

Questions Received for BAA 09-013 (Component Development for Advanced Shipboard Desalination) through 20 March 2009, Part II

16. Is there a product water storage capacity onboard the type of Navy Ships under consideration in the RFP? If so, what is the range of storage capacity for desalted water on board of Navy Ships (w.r.t present RFP)?

A: In general, Navy ships usually have enough storage capacity for 1 day of unrestricted (and up to 2 weeks of restricted) potable water use. As an example, the DDG 51 Class ships that have the 12k NSROs can store just under 16,000 gallons of potable water (4 tanks x 3900 gal per tank).

17. Is it appropriate to propose an optimized UF/RO control and operational strategy under this BAA?

A: The BAA was written to discourage proposals addressing the complete system design and fabrication. This was done so that we could obtain a broad look at as many new and maturing technologies as possible. Control strategies are important and, if novel enough, could come in under BAA topic 6.5. It might also be possible to address prefiltration control strategies under BAA topic 6.1 or 6.2.

The average grant sizes are expected to be in the \$200k-\$500k range. If the pilot system you already have is robust and large enough to be used as an accurate representation of a larger scale system, then the expected grant size may allow for a proposed effort purely to develop and demonstrate novel control strategies. Control strategies that improve performance or reduce fouling, scaling, and/or maintenance are preferred.

18. Could you please tell us where we can find your norm for the prefiltration section in terms of capacity, flux, flow rate, expected duration for the module, volume, weight, as well as energy consumption for this section?

A: For the 12,000 gpd NSRO plant, the capacity is 40 gal/min. The flux for the 20 and 3 micron cartridge filters is 2.5 and 3.2 gpm/sq. ft, respectively. The expected duration for the pretreatment section is to significantly outlast the current cartridge filters, which typically have durations of less than one day to 4 to 6 weeks, depending on near-shore or open-ocean operations. The weight and volume requirements are described in section 6 of BAA 09-013. The energy consumption is not necessarily a concern for cartridge filters, as there is only a small pressure drop across the filters. The overall system efficiency should be equal or less than 30 kW/kgal, including the pretreatment, treatment, and energy recovery systems. Additional information on the current pretreatment section may be found in the Industry Day slides, which are posted on the ONR website (<http://www.onr.navy.mil/02/baa>), as well as preceding questions regarding energy efficiency.

19. According to this BAA, desired technologies should be TRL 4 or 5, however, the Industry Day Briefs (Page 61) lists my technological area as TRL 3. Does this mean my proposal is automatically excluded?

A: A description of Technology Readiness Levels (TRLs) may be found at http://www.onr.navy.mil/ctto/naval_needs.asp. The intention of this BAA is to develop components that are at a readiness level suitable for consideration for use in a robust shipboard desalination system. A second program is anticipated to build complete shipboard desalinations to TRL 6 in 2012, with a clear path to commercialization. The development of a technology from TRL 3 to TRL 5 typically requires more than two years, which would extend past the dates defined in this BAA and the overall desalination program. We encourage you to review the description of TRLs and rate your technology. If you will be able to meet the criteria defined in the BAA, we encourage you to submit a White Paper for your technology.

20. On page 11 of this BAA announcement, it says that the "Technical Section" of the white paper should include references. Because only three pages of space are allocated to this section, I would like to know if it is allowed to omit the reference portion and thus leave more space for the technical description.

A: The limitation of three pages for the White Paper is to enable preliminary evaluation by Navy personnel to provide feedback for the construction of full proposals. The technical description should be concise and provide sufficient detail to allow the reviewers to successfully evaluate your proposal. The use of three pages should be sufficient for the technical description and a few select references that are necessary. Additional details and references may be provided in the full proposal if required.