Addressing Combined Sewer Overflows (CSOs) through Long Term Control Planning (LTCPs)

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New Jersey's Approach

- Combined sewer systems serve roughly 1,100 communities nationwide.
- New Jersey has **213** CSOs within 20 communities
- 25 final CSO permits become effective on July 1, 2015
- Goal to improve water quality:
  - Reduce or eliminate all 213 CSOs, and
  - Reduce flooding while
  - Providing opportunities for green infrastructure,
  - Enhancing asset management,
  - Improving operation and maintenance

Permits have 2 Major Components:

- **Nine Minimum Controls** – 9 "low" cost measures to improve flows getting to the treatment plant, improve public notification, and update Operation and Maintenance procedures

- **Long Term Control Plans** - LTCPs are a complex engineering, hydraulic analysis of wastewater collection systems, pumping stations, combined sewer overflows, regulators and sewage treatment facilities, to provide the most cost effective manner to regulate CSO's so that the CSO National Policy can be met.

Nine Minimum Control Measures

- Proper operation and maintenance
- Maximum use of collection system for storage
- Review of pretreatment requirements
- Maximization of flow to POTW for treatment
- Prohibition of CSOs during dry weather
- Control of solids and floatables
- Pollution prevention
- Public notification – new signs, website, public notices
- Monitoring of CSO impacts and efficacy of controls

Nine Elements of an LTCP

- System Characterization, monitoring and modeling
- Public participation
- Consideration of sensitive areas
- Evaluation of CSO control alternatives
- Cost/performance considerations
- Operational plan
- Maximization of treatment at the POTW
- Implementation schedule
- Post-construction compliance monitoring

Evaluation of Alternatives

The analysis of alternatives should be sufficient to make a reasonable assessment of cost and performance

Selected controls should be sufficient to meet CWA requirements

- Green Infrastructure
- Sewer Separate
- Inflow/Infiltration Reduction
- End-of-pipe Treatment
- Storage
- Expansion of the treatment facility (primary/secondary)
- CSO related bypass of secondary treatment (blending)

CSO Controls: Collection System

- Maximizing flow
- System Evaluation
- Inflow reduction
- Sewer separation
- Sewer rehabilitation

CSO Controls: Storage

- In-line storage—oversized conduits and regulators; in-line tanks; parallel relief sewers
- Off-line storage—retention basins/tunnels to store wet weather flow for subsequent treatment
- On-site storage / flow equalization—storage at WWTP to manage excess wet weather flow

CSO Controls: Treatment Technologies

- Screening
- Supplemental treatment
- Plant modifications
- Disinfection
- Solids/Floatables control
- Blending
- Satellite Treatment

CSO Controls – Green Infrastructures

- Runoff Control
- Retention

What "Goal" is the Goal?

Water Quality Based Requirements

AND

Technology Based Requirements

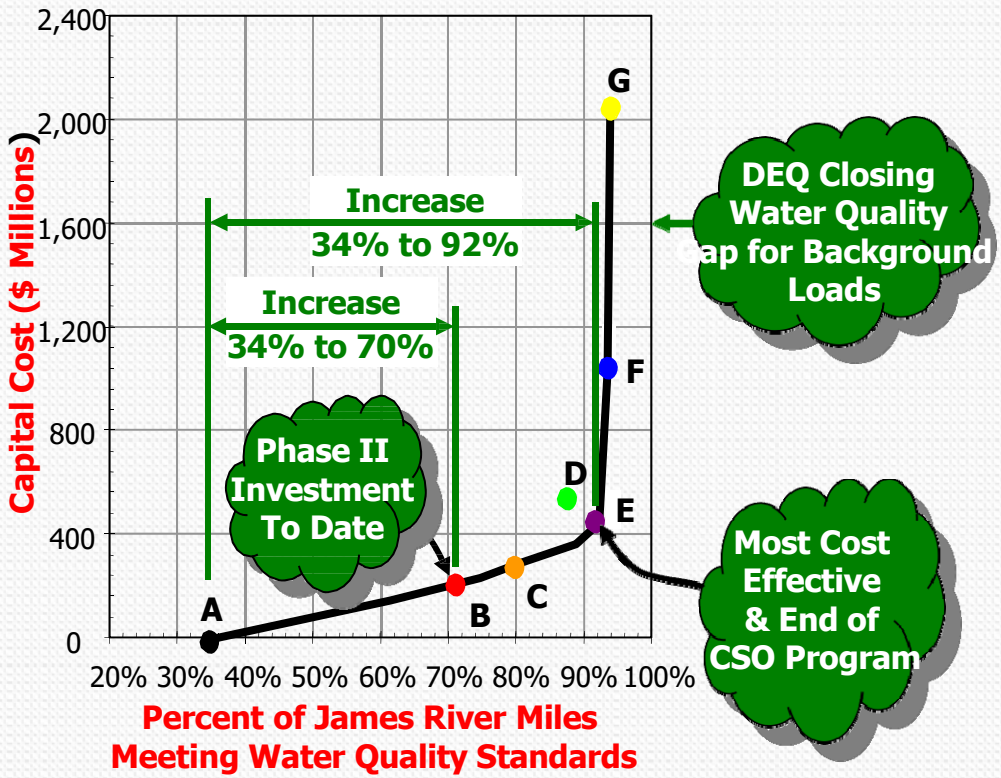
Additionally, National Policy requires the LTCP to consider a *reasonable range* of alternatives, such as controls necessary to achieve:

- Zero overflow events per year,
- 1-3 events
- 4-7 events
- 8-12 events

Cost/Performance Considerations

- The permittee should develop appropriate cost/performance curves to demonstrate the relationships among a comprehensive set of reasonable control alternatives
- This should include an analysis to determine where the increment of pollution reduction achieved in the receiving water diminishes compared to the increased costs
- This analysis, often known as "Knee of the Curve" should be among the considerations used to help guide selection of CSO controls

Cost Performance: Percent of James River Miles Meeting WQS



Final Selection of CSO Control Alternatives

Shall be based on:

- Control priorities
- Site specific conditions
- Protection of WQS
- Designated uses
- Public input
- Cost-effectiveness of controls
- Financial capability
- Other considerations

Characteristics of a Quality LTCP

- Show how your proposal will meet the goals of the Clean Water Act
- Appropriate monitoring to asses LTCP compliance
- Choosing presumptive or demonstrative
- Include “knee of the curve”
- Address changing pathogen criteria
- Coordinate LTCP across multiple agencies/municipalities
- Bringing non-CSO communities into the process
- Timeline for upgrades-measurable milestones

First Six Months

- All CSO permittees have agreed to work cooperatively for the submission of a single LTCP that covers their hydraulically connected areas.
- DMR submittals – 100% compliance. DEP provided extensive on-site and off-site training, outreach.
- Quarterly Reports – 100% compliance. DEP provided templates and assistance
- GIS Data Submission – Guidance Issued – Expecting 100% compliance on 1/1/2016

First Six Months - Continued

- Baseline Monitoring Work Plans – Bi-Weekly meetings with permittees to guide development process – expecting 100% compliance on 1/1/2016
- System Characterization, Modeling and Monitoring Work Plans - Numerous meetings with permittees to guide development process – expecting 100% compliance on 1/1/2016
- Enhanced Signage – DEP provided early approvals of design – expecting 100% compliance on 1/1/2016

Questions?

Thank you.