

MONTENEGRO

DESIGNING WATER & SEWERAGE OPERATING CONTRACTS: TEMPLATES FOR COUNTRY TEAMS

This set of templates is used to organize the design process. Record your team's ideas on relevant topics in the templates. The forms prepared for each design session are intended to guide you through some of the major questions that need to be answered in designing an effective contract strategy. All topics and questions do not need to be completed; please complete the ones that are important for your specific operating contract design.

Design Session 1: Target Locations and Objectives

Design Session 2: Key Design Problems and Challenges

Design Session 3: Operator Compensation, Performance Targets, and Incentives

Design Session 4: Basis for Tendering and Award

Design Session 1: Target Locations and Objectives

During this session you will define the service area(s) for which you plan to design an operating contract and the key performance objectives that you wish to achieve. Some questions are provided to guide you through this exercise; however, please feel free to provide any additional information that you believe is important to provide a clear picture of the current conditions and issues in the target locations.

1.1 DEFINITION OF SERVICE AREA:

Where will you use an operating contract?

a. Name/location of service area:

Municipality - - Podgorica water system

b. Description of customer service base (number of residential/commercial/industrial):

140,000 population on water distribution network

30,000 need to be connected

2,000 – 5,000 per year new growth; some light industrial growth

c. Current coverage (% or number of connections):

d. Description of current institutional arrangements of the water utility:

Who owns the assets?

Local public water company

Who currently manages the assets?

Public water company provides all utility management and services

Who is responsible for business management (billings, accounting, customer service, etc.)?

If there is an independent regulatory body, please identify:

e. Additional information:

Water supply sources and quantity are adequate; not a problem. Water quality is very good. City planning to bottle and sell municipal water via a concession.

1.2 SUMMARY OF KEY PROBLEMS TO BE SOLVED:

What key problems do you want to solve? Please describe the extent of the problem, e.g., current % of nonrevenue water. Examples of problems that you may wish to address are provided:

- High nonrevenue water
 - Intermittent service
 - Low billings and collections
 - High degree of customer complaints
 - High operating ratio (total expenses/total revenues)
 - Low percentage of connections, etc.
-
- 40%-45% non-revenue water; 20%-27% technical losses (leakage); balance is administrative losses.
 - 55-58% of the network is 30-year old asbestos cement pipe that needs to be replaced. These are "secondary" lines, not mains.
 - 140,000 people are on the water network; 30,000 need to be connected in the near future.
 - 2,000 – 5,000 new people/per year plus developing light industry need to be connected.
 - Need to divide the network into zones.
 - Meter replacement is not being done according to mandated schedule. Need to implement network wide meter replacement (with new billing software).
 - Need additional reservoir/water storage. Current storage capacity is only 3% - 4% of daily demand.

1.3 STATEMENT OF PERFORMANCE OBJECTIVES:

Based on the current situation in the target service area and key problems that you want to solve, list your highest priority objectives (please provide no more than six objectives). At this point, you do not need to establish quantitative objectives. Instead, the objectives should be broad statements of the most important accomplishments to be achieved through operating contracts, for example:

- To achieve full recovery of operation and maintenance costs
- To make significant improvements in physical assets
- To increase the number of service connections
- To improve the quality of service to existing customers

- 1. Revenue issue - - decrease non-revenue water.**
- 2. Service & revenue issue - - Connect unconnected population (30,000) over 3 – 4 year period.**
- 3. Service and risk reduction issue - -additional reservoir/storage capacity.**

SUMMARY OF COUNTRY TEAM PRODUCTS FROM DESIGN SESSION 1

1. Definition of service area:
 - Location/Name
 - Key Characteristics (customer service base, current coverage, institutional arrangements, etc.)
2. Key problems to be solved
3. Statements of performance objectives

Design Session 2: Key Design Problems and Challenges

During this session you will identify key obstacles and risks that may complicate or impede the contracting process. You will also develop a framework to reduce these risks by including special provisions in the contract and by allocating the risks among the contracting parties to those that are most able to bear them.

2.1 SPECIAL ISSUES TO BE ADDRESSED IN THE DESIGN

a. **Tariffs:**

What are the current tariff levels and structure?

- Three classes - residential, commercial (shops, institutions), industrial.
- Residential: 0.22 euros/cu3; commercial: 0.35 euros/cu3; industrial: 0.66 euros/cu3.
- Lowest rates in country

Are tariffs too low to cover operating costs? Are they too low to provide incentives to serve the poor?

- Tariffs cover operating costs, but not depreciation.
- Under law, municipality provides capital for major maintenance, repairs, replacements
- No subsidies now; if there is a need for subsidies for the poor, the support comes from the municipality under its social welfare programs.

Do you have any specific tariff-setting objectives?

- Reform plan completed; new law being introduced.
- New law will require full-cost recovery; gradual increases may be needed

Can you adjust tariff levels to cost-recovery levels?

- Yes, under the new law

Can you eliminate or reduce cross-subsidies?

- There are no cross-subsidies. Capital funding is legal responsibility of municipality.

Can you raise tariffs to the poor to levels that are attractive to service providers?

- Not an issue in Montenegro

b. **Investment needs:**

Does the system require a large amount of investment?

- 10 million euros for reservoir (one large central reservoir)

- 2-3 million euros/year for asbestos pipe replacement (10 year plan)
- 1 million euros for pump station and SCADA, to establish network zones, add flow meters
- Still need strategy to address water loss problem; budget or investment amounts needed are not yet known.

What kinds of investments are needed (e.g., bulk water supply treatment facilities network expansion, etc.)?

c. Labor issues:

Do workers have unreasonably low wages now?

- Recent raises of 20% - 50%; comparable to other government workers

Can workers be legally assigned to work with the contractor?

- Not clear; will be clarified in new water law.

Is it legally possible to provide bonuses to employees?

- Yes, up to 20% of salary; or, do through overtime work

Are employees likely to oppose the contract?

- Yes, there will be union opposition

d. Corruption:

Is corruption a major problem? If so, what kind of corruption?

- Some degree at lower levels (for example, plumbers making illegal connections)

e. Very bad service:

Are service levels unusually bad at the present time?

- One problem is pressure in network during summer months due to water losses and lack of water storage.

What features of service are considered to be very bad?

f. Stakeholder mapping

Do all stakeholders (government, donors, and other support agencies) buy into the contractualisation process?

- Support or opposition would depend on what areas or functions are put out for contract. For example, construction of the reservoir would be less sensitive than the operation of the distribution system.

Does the contractualisation process fit into the overall sector-wide reform strategy?

- It does fit into reform and will be possible under new water law, including new regulatory body.

How does the contractualisation process promote effective sector governance (anti-corruption and integrity programs, community outreach, communication and fraud prevention)?

- Positive influence - - will establish new standards; adds to transparency; decrease political influence; clearer definition of obligations.

g. Please list any additional special issues that you believe may pose serious obstacles or risks to implementing operating contracts:

Some vested interests do not want real reform.

2.2 UPSTREAM POLICY NEEDS

Is there any need to revise laws or policies as preconditions for the operating contract?
These could include:

- Water legislation
 - Sanitation/environmental legislation
 - Corporate/contract law
 - Regulatory framework
 - Licensing framework
-
- **A sector reform plan has been prepared and a new water law has been drafted for adoption by the government.**

2.3 STRENGTHS, WEAKNESSES, OPPORTUNITIES, AND THREATS (SWOT) ANALYSIS

The matrix on the following page provides an organizing tool with which to identify strengths, weaknesses, opportunities, and threats and re-allocate risks among the contracting parties as needed. An example from an actual operating contract application (provided by Uganda NWSC) is provided as a guide.

SWOT ANALYSIS (see next page for example)

FUNCTION	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Construct water storage reservoir	<ul style="list-style-type: none"> • Land reserved • Access road constructed • Financing credit approved (partial) 	<ul style="list-style-type: none"> • No feasibility study yet • No environmental impact study yet • New main from water source to reservoir 	<ul style="list-style-type: none"> • Phased construction possible 	<ul style="list-style-type: none"> • Potential inability to use to full capacity • New reservoir will raise operating costs
Distribution network (asbestos pipe replacement)		<ul style="list-style-type: none"> • Coordination of pipe replacement with municipal street repair work 	<ul style="list-style-type: none"> • Coordination of pipe replacement with municipal street repair to reduce costs 	<ul style="list-style-type: none"> • Not getting adequate funding
Water losses	<ul style="list-style-type: none"> • Have plan and equipment (GIS, flow meters) for addressing problem 	<ul style="list-style-type: none"> • Need new data base (software) for billing and collection • Need new data base for GIS mapping 	<ul style="list-style-type: none"> • Reduce operating cost by reducing physical losses • Increase energy efficiency (pumping) 	<ul style="list-style-type: none"> • Local staff not trained enough in new equipment for permanent job; need outside profession assistance
Distribution network extension	<ul style="list-style-type: none"> • Will be paid for by municipality 	<ul style="list-style-type: none"> • Funding based on municipal budget; not under water company control 	<ul style="list-style-type: none"> • Can do with phased construction • Will add additional customers and revenues 	<ul style="list-style-type: none"> • Agricultural zone; high possibility for illegal connections

FUNCTION	STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS

Example of SWOT Analysis – Uganda National Water and Sewerage Corporation, Jinja Service Area

Function/Business aspect	Strengths	Weaknesses	Opportunities	Threats
Distribution	<ul style="list-style-type: none"> ✘ Some old, weak mains have been replaced. ✘ Monopoly of services delivery. ✘ Comprehensive network coverage. ✘ Competent and well-equipped workforce. ✘ Available basic equipment and personnel. ✘ Basic record of network available. ✘ 100% metering. 	<ul style="list-style-type: none"> ✘ Old, weak mains prone to bursts. ✘ Inadequate auxiliary structures; i.e. washouts. ✘ Hydraulic constraints. ✘ Disparity between field and reports made. ✘ Poor meter management. 	<ul style="list-style-type: none"> ✘ Unsaturated distribution coverage. ✘ Monopoly of service delivery. ✘ Availability of cheaper local alternative materials. ✘ Communication facilities. ✘ Goodwill from the public for mains extensions. ✘ Flexible budget. ✘ Local participation in infrastructural development. ✘ Political will to support development. ✘ Protection by local communities. 	<ul style="list-style-type: none"> ✘ Vandalism of service network. ✘ Technical impersonation. ✘ High cost of repair materials.
Water losses	<ul style="list-style-type: none"> ✘ Good response time. ✘ Many old mains are replaced. ✘ Replacement of key old, weak mains is already planned. ✘ District metering already done in most places. 	<ul style="list-style-type: none"> ✘ Lack of intensive patrol of the network for leaks and bursts. ✘ Lack of accurate documentation of the network. ✘ Partial district metering. 	<ul style="list-style-type: none"> ✘ Commitment of top management. ✘ Public goodwill / concern. 	<ul style="list-style-type: none"> ✘ Vandalism of the infrastructure. ✘ Illegal water consumption.
Maintenance	<ul style="list-style-type: none"> ✘ Adequate stock of basic maintenance equipment. ✘ PPM is put in place and followed. ✘ Adequate transport for maintenance work. ✘ Ability to locate all services network. 	<ul style="list-style-type: none"> ✘ Lack of mechanical equipment. ✘ Inadequate skills in maintenance field work. ✘ Use of rudimentary repair methods. ✘ Archaic technology in mains maintenance 	<ul style="list-style-type: none"> ✘ Local labour readily available. ✘ Commitment of top management. ✘ Commitment of customers. 	<ul style="list-style-type: none"> ✘ Inadequate of coordination in infrastructural development.

SUMMARY OF COUNTRY TEAM PRODUCTS FROM DESIGN SESSION 2

1. List of special issues that need to be addressed
2. List of upstream policy needs
3. SWOT matrix
4. Determination of the most appropriate form of contract (management contract, lease or affermage, or concession)

Selected contract form: long-term (10 – 15 year) management contract with design/build aspects (the contractor would design all improvements, manage construction tendering and act as construction manager representing the public water company). As now provided for, capital improvements would be funded by the municipality. The contractor would also manage customer billing and collection as an agent of the water company, but would not have any claim on tariff revenues - - the contractor would be paid an annual fee for system operation and maintenance services, then other contract-controlled fees for design, tendering and construction management services.

Design Session 3: Operator Compensation, Performance Targets, and Incentives

During this session you will identify performance targets and the associated incentives and compensation provisions for meeting and exceeding the targets.

3.1 SERVICE GOALS, TARIFFS, AND INVESTMENT FUNDING

a. Access:

What is the starting and ending level of coverage that is required?

Where will the capital come from to increase coverage?

What types of connections will be provided?

b. Water Supply Performance Targets:

(Please prepare your results in the table provided at the end of Section 3.1)

What are the current water supply quality levels and what are the target levels you wish to achieve, in light of your performance objectives?

For each target: What are the practical issues that stand in the way of achieving the quality targets? Will any of the targets require large amounts of investment? How will you weight each of the targets for purpose of bonus computation?

Following are illustrative examples of targets that you might want to consider:

- Hours of service per day
- Pressure levels
- Service coverage
- Nonrevenue water
- Environmental standards exceedances, etc.

In formulating performance targets, please consider the following:

- How many performance indicators should be put in the contract?
- Which performance measures are non-volatile and therefore provide stable bases for incentives?
- Is there a good record of historical performance with which to form a fair basis for target negotiations?
- Which performance areas are closer to best practice?
- Which performance targets might be most affected by exogenous factors?)

c. Wastewater:

Please provide similar information for wastewater collection and treatment targets, if applicable, in the same format as for the previous question.

d. Availability of Funds Required for Achieving Targets:

What investment funds are available?

Will an investment fund be established?

Where will the capital for wastewater facilities come from?

What subsidy funds are available?

**Performance Targets for First Three Years of Contract
(Water and wastewater performance targets)**

Type of Target	Relative Weight (%)	Year 1 Target	Year 2 Target	Year 3 Target	Investment Required (Scale of 0 to 3)	Critical Issues
	100%					

3.2 TARIFF ADJUSTMENT, EXTRAORDINARY ADJUSTMENTS, AND RISK ALLOCATION

a. How are tariffs going to be adjusted?

What is the tariff setting method?

Will there be cost pass through rules?

Will there be tariff indexation formulas?

b. What happens if extraordinary adjustments are needed?

c. How are key risks allocated?

Financial risks, for example:

- **Operating cost risk:** The risk that operating costs are higher than expected
- **Commercial performance risk:** The risk that billing and collections will be lower than expected
- **Bulk water:** The risk that the volume or price of bulk treated water is not as expected
- **Capital funding:** The risk that capital funding is not available when expected, or that the interest rate is higher than expected, or that the amount is less than expected
- **Foreign exchange:** The risks that exchange rates fluctuate in ways that cannot be anticipated.

- Other risks, as identified during SWOT analysis:

3.3 MANAGEMENT OF THE CONTRACT

- a. Who monitors the operator's performance?**

- b. Who enforces the terms of the contract?**

- c. Who monitors the government counterpart to the contract?**

- d. Who enforces the government's performance obligations?**

- e. Who resolves disputes?**

- f. Who adjusts tariffs?**

- g. Who adjusts service standards?**

3.4 TYPE OF CONTRACT, INCENTIVES, AND RESPONSIBILITIES

Based upon the preceding analyses, you will now work with your coaches to decide upon the most appropriate contracting strategy.

a. Type and duration of contract (management/lease/affermage/concession):

b. Types of incentives (tied to specific targets identified in Section 3.2 and to overall performance of contractor). See the following two pages for examples of incentive fees for management contracts and penalties for lease contracts:

To what extent will bonus fees or penalties be tied to individual performance targets, and to what extent will they be tied to overall financial performance of the utility?

How much of the net financial gain from good performance of the contractor are you willing to relinquish to the contractor?

Are staff motivated by non-financial incentives (such as recognition)?

What are the priority performance areas that must be central to incentive design?

How do we incentivize risk-taking?

Who must earn incentives and to what extent?

c. Allocation of responsibilities in contract implementation:

Operation and maintenance:

Capex (major capital works and capital maintenance):

Commercial functions:

Disconnection:

Theft and corruption:

Subsidies:

Public capital funding:

EXAMPLE OF INCENTIVES IN MANGEMENT CONTRACT (Uganda National Water and Sewerage Corporation – Jinja Area)

SIXTH SCHEDULE – JINJA AREA

COMPUTATION OF THE MANAGEMENT FEE AND INVOICE FORMAT

The monthly Management Fee payable to the Operator shall be the sum of the Base Fee, the Performance Fee and Incentive Fee due for a given month; and will be computed on the following basis:

Sno	Component	Computation Formula	Remarks
1	Base Fee ¹	$F_C + 0.75(C_C)$	Where: F_C = Non-controllable (fixed) costs C_C = Controllable costs
2	Performance Fee ²	$0.25(C_C) * [P/N]$	Where: P = The weighted number of service standards that have been achieved for the given month N = 100 = The total weighted number of service standards to be achieved
3	Incentive Fee ³	$X\% * [K + (OM_E - OM_O)] * [0.3WR_{pa} + 0.3UFW_{pa} + 0.2CE_{pa} + 0.2CP_{pa}]$ The formula is applicable only if: $OM_E > OM_O$	Where: K = A constant representing the level of incentive equity/subsidy extended to non-break even and/or "small" Areas OM_O = Minimum cash operating margin based on the agreed OPEX (Base Fee + Performance Fee) and the set Minimum Standard for collections. OM_E = The achieved cash operating margin during the month being evaluated X% = The agreed %age of the improvement in OM to be retained by the Operator as bonus. WR_{pa} = Percentage incremental achievement in the improvement of the Working Ratio UFW_{pa} = Percentage incremental achievement in the reduction of Unaccounted for water CE_{pa} = Percentage incremental achievement in the increase in Connection Efficiency CP_{pa} = Percentage incremental achievement in the reduction in the Collection Period

EXAMPLE OF PENALTIES IN AFFERMAGE CONTRACT (India – Latur Water Supply Scheme)

SCHEDULE H

SCHEDULE H– SERVICE LEVELS

A) Minimum service level:

- 1) It is the responsibility of the contractor to ensure and maintain the distribution system in such a way that, the consumer can draw water on an average at 100 LPCD with minimum @ 80 LPCD in supply hours. If there are public complains to MJP, MJP is free to measure the quantity of water supply at any remote connection. In such measuring, if it is found that some of the connections are getting less than required quantity of water, during supply hours, then if asked it is mandatory to the contractor to investigate the reasons and rectify them in such a fashion that consumers can get required quantity of water. The required repairing / rectification should be completed within 3 days of complaint at his cost. The required extension of existing pipeline upto 1 km. per year shall be the responsibility of the contractor. The required pipes will be supplied by the department free of cost. The cost of jointing material and labour charges shall be borne by the contractor.
- 2) The Executive Engineer-at his discretion or in response to complaints of short supply of water from Consumers in a particular area or zone shall assess the quantity of water supplied to the area or zone served by an ESR in accordance with the following:

The Executive Engineer shall assess the quantity of water supplied to the zone for a continuous period of 7 (seven) days. The quantity of water supplied to the zone shall be considered based on the daily meter readings on the outlet points of the ESR. The Average Daily Quantity shall be compared with the Benchmark Quantity assessed as under:

$$\text{Benchmark Quantity} = \frac{\text{Required Quantity}}{(1 - \text{Distribution Loss}\%)} + \text{Bulk quantity}$$

Where:

Required quantity (liters) = Number of households x 7 x 100

Distribution loss = Distribution loss for the ESR covering the area/ zone under evaluation calculated in accordance with Clause 11.3 for the pervious month

$$\text{Bulk quantity} = \frac{\text{Actual consumption for the pervious month}}{\text{Number of days in the month}}$$

In the event of Average Daily Quantity being between 70 to 80 % of the Benchmark Quantity then a penalty of Rs. 500/- (Five Hundred) per day shall be levied.

In the event of Average Daily Quantity supplied is between 50 to 70% of the Benchmark Quantity then a penalty of Rs. 1000/- (One thousand) per day shall be levied.

SUMMARY OF COUNTRY TEAM PRODUCTS FROM DESIGN SESSION 3

1. Key performance targets and associated investment needs and funding
2. Provisions for tariff and contract adjustments
3. Allocation of risks among contracting parties
4. Assignment of contract management and implementation responsibilities
5. Incentive structure

Design Session 4: Basis for Tendering and Award

During this session you will determine the key criterion upon which bidders will be evaluated and selected.

4.1 ELIGIBLE FIRMS

Do you want national firms to be favored?

Do you want to encourage joint ventures between international and local firms?

What experience in water and sanitation must bidders have?

What financial capacity must be demonstrated by bidders?

4.2 BASIS FOR SELECTING THE CONTRACTOR

What will be the relative weights of evaluation factors?

Cost/price:

Proposed technical approach:

Experience of contractor:

Commitment to performance targets:

Other:

4.3 EVALUATION OF TENDERS

a. Who will be on the evaluation panel?

b. Evaluation procedure (prequalification or two-step process?):

SUMMARY OF COUNTRY TEAM PRODUCTS FROM DESIGN SESSION 4

1. Determination of eligibility of bidders
2. Basis for contractor selection
3. Process for evaluation of tenders