

Mystic and Charles River CSO Variances

Department of Environmental Protection

Kevin Brander, P.E.

Section Chief

MassDEP/Northeast Regional Office

Wastewater Management Section

CSO Regulatory Framework

- **EPA CSO Policy April 1994 available at**
<https://www.epa.gov/npdes/npdes-cso-control-policy>
- **DEP CSO Guidance issued August 11, 1997 available at**
<http://www.mass.gov/eea/docs/dep/water/laws/a-through/csoguide.pdf>

CSO Requirements

- Implement Nine Minimum Controls
- Develop Long-Term CSO Control Plan to comply with Clean Water Act and State Water Quality Standards

MWRA Pre-LTSCP

All CSO receiving
waters Classified
as B or SB

No CSO's
authorized!



LEGEND

- CSO Outfall Closed
- CSO Outfall to be Closed
- CSO Outfall w/25-year Storm Control
- CSO Outfall to Remain
- ▲ Existing Pump Station
- ◆ Existing CSO Treatment Facility
- Existing Headworks
- Existing Conduit/Pipeline/Connection
- ◆ Decommissioned CSO Facility
- Conduit/Pipeline/Connection Project
- Sewer Separation Area

Compliance with WQS

- Recommended Plan must eliminate CSO discharges where elimination (i.e. complete sewer separation) is determined to be *feasible*
- Where elimination is infeasible, Permittee must implement highest feasible level of CSO control.

Where infeasible to eliminate CSOs:

- Long Term CSO Control Plan, including Economic Analysis must support:
 - *Use Attainability Analysis (UAA) to justify any change to WQS*
 - *Or.....CSO Variance*

314 CMR 4.03(4):

MassDEP may remove a national goal use...or issue a Variance where:

(f) Controls more stringent than those required by sections 301(b) and 306 of the Act ***would result in substantial and widespread economic and social impact***, this demonstration may include documentation of median household income or other economic measures adjusted to reflect the cost of living or other circumstances particular to the affected area.

Variance vs. WQS Change

- Both require demonstration of widespread & substantial economic and social impact
- But....demonstration to support issuance of a Variance “less rigorous” - *EPA/DEP CSO Policies*

Variations

- Short Term modification of WQS
 - Retains goal of fishable/swimmable standard
- Discharger and Pollutant Specific
- Useful where long-term attainability of WQS uncertain

1997 MWRA LTCP

➤ Eliminated CSO's to Sensitive Use Areas

➤ CSO's mitigated but not eliminated in:

- *Boston Harbor*
- *Alewife/Mystic*
- *Charles River*



BENEFITS	
○ 84 CSO Outfalls:	34 Closed
	5 With 25-year Storm Control
	41 Reduced to a Minimal Number of CSO Discharges per year
	4 Treated
○	Eliminates or Reduces CSO Activations to Achieve a Level of CSO Control Consistent with Water Quality Standards
○	Treats More Frequent Discharges
○	Controls Floatable Materials at Remaining Active CSO Outfalls

CSO CONTROL TECHNOLOGIES
Sewer Separation
Existing CSO Treatment Facility Upgrades
New CSO Treatment Facility
CSO Consolidation /Storage Conduits
Relief Sewers
Localized Hydraulic Relief
Outfall Repairs
Region Wide Floatables Controls
System Optimization

PROGRAM SCHEDULE	
Final CSO Conceptual Plan	Dec 1994
Final Facilities Plan and EIR	Jul 1997
Final Approved Plan	Apr 2006
Design and Construction	1995 - 2015
Assessment Phase	2018 - 2020

COSTS
Planning, Design & Construction
\$906.6 Million
Net Annual O&M
\$1.5 Million

Regulatory Determinations

- 12/31/1997:
 - MassDEP issues final determination to approve LTCP, UAA in support of B(CSO) designation for Muddy River, and SB(CSO) designation for Boston Harbor.
 - MassDEP issues final determination to designate Charles River and Alewife/Mystic River for a CSO Variance

Variance Issuance and Conditions

- Charles: CSO Variance issued on 9/2/1998, and renewed every three years (or shorter).
- Alewife/Mystic: CSO Variance issued 3/5/99 and renewed every three years.
- Each action to extend preceded by public comment period and public hearing

Variance Issuance and Conditions

- 3/14/2006: EPA issues letter approving CSO Variances for discharges to Charles River, and Alewife/Mystic:
 - *Conditions precluding attainment of Class B standard through 2020;*
 - *MWRA must comply with federal court order; and*
 - *MassDEP continues to review Variances with public process every three years through 2020.*

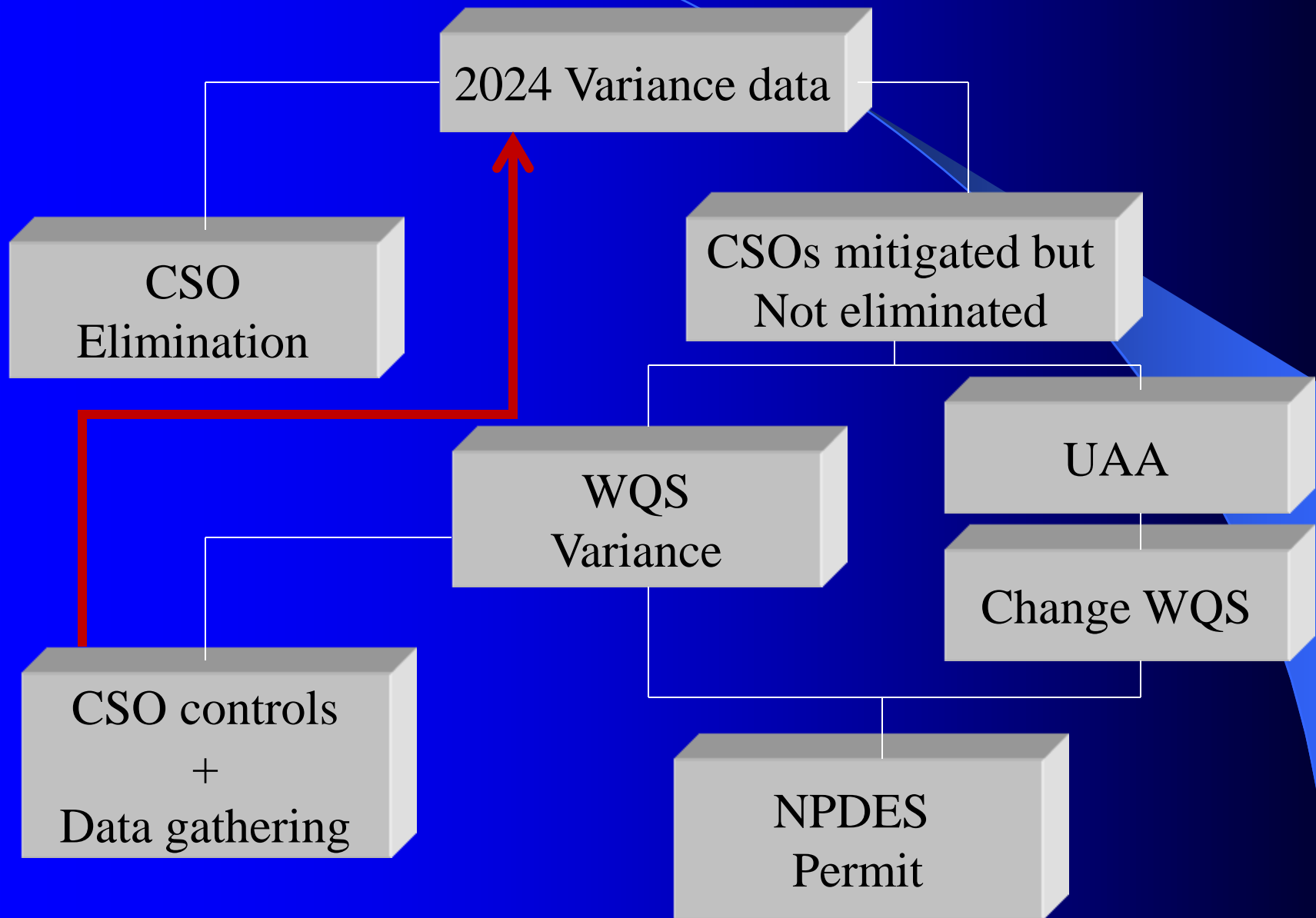
Since 2006.....

- MWRA completes construction of all CSO abatement projects, partnering with CSO communities (2015);
- August 2015 revisions to federal regulations for water quality standard variances (40 CFR 131.14)

Since 2006.....

- MWRA commences CSO Performance Assessment as required by federal court order. (2018)
- MWRA requests five year Variance from MassDEP on May 14, 2019

2024 Integration with WQS



Draft 2019 CSO Variance

- *Meet level of CSO control in LTCP*
- *Proceed with and disseminate information on CSO Performance Assessment*
- *Gather WQ information sufficient to assess impacts of remaining CSO discharges.*
- *Subscriber-based notification program for CSO discharges*

Draft 2019 CSO Variance

- *Continue Nine Minimum Controls Program*
- *Implement expanded system optimization measures*
- *Develop Updated CSO Control Plan*

Questions

Kevin Brander, P.E.

Section Chief

Wastewater

Section/NERO

(978) 694-3236

Kevin.Brande@mass.gov