

# PA 12-155 Municipal Options Workgroup #3 Update

Connecticut Department of  
Energy and Environmental Protection



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# Municipal Options - Workgroup #3

## Workgroup Co-Leadership:

- Dennis Waz, Town of Meriden and Rowland Denny, DEEP

## Participants:

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Margaret Miner, Rivers Alliance

Thomas Mueller, Town of Thomaston

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Steve Seigal, Tighe and Bond

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Richard Tingle, Town of Thomaston

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Mark Voorhees, USEPA

Dennis Waz, City of Meriden



# Scope of Work

## Point Sources

- Develop a list of potential technologies for point source TP removal
- Research related costs
- Assess and prioritize based on reliability and life-cycle costs

## Non-point Sources

- Prioritize non-point source removal technologies, methods or approaches from Workgroup 1 based on reliability and life-cycle costs

## Report

- Identify potential methods, or mix of approaches that could reliably be utilized in a given basin to reduce phosphorus loading to various levels identified by Workgroup 2



# Work to date

- First meeting: September 2013
- Meetings the second Tuesday of each month since
- Scope of work defined
- Share point source treatment data
- Collect and compile point source treatment data



# Compiling data

Process	Year	Simulated, pilot or actual	State	Target effluent TP (mg/l)	Initial effluent TP(mg/l)	Plant Influent (mg/l)	Design flow (MGD)	Actual flow (MGD)	Capital cost (x10 <sup>6</sup> \$)	Capital cost (\$/gpd)	O&M cost (\$/MG)	Lifecycle cost of Phosphorous removed (\$/lb)	Upgrade or new	Source
Metal salt addition	2011	Whitehall	NY	0.2	3.34		0.8	0.753	0.845	1.06	24.66		upgrade	2014 01 EPA VT NY TP Feasibility Study
Metal salt addition	2011	Whitehall	NY	0.1	3.34		0.8	0.753	0.845	1.06	48.08		upgrade	2014 01 EPA VT NY TP Feasibility Study
Metal salt addition + EBPR	2011	Willsboro	NY	1	~2.7		0.075	0.043	0.101	1.35	323.95		upgrade	2014 01 EPA VT NY TP Feasibility Study
		Deep River		1.4		7.0	0.22	0.16						
		Colchester/East Hampton		2.26		3.9	3.80	1.37						
		Canton		3		5.3	0.95	0.59						
Bardenpho		Branford					6.50	3.70						
MLE		Naugatuck		3.23		5.3	10.30	5.40						
PAC addition	2013	Southington		0.6		3.8	7.40	4.53	0.015	0.002	14.07			
	2004	Litchfield		2.4		3.8	0.80	0.45						
Modified Bardenpho - Magnesium Hydroxide - MLE	2012	Windham		2.68		6.2	2.76	2.00	1	0.33	52.66			
	2013	Killingly		0.54		6.3	8.00	2.87						
		Danbury		0.5		5.5	15.50	9.10			80.46			
MLE + NaOH	2011	Stafford		0.59		3.7	2.00	1.41						
Ferric addition	2010	Meriden		0.47		3.88	11.60	10.00	1.5	0.13	3.78			



# Assistance

## Reviewer/Compilers:

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