NEW JERSEY COMBINED SEWER OVERFLOW CONTROL PROGRAM

PRESENTATION TO CITIZEN ADVISORY COMMITTEE NY-NJ HARBOR ESTUARY PROGRAM URBAN CENTER, NEW YORK

October 11, 2006
NEW JERSEY
COMBINED SEWER OVERFLOW
CONTROL PROGRAM

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Municipal Finance & Construction Element
New Jersey Department of Environmental Protection

October 11, 2006
CSSs & CSOs

- WHERE ARE CSSs & CSOs?
- WHAT ARE NEW JERSEY’S MANDATES?
- HOW IS NEW JERSEY’S CSO CONTROL PROGRAM IMPLEMENTED?
- WHAT HAS BEEN ACCOMPLISHED IN NEW JERSEY?
WHERE ARE CSS’s & CSO’s?

Combined Sewer Systems and Combined Sewer Overflows are located in the older urban cities of the State.
Combined Sewer Overflows Statewide

- CSO Location
- Counties
- Municipalities
Combined Sewer Overflows
Camden Metropolitan Region
WHAT ARE NEW JERSEY’S MANDATES?
WHAT ARE NEW JERSEY’S MANDATES?

- New Jersey Sewerage Infrastructure Improvement Act (SIIA);
- National CSO Control Policy;
- New York-New Jersey Harbor Estuary Program Final Comprehensive Conservation and Management Plan; and
- National Environmental Performance Partnership System (NEPPS).
- Wet Weather Water Quality Act of 2000
- Memorandum of Agreement for TMDLs
NEW JERSEY SEWERAGE INFRASTRUCTURE IMPROVEMENT of 1988 (SIIA)

Declared CSOs:
- Are a major source of ocean and other surface water pollution.
- Contribute to the degradation of the coastal waters of the State.

Directed:
All municipalities operating CSSs to provide abatement measures required by the State.
The Department to create a fund to provide grants to municipalities for the planning and design of required CSO abatement facilities.
NATIONAL CSO CONTROL
POLICY of 1994

PURPOSE:
To coordinate the planning, selection, design and implementation of CSO management practices and controls to meet the requirements of the CWA and involve the public fully during the decision making process.
NMC and LTCP Characteristics

Nine Minimum Controls (NMC):
- Meet existing technology-based requirements of CWA.
- Implement immediate corrective actions.

Long-term Control Plan (LTCP):
- Meet water quality-based requirements of the CWA.
- Require intensive CSO monitoring and modeling studies.
- Will require significant infrastructure improvement activity.
Nine Minimum Control Measures

1. Proper operation and maintenance
2. Maximum use of collection system for storage
3. Review of pretreatment requirements
4. Maximization of flow to POTW for treatment
5. Prohibition of CSOs during dry weather
6. Control of solids and floatables
7. Pollution prevention
8. Public notification
9. Monitoring of CSO impacts and efficacy of controls
NEW YORK - NEW JERSEY HARBOR ESTUARY PROGRAM FINAL COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN (NY-NJ HEP CCMP)

NJDEP's COMMITMENTS:

- Modify NJPDES permits to require implementation of NMCs;
- With USEPA obtain enforceable commitments from STP owners and operators to carry out their Long-term Control abatement responsibilities; and
- Follow up, as necessary, to obtain commitments from the remaining responsible parties.
NEW JERSEY COMBINED SEWER OVERFLOW CONTROL PROGRAM

- PHASE I-Technology-based Controls
- PHASE II-Water Quality-based Controls
Development and implementation of technology-based control measures, including the Nine Minimum Control Measures identified in the National CSO Control Policy, and

- Development of Land-side models (SWMM)
PHASE I CSO CONTROL PROGRAM IMPLEMENTATION MECHANISMS

- The General Permit for Combined Sewer Systems,

- Individual NJPDES Permits for certain Wastewater Treatment Facilities, and

- Enforceable commitments such as ACO’s and JCO’s.
PHASE II CSO CONTROL PROGRAM
OBJECTIVES

• Develop and evaluate alternative control measures
• Formulate cost and performance relationships
PHASE II CSO CONTROL PROGRAM
IMPLEMENTATION MECHANISMS

- The General Permit for Combined Sewer Systems,
- Individual NJPDES Permits for certain Wastewater Treatment Facilities
STATEWIDE CSO CONTROL PROGRAM TRACKS

S/F Controls Implemented

LTCP

NJ CSO CONTROL PLAN

WATERSHED MANAGEMENT PLANNING

TIME

STEP 1  STEP 2  STEP 3  STEP 4  STEP 5  STEP 6  STEP 7  STEP 8

1998
LTCP PERMIT
REQUIREMENTS
Nine Elements of CSO - LTCPs

1. Characterization, Monitoring, and Modeling of the Combined Sewer System and Receiving Waterbody
2. Public Participation process that actively involves the affected parties
3. Consideration of Sensitive Areas
4. Evaluation of Alternatives
5. Cost and Performance Considerations
6. Operational Plan
7. Maximization of Treatment at the existing POTW treatment plant for wet weather flows.
8. Implementation Schedule
9. Post Construction Compliance Monitoring Program
Elements of CSO - LTCPs Contained in Phase I Permits

1. Characterization, Monitoring, and Modeling of the Combined Sewer Systems
Elements of CSO - LTCPs Contained in Phase II Permits

2. Public Participation process that actively involves the affected parties

4. Evaluation of Alternatives

5. Cost and Performance Considerations

7. Maximization of Treatment at the existing POTWs.
Reopener Clause
(Future Actions)

Provided to allow inclusion, as needed, of:

3. Consideration of Sensitive Areas
6. Operational Plan
8. Implementation Schedule
9. Post Construction Compliance Monitoring Program
WHAT HAS BEEN ACCOMPLISHED IN NEW JERSEY?
General Permit for Combined Sewer Systems

- Draft Permits Public Noticed: August 26, 2003
- Final Permits Issued: June 20, 2004
- Final Permits Issued Effective Date: August 1, 2004
- Final Permits Expiration Date: July 31, 2009
Individual Permits for Domestic Treatment Works

- Draft Permits Public Noticed: October 2005
- Final Permits Issued: February 24, 2006
- Final Permits Issued Effective Date: April 1, 2006
# SIIA SUMMARY

## For Solids/Floatables Control Program

(April 2006)

* $140 M has been awarded for construction of S / F Control Facilities

<table>
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<th>No. of Local Govt. Units</th>
<th>PLANNING</th>
<th>DESIGN</th>
<th>CONSTRUCTION</th>
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STATUS OF SOLIDS/FLOATABLES
CONTROL MEASURES IMPLEMENTATION
APRIL 2006

- In Operation: 66%
- Under Construction: 21%
- Under Design: 13%
CSO PROGRAM
MILESTONES AND ACHIEVEMENTS

$ DOLLARS (MILLIONS)  TONS PER YEAR  FACILITIES

NATIONAL CSO CONTROL STRATEGY
NATIONAL CSO CONTROL POLICY
INDIVIDUAL NJPDES PERMITS
GENERAL PERMIT FOR COMBINED SEWER SYSTEMS
IMPLEMENTATION OF NMCs & BMPs
NJ SIIA SOLIDS/FLOATABLES CONTROL MEASURES
Solids/Floatables Control Facilities

Performance Projections (When fully implemented)

- Approximately 250 Control Facilities scheduled for implementation.
- Average 3 tons per year of Solids/Floatables Materials.
- Projected 700 to 750 tons per year of material captured and removed.
NEW YORK - NEW JERSEY HARBOR ESTUARY PROGRAM FINAL COMPREHENSIVE CONSERVATION AND MANAGEMENT PLAN (NY-NJ HEP CCMP)

ACHIEVEMENTS:

- Modified STP (POTW) NJPDES permits to require implementation of NMCs in June 1996.
FUNDING
New Jersey CSO Program
Funding Requirements

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<tr>
<th>Cost In Billion Dollars</th>
<th>S/F Controls</th>
<th>Pathogen Controls</th>
<th>1996 Needs</th>
<th>2002 Needs (Pending)</th>
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20% GRANTS
FOR
PHASE II FEASIBILITY STUDIES
and
CONSTRUCTION OF
LONG TERM CONTROL FACILITIES
Coastal Grants Legislation
PL 2005 C301

- Total $3 Million Available
- 24 Entities Named
- Up to 20% Grants for the Feasibility Studies
COMMUNITIES’ ACCOMPLISHMENTS
Passaic Valley
Sewerage Commissioners

Passaic River/Newark Bay
Restoration Program
SEWER SEPARATION
AND
CSO ELIMINATION
CITY OF RAHWAY

- Complete sewer separation
- Permanently sealed all CSO Points
EDGEWATER MUA

- Originally
  9 CSO Points & 222 Acres

- Presently
  1 CSO Point & 50 Acres
ALL
S/F CONTROL FACILITIES
IN OPERATION

- Town of Harrison (10)
- Village of Ridgefield Park (6)
- City of Perth Amboy (18)
- City of Elizabeth (34)
ALL S/F CONTROL FACILITIES IN OPERATION

- City of Hackensack (2)
- North Bergen MUA (10)
- Town of Guttenberg (1)
- City of Bayonne (33)
- Fort Lee Borough (2)
- CCMUA (1)
VILLAGE OF RIDGEFIELD
PARK
CITY OF HACKENSACK
CITY OF GUTTENBERG
CITY OF BAYONNE
Type 1 Lining Installation: 2 piece segmental GRP Lining
Typical Type 1 Lining: GRP Segmental Lining
CITY OF PERTH AMBOY
CITY OF ELIZABETH
OUTFALL TO RIVER.
S/F CONTROL FACILITIES
UNDER CONSTRUCTION

- Jersey City MUA (27)
- Town of Kearny (10)
- City of Paterson (31)
- City of Newark (30)
- East Newark Borough (1)
JERSEY CITY MUA
CITY OF KEARNY
TOWN OF HARRISON
COMMUNITIES THAT HAVE IMPLEMENTED CSO LTCP
CITY OF NEW BRUNSWICK

- Complete sewer separation
- Eliminated all CSO Points
New Brunswick Sewer Separation Project
CITY OF TRENTON

- Sewer Separation and Elimination of all but one CSO Point.
- Construction of CSS Flow Equalization Basin (*Significantly reduces frequency of discharges.*)
- Controls Solids/Floatables at remaining CSO Point.