



NESL WATER COMPANY BHOPAL

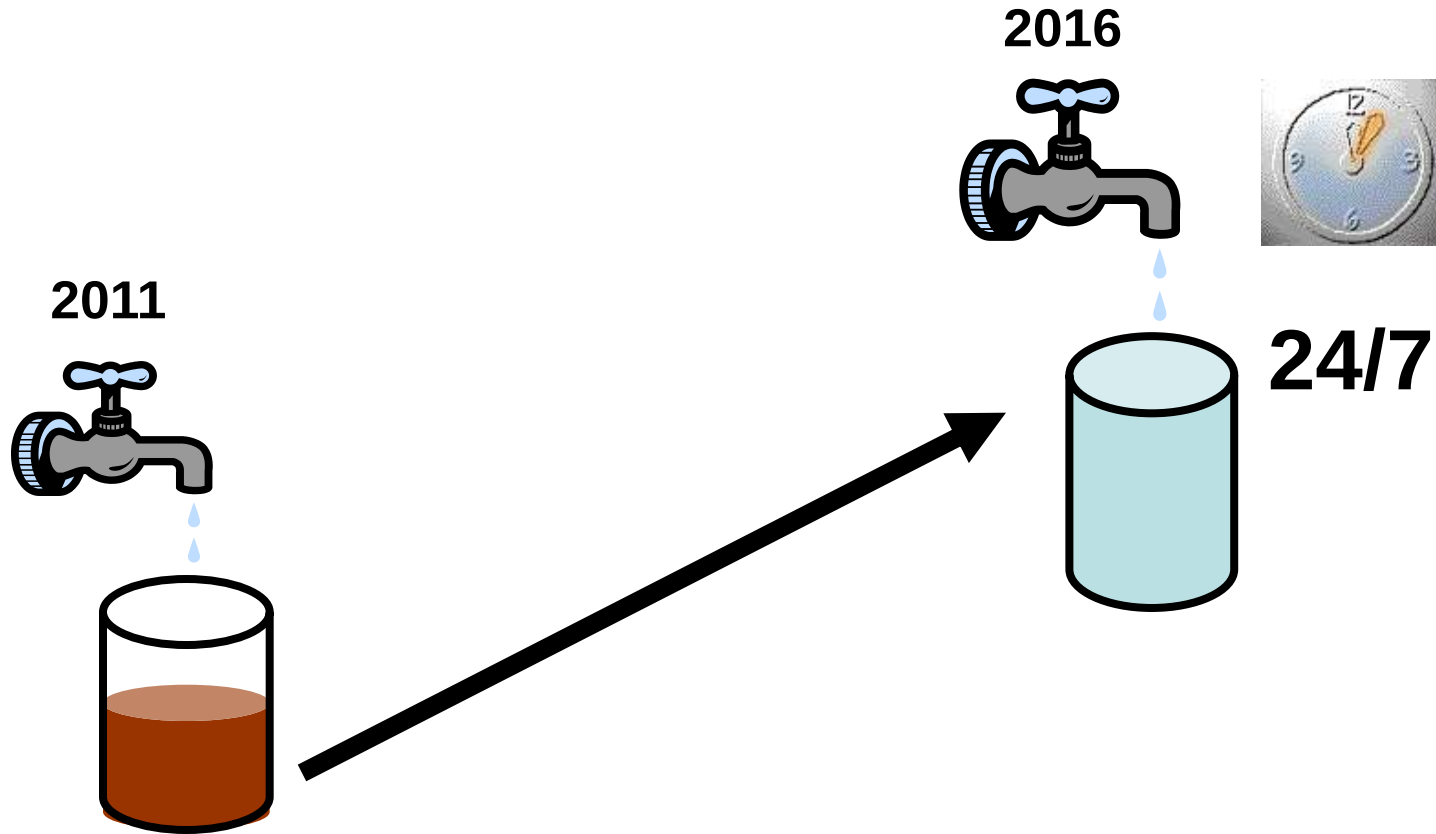
Dtd. 17.02.2014

S. S. Hastak, NMC.

Issues In Urban Water

Change Management for Continuous Water Supply

24x7 Water Supply Project of Nagpur



Intermittent Supply

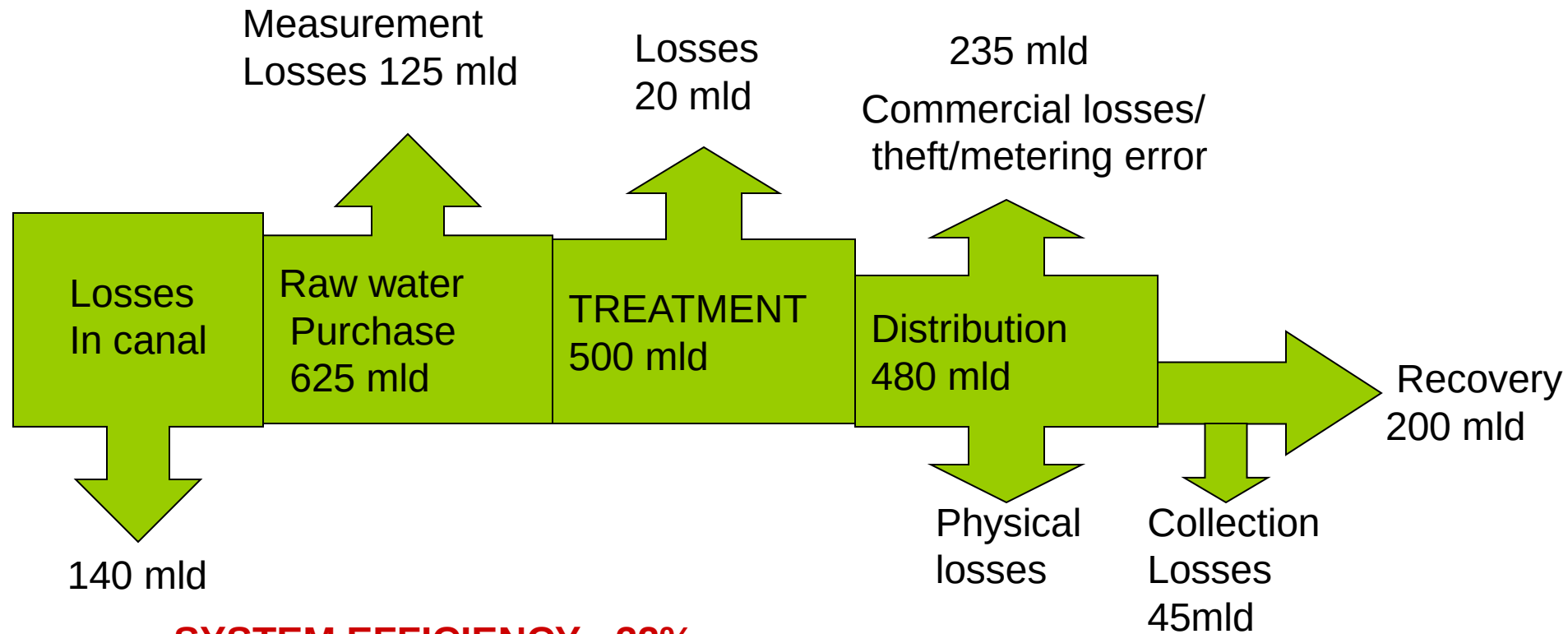


HISTORY OF NAGPUR WATER SUPPLY

Year	Population	Water Supply in mld	lpcd Rate	Sources
1921	145000	16.50	114	Ambazari + Gorewada
1941	302000	45.00	149	Ambazari + Gorewada + Kanhan
1961	644000	80.00	124	Ambazari + Gorewada + 1st Aug. Kanhan
1981	1217000	125.00	103	Ambazari (discarded), Gorewada + 3 Times Aug.
2001	2150000	370.00	172	Gorewada + Kanhan + Pench -I + Pench -II
2004	2350000	470.00	200	Gorewada + Kanhan + Pench -I + Pench -II + Pench -III
2011	2700000	600.00	222	Gorewada + Kanhan (Augmented) + Pench -I (JnNURM Partial) + Pench -II
2015	2750000	765.00	278	Gorewada + Kanhan + Pench -I + Pench -II + Pench -III+JnNURM



NAGPUR WATER SUPPLY: Status before JnNURM



SYSTEM EFFICIENCY : 32%

Annual Loss (W/O Dep): Rs 56 crore

With Depreciation : Rs 75 crore (appx)



The water losses (Technical + Commercial) resulted into following concerns to ULB

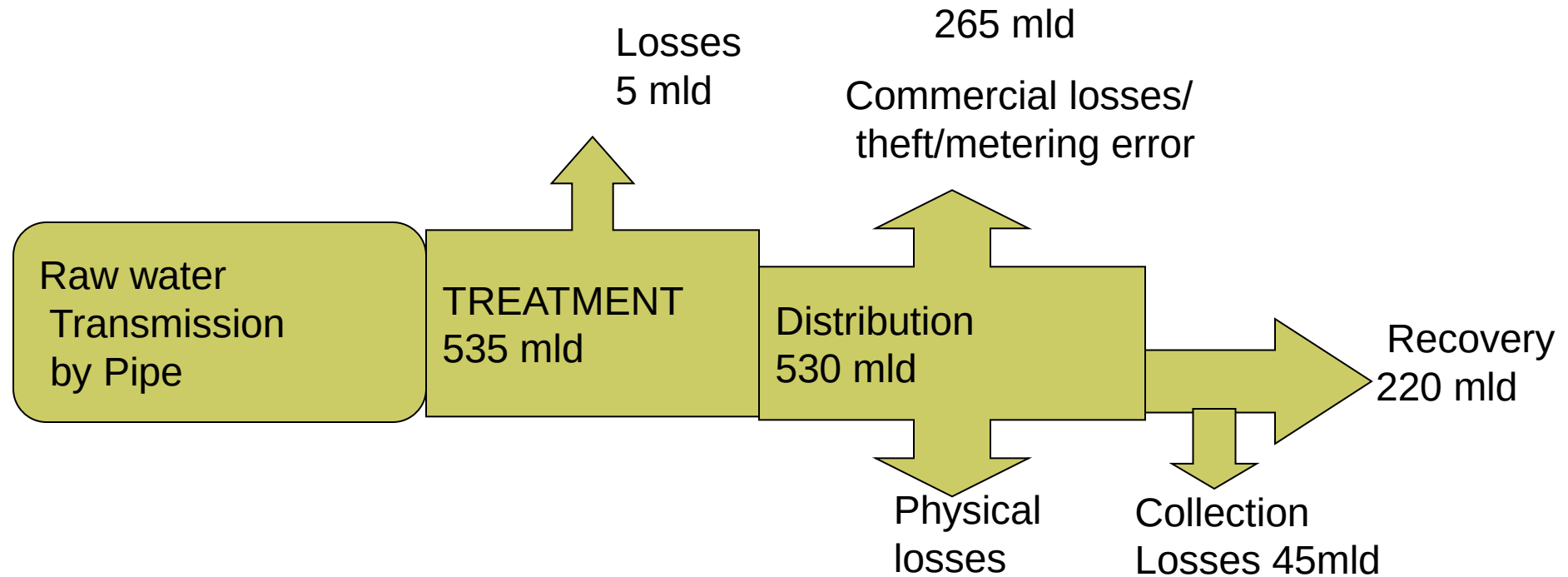
- Inequitable water distribution.
- Low pressures.
- High level of NRW.
- Polluted water & waterborne diseases.
- Low water tariff & poor billing mechanism.

JnNURM Projects completed by NMC

- Leak detection study
- Water Audit of Water Supply System
- Energy Audit of Water supply system
- Expansion & upgradation of distribution Network
- Improvement & Augmentation to Kanhan Water Works.



NAGPUR WATER SUPPLY: Status After Implementation of Augmentation Projects JNNURM (excluding 24x7)



Benefits after partial Implementation

- System Efficiency : 41% from 32%
- Reduced financial losses by tariff revision
- Increased water supply to distribution by 40 mld

This slide suggest that only infrastructure improvement is not sufficient for sustainability



Water Efficiency

Supply Side Efficiency

Water Audit
Energy Audit

Pumping
Treatment
Transport
Storage

Distribution
Consumer
Connection
Metering

Demand Side Efficiency

Telescopic Water
Tariff with cost
recovery
Billing & Collection

Customer
Management &
Awareness

Slum Policy for
Water Supply

24x7 W.S. Pilot Project

- Before embarking upon full city project, NMC has undertaken 24 x 7 demo project in pilot Dharampeth Zone covering 150,00 house service connections. The key strategy of the initiatives included :
 - **100% metering**
 - **Rehabilitation of tertiary network**
 - **Hydraulic modeling as per master plan**
 - **Installation of new billing system**
 - **Customer facility center**



24x7 W. S. Pilot Project

- Features
 - 15000 Connection including slum
 - 10 slum areas
 - Population 1.5 – 1.75 lakhs
- Contract
 - Study, Rehabilitate, Operate contract with Private operator.
 - Penalty /bonus for targets in UFW, Quality, Customer services and Continuity of supply



Important Lessons from 24x7 Water Supply Demo Project

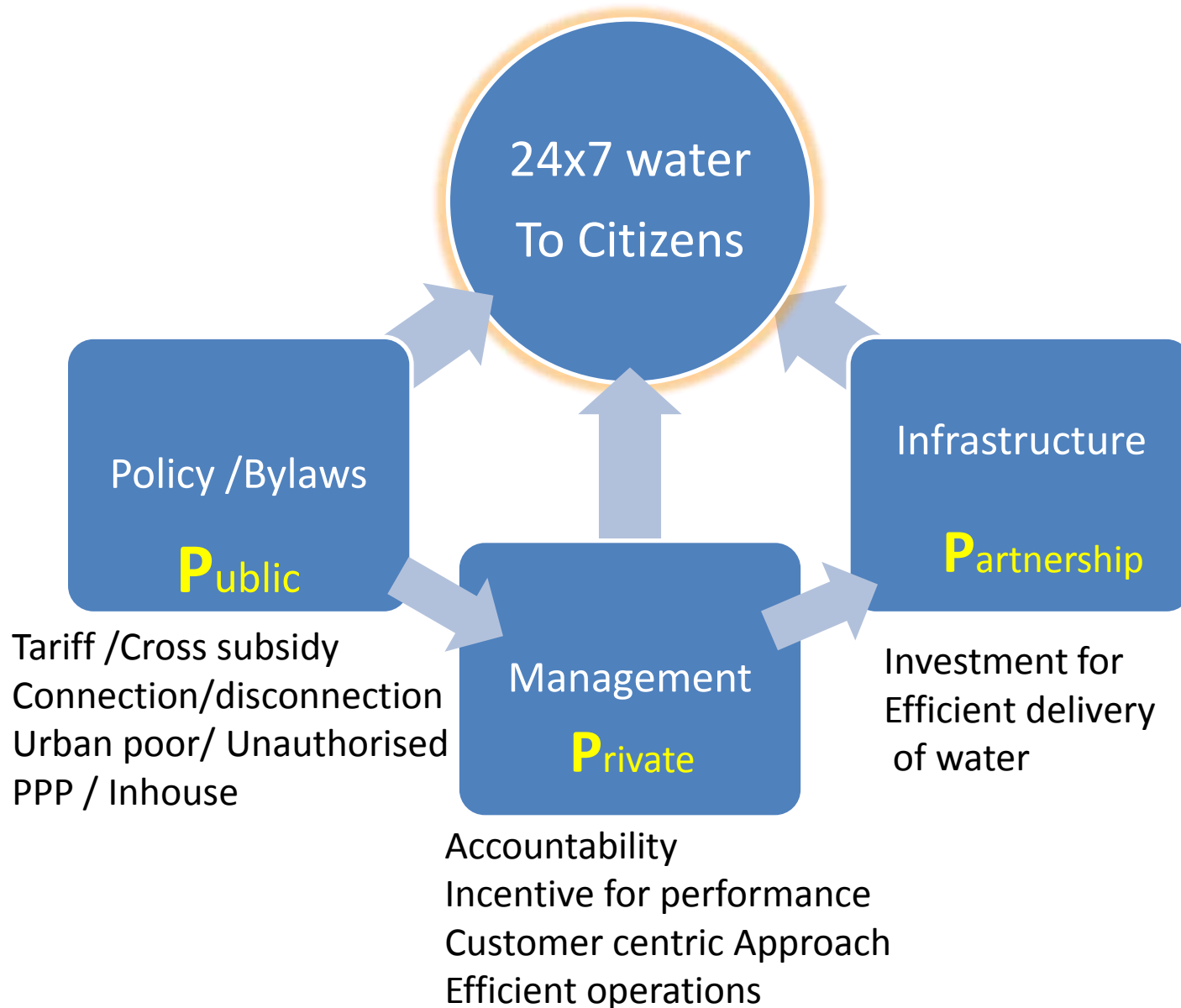
- Public relation
- Customer services (Setting of Grievances Redressal Centre)
- Tariff
- Frequency of Bills
- Post meter leakages
- Awareness period – Dummy bills
- Restoration of Road Cuts, trenches
- Sensitive Water Meters

Visit of to slum area in Pilot Project by Smt. Isher Judge Ahluwalia, Chairperson, ICRIER, and Mr. Sanjeev Jaiswal, Municipal Commissioner, Nagpur



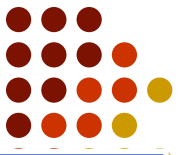


Holistic Approach





Steps for Achieving 24x7 WS



Water Audit

Identification of the Water Losses (Technical & Commercial)

Leak Detection in Bulk water system (Supported by JNNURM)

- Installation of Flow Meters (Supported by JNNURM)
- Reduction in Raw water transmission losses (Supported by JNNURM)



Pilot Project for improvement in SLB

Pilot of 24x7 water supply project to reduce UFW in Distribution System (Supported by JNNURM)

DMA for leak detection plan to identify the causes (Supported by JNNURM)



Full City Rehabilitation Plan

Rehabilitation Plan Based on Water Audit and Pilot /DMA studies (Supported by JNNURM)



O & M Strategy for Sustainability

Rationalization of Tariff for cost recovery

PPP for Technical & Commercial Efficiency through 25 years O & M lease contract (OCW)



Need for 24x7 W.S. Project

- **To reduce water losses**
- **Improvement of SLB**
- **Improvement in Public Health.**
- **Technical & financial sustainability of water sector.**
- **Achieving operational efficiencies through private sector participation.**
- **Conservation of Scarce resources.**

Nagpur 24x7 WS PPP Contract Model

Type of Contract	O & M Contract (Asset ownership and sovereign rights remains with NMC)
Contracting Authority	NMC / NESL
Scope of Contract	Integrated O & M of water supply facilities from raw water to customer meters including • Water treatment • Transmission of treated water and distribution to customers • Full customer services including but not limited to: meter installation, reading, billing, revenue collection (and deposit in to NMC a/c) and customer complaints handling. • Inclusion : O & M, repairs, replacement, efficiency • Exclusions: Expansion, New Projects, Upgradations
Duration and possible extension	25 years. Extension subject to approval from General Body.

Nagpur 24x7 WS PPP Contract Model

Service Area	• Pipe network with in NMC limits. Communities out side NMC on request of NMC/NESL
Integration of existing service contracts	• Progressive full take-over of O&M over the first few years of the contract after completion of existing contracts • For Kanhan & Pench IV, Operator will take over the responsibility of NMC for O & M.
Funding of the investments required	• Funding of the initial 5-year investments under the lease (Approx: 387 crores): ➤ 70% grant under JnNURM ➤ 30% and additional, if any from Operator
Capital investments under the contract	• Managed by the operator/NMC
Remuneration of the operator	• Fees for each unit (m3) paid by consumer or NMC (free supply, if any) through NESL

Services Standards, Tariff & Subsidies, Risks allocation (1/3)

Services Standards	<i>Network Coverage</i> : 100% coverage within two years for existing distribution area and expansion within NMC limits. <i>Water Quality</i>: Potable water as per CPHEEO norms. <i>Continuity of Water Supply</i> : • 12 hours within 3 years • 24 hrs within 5 years on a phased manner <i>Technical Efficiency <20% UFW and commercial efficiency >90%</i> <i>Customer Complaints</i> : To be attended within stipulated time.
---------------------------	--

Allocation of Responsibilities and Risks

Business Responsibilities

Operator : O&M, Management and partial Investments

NMC :

- Decide the level of subsidy versus tariff
- Establish tariff structure
- Secure availability of raw water
- Pay energy bills to energy providers
- Manage existing JnNURM projects
- Repay own loans and liabilities
- Pay subsidies to NESL, if any

Allocation of Risks

Operator :

- Operational and commercial risks
- Investments risks (partial)

NMC :

- Risk of volatility on energy and raw water Unit Prices
- Changes in law
- Investments risks (partial)

Institutional, legal and contractual issues (1/3)

NMC Act	• Option 1: Make necessary amendments required (if any) to facilitate long term lease agreement • Option 2: Frame the agreement within NMC act to meet the desired objectives • NMC opted for Option 2 and O & M contract was redrafted as per CNC act.
NESL set-up	• Independent company to be 100% owned by NMC • Chairman – Mayor, MD – Municipal Commissioner, CEO – Ex Engr WWD • Composition of Board of Director 6 each from officials and elected representative • Call for external assistance whenever required (tariff rebasing, auditing, monitoring...)
Role of the NESL When operator in place	• Monitor the key performance indicators • Monitor the operator technical and financial performance, its legal and contractual obligations • Approve the rebasing of tariff as per contract • Make the decision regarding new projects

Institutional, legal and contractual issues (2/3)

Resolving disputes	• Procedures & time table shall be strictly regulated in the agreement. • For minor dispute, the NESL may take up the decision. • Arbitration or Court of Law will be next step.
Tariff Adjustments	• Tariff to be determined by NMC • Tariff revision on yearly basis as per approved formulae • No link of operator fees with slab and category of consumer.

Institutional, legal and contractual issues (3/3)

Governing law	The operator must comply with all Indian laws, regulations, orders and directives that may affect the lease contract
Mechanism for compliance	• Penalties to be applied to the operator in the event of breach of contractual obligations. • Performance bond in favor of NMC to cover the performance failures with respect to the operator obligations .

Selection of operator (1/2)

Operator selection	• Quality Cost Based Selection with: - International pre-qualification process. - Competitive tender among pre-qualified bidders • Technical proposal in two stage • The technical proposal included: - Methodology to improve efficiency to upgrade the system to 24x7 - Proposed organization structure & human resources plan - Customer services - Capital investment management - Operation & Maintenance plans • Financial proposal after approved second stage technical proposal

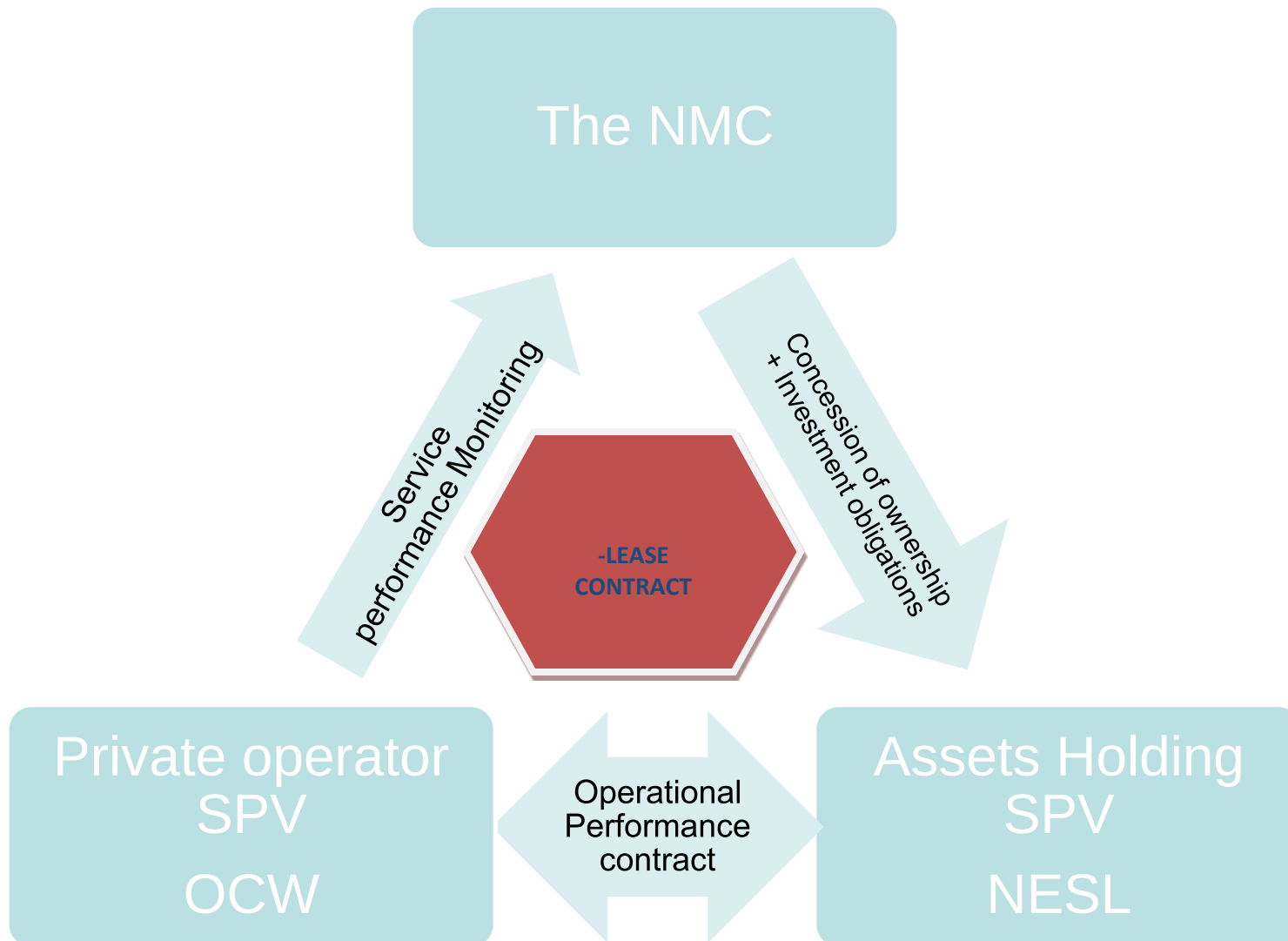
Selection of operator (2/2)

Operator selection	• The Financial Proposal included for each bidder: - The fees on paid volume • No link with water rate tariff slab and type of consumer • In absence of reliable consumer record and billing system (Avg. billing) NESL shall assure the minimum payment of 250 mld for first five years.
Sovereign Powers retained with NMC	• Disconnection of defaulters. • Deposit of revenue receipt (water charges) in to a NMC acct. • Tariff decisions • Ownership of Municipal Assets • Development and Up gradation of facilities.



IPIP Programme

Sr. No	Name of Particulars	Proposed Estimated Cost	Cost As approved by CPHEEO (In Crores.)	
1	Inside Slum	4409.00	4409.00	
i)	Replacement of Pipeline inside Slum.			
2	Outside Slum	6864.00	5816.00	K9 to K7
i)	Replacement of Pipeline of different diameter.			
3	House Service Connection (Outside Slum & inside Slum)	18295.00	22028.00	Meters for all HSC incl slums
4	Specials (Outside Slum & inside Slum)	1588.00	1588.00	
5	Repairs of pipe & Specials	854.00	854.00	
6	Electromagnetic Meter	764.00	764.00	
7	Rehabilitation of ESRs	826.00	826.00	
8	Rehabilitation of Pench II WTP	646.00	646.00	
9	Replacement of Sluice Gates & Valves	359.00	359.00	
10	Developing billing Software	200.00	200.00	
11	Other Works	166.00	166.00	
	Total	34971.00	37656.00	
	Add @ 3% Contingencies	1049.00	1130.00	
	Grand Total RS.	36020.00	38786.00	



NESL Water Company

Formation

- 100% owned water company of Nagpur Municipal Corporation (NMC)
- Registered under Companies Act 1956 on 28th Oct. 2009
- Having mandate of General Body (GB) of NMC and Government of Maharashtra (GOM)
- In conformity with the provisions of CNC Act 1948 – Sec. 58(rb)

NESL Water Company

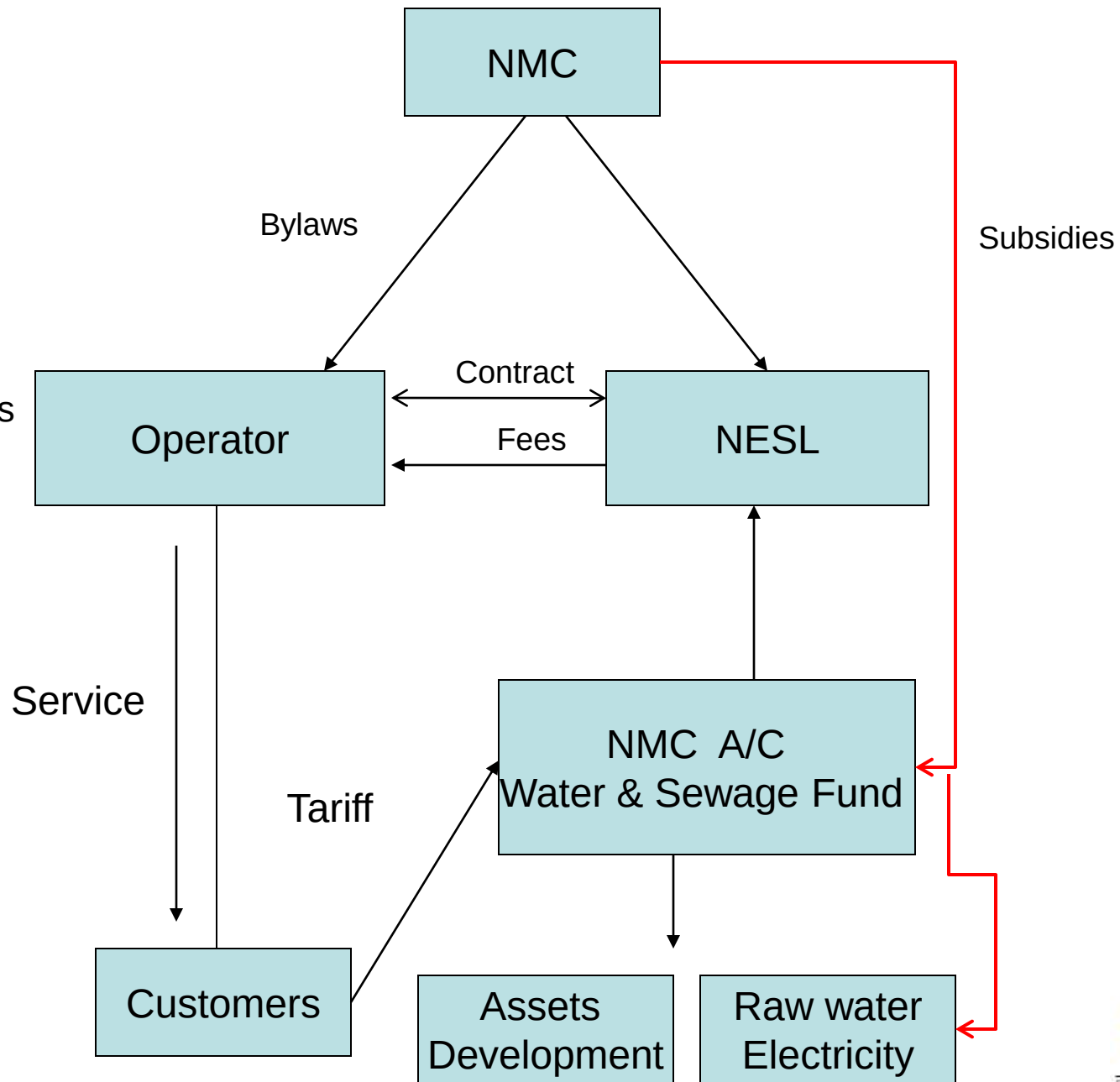
NEED

- Attract private investment by putting in place suitable escrow arrangements
- Mandatory for fulfillment of conditions of Ringfencing of revenue and expenditure on water supply operations to avail government grants under JnNURM
- To bring in accountability and functional autonomy/independence in the working of NMC's Water Works Department.



Institutional Arrangement under 24x7 Water Supply Project

O&M
Customer services
Rehabilitation



NESL Water Company

CONSTITUTION OF BOARD OF DIRECTORS OF COMPANY

- Total 12 Nos Directors.
- Chairman – Mayor of Nagpur
- Vice Chairman cum Managing Director- Municipal Commissioner
- Executive Director of Company- Executive Engineer Water Works Department
- Executive Engineer, Pench Project Cell
- Chief Account & Finance Officer
- Dy. Municipal Commissioner, GAD
- Sr. Water Work Engineer

Directors (Non Officials)

- Dy. Mayor of Nagpur
- Ruling Party Leader, NMC
- Opposition Leader, NMC
- Standing Committee Chairman, NMC
- Chairman, Water Supply Advisory Committee, NMC

NESL Water Company

SALIENT FEATURES

- Ownership of assets with NMC.
- Transfer of assets of NMC to NESL for operation, maintenance and management only.
- Water charges will continue to be decided by NMC.
- Apart from water supply, company can take up work of sewage disposal and solid waste management in future.

NESL Water Company

PROPOSED INITIATIVES

- To set up strategic communication cell to support in developing & implementing comprehensive strategy that helps in creating an enabling environment for water sector reforms & aligning all concerned stakeholders to the goal of 24x7 Water System.
- To establish and operate a dedicated PIU to support monitoring performance of private operator in accordance with PPP contract.

NESL Water Company

MEETING OF THE BOARD OF DIRECTORS



- Starting with the first BOD Meeting held on 30th Nov 2009 a series of meeting ensued to achieve the conception & implementation of the Project

NESL Water Company

TRIPARTITE AGREEMENT



- A tripartite agreement was signed between NMC, NESL & the operator (OCW) on 3rd June 2011

NESL Water Company

SIGNING OF MEMORANDUM OF AGREEMENT



- After the due, transparent & fair selection process a MOA was signed between NESL & Orange City Water Private Limited on 17th Nov 2011

Chronological Summary of NMC's 24x7 Water Supply Project for Nagpur City through PPP

- | | | |
|-----|---|----------------------------|
| 1. | Resolution passed by NMC GB for 24 x7 project (No. 147) | 22 nd Jan 2008 |
| 2. | Resolution passed by NMC GB for appointment of PMC(No. 71) | 30 th July 2008 |
| 3. | Work Order issued to PMC | 5th Aug 2008 |
| 4. | Publication of EOI & RFQ notice | 10th Aug 2008 |
| 5. | Clarification Meeting on RFQ | 9th Sept 2008 |
| 6. | Clarifications issued on RFQ | 10th Sept 2008 |
| 7. | Receipt of EOI & RFQ | 20th Sept 2008 |
| 8. | Formation of steering committee to review the evaluation criteria, prequalification procedure and short listing eligible bidders. | 6 th Oct 2008 |
| 9. | Submission of DPR to JnNURM | 30th Oct 2008 |
| 10. | Receipt of Clarification on RFQ | 18th Dec 2008 |

15.	Launching of project website and setting up Data Room	24 th April 2009
16.	Addendum no. 1 to RFP issued	4 th May 2009
17.	1st Pre-Bid Meeting at Ravi Bhavan	14 th May 2009
18.	Site Visit for all three applicants	15 th May 2009
19.	Clarification Set no.1 issued	27 th May 2009
20.	Clarification Set no. 2 issued	1 st June 2009
21.	Clarification Set no. 3 issued	12 th June 2009
22.	Addendum no. 2 to RFP issued	20th June 2009
23.	Clarification Set No. 4	15th July 2009
24.	2nd Pre-Bid Meeting at 'VANAMATI'	21st July 2009
25.	Draft Contract (Revision-1) issued to Bidders	21st July 2009
26.	Appointment of NMC legal Council (Sr. Adv.)	4th August 2009

27.	Addendum No. 3 issued to Bidders	4th Aug 2009
28.	Approval for the formation of Company (NESL), GR from Govt. of Maharashtra	31 st August 2009
29.	Draft NMC Asset Valuation issued to Bidders	8th Sept 2009
30.	3rd Pre-Bid Meeting at 'VANAMATI'	12th Sept 2009
31.	Registration of NESL Company as per Company Act	28th Oct 2009
32.	1st NESL Board meeting	30th Nov 2009
33.	Meeting with NGO & Editors	7th Dec 2009
34.	Meeting with NGO & Editors	13th Jan 2010
35.	2nd NESL Board meeting	4th March 2010
36.	Workshop on 24 x7 project	9th March 2010
37.	Issue to Draft contract document (Revision-2)	10 th March 2010
38.	Meeting of NMC officials, Legal advisor to NMC, Eminent members of society and the Consultant	15 th March 2010

39.	Issue of Draft Contract Document (Revision-3)	29th March 2010
40.	4th Pre-Bid Meeting	10th April 2010
41.	Issue of MOM of 4th Pre-Bid	20th April 2010
42.	Issue of Clarification Set no 5	26th April 2010
43.	Proposal put up to General Body of NMC for approval to the Contract Document	17 th May, 2010
44.	Issue of Clarification Set no 6	24th May 2010
45.	NMC's GB Approval to 24 x7 PPP contract document (NO. 116)	25th June 2010
46.	Issue of RFP (Revision-4 & Final)	5 th July 2010
47.	Discussions Meeting and introduction of New Municipal Commissioner	19 th July 2010
48.	Issue of Clarification Set no. 7 & 8	21st July 2010
49.	Clarification Set No. 9	30th July 2010
50.	Clarification Set no. 10	10th Aug 2010

- | | | |
|-----|--|-----------------------------|
| 51. | Clarification Set no. 11 | 13th Aug 2010 |
| 52. | Technical Bid Submission and opening | 20th Aug 2010 |
| 53. | Changes required pursuant to first stage Evaluation (Addenda) issued and invitation to bidders to submit second stage bid on or before 18.10.2010, along with letter of undertaking (Attachement-1), Common assumptions for Business Planning in addition to Annexure-4 of Part I Section IV of RFP (Attachment 2), Format for Financial/Cash Flow Statement (Attachment 3) and substitution agreement (Attachment 4). | 28 th Sep. 2010 |
| 54. | The remarks Bidder's technical proposal Cash Flow Statement (Attachment – 3) and Substitution agreement (Attachment – 4) | 28 th Sep. 2010 |
| 55. | The remarks on technical proposal (First stage bid) submitted by bidders issued separately to the respective bidder. | 28 th Sept. 2010 |

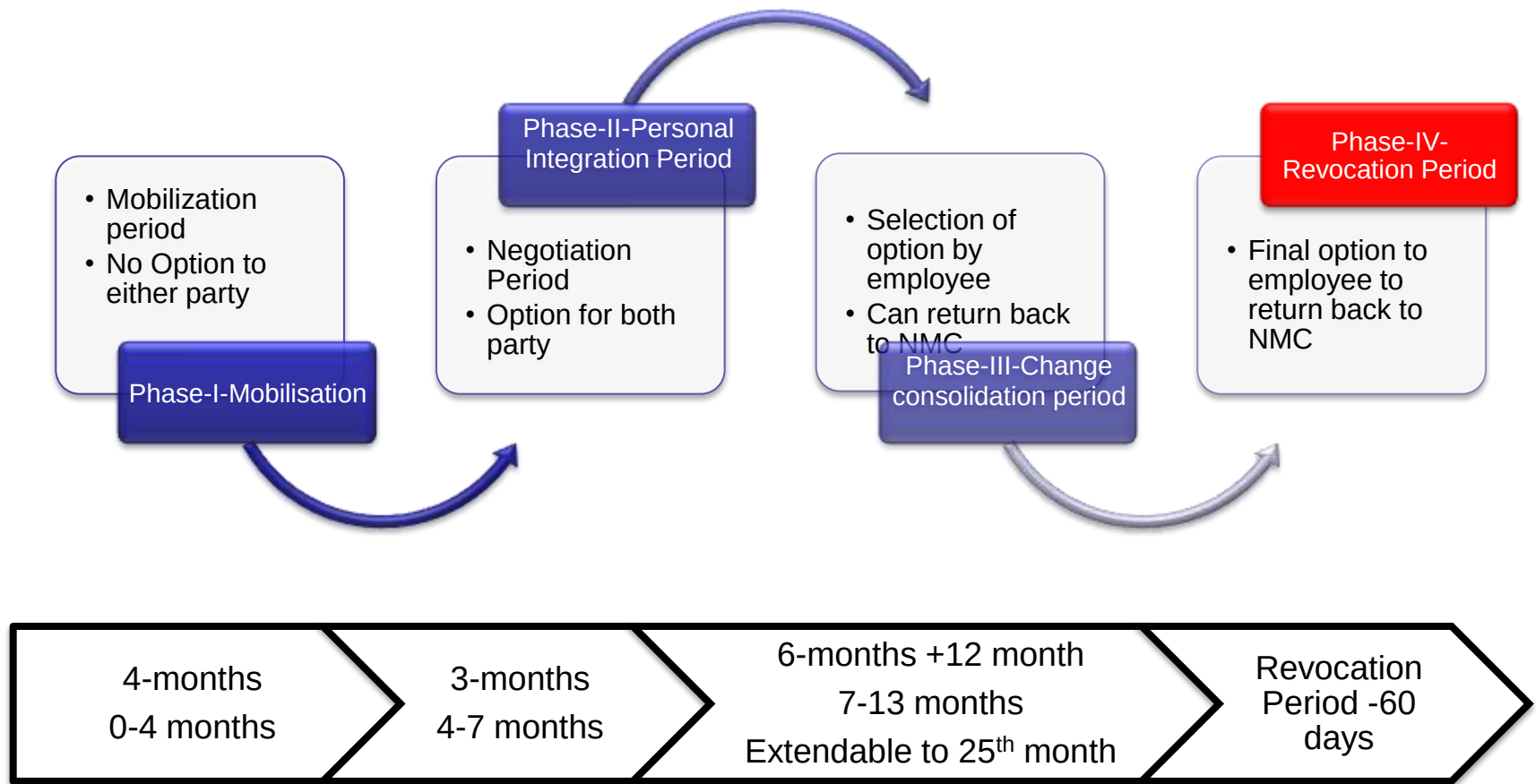
56.	Substitution agreement as drafted afresh sent to bidder.	1 st Oct. 2010
57.	Date of submission of second stage bid extended to 25.10.2010.	18 th Oct. 2010
58.	Amended Bid Price Form (14.10.2010) and Addenda (Clarification Set No.12) issued to bidders.	18 th Oct. 2010
59.	Date of submission of second stage bid extended to 29.10.2010.	22 nd Oct. 2010
60.	Second Stage Bid Submission & Opening	29 th Oct 2010
61.	Tender approved by Standing Committee	08 th Nov 2010
62.	Letter of Intent (LOI)	18 th Nov 2010
63.	Formal endorsement by NESL in Board Meeting	25 th Nov 2010
64.	Letter of Acceptance (LOA)	12 th Jan 2011
65.	Signing of Tripartite Contract Agreement	03 rd June 2011

- | | | |
|-----|---|----------------------------|
| 66. | Signing of MOA | 17 th Nov 2011 |
| 67. | Partial taking over of operation by operator
(without cost to NMC) | 28 th Nov 2011 |
| 68. | Financial Commencement Date and takeover of O & M | 1 st March 2012 |

Human Resources issues

Transfer of staff

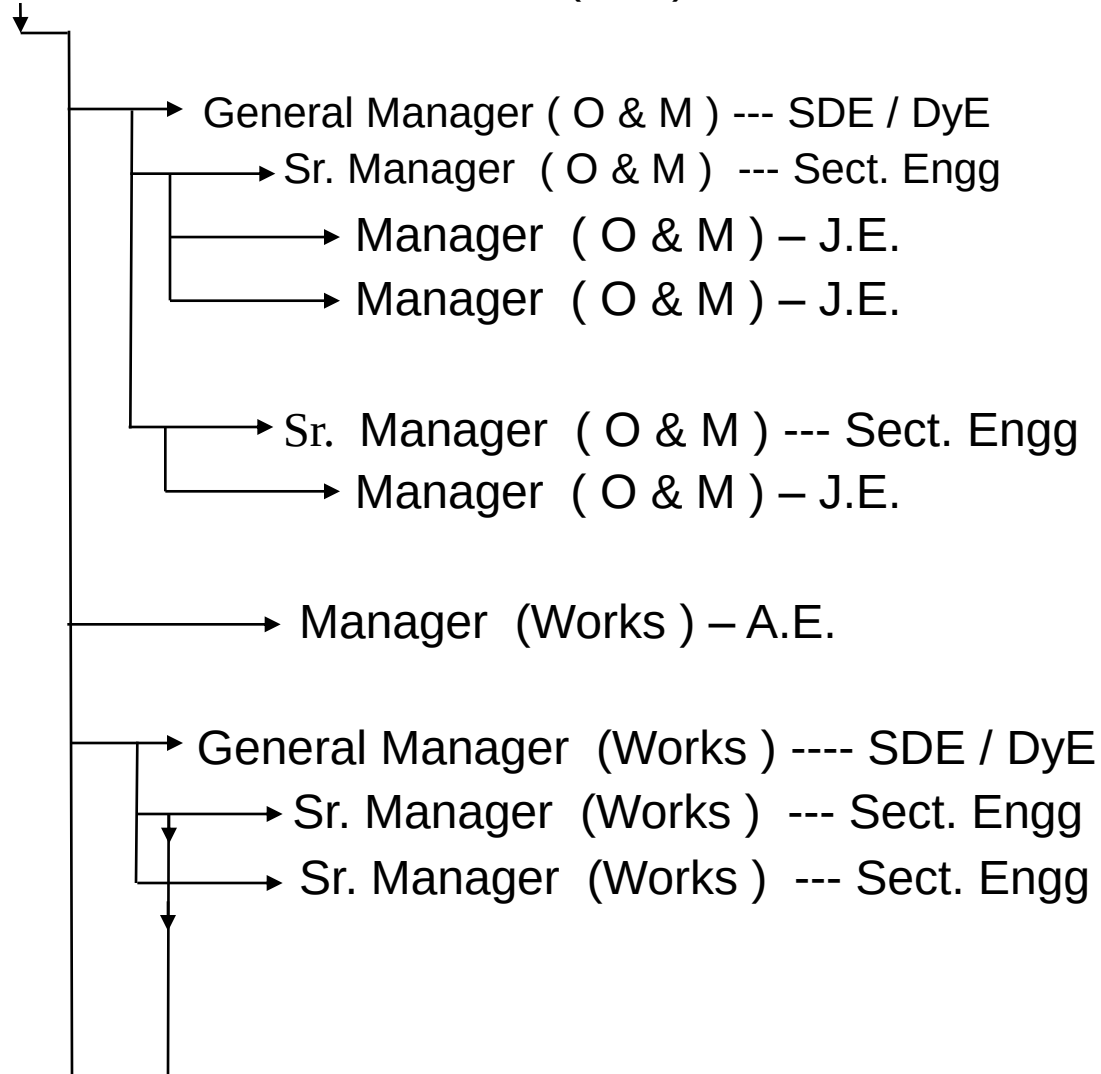
- Phase-I : Subject to mutual consent of NMC staff and operator, NMC staff could be deputed to the operator for the first **120 days** of the contract for **mobilization period**. NO change in employment
- Phase-II : Operator will offer regular employment to the selected staff of NMC within **90 days** of **Personnel integration period** after one to one negotiations. No change in employment
- Phase-III : Employees will have option to go back to NMC within **180 days** of **change consolidation period**. No change in employment
- Phase-IV : If they do not accept the offer, they will go back to NMC in next **60 days**.
- During deputation of NMC staff to the operator, they will continue to hold their seniority and benefits as per their present employment terms with NMC.
- During the term of deputation to the operator, NMC staff will be paid by the NMC and reimbursed by Operator through NESL and their salaries and benefits will not be inferior to their existing terms of employment with NMC.



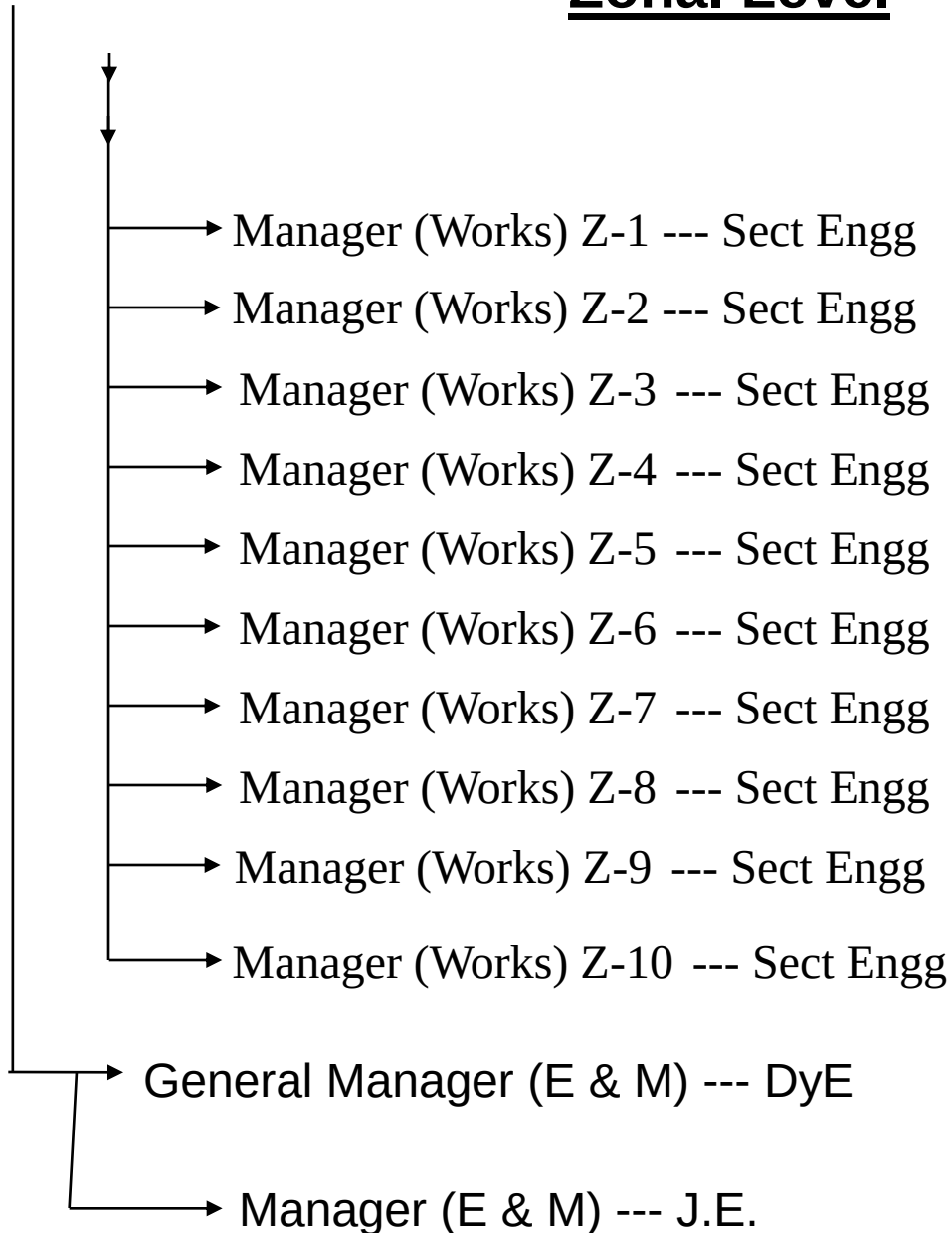
Technical Set-up for NESL

Head Office

Executive Director --- EE (WW)

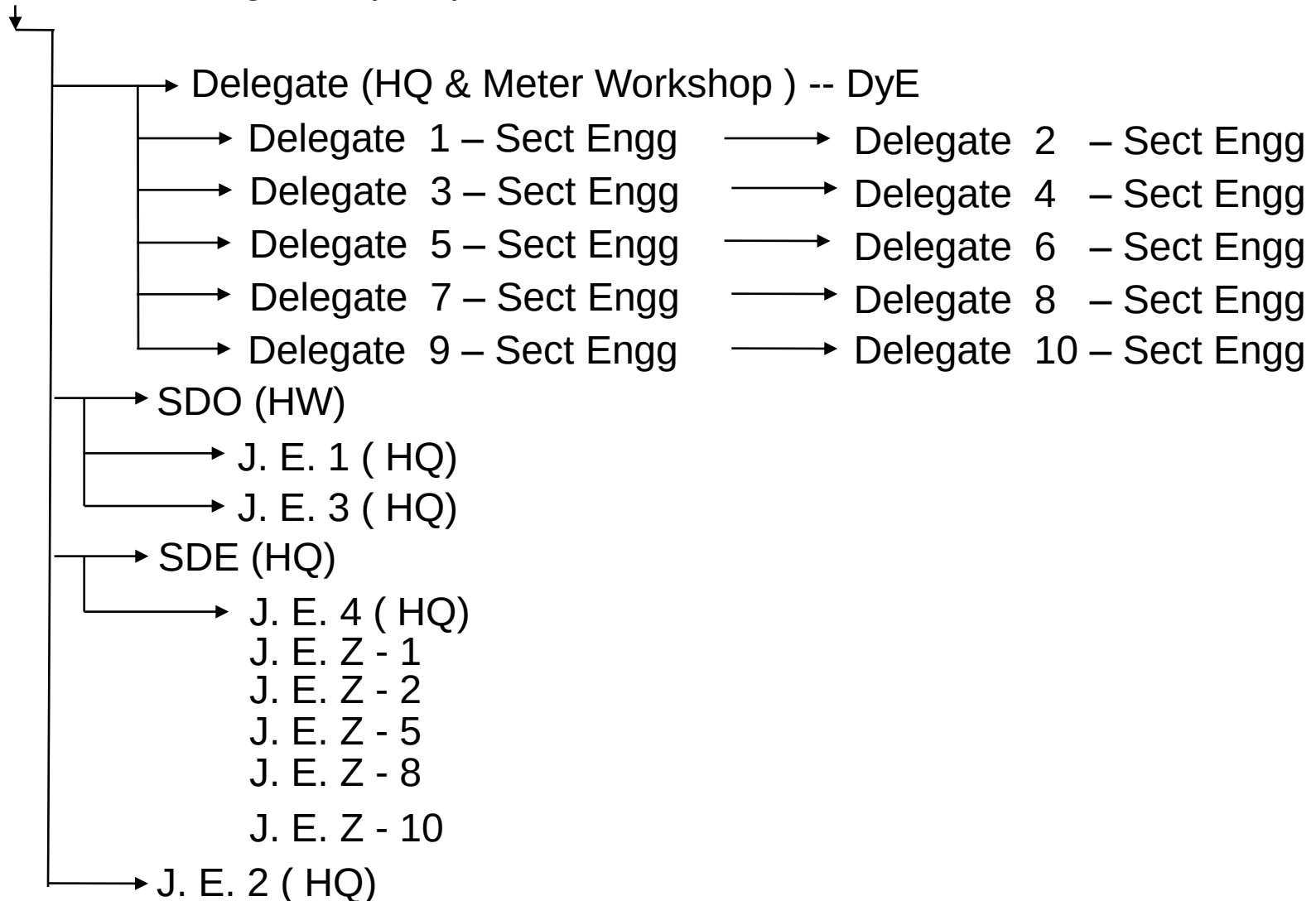


Zonal Level



Technical Set-up for NMC Works

Executive Engineer (WW)



NMC`s Proposal under CBUD Project

Nagpur Municipal Corporation is pursuing with MoUD , GoI for early establishment of City Support Unit under CBUD Project to strengthen NESL with professional manpower with following competencies to be available on full time basis for a period of 3 years

- 1) Finance Expert.
- 2) Public Relation Officer.
- 3) Contract Management & Evaluation Specialist
- 4) MIS Expert.
- 5) Project Assistant.

to ensure that operator meets the performance obligations set out in PPP contract.

Challenges Ahead

- 1) Sustained support / commitment of Public Partner to the Project.
- 2) Completion of Rehab works and utilisation of Govt. Grants in curtailed time limit set by GoI.
- 3) Capacity of pvt operator to meet enhanced expectations of consumers.
- 4) Immediate strengthening of NESL for effective regulation.
- 5) Need for Public Partner & Public Representatives to move away from direct control and old habit of interfering in water supply operations and strictly adhere to relationship based on Contractual Agreement.

Key prerequisites for 24x7 WS Initiatives

- Water Audit and Rapid Assessment of existing WS status.
- Political and Administrative will.
- Availability of Raw Water and Infrastructure.
- Availability of JnNURM or similar grant (Reform based).
- Quality metering / telescopic tariff / billing & customer management.
- Ring fencing of WS operations & accounts.
- Financial independence through tariff revision for O&M cost recovery.
- IEC practices.
- Conversion of manageable areas into 24x7 WS in a phased manner.
- Conformity of PPP contract with legal frame work applicable to specific ULB.

THANK YOU!