COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

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Secretary

LAURIE BURT
Commissioner

Oral Testimony of

Carol Rowan West, MSPH

Director, Office of Research and Standards

Massachusetts Department of Environmental Protection

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On

Perchlorate and TCE in Water

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Good morning. Thank you Chairman Boxer and Committee Members for the opportunity to testify today on the issue of perchlorate in drinking water. As a scientist and Director of the Office of Research and Standards at the Massachusetts Department of Environmental Protection (MassDEP), I have spent over 15 years evaluating the health effects of toxic chemicals and working to set standards that are protective of public health. I have no doubt that perchlorate should be a regulated drinking water contaminant, because of its ability to decrease the uptake of iodine into the thyroid gland and alter thyroid hormone levels that are critical for fetal and infant brain development. These health effects are well known and are based on sound science.

The Commonwealth of Massachusetts work on perchlorate began in 2001 when perchlorate was detected in the groundwater at 600 ppb at the Massachusetts Military Reservation (MMR) on Cape Cod. The contaminated groundwater plume migrated to impact nearby public drinking water wells. Given the lack of federal and state perchlorate standards and the potential for perchlorate to affect brain development in children, we felt compelled to set a drinking water standard. We promulgated a 2 ppb perchlorate standard in 2006, based on a thorough evaluation of the toxicological data along with an independent review by an external scientific advisory committee.

When all of the public water supplies in MA were tested for perchlorate, we found unanticipated situations, with perchlorate levels as high as 1300 ppb. All of the public water supply hits were from nonmilitary sources included blasting agents, fireworks, and water treatment chemicals (sodium hypochlorite).

There appears to be **sufficient evidence indicating widespread perchlorate contamination in the United States.** Surveys on the presence of perchlorate in public drinking water supplies found contamination in 26 states and 2 territories and at almost 400 sites across the country in 37 states and U.S. territories.

A few recently published studies **demonstrate the pervasiveness of perchlorate exposures to the American public, raising issues regarding human safety:**

The **US Food and Drug Administration's** Total Diet Study found that 59% of the total food samples analyzed contained perchlorate, including baby food. Children with the highest total intake were 2 years old. At this age, the brain is rapidly developing putting young children at high risk should the total perchlorate exposure affect the level of thyroid hormones needed for normal development.

A recent study on **perchlorate levels in breast milk in lactating Boston-area women** found measurable perchlorate levels in 100% of 49 human milk samples tested. Perchlorate levels were in the range of 1.3 ppb to 411 ppb, with a median value of 9.1 ppb.

The Centers for Disease Control sampled perchlorate and thyroid hormone levels in approximately 2,800 people as part of a national survey. Perchlorate was detected in most of the samples, indicating widespread exposure along with an association between perchlorate levels and altered thyroid hormones in a subset of women with low dietary iodine intake.

All of these studies indicate widespread contamination and exposures to perchlorate in both the water and food supplies of Americans.

Three key benefits of having a national perchlorate drinking water standard are:

1. All U.S. public drinking water supplies would be tested for perchlorate for complete information on drinking water exposures.
2. Action can then be taken to treat the water to protect children's health.
3. Pollution prevention actions can also be utilized, ultimately reducing monitoring requirements, leading to decreased expenses to public water suppliers.

We recommend that**:**

1. US EPA should take a leadership role to set a perchlorate drinking water standard, which protects children's health. Perchlorate contamination is a national issue and national action is needed.

2. Federal action will lead to consistent protection of children's health across the United States.
3. Cleanup of water supplies and sites has a additional benefit of also decreasing the levels of perchlorate in foods (including breast milk)

Thank you for this opportunity to testify. I would be pleased to answer any questions you have at this time.