Summary of the Navy's Air-Monitoring Program
January 2007

The Navy began air monitoring at the Live Impact Area on Vieques in August 2005. When open-air detonations were initiated at the Live Impact Area on Vieques in spring 2005, as part of the TCRA, neither the Environmental Protection Agency (EPA) nor the Puerto Rico Environmental Quality Board (EQB) required the use of air-monitoring systems, based on the assumption that there would be very low levels of air emissions from the Blow-In-Place detonations (BIPs). The Navy did recognize the concerns of the community by implementing an air-monitoring program.

The location of the existing on-site (near source) air monitoring system, which is within 3000 feet of the BIPs, was determined by a team of experts in munitions detonations and air monitoring. This team created a work plan in order to implement the most effective air-monitoring program.

Because the emissions from the BIPs were expected to be low, the team decided the best place to install the air-monitoring stations would be in close proximity to the BIPS. This would allow for a true measurement of the highest possible levels of any emissions directly resulting from the BIPS. The team also determined that if the data collected from the air-monitoring stations showed no elevated air emissions from the BIPs, it would be highly unlikely that air emissions from the BIPs would be at levels high enough to be detected within the populated areas of Vieques, located over four miles further downwind.

Because no electricity is available in the LIA, solar-powered monitoring equipment was required to be installed. Due to solar power support failures, as well as exposure to the elements, such as sun and rain, some of the air monitoring stations were intermittently out of service from August 2005 through May 2006, but at least one station has been in service during all BIP activities. Since June 2006, when the equipment was upgraded, the stations have been operable 93% of the time.

The results of the air monitoring data available since August 2005 (24 BIP events) and air modeling of the BIPs shows that:

1. No explosives have been detected (found at measurable levels) in the air samples collected.
2. Some metals concentrations were detected at very low levels, within acceptable risk-based criteria.
3. On one occasion, in association with a wildfire on the LIA, particulate levels slightly exceeded the National Ambient Air Quality Standards (NAAQS) threshold by 2%. The monitors successfully detected the particulate concentrations at this time. Given that the NAAQS applies to ambient air quality in populated areas, and that there is significant dilution of the plume before it can reach populated areas, this is not a violation of the NAAQS.

4. The BIP modeling demonstrates that particulate or dust (PM_{10}) levels above the NAAQS on the LIA would decrease to well below NAAQS before reaching the populated areas of Vieques. The highest predicted levels of particulates from BIPs in publicly accessible areas are less than 2% of the NAAQS threshold. No other compounds emitted from the BIPs are predicted in populated areas at measurable levels.

From the Navy's perspective, it can be concluded from these results that air emissions from BIP detonations do not have a negative impact on the ambient air quality in or around the populated areas of Vieques.

After much discussion with the RAB, the Navy did agree at the September 2006 RAB to install an in-town air monitoring system. This is an effort to conclusively document the ambient air quality on the Island of Vieques and demonstrate compliance of LIA activities with the NAAQS. The Navy is proposing to perform particulate and carbon monoxide monitoring at this location and will present the detailed proposal for in-town ambient air monitoring to the regulators in February.

To address the controlled burning of vegetation on the LIA, EQB has identified a number of requirements (letter dated 9/6/06) that need to be completed prior to implementing the in-town air monitoring program. These requirements include:

1. Develop an air modeling plan
2. Conduct air modeling of the BIPs and impacts of controlled burns
3. Based on the results of the modeling prepare an air monitoring plan
4. Prepare a burn plan.

Recent developments in the air monitoring program have included the following:

- In **May/June 2006** the solar power system of the existing monitoring system was upgraded. Since that time the system has been operational for 93% of the time, which exceeds the monitoring requirements of the work plan (to operate 80% of the time) and EPA guidance (to operate 75% of the time).
- During **October and November 2006** several conference calls were held between the Navy, EQB and EPA to reach a consensus on an air modeling approach.
- In **November 2006** a modeling plan was reviewed and approved by EQB and EPA
- In **October and November 2006** the major components of an in-town air monitoring station and meteorological stations were designed and ordered from the manufacturers.
- During **December 2006** and **January 2007** several thousand air model runs were completed to assess possible impacts.
- The BIP modeling results completed in **December 2006** support the BIP monitoring data, indicating that the BIPs are not likely to have an adverse impact on the in-town air quality.

- In **December 2006** a draft Prescribed Burn Plan was prepared.
- In **January 2007** one new air monitoring station was delivered to mainland Puerto Rico, for delivery to Vieques during the first week of **February 2007**.
- The controlled burn modeling results completed in **January 2007** determined that the optimum location for an in-town system would be in the vicinity of Isabel Segunda.
- During the week of **February 5, 2007,** the air monitoring plan, the air modeling report and the controlled burn plan will be submitted to EPA and EQB.
- As part of submitting the plans, the Navy will request that EQB conduct a public hearing and a public review period for the community to provide comments on the air monitoring plan.

Once the air monitoring plan has been agreed to by the regulators, the in-town monitoring station will be installed.