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## ERRA/LGI TRAINING MATERIAL No. 2

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# Monitoring

June 2002

**INFORMATION EXCHANGE AND PEER ASSISTANCE PROGRAM BETWEEN  
LOCAL GOVERNMENT OFFICIALS AND ENERGY REGULATORS**

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# 11. APPENDIX 3: CHECKLIST FOR MONITORING MANAGEMENT CONTRACTS\*

## *Information collection*

- Who will monitor performance against service standards and improvement targets specified in the contract?
- What margins of sampling error will be used?
- What access does the regulator have to company information?
- What customer relations and complaint procedures need to be in place?
- Are any subsidies or cross-subsidies required?
- How will unpredicted costs be dealt with?

## *Performance failures*

- What penalties will there be for performance failure?
- Who will be compensated for performance failure – customers or the grantor?
- What appeals procedures are in force?
- How will fault be established in performance failures?

## *Tariffs and revenue collection*

- How will the tariff structure be established? And what process will be used for raising tariffs?
- Can comparative competition be used in determining tariff increases?
- Can other efficiency bonuses be built into the system – for example, a share of additional revenue collected?
- What payment options and debt collection procedures need to be in place?

## *Technical report*

- Who is responsible for the monitoring and oversight of new construction?
- What technical information will the concessionaire be required to report? Typical requirements include:
  - Volumes (forecasts, production, distribution, amounts sold and bought, the number and types of customers)
  - New works and major maintenance completed and new connections
  - Emergency repairs made
  - New installations
  - Meters installed and repaired and the allocation of the costs between the concessionaires and users
  - The results of laboratory tests of water and wastewater samples

## *Financial reports*

- What financial information will the concessionaire be required to report? Some typical requirements:
  - Accounting for the expenditures listed above
  - Income from water sales and sewage treatment (tariff income, bulk sales, or both) and revenues from major customers
  - Historical and projected income trend analysis
  - Overdue and delinquent payments, by type of customer – residential (single and multifamily), commercial, industrial
  - Annual financial statements – profit and loss and income statements and a balance sheet in the format required by the regulatory body.

\* This section is based on "What a Private sector Participation Arrangement Should Cover". The World Bank.

## 10. APPENDIX 2: A MODEL CONTRACT FOR PUBLIC SERVICES

The specific provisions of this contract may not be appropriate to the local circumstances in CEE countries. But it provides a view of what types of issues are covered in such a contract, which may be useful to local officials in the region, considering various types of contracts. The contract makes an effort to state as precisely as possible the requirements of each of the parties to the contract. Issues that are addressed in the attached contract include the following:

### Summary of Contents of a U.S. Municipal Waste Contract

1. The contents and frequency of the reports that must be submitted by the contractor,
2. All the types of facilities served by the contractor,
3. Standards for work performed by the employees of the contractor, including treatment of the public,
4. Permissible hours of refuse collection,
5. Holidays when no collection is required,
6. What equipment is required,
7. What equipment may or may not be used,
8. Where equipment may be stored,
9. The standards for maintenance of the equipment and the storage facilities,
10. Information pamphlets to be supplied to the public by the parties,
11. Permits which the contractor must obtain,
12. Obligation of the contractor to maintain continuous financial ability to perform the services,
13. Power of the municipality to demand the termination of an unsatisfactory employee,
14. Hours and facilities maintained by the contractor to receive complaints and reporting of complaints to the municipality,
15. Contractor designation of person, place to receive municipal communications,
16. Contractor compliance with all applicable laws relating to the service provision,
17. Description of waste that contractor must collect,
18. Frequency of collection,
19. Where waste containers may/must be placed by residents,
20. Description of allowable types of containers,
21. Description of service required for each type of entity (single family houses, apartment buildings, factories, schools, public buildings),
22. Recycling definitions, requirements, etc. covered in the same detail as overall waste collection,
23. Allowable disposal sites,
24. Responsibilities for billing customers and collecting fees,
25. Schedule of payments by the municipality,
26. Penalties for late payments by municipality,
27. Adjustments in compensation to the contractor,
28. Right of municipality to conduct audits,
29. Form of records maintained by the contractor,
30. Notice by municipality and remedies if contractor fails to perform,
31. Insurance which must be maintained by the contractor,
32. Indemnification of municipality for damage caused by the contractor,
33. Interpretation of the contract, governing rules,
34. Obligations of municipal interpretations of the contract to be in writing,
35. Procedures for communicating disputes,

***The ERRA/LGI Training Material 2: "Monitoring"*** was prepared to support the training of public sector experts especially at sub-national levels along with four other training materials. In compiling the materials we have drawn on ERRA workshops proceedings and the written responses of ERRA members to questionnaires. Preparing the training materials we used the comments and advice of Robert Archer (United States Agency for International Development), Pál Lángfy (Hungarian Energy Office), and Gábor Péteri (Open Society Institute).

# 1. INTRODUCTION

Millions of urban dwellers, especially the poor, lack adequate access to safe drinking water and sanitation. Improving services significantly will, in most cases, require more efficient operation of water utilities and investment in rehabilitating and extending supply systems. Many central and local governments are turning to the private sector to help address these needs. But private sector participation is no simple panacea. Its success depends on how well the chosen private sector arrangement fits local circumstances, on whether the regulatory environment is suitable, and on how well the reforms respond to the concerns of those affected.

After issuing a contract, it is important that the local government unit should ensure that the operation of the service is in accordance with the conditions of the contract. The primary point is that the consumers should be protected; they should not be paying unjustified prices and they should receive an adequate service. Performance measurement can be used by the regulatory agencies to implement the practice of the performance based regulation complementing the traditional cost of service regulation.

Monitoring is a tool that makes it possible for local governments to keep up with the activities of the service operators through the timely collection and processing of necessary data, and if circumstances make it necessary the local government can take measures against them.

## 2. DEFINITION OF MONITORING

Monitoring is the periodic measurement and tracking of contractual obligations, using key indicators of organizational performance. Monitoring is an important staple in the public managers' tool kit. Ongoing monitoring systems are especially advantageous because they can help to identify needs and target projects as well as track results over the long run.

The goal of periodic monitoring is to achieve objectives within cost, time, performance and scope targets. Performance can be tracked through comparison of actual performance with planned targets. If deviations or variances occur from the plans, then corrective actions are needed. It is important to understand, that the objective of monitoring is not faultfinding and punishing, but rather to understand better the causes of changes in plans (contracts), to maintain efficiency and to improve forecasting and planning.

## 3. MONITORING STRATEGY

Local governments should establish suitable contractual arrangements to ensure cost-effective implementation of public services. In order to avoid micro-management of the contractor, the focus of the local government should be on monitoring whether the contractor is achieving the outcomes specified in the contract. As part of the monitoring strategy, the local government has to determine if primary responsibility for monitoring will be internal or performed by a "third actor" with significant monitoring capacity. Usually a monitoring team has to provide expertise in legal compliance, technical performance and financial control.

The main steps of developing a monitoring strategy are the following:

- Review of contractual obligations;
- Identification of key performance indicators that affect successful performance and service delivery;
- Designing systems for monitoring and establishing ways to deal with non-compliance;
- Reporting on monitoring results and recommendations.

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## 9. APPENDIX 1: MONITORING WATER-, SEWAGE AND DISTRICT HEATING ACTIVITIES IN DIFFERENT CEE AND CIS COUNTRIES

### Ukraine

The local authorities carry out current control of the extension of utility services and urgently react to claims from the consumers about poor quality of the services provided.

### Romania

For district heating, both the National Regulatory Authority of Electricity and District Heating (ANRE) and municipalities monitor company activity.

ANRE issues licenses for the companies that provide the public service, and monitoring the activity of these companies will be (after the process of issuing licenses is complete) one of the main activities of ANRE.

The municipality is, in most cases, the owner of the utility, so it is a legal requirement to monitor company activity from a technical and a financial point of view.

### Lithuania

In all municipalities there are persons responsible for investigating consumer complaints about the local utilities and for trying to solve the problems. Municipalities also review the financial position of the companies. If necessary, they can force companies to organize procedures for a review of tariffs.

### Kazakhstan

The structures exist in the local executive authorities that are responsible for the control of technical conditions of the systems and their being prepared for the winter. They issue systems of instructions and passports of enterprise readiness for the winter. The managers of the local executive authorities are personally responsible (at law) for the quality and fault-free operation of these enterprises.

### Slovakia

Local government authorities are entitled to perform a running inspection. In practice inspection is performed if there is a consumer complaint.



## 7. SUMMARY OF KEY POINTS

One of the prime tasks for the future is to elaborate and operate a **multi-level monitoring system** allowing **the continuous evaluation of service providers' activities**. This monitoring should cover various fields of the service providers' activities, such as an economic-financial analysis, outages or supply quality, and consumer satisfaction analysis in general.

The local government must develop compliance monitoring systems that are efficient and make effective use of limited resources.

The local government needs to prioritize and focus on the most important aspects of the sector, such as the service to the retail customer.

The local government should develop an information processing system that gathers only the most important information, processes that information in an efficient manner, and focuses on large trends and problems, not minutia. While the local government units should have the legal right to obtain whatever information they want, they should concentrate on gathering and tracking only the most relevant data.

On completing the tendering process or concluding the contract the client office has a wide range of tasks to perform. It is obvious that in a contractual relationship, which entails several years of co-operation, the first few months are dedicated to the learning process. In the case of a completely new service provider the municipality and the office should provide all the information it can assist at the beginning. Therefore, local government expectations in areas that cannot be measured by performance indicators should be clarified and the system of future management and control relations established.

The local governments should focus on the development of processes and general solutions, instead of becoming bogged down in the individualized treatment of too many complaints or specific situations. Development of a computer database and tracking system is vital to processing information and monitoring service provision in an efficient and effective manner.

Information processing must be combined with focused inspections and audits and the intelligent, primarily collective treatment of complaints by the local governments.

Establishment of complaints systems is very important. The service provider shall be aware of the opinion, satisfaction level and the complaints of the consumers – the users of the service. The municipality is definitely one of the responsible parties for gathering such information for, on the one hand it is the local authority that receives the complaints and on the other hand it is ultimately interested in providing feedback and obtaining a response from the service provider. This external valuation is related to the monitoring and control of measurable indicators of the service.

At the local government level policymakers and managers have responsibility for setting objectives and they are responsible for developing consensus about the kinds of indicators to be included as well as the kinds of analysis and the intended uses of the monitoring system.

## 4. MONITORING MECHANISMS

### 4.1 *Information Processing*

The most important mechanism available to a local government to monitor the activity of the service provider is the creation of a framework for gathering and processing documentary information.

Given the limited resources of a local government unit it is important to develop an information processing mechanism that prioritizes the information gathered and reviewed, focuses on important issues, and optimizes the use of computers.

Local government officials need to create – a preferably computerized – database that they can use to organize the information received and to track issues that the local government finds most important. Often the initial creation of a database will be very general; local government officials will not be able to identify the items on which they wish to focus specifically until it has operated for a period of time. The type of information a local government may want to concentrate on can differ from country to country, local government thus having to take care to customize the database system it uses.

Local officials in charge of monitoring must take care to organize their office so that information is processed in an efficient manner. Individual departments should not engage in duplicative work; the personnel gathering information should coordinate with the multiple departments of the local government unit to ensure that information gathering and tracking are maintained in a unified, comprehensive effort.

The local government must take care in its use and citation of the information it gathers. Typographical errors, mistakes, and misquotation of data in the monitoring staff's public statements can discredit the office. Similarly, the local government must be able to respond to inquiries in a prompt and efficient manner, or the public will lose confidence in the local government's ability to oversee the sector.

The scope of information the monitoring office can require should be broad; to use resources efficiently, however, the local government must focus on and only gather and process information it needs and has the ability to review.

#### **Information the regulator should require includes:**

- Technical indices of water distribution systems – a short collection (e.g., a few pages) of key information (e.g., 50 numerical figures), such as the available capacity, length of water pipes, storage volume, pipe breaks. The local government should avoid gathering substantial detail as a routine, in the absence of any indication of a problem that needs follow-up. The local government unit monitoring the activity should be able to use the indices to spot tendencies and problems – the indices should be provided at least annually to allow the monitoring office/officers to track ongoing operations. The local government should not concern itself with minor divergences, but instead focus on serious issues.
- Outage information – reports regarding individual outages, breakdowns of cumulative information, such as total per year.

- Quality of supply –this can be measured in various ways, such as customer satisfaction level, outages (number, average duration), and guaranteed service figures (e.g., the time it takes to respond to a residential ratepayer’s telephone call). These measurements can then be compared to those from other suppliers within the country, or from outside the country.
- Information on the personnel – number of staff as a function of the number of water and sewerage connections, volume of water sold and length of the water distribution system, staff composition (management, professional, clerical, blue collar), staff costs.
- A yearly technical report.
- A yearly financial report and financial indicators (working ratio, operating ratio, leverage indicators, liquidity indicators, profitability indicators).
- Business plans should be examined to ensure that they reflect the criterion of safe, reliable energy supply meeting the regulations and consumer expectations.
- Data and projections reflecting the assets.

During the analysis, it is useful to examine how the received projected economic data meet the tendencies proven by the analysis.

Local governments should agree with the service providers to accept information via electronic mail in order to facilitate fast and reliable information collection.

The content of the data (technical, financial, accounting, commercial) is compared with relevant water, sewage and district heating prices.

## **4.2     *Inspections, Audits and Complaints***

Another method of monitoring compliance is through inspections and audits. To maximize efficient use of resources, the local government should use a mix of regular (e.g. annual) and unscheduled inspections and audits. These inspections and audits should also take place on both a random and a prioritized basis. The local government should still, however, have at least some random inspections.

Another mechanism for monitoring is through the complaints of interested parties. Such parties can include consumers, non-governmental authorities, and employees of the service provider.

With respect to consumer complaints, the local government needs to develop a mechanism to deal with a potentially large group of complaints in an efficient manner. For example, the local government can require that the first level of complaint be treated within the service provider. The local government must record information regarding each complaint and how it was dealt with, so the overall conduct of the service provider in treating complaints can be reviewed. If an individual complaint cannot be resolved at the service provider level, then the consumer can have a complaint reviewed by the local government unit. The local government unit should try to deal with consumer complaints on a generalized basis, noting and treating common problems by creating guidelines and general solutions.

Where shortages exist, and service providers lack funds to improve service and rehabilitate equipment, local governments must take reasonable action to optimize the use of existing resources and encourage improvement. State-owned companies need to adopt commercial attitudes; privatization may be the best route to achieving this objective. Use of limited resources must be rationed in a logical manner.

*Management contracts* can take different forms and can be used for different reasons. The more activities a management contract covers, and the more sophisticated its incentives for efficient performance by the contractor, the more regulatory sophistication will be required.

Many management contracts establish performance indicators and provide for paying bonuses to the contractor if it meets or exceeds the performance targets. Such indicators must be readily measured and largely indisputable – that is, their measurement should not provoke debates, and poor performance should not provoke debates about who is at fault. For example, if unaccounted-for water is used as an indicator, disputes may arise both about how it is to be measured (especially if metering is incomplete or inadequate) and about whether poor performance stems from inadequate investment by the government in rehabilitating the system, or from substandard performance by the management contractor.

In establishing regulatory requirements, there is always a need to establish clear regulatory limits – the regulator must not become a business manager. Therefore, it is normally best to avoid detailed technical specifications in contracts. The focus should be on what the contractor needs to achieve, not on how to achieve it.

In countries that adopt management contracts as a first step toward greater private sector involvement, monitoring and regulatory capacity may be very limited at the beginning of the contract period. A government facing such capacity constraints could contract part of the monitoring task to an auditing company and reconfigure its task in monitoring the auditor.

Regardless of with contractual arrangement is used, when designing a monitoring system the following issues should be taken into consideration:

**Price and financial performance monitoring** focuses on the following questions:

- what are the conditions or changes that necessitate price/tariff adjustment;
- how are these changed conditions verified and by whom;
- by how much should prices adjust and who decides.

Designing service **quality monitoring** raises the following issues:

- what indicators are appropriate for service quality;
- what indicators are appropriate for equipment and asset maintenance;
- who should gather, analyze and verify this data;
- how much should be spent on technical service quality monitoring and who should pay for it?

**Legal contract administration** must deal with the following problems:

- how should contractual terms and clauses be interpreted and grievances and possible fines imposed;
- how should contractual disputes be resolved?

The **consumer service/protection** should also be monitored, focusing on issues like:

- should an official be designed to accept and respond to consumer complaints and inquiries;
- how should consumer complaints be responded to make it meaningful;
- how should consumer service levels be measured and enforced.

Finally, in designing a **monitoring system**, local officials should not forget to deal with the following issues:

- how much human resources should be involved in performance monitoring;
- how much should be spent on monitoring and who should bear the cost?
- how can outputs be defined as a measurement of performance?

tomers even if use-per-customer declines. Fixed charges will yield faster revenue growth for these utilities than volumetric charges. Some of the best examples of revenue-based regulation come from approaches taken in other countries to regulate regional or national transmission companies. The United Kingdom, Australia, and Norway all use revenue caps as the basis for transmission utility PBR. In the UK and Australia, these caps have been in place for a number of years.

### 5.3 *Step 3 - Getting the Numbers Right*

Identifying goals and developing the structure are essential to correctly getting the right incentives. Getting the numbers right is essential to prevent windfall gains or losses and assure the long-term viability of the PBR. Getting the numbers wrong is a sure fire way to produce a PBR backlash.

There is no such thing as a perfect PBR. Even the best PBR can be described in ways that emphasize negative aspects. Thus a PBR with strong cost cutting incentives is simultaneously a PBR that encourages reductions in customer service and service quality. Some may argue that a revenue-based PBR that encourages investment in distributed resources and breaks the link between profits and sales will discourage growth and economic development. How are regulators to consider these competing incentives?

Advices can be summarized by the following points:

Focus on the goals of the PBR and create strong incentives to address the goals.

The major structural options are price caps and revenue caps. Both options create the same incentives to cut costs, but revenue caps create much better incentives for investment in distributed resources.

Use the "compared-to-what" test frequently. Experience with PBR shows that the process often gets bogged down in an effort to reach some sort of perfection, and attention often focuses on areas that are not especially important. Whatever inflation measure is picked, be sure it is not linked to the actual costs of the particular utility. A careful review of historical cost and revenue data should be analyzed.

## 6. DESIGNING A MONITORING SYSTEM

Long-term contracts are often made in order to obtain the benefits of private access to financing for necessary capital expenditures. However, it should be understood that this approach poses substantial risks and has considerable drawbacks. Such contracts may effectively preclude the public from obtaining the economic benefits and/or service benefits of future innovations which increase efficiency or quality because a company with a long-term contract might not feel compelled to make the improvements and/or through the cost reductions to consumers. In effect, they remove many of the advantages associated with contracting out public services and lead to a loss of future cost control.

*Concessions* generally specify broad performance targets and a tariff rule and then rely on incentives to compel the concessionaire to find the most efficient way – through technological and commercial innovation – of meeting the performance targets. Their central aim is to pass on to the concessionaire the responsibility for working out how best to meet customer service objectives. The monitoring of a concession should therefore focus on the concessionaire's success in meeting the targets specified in the concession rather than on how it meets those targets. Whether realistic performance targets can be established will depend on the quality of information available about the system at the time the concessionaire takes it over. And whether the concessionaire's achievement of the targets can be adequately monitored will depend on the creation of a regulatory agency with real monitoring capacity and on the contractual requirements for reporting and monitoring.

## 5. PERFORMANCE BASED REGULATION<sup>1</sup>

Performance Based Regulation (PBR) refers to any rate-setting mechanism which attempts to link rewards (generally profits) to desired results or targets. PBR sets rates, or components of rates, for a period of time based on external indices rather than a utility's cost-of-service. Other definitions include light-handed regulation which is less costly and less subject to debate and litigation. A form of rate regulation which provides utilities with better incentives to reduce their costs than does cost-of-service regulation.

The performance based regulation relies on financial incentives and disincentives to induce desired behavior by a regulated firm. The desired behaviors, or outcomes, are generally 1) lower costs, 2) improved service, and 3) more rational allocation of risks and rewards. The renewed interest in PBR largely reflects dissatisfaction with cost-of-service or rate-of-return regulation, especially the perception that cost-of-service regulation stifles utility innovation and causes utility managers to be more responsive to regulators than to customers. PBR may also be pursued by utilities seeking higher profits, more flexibility, or less risk.

Traditional cost-of-service regulation can provide very strong incentives. Regulation has been modified over time, and they have tended to dampen the incentives to cut cost while arguably serving some other, legitimate, purpose. The question for regulators is whether a particular PBR or other modifications to existing regulatory practices achieve desired results economic efficiency, least-cost service, and environmental protection and better serve the greater public interest.

A good PBR, one that replaces existing disincentives for investment in improved efficiency with positive rewards for superior performance, is desirable for consumers and utilities. If well designed, a PBR stands a good chance of motivating desirable behavior. More efficient and creative utility managers will take actions that benefit consumers and shareholders. Furthermore, PBRs can be implemented in all industry structures. The improvements that can be reaped through a well-designed PBR are generally unaffected by the status of a state's electric utility industry restructuring efforts.

With this background, one can understand the basic incentive properties of traditional cost of service regulation as applied to distribution utilities.

- If distribution utilities have volumetric prices, there is a strong incentive to increase sales. There is a corresponding disincentive to engage in any activity that reduces sales.
- Between rate cases, which can be a very long time, utilities keep 100 percent of any cost savings and, except for costs that qualify for deferred accounting or balancing accounts, they bear 100 percent of any costs incurred. This produces very strong incentives to cut costs.
- The timing and frequency of rate cases are generally in the control of utilities. This means there is an incentive to move costs around in time. If next year will be a test year's for a rate case, costs that can be put off this year and incurred next year will improve this year's earnings and provide evidence for a larger than needed rate increase.

There are three steps in designing or evaluating a PBR: articulate the goals to be achieved, select the right structure to meet the goals, and get the numbers right. Each step is important. Skipping any is a recipe for disaster.

<sup>1</sup> This part draws on NARUC, 2000

## 5.1 Step 1 - Articulate Your Goals

This step may sound trivial but it is not. Articulating goals is the time when most policy decisions are made. There is a long list of possible goals for a PBR, including increasing incentives for the following actions:

- **Cutting Costs.** This is the most common goal of a PBR. In theory, increasing the incentive to cut costs is also one of the easier goals to build into a PBR. In practice, however, meeting this goal often conflicts with other goals, such as sharing the benefits (cost savings) of the PBR with consumers.

- **Innovating.** Innovation in this context can have two, distinct meanings. One is to encourage the utility to find effective ways to cut costs. The second relates to incentives to develop new and creative service offerings. PBRs can be structured to encourage both results.

- **Improving Customer Service and Satisfaction.** This is a common element of most PBRs. It generally requires a set of targeted performance measures backed by a reward/penalty provision to encourage compliance. (Since improved service usually involves increased costs, the absence of specific performance requirements could very well put service quality at the mercy of efforts to cut costs).

- **Reallocating Risks.** This is potentially an important PBR goal. As explained more fully later in the report, the greatest challenge is to determine who-- the utility or consumer -- can bear particular risks most efficiently and then evaluate how investment decisions are influenced by various risk allocations.

- **Encouraging Investment in Cost-Effective Distributed Resources** can provide substantial savings to a distribution utility and its customers. In most instances the deployment of distributed resources hurt utility profits in much the same way that energy efficiency hurt utility profits. Experience shows that utilities, if properly motivated through a well-designed PBR, can deliver large amounts of energy efficiency at a low cost. This is especially important today as regulators have become aware of the distributed and reliability benefits delivered by energy efficiency, load management, and distributed resources.

- **Environmental Improvement.** Nationally and internationally the electricity sector has a large and disproportionate impact on the environment. The design and operation of a PBR will have environmental implications. The question is whether the environmental implications are explicitly considered as part of the PBR design process. Making environmental improvement an express goal of a PBR will assure its consideration.

- **Other Actions.** There can also be other goals such as simplifying the regulatory process, improving public understanding, and preparing for increased competition. Whatever the goal, articulating it and clearly setting priorities when goals conflict, is a critical step in the PBR design process.

Step 1 of the PBR process – identifying goals – has a number of important elements:

1. Identify, articulate, and prioritize goals.
2. Understand how well or poorly goals are met by conventional regulation.
3. If, for example, increased cost-cutting incentives are a high priority, compare the power of the proposed PBR to the power of the existing regulatory practice.
4. If the reallocation of risk is being considered, who bears the risk now, how will shifting the risk affect investment and operational decisions, and what are the cost implications of shifting risk.

## 5.2 Step 2 - Design a Structure to Meet the Identified Goals

Goals tell you what incentives you **want** to give the utility. The structure of the PBR determines what incentives **will** be given. PBR can be broad based or more narrowly targeted. A broad-based PBR covers all or most costs under a single structure. Price caps and revenue caps are examples of broad-based PBRs. A targeted PBR leaves most costs under existing forms of regulation and focuses on particular aspects of a utility's business. Examples include universal service, environmental protection, energy efficiency, customer service, and service quality. No matter how well designed a broad-based PBR is, there will always be some need for targeted incentives.

The need for targeted incentives results from the absence of customer choice in distribution companies and from the potentially unwanted outcomes that the cost-cutting incentives of PBR or traditional regulation create. If distribution were a competitive market, providers would compete on the basis of price, service quality, and customer service. But there is no meaningful competition for distribution services. Consequently, the quest for lower costs and higher profits will drive utilities to cut service quality and customer service. Setting standards with built-incentives (rewards and penalties) will encourage utilities to find acceptable lower cost ways to provide a specified level of service. Areas that warrant service standards include the following:

1. **Reliability.** This includes a long list of specific standards including the extent and duration of outages, service restoration time, frequency of planned outages, performance of worst circuits, and voltage variations.
2. **Call Center Performance.** This addresses how quickly and how fully calls to the utility are answered and how well consumer questions or complaints are resolved.
3. **Field Service.** This covers a wide range of situations in which utility employees make visits to the customers location. Standards may include how well appointments are kept and time to connect new service, test meters, and replace street lights.
4. **Billing and Complaints.** This includes billing accuracy, metering accuracy, complaint rates to the utility and regulator, overall customer satisfaction, and power quality complaints.

A major structural decision is whether PBR focus on price (price caps) or revenues (revenue caps). Price caps assume costs vary with sales volume. For distribution utilities costs do not generally vary with sales volumes. Interestingly, price caps and revenue-per-customer caps merge into one as rate design shifts from volumetric prices to fixed, recurring customer charges. At the extreme, if all distribution utility costs were recovered on a fixed customer charge basis, there would be no practical difference between a price and a revenue cap. Revenue-per-customer caps provide utilities with all of the financial and revenue stability benefits of high fixed customer charges but with little of the consumer headaches that come from significant rate design changes.

Thus, one of the best ways to approach the price cap/ revenue cap question is to compare two alternative rate designs: The following considerations arise:

1. How do the cost cutting incentives vary? The cost cutting incentives are the same for price and revenue caps. They differ over their treatment of incentives for energy efficiency investment, deployment of distributed resources, and sales promotion.
2. How do the utility and customer risks differ? With revenue caps, utilities are generally exposed to lower levels of risk associated with changes in sales.
3. Which approach better matches cost growth? With price caps, revenues grow in proportion to sales. With revenue caps, revenues grow in relation to customer growth. Cost-growth relationships favor revenue caps for distribution companies.
4. How fast will revenues grow? For some utilities, sales growth is driven by the addition of new cus-