24x7 Urban Water Supply at Jamshedpur

*****

Experience on PPP in Urban Water Supply and sanitation sector

Presentation

To

Working Group on Urban & Industrial Water Supply FOR 12TH Five Year Plan (2011-2017), Nirman Bhawan, N.Delhi on 18.03.2011
Agenda

- Corporatisation of Municipal water services: Jamshedpur Model
- PPP vehicle and Replication of Jusco experience
Need for change: Issues and constraints faced

1. **Moderate Coverage** (less than 67%) and declining service levels

2. **High NRW** > 36% due to physical losses and unauthorized connections

3. **Flat tariff regime** based on area with negligible levels of metering

4. **Manual and decentralized customer management**

5. **Financial constraints** - Deficit towards 2004 rose to US$ 8 million annually

6. **Operational** - Home-grown operation and limited exposure to ‘best’ practices

A cost-centre mindset and limited exposure to technology and management practices imposed operational and financial constraints.
Enhancing customer value by innovating value chain driven by professional management, cost effective technology, best practices.

Customer Value
- Consistent good quality service
  - Quality
  - Pressure
  - Availability
- Quick redressal of complaints
- Affordable price
- Need for service in unserved areas

Customer Engagement platforms
- ORG Marg Survey
- Customer Contact programme
- MOUs
- JSK Transactional feedback
- Community engagement

Employee/partner engagement

Capturing needs/expectation

Institutionalization

Sustainability Operational Environmental Financial Replicability
JUSCO: Water Value Chain

Management Process driving Excellence

Leadership -> Strategic Planning -> Performance Management -> Information & Knowledge Management -> Investment Management -> Risk Management -> HR Management

Water Production -> Water Distribution

1. Quality Assurance
2. Maintenance Management
3. Enabling
4. Customer Value & Sustainability
5. Billing & Collection
6. Enabling
Underlying drivers of change

1. Independence and autonomy – Shift away from a cost-centre mindset

2. Articulation of a larger Vision – Quality Services for Life
   • To succeed elsewhere, you had to be a world-leader at home

3. Meticulous benchmarking - information-led improvement
   • Use of Balanced Scorecard and wide array of tools for information capture, analysis and improvement

4. Sharp consumer focus
   • Quick shift to a centralized customer management – JUSCO Sahyog Kendra

5. Adoption of Technology and Management practices
   • Innovative use of TPM – a manufacturing best practice in a utility context
   • Adoption of a wide range of technologies – leak detection, metering, energy conservation, SCADA, GIS and Hydraulic modeling
6. **Tackling NRW head-on**
   - Two pronged actions focused on physical losses and illegal connections

7. **Telescopic tariffs and demand management**
   - Affordable lifeline supply tariffs to achieve buy-in for metering

8. **Innovative approach to expand coverage**
   - Commercially sustainable cost sharing with consumers for expansion of network
   - Nearly 18,000 consumers added through this approach

9. **Partnerships and collaborations**
   - Veolia Water, Ranhill, TPM Institute Japan, Twinning arrangements...

10. **Leveraging / building on the ‘TATA legacy’**
    - 8-hour working (1912), medical aid (1915), provident fund scheme (1920)
    - Compassionate capitalism and building on Tata Steel’s legacy of community engagement
Result

Impact on process efficiency due to use of Technology & good practice adoption

Investment on Technology - Rs. crore

- Reduced NRW
- Reduced SPC
- Reduced SCC
- Improved Quality
- Increased Availability
- Reduced Failure
Process efficiency drives financial sustainability

- Reduced NRW
- Reduced SPC
- Reduced SCC
- Improved Quality
- Increased Availability
- Reduced Failure
Financial sustainability drives customer value

### Industrial Water Actual Cost
- **Year**: FY'05, FY'06, FY'07, FY'08, FY'09
- **Cost (Rs./M3)**:
  - FY'05: 2.4
  - FY'06: 2.3
  - FY'07: 2.1
  - FY'08: 2.1
  - FY'09: 2.0

### Potable Water actual Cost
- **Year**: FY'05, FY'06, FY'07, FY'08, FY'09
- **Cost (Rs./M3)**:
  - FY'05: 4.9
  - FY'06: 4.4
  - FY'07: 4.4
  - FY'08: 4.1
  - FY'09: 4.1

### Number of Customers
- **Years**: FY'05, FY'06, FY'07, FY'08, FY'09
- **Number of Customers (Thousands)**:
  - FY'05: 37250
  - FY'06: 40818
  - FY'07: 42650
  - FY'08: 54372
  - FY'09: 59131

### Potable water tariff (Rs./KL)
- **Years**: FY'05, FY'06, FY'07, FY'08, FY'09
- **Tariff (Rs./KL)**:
  - FY'05: 7.9
  - FY'06: 7.9
  - FY'07: 7.9
  - FY'08: 6.0
  - FY'09: 5.0

### Sustainence volume tariff: 30KL/Month

### Satisfacion level of consumers - Water tariff
- **Locations**: Bangalore, Chandigarh, Jamshedpur, Pune, Bhubaneshwar
- **Satisfaction Level (%)**:
  - Bangalore: 27
  - Chandigarh: 54
  - Jamshedpur: 65
  - Pune: 50
  - Bhubaneshwar: 40

**Source**: Survey by AC Nielsen ORG Marg in 2006
Customer value in turn drives financial sustainability

### Number of Customers

- FY'05: 37,250
- FY'06: 40,818
- FY'07: 42,650
- FY'08: 54,372
- FY'09: 59,131

### Total Water Revenue (Rs. crores)

- FY'05: 15.5
- FY'06: 21.0
- FY'07: 23.1
- FY'08: 24.1
- FY'09: 25.5

### Potable water tariff (Rs./KL)

- FY'05: 7.9
- FY'06: 7.9
- FY'07: 7.9
- FY'08: 6.0
- FY'09: 5.0
## Impact of Corporatisation

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unit</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coverage, Metering and NRW Reduction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population covered</td>
<td>% of Total</td>
<td>67%</td>
<td>85%</td>
</tr>
<tr>
<td>Connections</td>
<td>Nos.</td>
<td>35,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Water Consumption</td>
<td>MLD</td>
<td>215</td>
<td>322</td>
</tr>
<tr>
<td>Metered Connections</td>
<td>% of Total connections</td>
<td>Neg.</td>
<td>30%</td>
</tr>
<tr>
<td>Non Revenue Water</td>
<td>%</td>
<td>36%</td>
<td>9.5%</td>
</tr>
<tr>
<td><strong>Water Quality conformance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bacteriological quality</td>
<td>% of samples</td>
<td>93%</td>
<td>100%</td>
</tr>
<tr>
<td>Free Chlorine level</td>
<td>% of samples</td>
<td>86%</td>
<td>99.7%</td>
</tr>
<tr>
<td><strong>Customer Focus</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Index value</td>
<td>Score – Max 5</td>
<td>3.75 (2004)</td>
<td>4.2</td>
</tr>
<tr>
<td>Service Guarantee Compliance</td>
<td>% of total</td>
<td>77%</td>
<td>99%</td>
</tr>
<tr>
<td>Repeat Complaints</td>
<td>% of total</td>
<td>3.2%</td>
<td>0.03%</td>
</tr>
<tr>
<td><strong>Water Treatment – Closing the loop</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sewage Network Coverage</td>
<td>% of population</td>
<td>57%</td>
<td>72%</td>
</tr>
<tr>
<td><strong>System Improvements</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Failures in water systems</td>
<td>Nos. Per month</td>
<td>44</td>
<td>1.1</td>
</tr>
<tr>
<td>Energy Consumption</td>
<td>KWH / MLD</td>
<td>332</td>
<td>274</td>
</tr>
<tr>
<td><strong>Financial Management and Human Resources</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Ratio</td>
<td>Op. Cost/Revenue</td>
<td>1.07</td>
<td>0.82</td>
</tr>
<tr>
<td>Staff / 1000 connections</td>
<td>nos.</td>
<td>&gt; 8</td>
<td>4.03</td>
</tr>
</tbody>
</table>
International & National Recognition.....
Certifications

ISO:9001

OHSAS:18001

ISO:17025

ISO:14001
“...organisation has achieved
• a most effective production system
• Implementation of TPM activities has bought about remarkable results in productivity, product quality, cost reduction & company culture improvement”

The only company in the utility services domain in the world to achieve the distinction of getting the JIPM TPM excellence award.
International Level Recognition

Asian Water Management Excellence Award 2008 & Industry Category

Recognised as the most prestigious water industry biennial awards in Asia.

JUSCO recognised for its contribution to the development of the water industry in Asia.

Among the past winners include PUB Singapore, Perpamsi, Penang Water Supply, Puncak Niaga and SEAWUN & Manila Water.

JUSCO receives Global Water Intelligence Award 2008 held in London

JUSCO has been conferred with Highly Commended Certification as “One of the most effective water service providers on the Indian Subcontinent” during the GWI Global Water Award 2008 function held on 21 April 2008 in London.
2009: National Urban Water Awards 2009 for “Citizen Services & Governance” presented by the Hon’ble President of India at New Delhi
CRISIL Award 2004-05
‘Excellence in Improving service delivery through Corporatisation’

“JUSCO’s is probably the ‘first of its kind’ initiative in the country demonstrating the shift of urban services from a mere obligation to a viable business activity….

The initiative has the potential to leave a mark in the history of Urban India’s developmental landscape….”

WSP - World Bank Study on JUSCO

“World Bank Field Note seeks to capture the initiative of JUSCO in converting a cost-centric service into a commercial and customer-oriented company. Based on its successful home operations, the private operator is also exploring options for expanding its expertise beyond its own operating areas to other interested towns and cities, while continuously improving services in Jamshedpur”
Replicability

PROOF OF THE PUDDING IS IN EATING.....
• Corporatisation of Municipal water services: Jamshedpur Model

• PPP vehicle and Replication of Jusco experience
## FORMS OF PUBLIC PRIVATE PARTNERSHIPS: Allocation Of Key Responsibilities

<table>
<thead>
<tr>
<th>Types of Contract</th>
<th>Asset ownership</th>
<th>Capital Investment</th>
<th>O &amp; M</th>
<th>Commercial Risk</th>
<th>Duration (yrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Contract</td>
<td>Public</td>
<td>Public</td>
<td>Private &amp; Public</td>
<td>Public</td>
<td>1-2</td>
</tr>
<tr>
<td>Management Contract</td>
<td>Public</td>
<td>Public</td>
<td>Private</td>
<td>Shared</td>
<td>3-5</td>
</tr>
<tr>
<td>Lease</td>
<td>Public</td>
<td>Public (with limited private)</td>
<td>Private</td>
<td>Shared</td>
<td>8-15</td>
</tr>
<tr>
<td>Concession/BOT</td>
<td>Public</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>25-30</td>
</tr>
<tr>
<td>Divestiture</td>
<td>Private or Private &amp; Public</td>
<td>Private</td>
<td>Private</td>
<td>Private</td>
<td>Indefinite (license may set term)</td>
</tr>
</tbody>
</table>
# Mysore 24x7 Water Supply Project

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>24X7 Water Supply performance based management contract in Mysore city</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Description</td>
<td>Conversion of intermittent to 24/7 continuous water supply system through systematic improvements and network rehabilitation</td>
</tr>
<tr>
<td>Client</td>
<td>Mysore City Corporation &amp; Karnataka Water Supply &amp; Drainage Board (KUWSDB)</td>
</tr>
</tbody>
</table>
| Salient Features| • Hydraulic modeling, Network design and preparation and implementation of Capital investment plan  
• Rehabilitation of citywide water distribution network – About 800km of pipeline (dia. 65-350mm), 14 Booster Pump houses, 14 substations & related electrical works  
• Operation & maintenance of citywide water distribution system for 6 years with fixed & performance linked remuneration  
• 100% deputation of govt staff to Jusco  
• Billing & Collection leading to increased revenue collections  
• Establishment and Management of 24/7 Customer Complaint centres |
| Value           | Rs. 1620 million |
| Completion Time | 72 Months |

India’s largest water management P-P-P-P Project till date covering million plus population and 150,000 service connections
<table>
<thead>
<tr>
<th>Mysore Water Supply system - Facts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present Population</strong></td>
</tr>
<tr>
<td><strong>Municipal Area</strong></td>
</tr>
<tr>
<td><strong>No. of house connections</strong></td>
</tr>
<tr>
<td><strong>Water availability</strong></td>
</tr>
<tr>
<td><strong>Net quantity available for supply</strong></td>
</tr>
<tr>
<td><strong>Total demand of water</strong></td>
</tr>
<tr>
<td><strong>Water Supply Coverage</strong></td>
</tr>
<tr>
<td><strong>Total no. of wards</strong></td>
</tr>
<tr>
<td><strong>Tariff details</strong></td>
</tr>
<tr>
<td><strong>NRW</strong></td>
</tr>
<tr>
<td><strong>Frequency of water supply</strong></td>
</tr>
<tr>
<td><strong>Distribution system</strong></td>
</tr>
</tbody>
</table>
The Three Phases

Phase 1
12 Months
- O&M Plan
- Take-over Operations
- Study & Survey
- Design & Engineering
- IMIS
- Capital Investment Plan

Phase 2
36 Months
- Implementation of CIP
- Rehabilitation works
- Metering program

Phase 3
24 Months
- O&M
- Sustainability of operations

Billing & Collection
- Customer Support Systems
## Performance Measures

<table>
<thead>
<tr>
<th>Performance Parameter</th>
<th>Weightage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of connections with 24x7</td>
<td>30%</td>
</tr>
<tr>
<td>Revenue Improvement</td>
<td>30%</td>
</tr>
<tr>
<td>Revenue Water in 24x7 area</td>
<td>10%</td>
</tr>
<tr>
<td>Resolution of Complaints on service in 24x7 area</td>
<td>10%</td>
</tr>
<tr>
<td>Resolution of Complaints in entire zone</td>
<td>5%</td>
</tr>
<tr>
<td>Leakage levels in 24x7</td>
<td>5%</td>
</tr>
<tr>
<td>Quality compliance in 24x7 area</td>
<td>5%</td>
</tr>
<tr>
<td>Pressure compliance in 24x7 area</td>
<td>5%</td>
</tr>
</tbody>
</table>
Project Structuring Summary

- **Performance based Management Contract**
  - Phase 1: Study Phase (Baseline study)
  - Phase 2: Rehabilitation Phase
  - Phase 3: O&M Phase
  - Remodeling & Rehabilitation of distribution network, establishing DMAs to convert intermittent to 24/7 continuous water supply
  - Fixed & Performance based fees

- **Sharing of Risks between Operator and ULB**
  - Investment (JNNURM)
  - Revenue collection Risk with Operator (limited)
  - Performance Risk with Operator
  - Design & Construction Risk with Operator
  - Operation Risk with Operator

1. **Tariff to be fixed by MCC**
2. **Operator to bill, collect and pass on the revenues to MCC**
## Sector - V, Salt Lake Project

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Development &amp; Management of Water &amp; Sewerage Network at Salt Lake Sector-V (Kolkata) on BOT basis for 30 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client</strong></td>
<td>NDITA, Kolkata (KMDA as Tech. Facilitator)</td>
</tr>
</tbody>
</table>
| **Job Description** | • Design and Construction of clear water UGR, Pump House, ESR, Laying of Clear Water Transmission Main & Distribution Network, Installation of bulk & consumer meters  
• Design and Construction of STP, IPS, Sewerage Network, O&M of all water & sewerage assets.  
• Billing and collection |
| **Salient Features** | • JUSCO-VOLTAS Consortium shall design, plan, develop, finance, construct, administer, manage, operate and maintain the Project,  
• Part-financing of project (65%); Balance 35% by JNNURM  
• lowest water-cum-sewerage charges per KL criteria for bidder selection.  
• Construction period - 19 months |
| **Value**       | • Water Supply – Rs. 260.7 million  
• Sewerage System – Rs. 340.7 million |
| **Concession Period** | 30 Years |

---

1st Water Sector P-P-P Project sanctioned under JNNURM Program
Key Contract Features

- **SPV - Naba Diganta Water Management Ltd. - JUSCO & VOLTAS**
- NITA shall make treated water available of adequate quantity conforming to the Quality Standards from the Kolkata Municipal Corporation (KMC) network to JUSCO @ Rs.5.00 per KL
- Land available for construction of pumping station, elevated reservoir and STP free of cost
- Tariff Escalation @ 10% at every 5 years shall be applicable
- Allowing JUSCO to levy ‘water-cum-sewerage charges’ @ Rs.25.00 per KL of water supplied (Rs.15 for water supply and Rs.10 for sewerage) to the premises connected to water supply network.
- Allowing JUSCO to take one-time connection charges @ Rs.10.00 per sft. of built up area of the premises
- Capital subsidy to JUSCO to the extent of 35% of the capital cost of the Project through JN-NURM.
- Project awarded in Nov’07 & Asset creation completed and inaugurated on 4th Jan’11. O&M services commenced
Project Structuring Summary

• Concession / BOT
  ❖ Investment
  ❖ Water & sewer network Development
  ❖ Operation & Maintenance
  ❖ Increasing service coverage and Retail distribution
  ❖ Bulk & consumer Metering
  ❖ Billing & Collection

• Major Risks with the Operator
  ❖ Investment risk
  ❖ Demand Risk
  ❖ Revenue Risk
  ❖ Performance Risk
  ❖ Construction Risk
## Water Supply Project, Haldia

<table>
<thead>
<tr>
<th>Name of Project</th>
<th>Design, Development, Operations &amp; Maintenance of water supply system in Haldia on Lease (of existing assets) and BOT basis (of new assets) for 25 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client</td>
<td>Haldia Development Authority, Haldia</td>
</tr>
<tr>
<td>Job Description</td>
<td>• O&amp;M of the existing 113.5 MLD water treatment plant, service of tube well of 13.62 MLD capacity and existing network.</td>
</tr>
<tr>
<td></td>
<td>• Construction of new 113.5 MLD water treatment plant in 2 equal modules and subsequent O&amp;M of the plant.</td>
</tr>
<tr>
<td></td>
<td>• Intake structure on river Haldi, Raw water pump house, DI conveyance main for raw water, dissolved air floatation based water treatment plant.</td>
</tr>
<tr>
<td></td>
<td>• 100% existing staff deputed to Jusco</td>
</tr>
<tr>
<td></td>
<td>• Billing and collection from consumers.</td>
</tr>
<tr>
<td>Salient Features</td>
<td>• JUSCO is the lead partner in the project SPV with 60% stake. Ranhill Utilities is the partner with 40% stake.</td>
</tr>
<tr>
<td></td>
<td>• Construction &amp; O&amp;M of new and existing WTP (25 MGD) and distribution network leased to the project SPV.</td>
</tr>
<tr>
<td></td>
<td>• Financing of project.</td>
</tr>
<tr>
<td>Duration</td>
<td>25 years</td>
</tr>
<tr>
<td>Project Cost</td>
<td>Rs. 1000.00 million (Approx.)</td>
</tr>
</tbody>
</table>

**25 years Water Supply lease and BOT project for Haldia Industrial Township**

1st Water Sector P-P-P Project in West Bengal based on unique structure of Lease cum BOT
Key Contract Features

- SPV – Haldia Water Management Ltd. – 60:40 JV between JUSCO and Ranhill Utilities
- Tariff to be set by HDA with mim 3% y-o-y increase
- Operator to sell water and earn his revenue which goes into an escrow account
- Disbursements – Statutory levies, license fee, o&m and power cost, debt servicing costs; Balance would be SPV’s profit.
- Investments to be entirely borne by SPV for meeting contract obligations including defined SLGs
- License fee quoted by the parties was discounted @ 12% and the Net Present Value (NPV) was calculated. The party with highest NPV was selected as the preferred bidder
- Guaranteed income to HDA over the concession period is estimated to be Rs1,220 crore.
- The entire facility shall revert back to HDA at no cost, on the expiry of the concession period.
Project Structuring Summary

**Lease Cum BOT**
- Leasing of existing assets for a committed license fee
- Investment in new assets & systems by concessionaire
- Source Development / Augmentation
- Remodeling & Rehabilitation of distribution network
- Increasing water sales through new industrial consumers
- Bulk & consumer Metering, NRW Reduction
- Billing & Collection
- License fee to be paid every year as per commitment

**Major Risks with the Operator**
- Investment risk
- Demand Risk
- Revenue Risk
- Performance Risk
- Construction Risk
- Operations risk
The Haldia Story: Before

Unsafe working Platforms
Unsafe Pump couplings
Unsafe Stairs
Unsafe Electrical Facilities
Poor house keeping
Frequent leaks and poor management of leaks
Badly corroded equipments
Absence of Preventive Maintenance, Plant & Employee Safety, Poor house keeping leading to Low Employee Morale & Productivity
No Maintenance of equipment
No Prev maintenance of Civil Structures
No Personal protective equipments
Initiatives taken

- Taking over the whole utility from PHED on 1st Nov 2008.
- Understanding the plants & equipments, pipe network, manpower and the customers including the bottlenecks in the system.
- Condition and performance analysis of all the equipments done.
- Finalized the immediate and long term Renovation and Replacement plan for the whole utility.
- Comprehensive maintenance plan for different facilities and equipments.
- NRW Reduction plan in place with concrete immediate actions for NRW reduction.
 Initiatives taken contd.

- Wage agreement with the mazdoor union of the contract workers.
- Establishing a latest state of art Laboratory compatible with NABL requirements.
- Skill Gap analysis of all workers and making different training modules.
- Imparting regular training to all workers as per the requirement.
- Identification of all the unsafe conditions in the plants and the remedial actions.
 Initiatives taken contd.

- Special focus on safety with 100% enforcement of PPEs.
- Implementing several good IR practices for employees motivation.
- Total preventive maintenance launched.
- JUSCO customer care, for single window customer complaint management.
- Services for under privileged community.
The Haldia Story: After two years journey

Changed over view of WTP  Clean and safe plants  Equipped Laboratory  TPM Deployment

TPM at Geonkhali  Class room training to workers  Hands on JISHU HOZEN

Basudevpur pump house  Employees participation  Safe working platforms

Transformation through Introduction of Best practices, TPM, Employee engagement, Skill enhancement, Safety Systems etc..
Quality of Water Supply (2010 Vs. 2009)

~ Also significant improvement across all segments

(Figs indicate top 2 box % - extremely or somewhat satisfied)
Availability of Water Supply in terms of Number of Hours (2010 Vs. 2009)

~ Significant improvement in terms of water availability
~ The top 10 industrial customers and the commercial customers more satisfied as compared to the rest

(Figs indicate top 2 box % - extremely or somewhat satisfied)
Has there been any improvement after JUSCO has taken over?

~ Across all service aspects, the customers feel that there has been an improvement – maximum improvement perceived in terms of customer service, followed by water quality.

~ Pressure of supply needs to be improved to increase the overall satisfaction levels.
The Haldia Story: The Impact

**Sale Volume (MGD)**

<table>
<thead>
<tr>
<th>Period</th>
<th>Value (MGD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY09 (Apr-Oct) PHE</td>
<td>15.18</td>
</tr>
<tr>
<td>FY09 (Nov-Mar) JUSCO</td>
<td>18.48</td>
</tr>
<tr>
<td>FY10 JUSCO</td>
<td>22.5</td>
</tr>
</tbody>
</table>

**Avg. Monthly Revenue (Rs Lakhs)**

<table>
<thead>
<tr>
<th>Period</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY09 (Apr-Oct) PHE</td>
<td>207.75</td>
</tr>
<tr>
<td>FY09 (Nov-Mar) JUSCO</td>
<td>261.55</td>
</tr>
<tr>
<td>FY10 JUSCO</td>
<td>337.5</td>
</tr>
</tbody>
</table>

**Collection Efficiency (%)**

<table>
<thead>
<tr>
<th>Period</th>
<th>Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY09 (Apr-Oct) PHE</td>
<td>75%</td>
</tr>
<tr>
<td>FY09 (Nov-Mar) JUSCO</td>
<td>97%</td>
</tr>
<tr>
<td>FY10 JUSCO</td>
<td>98%</td>
</tr>
</tbody>
</table>

**NRW by Volume (%)**

<table>
<thead>
<tr>
<th>Period</th>
<th>NRW (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY09 (Apr-Oct) PHE</td>
<td>30%</td>
</tr>
<tr>
<td>FY09 (Nov-Mar) JUSCO</td>
<td>17.7%</td>
</tr>
<tr>
<td>FY10 JUSCO</td>
<td>14%</td>
</tr>
</tbody>
</table>
Customer feedback

Indian Oil Corporation Ltd.

MCCPTA
August 16, 2010

Dr. R. K. Singh,
Chief, C.I.D. & Water Management, Haldia


Sub: Appreciation

Dear Sir,

We would like to appreciate the performance of JUSCO, who has changed the entire system of Haldia Water Supply and impressed us a lot in a professional organization after taking charge of Operation & Maintenance of Haldia Water Management.

We convey our warm and sincere congratulations to entire JUSCO — Haldia Team for bringing professionalism and also aligning with customer.

Here, you will continue such improving effort and run even Haldia Water Supply System as a model one.

Thanking you,

Yours truly,

For Haldia Petrochemicals Ltd.

A. K. Ghosh

Head Manufacturing & Dy. Plant Head

Haldia Petrochemicals Ltd.

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To:

Hindustan Unilever Limited

Subject: Appreciation of your Water Service

Dear Sir,

We would like to appreciate the performance of your water service in our Plant. Presently we are getting good quality of water as per our demand from your side.

We convey our warm congratulations to the entire team of JUSCO for the better service.

Hope you will continue this service and fulfill our requirement.

Yours sincerely,

For Hindustan Unilever Limited

A. K. Ghosh

Head Manufacturing & Dy. Plant Head

Haldia Petrochemicals Ltd.
Customer feedback

Tata Steel

Ruchi Soya
Critical Success Factors for Successful PPP

- Enabling environment for private operator to manage the system
- Single agency functional co-ordination between “Private Partner” AND Water Board, LUB & UDD etc.
- Provision to be made in the agreement for mandatory review of financial performance of the “Private Partner” in case of variation in to the demand pattern as projected in the concession agreement.
- Flexibility in the structure of concession fees to be made compatible for “Private Partner” for sustainability & viability of business during tenure.
- Timely release of funds linked to proportionate contribution by ULB in case of JNURM funded projects.
Critical Success Factors for Successful PPP

- Responsibility matrix w.r.t compliance of various statutory provisions applicable for the concerned scheme to be detailed & finalized in the PPP model to avoid problems at a later stage.
- Govt. agency must shoulder responsibility for collection user charges as “Private Partner” may not force the issue to users on its own.
- Land, Forest & Environment clearance be taken by Authority prior to signature date of agreement.
- Incentives for efficient performance to Deputed ULB Staff should be part of the contract.
PPP Water… Private Sector Perspective

- Most developers are into other infrastructure sectors as well
- Water Projects considered risky for investment
- Insignificant Private Investment – grant funding in most projects
- “Payment Security Mechanism” and “Low Tariff” are key constraints
  - Ability of City Government to guarantee payments
  - Tariff as function of capital and O&M costs

Comparison is always with Power Sector and calls for equivalent of Electricity Regulatory Commission and Electricity Act
## PPP in Water Sector (last 20 years)

<table>
<thead>
<tr>
<th>Project / City</th>
<th>Year of Award</th>
<th>Developer / Operator</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiruppur</td>
<td>1993</td>
<td>IL&amp;FS / MIDL / UU</td>
<td>Ongoing with very low demand offtake</td>
</tr>
<tr>
<td>Vizag</td>
<td>2000</td>
<td>IL&amp;FS/ L&amp;T</td>
<td>Scrapped</td>
</tr>
<tr>
<td>Radius Water</td>
<td>2000</td>
<td>Soni Engineering</td>
<td>Scrapped post Phase 1</td>
</tr>
<tr>
<td>CMWSSB Twinning</td>
<td>2000</td>
<td>Veolia</td>
<td>Completed</td>
</tr>
<tr>
<td>Chandrapur</td>
<td>2004</td>
<td>Gurukrupa Associates</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Hubli-Dharwad-Belgaum-Gulbarga (Pilot Projects)</td>
<td>2005</td>
<td>Veolia</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Chennai Desal (1)</td>
<td>2006</td>
<td>Befasa / IVRCL</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Dewas bulk water supply</td>
<td>2006</td>
<td>MSK Projects</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Salt lake Sector 5</td>
<td>2007</td>
<td>JUSCO / Voltas</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Nagpur pilot project</td>
<td>2007</td>
<td>Veolia</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Latur</td>
<td>2008</td>
<td>SPML / Hydrocomp</td>
<td>Work suspended</td>
</tr>
</tbody>
</table>


### PPP in Water Sector (last 20 years)

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<th>Project / City</th>
<th>Year of Award</th>
<th>Developer / Operator</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhiwandi – Nizampur</td>
<td>2008</td>
<td>SPML / Hydrocomp</td>
<td>Financial closure in 2010</td>
</tr>
<tr>
<td>Haldia</td>
<td>2008</td>
<td>JUSCO / Ranhill</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Madurai pilot project</td>
<td>2008</td>
<td>SPML / Hydrocomp</td>
<td>Work suspended</td>
</tr>
<tr>
<td>Mysore</td>
<td>2008</td>
<td>JUSCO</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Naya Raipur Bulk Water Supply</td>
<td>2009</td>
<td>Jindal</td>
<td>CA signed in Nov ‘09</td>
</tr>
<tr>
<td>Khandwa</td>
<td>2009</td>
<td>Vishwa</td>
<td>CA signed in Aug’ 09</td>
</tr>
<tr>
<td>Shivpuri</td>
<td>2009</td>
<td>Doshi Ion</td>
<td>CA signed in Oct’ 09</td>
</tr>
<tr>
<td>Surat TTP</td>
<td>2010</td>
<td>Triveni</td>
<td>L1 bidder</td>
</tr>
<tr>
<td>Chennai Desal (2)</td>
<td>2010</td>
<td>VA Tech / IDE</td>
<td>L1 bidder</td>
</tr>
</tbody>
</table>
PPP Projects…Key Characteristics

- Momentum building up since 2007
- Very few city-wide distribution projects – most are either pilot projects or bulk water supply projects
- “Payment Security Mechanism” and “Low Tariff” are key constraints for full-fledged citywide projects
- Lack of regulation viewed as a constraint in sustainability of water operations (relevant even for public utilities)
Expectations from Regulation / Water Policy

- Independent body (can be even at state/city level) for ratification of Utility’s business plan, including capex deployment
- Development and monitoring of KPIs
- Tariff setting based on business plan and Utility’s performance
- Payment Security Mechanism

Bridge the expectations mismatch between Customers and the Utility
Thank You