a firm's capability statement referencing "Building "health resilience technology" to withstand natural disasters" may be submitted electronically to Quintin Hackshaw, Contract Specialist at Quintin.Hackshaw@hhs.gov

Statements NO LATER THAN 5PM Close of Business (COB) 04/26/2013 EDT.

Point of Contact: Quintin Hackshaw, Contract Specialist, Phone (202) 260-0453, Fax 202-205-6061, Email: Quintin.Hackshaw@hhs.gov