A New Vision for Clean, Safe Drinking Water: Overview

Potomac River Basin
Drinking Water Source Protection Partnership

October 12, 2010

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Drinking Water Strategy

- Address contaminants as groups rather than one at a time
- Foster development of new drinking water treatment technologies
- Use the authority of multiple statutes to help protect drinking water
- Partner with states to share more complete data from monitoring at public water systems

Goals for the New Vision

By pursuing these actions, EPA will:

- Provide more robust public health protection in an open and transparent manner
- Assist small communities to identify cost and energy efficient treatment technologies
- Build consumer confidence by providing more efficient sustainable treatment technologies to deliver safe water at a reasonable cost

Address Contaminants as Groups

- Evaluating and addressing contaminants as groups during the regulatory process may:
  - Be less time consuming and resource intensive
  - Account for risks from multiple contaminants
  - Deal more effectively with an increasing number of emerging contaminants
  - Provide water systems with an opportunity to make best long-term decisions on capital investments

Develop New Technologies

- Foster development of new drinking water technologies to:
  - Address health risks posed by a broad array of contaminants
  - Control contaminants that confront utilities today and into the future
  - Provide sustainable safe drinking water at reasonable costs
  - Develop water- and energy-efficient treatment technologies
- Collaborate with universities, technology developers, and the private sector

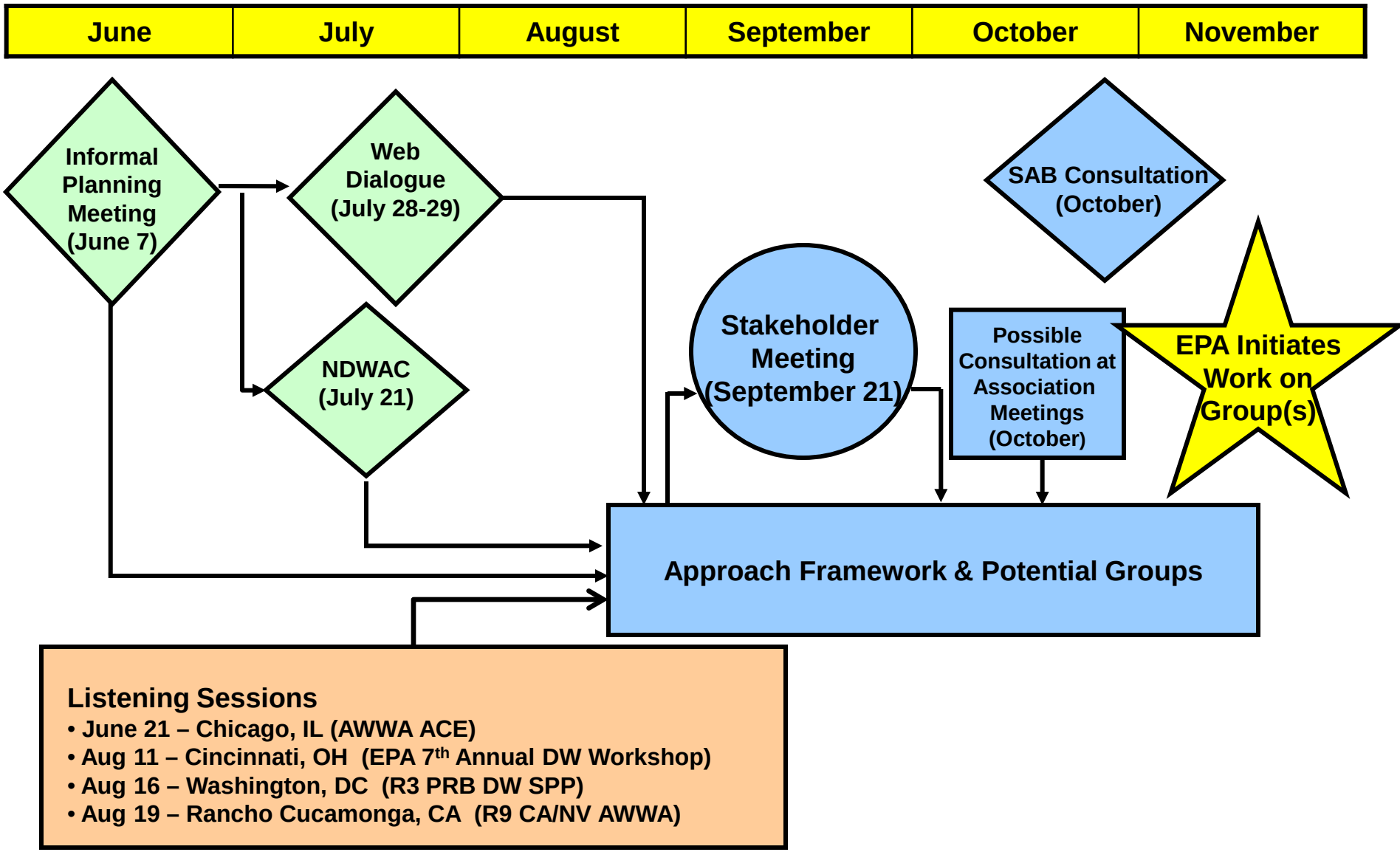
Use Other Authorities

- Identify opportunities to better understand and improve drinking water quality
- Provide relevant health effects and exposure data
- Ensure that decisions made under other authorities are protective of drinking water
  - Use reviews under Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) to tighten pesticide registration requirements when occurrence data approaches or exceeds levels of concern
  - Use Toxic Substance Control Act to ensure that decisions made for new and existing industrial chemicals are protective of drinking water
  - Use Clean Water Act to protect source waters

Share Access to All PWS Data

- Partnering with states to develop shared access to all public water systems monitoring data
- Developing information technology, data analysis, and communication tools with states to:
  - Target public health issues, conduct program oversight, and provide compliance assistance
- Provide timely information about the quality of drinking water and performance of drinking water systems

Outreach on Addressing Groups



What have we heard?

- Public health protection should be of paramount importance
- Consider health effect endpoints in grouping of contaminants
- Consider treatment feasibility to identify and address groups of contaminants
- Consider analytical methods and/or use surrogates or indicators of groups of contaminants

What have we heard?

- Consider addressing groups of contaminants at their source
- Consider occurrence and co-occurrence of contaminants
- Evaluate approaches used by States and other countries in grouping contaminants
- Non-Regulatory Approaches:
  - Green Chemistry
  - Health Advisories

What have we heard?

- Suggested Groups:
  - Parent and Degradate Compounds
  - Nitrosamines
  - Estrogenic Compounds/Endocrine Disruptors
  - Volatile Organic Compounds
  - Goitrogens
  - Algal Toxins
  - Pesticides/Herbicides
  - Industrial Chemicals
  - Indicator Compounds
  - Viruses

Statutory Requirements for the Various Drinking Water Regulatory Processes

(1996 SDWA Amendments)

- Contaminant Candidate List (CCL)
- Regulatory Determination for CCL
- Unregulated Contaminant Monitoring
- Regulation Development
- Six Year Review

Defining Group(s)
Potential Factors to Consider

- Has similar health effect endpoint
- Removed by common treatment or control processes
- Measured by common analytical method(s), directly or indirectly, under full scan
- Known or likely co-occurrence

The more “promising” groups are likely to have many of these factors in common.

Examples of Currently Regulated Groups

- **Gross Alpha**(essentially group MCLG and MCL)
  - common health endpoints, one method
- **Beta Photon/Particle Emitters** (group MCLG and MCL)
  - common health endpoints, one method
- **Haloacetic Acids** (HAA 5)
  - common method, common control process
- **Viruses**
  - Common control process

Groups for Potential Regulatory Development (Near-Term)

- Carcinogenic VOCs
- Nitrosamines
- Chlorinated DBPs

Potential Groups for Future Consideration

- Perfluorinated compounds (PFCs)
- Pesticides – Organophosphates
- Pesticides – Carbamates

Groups Under Consideration with Issues & Challenges

- Pesticides – Triazines
- Pesticides – Chloroacetanilides
- Cyanotoxins

Framework/Approaches to Address Groups

- Traditional
  - MCL goals for contaminants
  - Feasibility of treatment & analytic methods
  - Determine individual/group MCLs
- Hazard Index
  - Establish benchmark toxicity value (BTV) for contaminants with common health endpoint
  - Develop Hazard Quotient (HQ) for each chemical, Hazard Index (HI) for Group
  - HI </= BTV

Framework/Approaches to Address Groups (cont'd)

- Relative Potency Factor
  - Evaluate toxicity of chemicals with common mode of adverse action
  - Determine relative potencies compared to index chemical
  - Consider exposure concentration X relative potency factor, sum for chemicals in group to obtain Total Equivalent Dose

Framework/Approaches to Address Groups (cont'd)

- Summation of Cancer Risk
  - Establish MCLGs of 0 for carcinogenic contaminants
  - Sum cancer risk from individual contaminants at occurrence levels in water system
  - Determine MCLs (individual/group)
  - Evaluate treatment costs & benefits, determine if benefits justify costs

Framework/Approaches to Address Groups (cont'd)

- Treatment Barrier
  - Define MCLG for group or contaminants in group
  - Determine that it's not economically or technologically feasible to determine levels of contaminants
  - Identify options for installation & operation of treatment barriers to address
  - Identify monitoring parameters to reflect removal of contaminants

Contacts

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