

September 22, 2009

Dear Prospective Offeror:

REQUEST FOR PROPOSAL (RFP) NO. 108405, Amendment 2  
THIN FILM DEPOSITION SYSTEM

This letter serves as Amendment 2 to the subject RFP that was issued on August 28, 2009. The purpose of this Amendment is to provide responses to additional questions received.

The following questions have been received following issuance of Amendment 1. References to "questions" are those questions outlined in Amendment 1. Battelle's responses are provided in italics.

- 1) The response to Question 1 states power supplies are to run simultaneously. Do you plan to run RF and DC power at the same time into one cathode?

*Response: One cathode at any given time can be used in only one mode, either DC or RF sputtering mode. However, since we have up to three cathodes mounted in this system, three different supplies are required.*

- 2) Regarding the effusion cells and sputtering, all the materials mentioned, including metals, can be sputtered. We assume you want to evaporate the metals with an effusion cell even though they can be easily sputtered or deposited by e-beam evaporation. Is this correct?

*Response: Yes. Even if we can sputter the same material, we would like to have a system sufficiently flexible so that we can choose any mode of operation, either sputtering or e-beam evaporation.*

The complex oxides you mention cannot be easily evaporated via effusion cells. Thus, it is still unclear which materials for which you will use the effusion cells. Also, insufficient information is available to make a proper selection of deposition mode.

*Response: We are not expecting complex oxides for direct use in effusion cells. We would like to deposit a complex oxide by using multiple effusion cells or e-beam evaporators. For example, to deposit a superconductor (which is a complex oxide) like Y1Ba2Cu3O7 we may use three effusion cells loaded with Yttrium, Barium and copper metals and use reactive oxygen environment to deposit Y1Ba2Cu3O7 oxide by adjusting the flux of different effusion cells at different rate OR by adjusting the e-beam energy from e-beam evaporator.*

- 3) Referencing Question 5, the requirement is that the chamber reach final pressure within one hour. This is unrealistic for any deposition system unless a loadlock is utilized. However, the loadlock is an option. Please clarify.

*Response: If the Offeror's system requires the use of a loadlock to achieve the required specification, the price of the loadlock should be included in the base system.*

- 4) Referencing Question 7, it appears that real time rate monitoring from each of the six sources without interference with the deposition on the substrate is required. Is this correct?

*Response: Yes.*

- 5) Referencing Optional Items Question 2, it appears you require an exhaust system to deal with toxic materials when the chamber is open. Is this correct?

*Response: Yes. The exhaust system may deal with toxic materials.*

The chamber will have multiple ports that can be opened at any one time; thus the system enclosure might need to encase the entire system. Any further information you can provide would be useful.

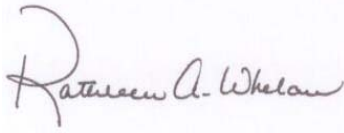
*Response: The exhaust system would need to encase the entire system.*

In consideration of the proposal due date of September 30, 2009, the date and time for receipt of questions is closed.

Except as provided herein, all terms and conditions of the referenced RFP remain unchanged and in full force and effect.

Offerors shall acknowledge receipt of this Amendment in accordance with the RFP section entitled "Amendments to RFP."

Sincerely,



Kathleen A. Whelan  
Sr. Contracts Specialist

