THE COMMONWEALTH OF MASSACHUSETTS

WATER RESOURCES COMMISSION

100 CAMBRIDGE STREET, BOSTON MA 02114

Meeting Minutes for March 8, 2012

100 Cambridge Street, Boston, MA, 1:00 p.m.

Minutes approved April 12, 2012

Members in Attendance:

Kathleen Baskin	Designee, Executive Office of Energy and Environmental Affairs (EEA)
Marilyn Contreas	Designee, Department of Housing and Community Development (DHCD)
Jonathan Yeo	Designee, Department of Conservation and Recreation (DCR)
Bethany Card	Designee, Department of Environmental Protection (MassDEP)
Gerard Kennedy	Designee, Department of Agricultural Resources (DAR)
Todd Richards	Designee, Department of Fish and Game (DFG)
Bob Zimmerman	Public Member

Members Absent

Joseph E. Pelczarski	Designee, Massachusetts Office of Coastal Zone Management (CZM)
Thomas Cambareri	Public Member
John Lebeaux	Public Member

Others in Attendance:

Marilyn McCrory	DCR
Catherine Finneran	MassDEP
Michael DiBara	MassDEP
Michele Drury	DCR
Bruce Hansen	DCR
Michelle Craddock	DFG/ Div. of Ecological Restoration
Laila Parker	DFG/ Div. of Ecological Restoration
Vandana Rao	EEA
Jennifer Pederson	MA Water Works Assn.
Linda Hutchins	DCR

Baskin called the meeting to order at 1:05 p.m.

Agenda Item #1: Executive Director's Report

Hansen provided an update on the hydrologic conditions for February 2012. Hansen reported that February was the third month in a row of below-normal precipitation. Statewide precipitation was about fifty percent of normal, with some variation across the regions. A late snowfall at the end of the month has helped to alleviate potential fire danger. However, on Cape Cod and in southeastern Massachusetts, dry conditions make the area vulnerable to brush and forest fires. Because the snowpack in northern New England is still very low, the spring flood potential is low. Groundwater levels are normal statewide, with a few exceptions. Surface water levels are normal, with the exception of the Southeast region, where surface water flows are below normal. Most reservoirs are at normal or above levels. The drought indicators and outlook, while showing no drought or tendency for drought in Massachusetts, do show southeastern Massachusetts as being abnormally dry.

Baskin provided an update on the Sustainable Water Management Initiative (SWMI). After a two-year process, a draft framework has been developed for how state agencies would approach Safe Yield, streamflow criteria, and permitting under the Water Management Act. The next meeting of the SWMI Advisory Committee is scheduled for March 28 at 1:30 p.m. Comments are being accepted until April 6. Baskin also announced that the framework is being applied to pilot projects in a few communities. Documents are available on the website of the Sustainable Water Management Initiative.

Agenda Item #2: Vote on the Minutes of February 2012

Baskin invited motions to approve the meeting minutes for February 9, 2012.

VOTE	A motion was made by Zimmerman with a second by Contreas to approve the meeting minutes for February 9, 2012. The vote to approve was unanimous of those present.

Agenda Item #3: Presentation: MassDEP/DOER Clean Energy Results Program

Baskin introduced Catherine Finneran and Michael DiBara of MassDEP's Clean Energy Results program. Finneran provided an overview of the Clean Energy Results program and its objectives and priorities. The program, launched in November 2011, is part of the Patrick administration's clean energy goals to reduce greenhouse gas levels, support development of clean energy resources, and expand efforts to promote energy efficiency. She noted that Massachusetts was ranked the highest in energy efficiency by a national organization, surpassing California for the first time.

She described the Clean Energy Results program as an innovative partnership between MassDEP, the Department of Energy Resources (DOER), and other partners, with MassDEP providing unique scientific and regulatory expertise to overcome permitting and siting obstacles while addressing public health concerns and misconceptions using sound science. The program targets energy efficiency; energy conservation; and renewable and alternative energy technologies, including solar photovoltaic, wind, anaerobic digestion and combined heat and power, sustainable biomass, and landfill gas.

Finneran described three core elements of the program: (1) project-specific support and coordination, providing proactive regulatory assistance ahead of the permitting process; (2) review of regulations, guidelines, policies, and funding programs to identify opportunities for streamlining and to add incentives; and (3) broad public education and engagement.

She outlined the program's priorities: (1) projects that divert organic waste from landfills and incinerators by increasing recycling and composting and by using these materials in aerobic and anaerobic digesters to produce energy; (2) siting renewable energy on environmentally challenged land and promoting green remediation methods; and (3) conducting health impact studies of wind turbines and reviewing MassDEP's noise policy guidance related to wind turbines. She also outlined the regulatory and other barriers, steps being taken to reach the goals in each area, and progress in meeting these goals. She described the results of the health impact studies of wind turbines and directed listeners to the draft report available on MassDEP's web site (http://www.mass.gov/dep/energy/wind/impactstudy.htm).

DiBara described the work of the Clean Energy Support team that focuses on projects at wastewater and drinking water facilities. He noted that there are 370 public water and

wastewater facilities across Massachusetts, with estimated energy costs exceeding $150 million per year. The program selected fourteen sites to serve as pilot projects. He described how this innovative public-private partnership worked: energy utilities provided free energy audits worth up to $10,000 to participating facilities, and the Massachusetts Technology Collaborative provided free renewable energy assessments, which together identified $2 million in savings from implementing energy efficiency measures and $1.7 million of savings from installing renewable energy technologies. Efficiency measures provide the quickest payback.

DiBara noted that EEA was able to showcase program results to the U.S. Environmental Protection Agency in advocating for a policy change that dedicated twenty percent of ARRA stimulus funds (from the American Recovery and Reinvestment Act) to a "green reserve" in the state revolving fund (SRF). As a result, all recommendations in the pilot projects at water and wastewater facilities were fully funded, providing a total of $66.1 million to jump-start green energy projects.

DiBara summarized the estimated cost and energy savings expected from this program, including $5 million per year in cost savings for ratepayers and a 34 percent annual reduction in energy costs and carbon dioxide emissions. In addition, the program provides a pathway to achieving zero-net-energy use at water and wastewater facilities. Building on the partnerships established through the pilot program, EEA and MassDEP formed an energy leaders group to expand the program statewide.

DiBara described a free online tool, MassEnergy Insight, available to municipalities to assess energy costs and use, increase energy efficiency, and increase use of renewable energy technologies. He then highlighted energy efficiency and renewable energy projects undertaken at water and wastewater facilities in Lee, Chelmsford, Lawrence, and Pittsfield, highlighting estimated costs, cost savings, and energy savings. The Greater Lawrence Sanitary District achieved $1 million in annual cost savings through energy efficiency measures alone. DiBara summarized overall program results, noting that energy production from renewable sources will more than double as a result of this program.

Yeo thanked DiBara for recognizing the efforts of the Massachusetts Water Resources Authority to increase and diversify its portfolio of clean energy technologies. He expressed frustration at the lack of investment at state-owned facilities. Finneran noted that MassDEP is doing a study, in cooperation with the state's Division of Capital Asset Management, of using state lands for anaerobic digestion.

Pederson commended DiBara for establishing a successful working relationship with the Massachusetts Water Works Association. She noted that many public health-related projects rely on SRF funding and these should have priority. She also requested clarification on the projected savings from the projects. DiBara responded that, to date, the savings exceed expectations.

In response to questions from Yeo, Pederson, and Rao about procurement and financing challenges, DiBara explained that a variety of financing systems are pieced together to leverage different sources of funds, and often the projects can be implemented with no capital investment through a power-purchase agreement. Rao asked if the program is looking at water conservation as a way to achieve the zero-net-energy goal. DiBara acknowledged that more work needs to be done in this area, and MassDEP is able to help municipalities make the proper connections to achieve energy savings.

Baskin commented that wholesale changes need to be made in academia and consulting, particularly in the way engineers are trained, and that there needs to be a demonstration that these approaches are no longer an experiment. She added that there are challenges in demonstrating a water quality need for projects that can reduce energy use. Card responded that outreach to municipalities includes discussing alternative approaches.

Agenda Item #4: Presentation: Smart Sewering in Littleton, Massachusetts

Baskin introduced Bob Zimmerman, a public member of the Water Resources Commission and Executive Director of the Charles River Watershed Association (CRWA). Zimmerman explained the reasons CRWA started investigating alternatives to centralized wastewater treatment and disposal in 2000. He explained that traditional approaches take water from one place, make it dirty, and dispose of it as far away as possible from its place of origin. He noted that this is the antithesis of the way in which nature handles water. He added that sixty percent of the wastewater reaching wastewater treatment plants is clean water that has entered sewage pipes through leaks. This conventional approach to handling wastewater results in severe impacts on stream flow and water quality. The objective of the Smart Sewering program is to fundamentally change the way wastewater is handled, using nature as a model, and to demonstrate that environmental restoration and sustainability can produce economically desirable outcomes.

He reviewed present land-use patterns in Littleton and build-out projections based on zoning at the time of the study. To accommodate growth while preserving the town's rural character, the town has proposed density increases in its downtown district that would require sewering. CRWA studied potential locations for a wastewater treatment plant and treated effluent discharge, with a preference for returning treated wastewater to the basin from which it was withdrawn.

Zimmerman discussed the cost impacts for a small wastewater project serving roughly 100 properties in the newly defined density district. To overcome the cost challenges, a phasing plan was developed allowing 100 percent of the piping and disposal capacity to be built up front, while expanding the treatment capacity in phases to accommodate growth as it occurs. In addition, the design includes an anaerobic digester with an energy treatment plant. To generate additional revenue, septage and food waste haulers will be offered incentives to haul waste to the treatment facility. Revenue generated from energy generation will be used to pay down the debt on the wastewater treatment facility. This approach will reduce betterment fees and monthly charges to property owners connected to the facility.

Zimmerman described other benefits from the smart sewering plan, including giving the town control over growth, increasing tax revenues from property that could be developed in the density district, improving instream flows, building in resilience to drought, improving water quality, generating electricity, and reducing greenhouse gas emissions by reusing septage and food waste.

He added that there is the potential for water reuse, but said the difficulty of obtaining liability insurance is a major impediment to water reuse in Massachusetts. He advised the Water Resources Commission to investigate this issue. He also noted that the state does not allow private ownership of larger wastewater utilities. There was some discussion of the liability insurance issue and private ownership options for wastewater treatment plants, such as for small, package plants that serve a homeowner's association. There was also some discussion of the impacts of consumptive reuse.

Hutchins asked about the proximity of the wastewater discharges to the public water supply wells. Zimmerman explained that the preferred discharge locations are in the Zone 3 of the wells. Pederson asked if the stream could accept more water at the discharge location. Zimmerman observed that the quantities being considered are 250,000 gallons per day, and that these volumes would be significant only in dry months, when the discharge could help mitigate the impacts of the drawdown that occurs.

There was some discussion about decision-making, timing, and whether this approach is replicable in a more densely populated town. Zimmerman suggested that this approach is replicable in communities along the I-495 corridor that are trying to control sprawl. He added that he would like to discuss the approach and its revenue-generating potential with managers of conventional wastewater utilities.

In response to questions about how stormwater will be handled in the density district, Zimmerman responded that the town has good stormwater bylaws and has identified soils in the district that would be suitable for infiltration of stormwater. Pederson asked if opposition is anticipated from other areas of town, such as the densely populated Long Lake area, that would not be sewered. Zimmerman responded that the fees for connecting to the proposed sewerage system would affect only property owners in the density district. He summarized the environmental benefits and reiterated that most voters are concerned with the economic benefits that will result from property tax stabilization. Hutchins asked if the town had considered whether sufficient water supply is available to support the anticipated growth in the development district. Zimmerman responded that supplies are sufficient, but that peak summertime use must be monitored.

Baskin thanked Zimmerman for his presentation and asked him to keep the commission up to date on the progress of the project.

Meeting adjourned, 3:00 p.m.

Documents or Exhibits Used at Meeting:

- WRC Meeting Minutes for February 9, 2012
- Clean Energy Results Program handouts:
  - Massachusetts Energy Management Pilot Program for Drinking Water and Wastewater Case Study (available on the website of the Water Resources Commission at http://www.mass.gov/eea/air-water-climate-change/preserving-water-resources/partners-and-agencies/water-resources-commission/ma-water-resources-commission-meetings.html
  - Brochure: Clean Energy Results Program
  - Clean Energy Results Program Activities and Goals
- Interbasin Transfer Act project status report, 23 February 2012
- Correspondence dated February 24, 2012, from Water Resources Commission to Inima USA Construction Corp., regarding request for modification of the impingement and entrainment monitoring protocol for the Aquaria Desalination Plant
- Current Water Conditions in Massachusetts, March 8, 2012
- MassDEP ARRA Project Summary
- Wind Turbine Health Impact Study: Report of Independent Expert Panel, available at http://www.mass.gov/dep/energy/wind/impactstudy.htm
- Link to the Department of Energy Resources' MassEnergyInsight tool: http://www.massenergyinsight.net/home