

Kathmandu Upatyaka Khanepani Limited



Annual Operating Report 1 Falgun 2064 – 31 Asadh 2065

**Kathmandu
Nepal**

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INTRODUCTION

Kathmandu Upatyaka Khanepani Limited (KUKL), a public limited company was established in 2007 under the “Company’s Act” under a Public Private Partnership (PPP) model. The current shareholders of KUKL are the Government of Nepal (GON), Municipalities within the Kathmandu Valley (Kathmandu Metropolis and Lalitpur Sub-metropolis), Federation of Nepalese Chamber of Commerce and Industries (FNCCI)/Nepal Chamber of Commerce (NCC) and the Employees Trust. The Board of Directors of the Company consists of seven members including three independent Board Members.

A thirty-year license was granted to KUKL on 1 Falgun 2064 (13 February 2008) by the Kathmandu Valley Water Supply Management Board (KVWSMB) for operating the water supply and sanitation services in the service areas within Kathmandu Valley. KUKL took over responsibilities to operate the water supply and sanitation services under this license and a lease agreement for the same period (between KVWSMB and KUKL) on 13 Feb 2008. Three managers, General Manager, Administrative/Finance Manager and Technical Manager, were appointed on contract between March-April 2008 and are supported by three deputy managers and staff deputed from KVWSMB.

This **Annual Operation Report for FY 2064/65 (2007/2008)** gives the details of the performance of KUKL with respect to the service standard and technical norms described in the Service Standard Appendix of the License.

The Service Standards General Provision

The Service Standards Appendix consists of:

- The Service Standards General Provisions;
- The Service Standards Appendix Charts; and
- Attachment 1 to the Service Standards Appendix

The General Provision defined in the Terms of Operation of Services, are as per the following appendices included in the License.

- a) Appendix “1” – Description of the Service Area (the “Service Area Appendix”).
- b) Appendix “2” – Description of the Services (the “Services Appendix”).
- c) Appendix “3” – Description of the Service Standards required (the “Service Standards Appendix”).
- d) Appendix “4” – Description of the Capital Investment and Asset Management requirements (the “Capital Investment and Asset Management Appendix”).
- e) Appendix “5” – Provisions concerning the Tariff for future years (the “Tariff Appendix”).
- f) Appendix “6” – Provisions concerning the Arbitration (the “Arbitration Appendix”).

Description of Service Area and Services

The service area and services provided by KUKL are as described in the Annex 1 – Description of the Service Area and Annex 2 – Description of the Services of the License and there has been no change in them during the reporting period.

SERVICE STANDARDS REQUIRED

The summary of the performance achieved and assessment of standards are presented in the following table.

	Performance Standard	Performance by the Operator
Ensure the availability of water supply		
1	By the <u>beginning of the fourth year after the Start Date</u> , no less than 1 hour per day of water supplied at minimum 4 meter head for at least 90% of all connections	Not yet due
2	By the <u>beginning of the sixth year after the Start Date</u> , no less than 2 hours per day of water supplied at minimum 4 meter head for at least 90% of all connections	Not yet due
3	By the <u>beginning of the second year after the commissioning of Melamchi Project</u> , no less than 8 hours per day of water to be supplied at minimum 10 m head for at least 75% of all connections	Not yet due
4	By the <u>beginning of the fourth year after the commissioning of Melamchi Project</u> , no less than 8 hours per day of water to be supplied at minimum 10 m head for at least 95 % of all connections	Not yet due
Ensure water quality in the distribution system		
5	By the <u>beginning of the fifth year after the Start Date</u> , no less than 80% of water samples tested in a Calculation Period shall comply with the Water Quality Standards	Not yet due
6	By the <u>beginning of the second year after the commissioning of Melamchi Project</u> , no less than 95% of water samples tested shall comply with the Water Quality Standards	Not yet due
Ensure water quality at each water treatment facility		
7	From the <u>beginning of 2nd year after the Start Date</u> , compliance with the provisions of Attachment 1 to the Service Standards Appendix concerning the quality of treated water introduced into the treated water distribution network	Not yet due ¹
Operation of wastewater treatment plants		
8	By the <u>beginning of the sixth year after the Start Date</u> , all existing Wastewater Treatment Plants to be functional and wastewater to be diverted to Wastewater Treatment Plants to run each plant at least 90% of its hydraulic capacity	Not yet due ²

¹ Currently accomplishable for the three biggest treatment plants (Baude, Manchalchaur, Bansbari). Substantial investment will be required to meet the requirements at the small plants.

	Performance Standard	Performance by the Operator
Wastewater Services		
9	By the <u>beginning of the fifth year after the commissioning of Melamchi Project</u> , waste water services in the form of sewer or on site sanitation should be made accessible to 90% of the population in the service area	Not yet due

² ADB assisted consultants and Project Preparation Technical Assistance will assist KUKL in identifying investment needs to achieve this target²

WATER QUALITY STANDARDS

The water quality standards applicable under the License are as set out as the “Water Quality Standards”. WHO water quality standards are adopted for Nepal but national water quality standards supersede the WHO standard, where available.

KUKL has started to carry out testing of water sources in accordance with the following minimum requirements.

No	Activities as per license	Frequency	Remarks
1	Raw water control Treated water control For Chemical Water Quality Standards	All sources before & after wet seasons 2 x year	Carried out for major sources and plants Some of the testing will be out-sourced while the capacity of the Water Quality Unit is being strengthened
2	Water treatment & sources supplying direct into the networks - residual chlorine - turbidity - iron - color Where aluminum coagulants are used in the treatment process. Treated water to be tested on - pH - Aluminum	1 x daily	Analyses and recordings are being done at the major treatment plants: Bode, Mahankhal Chaur and Bansbari Though it is currently not done at smaller treatment plants, sources and tube wells supplying directly into the networks due to lack of facilities, it is planned that chlorine testing will be done at site and other parameters will be tested as permitted by resources by the central lab until on-site facilities are available.
3	Bacteriological test - treatment works - Raw water sources	Daily monthly	Analyses and recording are being done at the major treatment plants Baude, Mahankhal Chaur and Bansbari
5	Distribution Network Random test Sampling methods, location in accordance with WHO Guidelines and to be agreed in advance with KVWSMB	25 locations x daily	Being carried out (see annex)
6	Samples on request of KVWSMB and to be provided within 4 h to KVWSMB	On request	Being carried out
7	To notify the KUKL Management of failures to meet water quality standards to report to KVWSMB		Being carried out

Reviews of the schedule and the capability of the present Water Quality Unit and of the Treatment Plants were carried out separately by a Water Quality Expert and Water Treatment Expert. Among others, key recommendations were made on the following areas:

Water Quality Unit

1. Organization measures
2. Water Quality Sampling and Testing Program (drinking water and sewerage)
3. Recruitment and training of staff
4. Purchase of equipment, transport and construction of new laboratory

Treatment Plants

5. Valve replacement program
6. Water Meter Installation program
7. Cleaning of Chambers, Tanks and Reservoir
8. Chemical Dosing process
9. Improvement of filtration process
10. Pilot Plant on Ammonium and Iron removal
11. Process Laboratory at treatment plants
12. Organization measures
13. Performance Evaluation of Treatment Plant
14. Improvement on Storage facility for Chemicals
15. Procurement of tools and equipment

CAPITAL INVESTMENT AND ASSET MANAGEMENT

ADB assisted short term consultants and PTA are assisting KUKL in preparing a detailed Capital Investment and Management Plan (CIAMP) which will be submitted to KVMSMB after 18 months of the start date as per the license requirement. Currently, the following activities that are identified as measures to improve immediate rehabilitation and improvement of the system are being undertaken.

	Description	Progress
1	Implement distribution network improvements covering an area in the south of ward 10 and ward 34 in the Kathmandu Municipality. (Demonstration Area)	As pilot area Ward 34 in Baneshwor area has been identified for the first implementation. Tender documents have been reviewed and amended. A short term expert on Demonstration area is appointed
2	Implement a programme of bulk metering of all water sources water treatment works and service reservoirs.	Bulk water meters for all production (sources) facilities (I Priority) have been identified and specified and are under tendering process. Bulk water meters for treatment plant and service reservoir will be identified by the Consultant.
3	Enable the Operator to replace undersized mains, mains identified for urgent replacement, and other urgent works.	Two immediate work packages have been identified for which detailed design, cost estimation and tender doc prep has been completed. Similarly, a program for undersized mains (Spaghetti lines) will be identified by a short term expert. Recruitment is in Process.
4	Provide materials and equipment to the Operator for works to reduce unaccounted for water reduction.	Materials and equipment for reduction of UfW have been identified, specified and under tender process. A strategy for reduction of UfW has been developed by KUKL and is under implementation.

CURRENT TARIFF

The current tariff structure that has been in effect from 17 September 2004 is presented below. KUKL has prepared a proposal for tariff revision based on inflation. This proposal is under consideration by the Tariff Commission.

Section 1 - Metered tariffs - Tariff with effect from 17 September 2004

Connection Size (inches)	Minimum Charge (NR)				Volumetric Rate (NR/1000 litres)		
	Minimum Consumption (litres)	Domestic	Government, Institutional, Public	Commercial & Industrial	Domestic	Government, Institutional, Public	Commercial & Industrial
½ "	10,000	50	50	50	15	15	15
¾ "	27,000	810	810	810	30	30	30
1"	56,000	1,680	1,680	1,680	30	30	30
1 ½ "	155,000	4,650	4,650	4,650	30	30	30
2"	320,000	9,600	9,600	9,600	30	30	30
3"	881,000	26,430	26,430	26,430	30	30	30
4"	1,810,000	54,300	54,300	54,300	30	30	30

Section 2 – Un-Metered tariffs - Tariff with effect from 17 September 2004

Connection Size (inches)	Fixed charge (NR)				Volumetric rate (NR/1000 litres) (a)		
	Volume charged (litres) (a)	Domestic	Government, Institutional, Public	Commercial & Industrial	Domestic	Government, Institutional, Public	Commercial & Industrial
½ "	24,000	360	360	360	15	15	15
¾ "	65,000	1,950	1,950	1,950	30	30	30
1"	135,000	4,050	4,050	4,050	30	30	30
1 ½ "	372,000	11,160	11,160	11,160	30	30	30
2"	768,000	23,040	23,040	23,040	30	30	30
3"	2,115,000	63,450	63,450	63,450	30	30	30
4"	4,344,000	130,320	130,320	130,320	30	30	30

(a) These figures have been used as the basis for setting the fixed charges for un-metered customers.

Section 3 – Tanker Sale tariffs

	Tanker Size in liters	Present Rate (Rs)
1	5,000	850
2	6,000	970
3	8,000	1,210
4	9,000	1,330
5	10,000	1,450

Appendix 1: Summary Report of Test on Residual Chlorine in Branches

Daily Test on Residual Chlorine [mg/l] random sampling in Network

No	Date (from – to)	Branch/Station	Total No of samples	Residual chlorine [$>0,1$]	No of Test failed (%)	Remarks
1	14.05. – 12.06.08	Bansbari Station	102	97	5 (4.9 %)	Samples not taken: 20., 24., 27.,28.29.May Holiday and weekends
2	14.05 – 27.05.08	Kamaladi	30	19	11 (36 %)	Samples not taken: 17.,20.,21.,24., 28.,29.,30.,31.,May and 01. To 12.June
3	14.05. – 15.06.08	Bode, Bhaktapur	37	34	3 (8.1 %)	Samples not taken: 20.,21.,24.,27.,28.,29.,30. And 31 May; 01. To 12.June
4	14.05. – 02.06.08	Jawalakhel	32	19	13 (40.6 %)	Samples not taken: 17.20.21.2428.29.30. Mai; 02.03.-12.June
5	12.05.- 12.06.08	Bansbari/Bhaktapur	17	17	0 (0 %)	Samples not taken: 12.05 – 26. May
6	12.05.- 12.06.08	Tripureshwor	37	24	13 (35 %)	Samples not taken: 12.13.17.20.21.24.28.29.30.31 May and 02.-12.0June
7	12.05.- 12.06.08	Mahankal Chaur	58	26	32 (55.1 %)	Samples not taken: 12.13.17.18.20.21.24.28.29.30.31 May; 07.June
	31 days		313	236	77 (24.6 %)	

- Average 10 samples per day 31/313 total number of Samples)
- Samples were not taken at: Baneswor, Lalitpur, Kirtipur and Chhetrapati Branch

Annex 1 – Description of the Service Area

1. SERVICE AREA

(1) For the purpose of the Licence, the “Service Area” shall mean the areas within the boundaries outlined in the map set out in Attachment 1 to this Service Area Appendix, as more particularly described in,

- (a) Table 1 in Section 2 of this Service Area Appendix (the “Water Supply Service Area”); and
- (b) Table 2 in Section 2 of this Service Area Appendix (the “Wastewater Service Area”).

(2) Notwithstanding Section 1(1) of this Service Area Appendix, the Operator acknowledges that the Service Area shall include or exclude, as applicable, any increase, decrease or change to the Service Area in accordance with the Applicable Law.

(3) The Operator shall not carry out the Services for the independent water supply systems within the Service Area currently operated by the Department of Water Supply and Sewerage or by user groups unless KVWSMB determines to its satisfaction that,

- (a) the customers of an independent water supply system collectively choose to be served by the Operator; and
- (b) the current operators of an independent water supply system agree to transfer the relevant facilities to the Operator.

(4) If KVWSMB determines that the conditions set out in Section 1(3) of this Service Area Appendix have been met, it shall notify the Operator and the Operator shall commence the provision of the Services in respect of the applicable independent water supply system no later than 30 days after KVWSMB’s notice of its determination pursuant to this Section 1(4).

2. WATER SUPPLY SERVICE AREA

(1) The Water Supply Service Area shall consist of the wards set out in Table 1.

Table 1: Wards Included in Water Supply Service Area

Operating Branch	Name of Municipality or VDC	Water Supply Area (Ward Number)
Kamaladi	Kathmandu Municipality	1, 2, 31
Baneshwore	Kathmandu Municipality	9, 10, 32, 33, 34, 35
Chhetrapati	Kathmandu Municipality	15, 17, 18, 19, 24, 25, 26, 27, 28
Tripureswore	Kathmandu Municipality	11, 12, 13, 14, 20, 21, 22, 23
Tripureswore	Syuchatar VDC	1 to 9
Tripureswore	Sitapaila VDC	1 to 4
Maharajgunj	Kathmandu Municipality	3, 16, 29, 30
Maharajgunj	Dhapasi VDC	1 to 9
Maharajgunj	Gongabu VDC	1 to 9
Maharajgunj	Goldhunga VDC	1 to 9
Maharajgunj	Phutung VDC	1 to 9
Maharajgunj	Manamaiju VDC	1 to 9

Operating Branch	Name of Municipality or VDC	Water Supply Area (Ward Number)
Maharajgunj	Kabharesthali VDC	1 to 9
Maharajgunj	Dharmasthali VDC	1 to 9
Maharajgunj	Tokha Chandeswori VDC	1 to 9
Maharajgunj	Tokha Saraswoti VDC	1 to 9
Maharajgunj	Sangla VDC	4, 5, 9
Maharajgunj	Jitpur VDC	1, 4, 6
Mahankalchour	Kathmandu Municipality	4, 5, 6, 7, 8
Mahankalchour	Sundarijal VDC	9
Mahankalchour	Nayapati VDC	1, 2, 4, 5, 8
Mahankalchour	Gokarneswore VDC	1 to 9
Mahankalchour	Jorpati VDC	1 to 9
Mahankalchour	Bishnu VDC (Budhanilkantha)	1 to 8
Mahankalchour	Chapali Bhadrakali VDC	6
Mahankalchour	Khadka Bhadrakali VDC	1 to 9
Mahankalchour	Mahakal VDC	1 to 9
Mahankalchour	Mulpani VDC	1 to 9
Mahankalchour	Pukhulachhe VDC	1 to 9
Mahankalchour	Bajrayogini VDC (Sankhu)	1 to 6
Mahankalchour	Suntol VDC	1, 2, 6
Mahankalchour	Kapan VDC	1 to 9
Mahankalchour	Gothatar VDC	1 to 9
Mahankalchour	Chunikhel VDC	1 to 9
Bhaktapur	Bhaktapur Municipality	1 to 17
Bhaktapur	Katunje VDC	6, 8
Bhaktapur	Sipadol VDC	1
Bhaktapur	Bageshwori VDC	1
Bhaktapur	Gundu VDC	5
Bhaktapur	Chhaling	5
Bhaktapur	Duwakot	1
Madhyapur Thimi	Madhyapur Thimi Municipality	1 to 17
Lalitpur	Lalitpur Municipality	1 to 22
Lalitpur	Dhapakhel VDC	1 to 9
Lalitpur	Sainbu VDC	1 to 9
Lalitpur	Bungmati VDC (Chunikhel)	1 to 9
Lalitpur	Khokana VDC	1 to 9
Lalitpur	Jharuwarashi VDC	1 to 9
Lalitpur	Chapagaun VDC	1 to 9
Lalitpur	Thecho VDC	1 to 9
Lalitpur	Sunakothi VDC	1 to 9
Lalitpur	Imadol VDC	5, 6
Kirtipur	Bosan Khola (Matchhegaon)	1 to 9
Kirtipur	Kirtipur Municipality	1 to 17
Kirtipur	Chalnakhel VDC	1 to 9
Kirtipur	Setidevi VDC (Saukhel)	1 to 9
Kirtipur	Sheshanarayan VDC	1 to 9
Kirtipur	Dachhinakali VDC	1 to 9
Kirtipur	Tinthana VDC	1, 2, 5, 6, 7, 8, 9

3. WASTEWATER SERVICE AREA

3.1 The Wastewater Service Area shall consist of the wards set out in Table 2.

Table 2: Wards Included in the Wastewater Service Area

Name of Municipality or VDC	Water Supply Area (Ward Number)
Kathmandu Metropolis	1 to 35
Lalitpur Sub-metropolis	1 to 22
Bhaktapur Municipality	1 to 17
Madhyapur Thimi Municipality	1 to 17
Kirtipur Municipality	1 to 17

3.2 The operation and maintenance of Bagmati Sewage Treatment Plant will be included in the service area only after adjustment of tariff to meet its O & M costs upon handover of related facilities.

4. CHANGES TO THE SERVICE AREA

If, in accordance with the Applicable Law, the Service Area is increased, decreased or changed, the Operator shall,

- (a) manage the implementation of the increase, decrease or change; and
- (b) extend the Services to any new geographical areas added to the Service Area where provision for such extension is included in the approved CIAMP.

Annex 2 – Description of the Services of the License

- (1) The Operator shall,
 - (a) operate the water Facilities to carry out,
 - (i) the collection of natural water from source;
 - (ii) the pumping and transportation of water to the treatment Facilities;
 - (iii) the treatment of water; and
 - (iv) the distribution and supply of drinking water to the Customers located within the Service Area;
 - (b) operate the wastewater Facilities to carry out,
 - (i) the collection of wastewater;
 - (ii) the pumping and transportation of untreated wastewater to the treatment Facilities;
 - (iii) the treatment of wastewater;
 - (iv) the transportation of wastewater into the receiving bodies;
 - (c) maintain the Facilities and develop comprehensive maintenance management programs for the Facilities;
 - (d) carry out rehabilitation and repair of the Facilities as set out in this Services Appendix;
 - (e) carry out all billings, collections and Customer service functions related to the new and existing Customers in the Service Areas with respect to both water and wastewater services;
 - (f) develop the CIAMP for approval by KVWSMB; and
 - (g) procure and manage contracts for the design, construction, purchase of equipment and supervision of works in the CIAMP, as set out in this Services Appendix.
- (2) Except as provided otherwise in the Contract, the Operator shall perform at least the same operations and maintenance functions regarding the Facilities as were performed by the Corporation in the Service Area before these functions were transferred to the Operator
- (3) Except as provided otherwise in the Contract, the Operator shall perform the same billings, collections and Customer service functions related to the Customers as were performed by the Corporation in the Service Area before these functions were transferred to the Operator.