Solicitation Number: EPA/ORD/NHEERL/ETD/04-001
Title: Exploring Body Burdens of Polybrominated Dephenylethers (PBDEs) and

Project Officer: Janet Diliberto

This is an amendment to Solicitation Number: EPA/ORD/NHEERL/ETD/04-001.

1) Question: Has the $200,000 anticipated for the first-year been confirmed?

Answer: Of this amount of money, only $105,000 is confirmed for the first-year. The funding for the second and third years is dependent upon the availability of funds. This has been stated on page 2 under **Anticipated Funding**.

2) Question: Is there a particular type of applicant that is more competitive over others?

Answer: This is an open competition, as stated on page 2 under **Eligible Applicants**.

3) Question: What award amounts have been offered in previous years of competition, if the amounts have differed?

Answer: To our knowledge, this is a new project and there are no previous award amounts that have been offered.

4) Question: Is there a list of prior award recipients?

Answer: This is the first time this project has been solicited.

5) Question: Do you advise applicants contact you or Margaret Mann before submitting applications?

Answer: It is not necessary to contact Margaret Mann or Janet Diliberto before submitting applications.

6) Question: Questions concerning the cohort of women to be studied:
As the proposal is written, the women to be studied have already been characterized re: PBDE levels; and, this would limit the number of applicants as the cohort would thus be already established. Is this so? Do we want the applicant to have an already characterized population which will be used for further research? If not, then is it the intention of the proposal that the applicant could gather samples and then characterize them?

Answer: An already characterized population is needed for further research as stated in the RFIP. An applicant could gather samples and then characterize them for levels of PBDE using the criteria of first time mothers in their second to eighth week of lactation, but the applicant must provide his/her funding from an alternate source to conduct this work.

7) Questions: Longitudinal study component (page 7): 3 related questions.
A. By the time the project starts, many women in the existing cohort with measured levels may have stopped breast feeding or, if they continued breast feeding, already significantly reduced their body burdens. Wouldn't it make more sense to recruit new additional participants for the longitudinal study?

Answer to Question 7 A: If at the start of the study there are no women in the existing cohort with measured levels breast feeding, then it will be necessary to recruit new additional participants for the longitudinal (off-loading of PBDEs via lactation) part of the project.

B. We have the largest ongoing study of breast milk from the USA for brominated flame retardants. We have over 60 analyses complete at this time. Your RFIP requires the women to still be nursing so serial milk PBDE and other BFR can be obtained to determine decrease if any over time. Since the typical mother in the USA does not nurse beyond 3 months this presents a major problem. Can we recruit new persons who plan to nurse longer and thus qualify for your study?

Answer to Question 7 B: If it is necessary to recruit new additional participant for the study on off-loading of PBDEs via lactation, then it may be possible to recruit new participants who plan to nurse longer.

C. Since we have evidence of a slow decrease in milk and or blood PCDD/Fs, PCBs in mother with nursing, with gradual increase after nursing ends with intake of new compounds in diets would it not provide more scientific data of interest by finding mothers who planned to nurse for long periods of time, far in excess of the few months typical of US mothers, and follow their milk and blood levels to have partitioning information allowing extrapolation between blood and milk and also a determination of decrease in levels over long time periods rather than selecting mothers already sampled who are not likely to nurse very much longer?

Answer to Question 7 C: Focus of the RFIP is on breast milk, urine, and house dust, and not blood. A long-term study as addressed in question 7 C would be very informative, but the funding in this proposal is limited. If applicants can show that they can perform blood studies as well as breast milk, urine, and house dust as proposed within the approved budget, they can include it in their proposal or they can provide their own funding for blood studies.

8) Questions: Location of laboratory (page 14): 3 related questions.

A. Does criteria 2 mean that the laboratory analyzing the PBDEs must be located in or near the area where the participants reside? If so, why? Some of the best laboratories in the world (particularly for deca-PBDE) are in Europe.

B. What scientific justification can there be for wanting the laboratory analyzing brominated flame retardants to be geographically near the research subjects?

C. Our team has published the only article on brominated flame retardants in US nursing mothers milk in a peer reviewed publication. As is our custom, we send the frozen specimens to the best laboratory with good turn around time and good price. Kindly let us know why this is not allowed under the terms of the RFIP?

Answer to Questions 8 A, B, and C: In the applicant's proposal, the applicant can address this issue of location of laboratory and document why this is not important and why another laboratory in a different area that can performed the work as specified in the solicitation needs to be considered.

9) Question: Can we do a study on partitioning between milk and blood from the same mothers to determine the partitioning ratio? And then use blood measurements after nursing is over to estimate decrease in body burden from nursing?

Answer: The focus of this RFIP is on breast milk, urine, and house dust. The partitioning between milk and blood and the determination of partition ratios is not part of the proposed study.

10) Question: Can women not nursing for the first time be included in the study? If not, what is the rationale for this decision?

Answer: Using only women nursing for the first time is important because multipara women may initially had high levels of PBDEs in their breast milk from previous nursings which are now much lower.

11) Question: Since almost no BFR can be expected in urine at measurable levels, can this part be considered a separate part of the study with blood and or milk as well as urine collected from a subset of a small number of mothers to satisfy the conditions of your RFIP?

Answer: We don't know if this is true about no measurable levels of BFR in the urine. The levels in urine may vary from woman to woman. Measurement of PBDEs in urine is necessary to understand whether PBDE levels in urine correlate with body burdens as measured in breast milk.

12) Question: Since milk from women in all regions studied to date in the USA has been consistently shown to have much higher levels of PBDEs than from other locations worldwide can any geographical location in the USA qualify for the study?

Answer: As stated in the proposal**,** a cohort of women living in a geographical area where high levels of PBDEs have been documented and previously reported can qualify for the study.

13) Question: Since market basket surveys find the highest levels of PBDEs in the world in US food, could food BFR analyses and estimated intake be included in the study? If so would it not be advisable to continue an ongoing study to maximize the N? Our study, the only US study in a peer reviewed journal published to date, now has analyses of 48 US food samples and is continuing with money for analyses the only limitation. Would it be scientifically advisable to continue and add to this market basket survey to make it more representative of the US food intake of BFR since food is almost certainly the major route of exposure?

Answer: This study does require via dietary and lifestyle surveys information on dietary practices in the cohort. Market basket surveys are not the focus of the proposal. However, if the applicant wants to find an alternate source to fund a study such as this, then that would certainly add important data to a market basket survey.

14) Question: While dust is of interest and we have in press a vacuum sample and computer wipe sample PBDE article showing there are levels of PBDEs in these substances, the levels and patterns in dust seem such that it is not probable that there is a substantial contribution from these to humans and hence human milk. Is it not a waste of valuable resources to do more than a small number of such analyses, especially since the cost of analyses is about $500 each?

Answer: The RFIP calls for analyses of house dust and urine in women with high and low levels of PBDEs in breast milk. Testing house dust of women whose breast milk has already been characterized for PBDEs is important in assessing the possible routes of exposure to PBDEs and whether levels in dust correlate with body burdens. In the applicant's proposal, the applicant can address and document the cost of analyses and the use of an appropriate number of samples to fulfill the objectives of the RFIP.

15) Question: Would it not be as useful or more so to monitor feces in addition to urine were any monitoring to be done in addition to milk and or blood?

Answer: The collection and analysis of feces is not part of this proposal. The focus of this RFIP is on breast milk, urine, and house dust. Obviously, if additional funding is possible, then food, feces, and indoor air characterizations would be useful.