CLEAN WATER COUNCIL MEETING

June 14, 2016

RWBR
What is RWBR?

• Reclaimed Water for Beneficial Reuse
• Treated wastewater that is reused for non-potable applications in place of potable water, diverted surface water or diverted groundwater
• RWBR must meet certain requirements specified in a NJPDES permit that authorizes the water to be reused for a designated use
Why RWBR?

- Reduces demands on valuable water supplies utilized for drinking water including ground and surface waters.
- Postpones costly investments for development of new water sources and supplies.
- Helps reduce pollutant loadings to New Jersey waterways.
Why RWBR?

• Can prevent salt water intrusion into wells in coastal communities by reducing the amount of water withdrawn from ground water aquifers

• Provide savings for industries over potable water use and can provide a continuous source of water even during drought

• Assist farmers during drought periods
RWBR Classifications

- Restricted Access
- Public Access
Restricted Access

- Restricted Access is the classification of reclaimed water for which the possibility of exposure of the general population to the water is minimal and/or the exposure of workers to the water is controlled. Restricted access shall require at least secondary treatment and/or compliance with effluent limitations established in a NJPDES permit.
RESTRICTED ACCESS

• 3 GROUPS:
  – Non-edible crops, irrigation of grass or landscaped areas within a secured perimeter
  – Construction and maintenance, street sweeping, dust control, fire protection, road milling
  – Industrial systems, sewer jetting, plant washdown, non-contact cooling water, boiler make-up water, vehicle washing, composting, use in various processes
Public Access

• Public Access is the classification of reclaimed water for which there is a high possibility that the general population will be exposed to the water, thereby requiring better than the secondary treatment effluent standards specified in N.J.A.C. 7:14A-12.2
PUBLIC ACCESS

- 2 GROUPS:
  - Agricultural as well as non-agricultural activities, golf course irrigation, playground/park irrigation, commercial car washing, toilet flushing
  - Agricultural edible crops, only those that will be peeled, skinned, cooked or thermally processed before consumption.
PUBLIC ACCESS

- NJPDES permit limitations:
  - Total Suspended Solids 5.0 mg/l maximum
  - Fecal Coliform 2.2 colonies/100 ml (7-day avg. and 14 as an instantaneous maximum)
  - Nitrogen 10 mg/l
  - Turbidity 2.0 NT
  - Disinfection standards for both Chlorine and UV
History/Accomplishments of RWBR in NJ

• New Jersey began to develop a reuse program in 1999 as part of addressing the drought emergency that summer.

• The drought of 2002 reinforced the need to further develop the reuse program.
History of RWBR in NJ

- Formation of Task Force
- Development of Technical Manual
- Development of NJPDES permit conditions
- Demonstration Projects (Bond Fund)
- Development of Reuse General Permit
- Adoption of regulations
NJPDES Permit Conditions

• Included as a module in Part IV
• Incorporates requirements for all PA/RA
• Limitations/sampling methods for each type
• Submittal requirements for an Operations Protocol, User/Supplier Agreement and Engineering Report
• Operational Requirements – signage, color coding, setback distances
# Types of RWBR

<table>
<thead>
<tr>
<th>RWBR Category</th>
<th>Specific RWBR Type</th>
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<tr>
<td>PA</td>
<td>Spray Irrigation (Golf Course)</td>
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<tr>
<td>PA</td>
<td>Spray Irrigation (Athletic Fields, Playgrounds)</td>
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<tr>
<td>PA</td>
<td>Spray Irrigation (Residential Lawns)</td>
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<tr>
<td>PA</td>
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<td>PA</td>
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<td>PA</td>
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<td>PA</td>
<td>Toilet Flushing</td>
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<tr>
<td>RA-LA</td>
<td>Sod Irrigation</td>
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<tr>
<td>RA-LA</td>
<td>Spray Irrigation within a fenced perimeter or otherwise restricted area</td>
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<tr>
<td>RA-LA</td>
<td>Spray Irrigation within a fenced perimeter or otherwise restricted area (Without NH3 + NO3)</td>
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<tr>
<td>RA-LA</td>
<td>Spray Irrigation (not fenced or restricted area)</td>
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<td>RA-CM</td>
<td>Street Sweeping</td>
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<tr>
<td>RA-CM</td>
<td>Dust Control</td>
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<td>RA-CM</td>
<td>Fire Protection</td>
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<td>RA-CM</td>
<td>Vehicle Washing (at STP or DPW)</td>
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<td>RA-CM</td>
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<td>Sanitary Sewer Jetting</td>
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<td>Non-Contact Cooling Water</td>
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<td>RA-IS</td>
<td>Boiler/Process Makeup Water</td>
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<td>RA-IS</td>
<td>Road Construction Operations</td>
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<td>RA-IS</td>
<td>Hydrostatic Testing</td>
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<tr>
<td>RA-IS</td>
<td>Parts Washing</td>
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<tr>
<td>RA-IS</td>
<td>STP Washdown</td>
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RWBR in NJPDES PERMITS

• 106 individual NJPDES permits with RWBR conditions
• In 2015 a total of 12.77 billion gallons of water was reused
  ➢ 12.6 billion gallons for restricted access
  ➢ 89.6 million gallons for public access
RWBR DEMO PROJECTS

• In 2004 NJDEP offered $35 million to reuse treated wastewater
• 55 proposals
• 23 approved for demo projects in 2005
• Only 6 became working projects
• CMCMUA most successful
• Reasons
RWBR Rules (Water Supply)

- 2005 Water Supply Rules (N.J.A.C. 7:19) at N.J.A.C. 77:19-2.14(a)13 mandates that the water supply permit require the permittee to investigate the feasibility of water reuse for any water used for non-potable purposes.
RWBR Rules (WQMP)


N.J.A.C. 7:15-5.25 (d)3i states that for each proposed new or expanded domestic or industrial treatment works, the applicant shall propose a wastewater treatment disposal alternative in accordance with a hierarchy.
RWBR Rules (NJPDES)

• On January 5, 2009 RWBR rules were adopted (N.J.A.C. 7:14A-2.15)
• Highlights were:
  – Provided for compliance with limits in NJPDES permits
  – Incorporated use of technical manual into rule
  – Listed required information for the NJPDES permit application for RWBR authorization
  – Prohibited expansion of sewer service area or capacity to accept additional wastewater
  – Submittal of Reuse Feasibility Study on a voluntary basis
RWBR Rules (NJAC 7:14D)

- Tax incentive rules readopted May 22, 2015
- Provide tax incentives to industries for beneficial reuse in industrial processes through:
  - Business Tax Credit (N.J.S.A. 54:10A-5.31)
  - Sales Tax Refund (N.J.S.A. 54:32B-8.36)
Reuse Tax Incentives for Industrial Processes

N.J.S.A. 54:10A-5.31

• Provides for corporate business tax credit up to 50% of cost of treatment and/or conveyance equipment purchased and operated solely for the purpose of beneficially reusing wastewater effluent in an industrial process.
Reuse Tax Incentives for Industrial Processes

N.J.S.A. 54:32B-8.36

- Provides sales tax refund for treatment and/or conveyance equipment purchased and operated solely for the purpose of beneficially reusing wastewater effluent in an industrial process.
IMPEDIMENTS TO RWBR

- **Regulatory**
  - Minimum passing flow
  - Requirements Burdensome
  - Must be permitted

- **Public Perception**
  - Safety/quality

- **Cost**
  - Pipeline, extra treatment
Information and Contact

• Technical Manual for RWBR:
  http://www.state.nj.us/dep/dwq/techmans.htm

• Contact:
  Ben Manhas, Bureau of Surface Water Permitting
  (609) 292-4860
Think Green
Think Reuse