Transforming mindsets and behaviors in NYC

Patrick Schultz
The Operational Excellence program in New York City is a 4.5-year partnership between DEP and Veolia

Operational Excellence (OpX) in New York City
- “The best always do better!”
- Partnership between NYC Department of Environmental Protection and Veolia North America

Phase 1 (6 months)
Nov 2011 – May 2012
- Operational diagnostic across DEP’s facilities and back-office
- Identification of >100 potential savings initiative
- Implementation of quick-wins

Phase 2 (4 years)
- Implementation of ~80 initiatives across the entire agency
- Efficiency savings and revenue generation
- Performance-based contract between DEP and Veolia
NYC Department of Environmental Protection is one of the largest water utilities in the US

- Serves 9 million people
- Annual revenue: ~$3.4 billion
- Annual operational expense: ~$1.2 billion

- Supplies 1 billion gallons of water per day
  - 19 storage reservoirs, 3 controlled lakes
  - 295 miles of aqueduct and tunnels, 7,000 miles of water mains, 109,000 hydrants

- Treats 1.3 billion gallons of wastewater per day
  - 14 In-city treatment plants; 8 upstate plants
  - 7,500 miles of sewers
  - 96 pump stations
  - 148,000 catch basins
As of June 2014, OpX has achieved $84 million in annually recurring impact

<table>
<thead>
<tr>
<th>Impact</th>
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<th>Implemented</th>
<th>Total</th>
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Sustaining improvements is the most difficult part of performance transformation programs.
Management and staff mindsets and behaviors are the main reason for failure of transformations

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<th>Mindsets &amp; behaviors</th>
<th>Percent</th>
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<td>Lack of willingness to change on the part of employees</td>
<td>39%</td>
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<td>Management behavior did not support the transformation</td>
<td>33%</td>
</tr>
<tr>
<td>Insufficient financial or other resources</td>
<td>14%</td>
</tr>
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<td>Other barriers</td>
<td>14%</td>
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To what extent did the transformation contribute to achieving corporate objectives?

- **Successful**: 39%
- **Failed**: 61%

Source: Analysis of management literature; McKinsey Quarterly Performance Transformation Survey, July 2008; McKinsey Quarterly Transformational Change Survey, January 2010
Behaviors are the visible manifestation of underlying mindsets

*What we see… the behaviors*

*What we don’t see… the mindsets*
Change is often met with resistance...

“Why should I change? What’s in it for me aside from hard work?”

“I am not going to work differently unless my boss does, too!”

“This is all new to me and I’ve never been trained?”

“Who cares about performance? Nobody really looks at our operational numbers anyway.”
...but the resistance can be overcome by managing the “soft side” of change

Fostering understanding and conviction
“Why should I change? What’s in it for me aside from hard work?”

Developing talent and skills
“This is all new to me and I’ve never been trained?”

Role-modeling new behaviors
“I am not going to work differently unless my boss does, too!”

Reinforcing with formal mechanisms
“Who cares about performance? Nobody really looks at our operational numbers anyway.”
### Managing change actively and consciously is important to create buy-in from employees

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<td>• Communicate the case for change</td>
<td>• “Walk the talk” – be accountable if you expect accountability</td>
<td>• Identify capability gaps and training needs</td>
<td>• Ensure processes and procedures enable change</td>
</tr>
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<td>• Listen to employees and develop ideas collaboratively</td>
<td>• Identify and develop change agents</td>
<td>• Provide formal trainings and on-the-job coaching</td>
<td>• Set ambitious targets and track progress against them</td>
</tr>
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<td>• Recognize, reward, and celebrate successes</td>
<td>• Foster open exchange of best practices</td>
<td>• Formalize talent development and succession planning</td>
<td>• Establish a performance culture driven by metrics</td>
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To drive employee engagement across the agency, an Employee Suggestion Program was launched.

- Program launched on Oct. 1, 2013
- >50 employee suggestions received within first two weeks of program
- Implementation of two EH&S-related initiatives already started

We want to hear your ideas on how to make DEP safer and more efficient. DEP will award up to $1,000 for ideas that demonstrate cost savings or improve health and safety.

To submit your idea, visit http://suggestions/

Do you have a great idea?
Submit it to the Employee Suggestion Program.
Process improvement initiatives are being rolled out to all 14 DEP wastewater treatment plants

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<th>Initiatives</th>
<th># of WWTPs</th>
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<tr>
<td>Aeration</td>
<td>7</td>
</tr>
<tr>
<td>Dewatering</td>
<td>6</td>
</tr>
<tr>
<td>Thickening</td>
<td>13</td>
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<td>Demand Management</td>
<td>13</td>
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Initial challenges
- 14 Wastewater Treatment Plants across all five boroughs
- Several plants undergoing major capital upgrades
- Lack of financial transparency at plant level
- Lack of communication between operations and process engineering
Our transformation approach for plant process performance in NYC is based on four principles...

**Focus on performance management at all levels**
- Visual boards and weekly Initiative Reviews; upwards reporting on key metrics to BWT leadership

**Operate as ONE plant**
- Facility Manager leading Process and Operations
- Process and operations side-by-side at weekly meetings

**Proactive management of a stable treatment process and plant operations**
- SOPs, Improved Planning & Scheduling

**Step change in mindsets to drive continuous improvement**
- Culture of fact-based problem-solving using boards
- Trainings to build capabilities
...and follows a pre-defined path from initiative kick-off to sustaining the impact

Prepare phase (2-4 weeks) → Implement phase (3-4 months) → Sustain phase

**Initiative 1**
- Initiative Kick-off
- Planning & Implementing
- Tracking
- Sustain

**Initiative 2**
- Initiative Kick-off
- Planning & Implementing
- Tracking
- Sustain

**Initiative 3**
- Initiative Kick-off
- Planning & Implementing
- Tracking
- Sustain

**Measurement / review**
- Initiative Reviews
- BWT status and performance reporting (upwards)

**Capability-building**
- Pre kick-off refresher
- Day-to-day training and coaching
Our meeting and reporting cascade ensures that performance is monitored and managed at all levels.

<table>
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<tr>
<th>Level</th>
<th>Frequency</th>
<th>Performance review</th>
<th>Tracking mechanism</th>
</tr>
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<tbody>
<tr>
<td>Commissioner / COO</td>
<td>Real time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deputy Commissioner / Asst. Deputy Commissioner / Director Operations</td>
<td>Daily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facility Manager</td>
<td>Weekly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant Chief, Deputy, Process Engineer</td>
<td>Bi-weekly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSTW, SEE</td>
<td>Quarterly</td>
<td></td>
<td></td>
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</tbody>
</table>

- Daily handover briefing
- SCADA
- Dry solids monitors
- Process control charts
- Shift log book, performance board
- Onsite performance board, scorecard and action log
- Monthly scorecard graphs and action plan
- Monthly scorecard and action plan
- FM meeting
- H20Stat
- Downward communication around action planning and corrective measures

Our meeting and reporting cascade ensures that performance is monitored and managed at all levels.
The most important effect of our approach is that it brings people together to drive performance jointly.
All improvement initiatives are constantly tracked and their financial impact is verified monthly.

<table>
<thead>
<tr>
<th>Initiatives</th>
<th># of WWTPs</th>
<th>Operational improvement¹</th>
<th>Savings ($ million p.a.)</th>
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<tbody>
<tr>
<td>Aeration</td>
<td>7</td>
<td>16% reduction blower avg daily kWh</td>
<td>$2.7m</td>
</tr>
<tr>
<td>Dewatering</td>
<td>6</td>
<td>6% increase in plant cake solids (% sol)</td>
<td>$3.2m²</td>
</tr>
<tr>
<td>Thickening</td>
<td>13</td>
<td>5% increase in thickened solids (%sol)</td>
<td>$4.8m</td>
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<tr>
<td>Demand Management</td>
<td>13</td>
<td>n/a</td>
<td>$2.0m</td>
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¹ Monthly weighted average improvement as of June 2014
² Includes additional savings from other chemicals reductions initiatives not related to dewatering (e.g., reduction in hypo used for disinfection and odor control)
Questions?