

**Lessons from the
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Annotated by Sanford V. Berg, University of Florida

Teachers learn from their students and students learn from each other. As in the past, the 84 participants in this training course identified the key lessons learned over the intensive two-week period, sharing their reactions to formal presentations and informal networking during the concluding session at the University of Florida. The program has evolved over the years to meet the changing needs of maturing regulatory commissions and managers who are experienced with rate reviews. For example, this year, PURC Director Mark Jamison distributed a CD containing nearly 300 pages of a PURC-prepared *Body of Knowledge* that surveys fundamental principles, summarizes the literature on regulation, and provides an extensive glossary of terms. In addition, new sessions on leadership and organizational design have been added to the program in recognition of the role these tools play in complementing technical skills. Professionals need more than technical training; they must also understand how their interactions with others affect overall organizational performance. The lessons are presented in the order they were suggested rather than according to the topical outline of the course. Also included is a list of eight topics warranting attention from policy-makers—developed by Sanford Berg and Mark Jamison. We hope that the (slightly annotated) list promotes further discussion among all those involved in these important sectors. PURC’s staff appreciates the dedication and energy exhibited by participants in the 17th Training Program.

1. Interactions with the media determine public perceptions regarding the regulatory system.

Presenting honest and direct answers that avoid jargon is a first step toward helping reporters grapple with regulatory issues. Be clear about the position of the organization (a regulator wants citizens to understand the role and goal of the agency), then provide specific examples of the impacts of decisions that link directly to the audience. The agency representative should also provide a concluding statement that sums up what the agency is trying to accomplish.

2. In negotiations, understand what the other party values and be clear about your objectives. The “deal” has to create value for both parties, or it will not be sustainable. In addition, you need to be aware of the “best alternative to a negotiated agreement” (BATNA), since that serves as a test as to whether the settlement meets your objectives.

3. Implementing market and regulatory reform requires great care on the part of those making and implementing public policy. One could argue that treading carefully and moving in a slow, deliberate manner can be more effective than rushing forward just because there seems to be a “window of opportunity.” Mistakes in market design and regulations (like those made in California) can set back reform significantly.

4. Regulatory governance starts with being clear about objectives. Those managing the commission cannot evaluate staff performance without communicating organizational goals and how outcomes are to be measured and rewarded. Of course, some objectives are complementary and others are conflicting. Nevertheless, they must be articulated. “If you do not know where you are going, the direction you take and the distance you travel do not matter!”

5. The power of preparation cannot be underestimated. For example, in the case of seeking input from stakeholders or communicating decisions, you need to understand the audience and educate the groups

affected by regulatory rulings. Thus, additional time spent preparing the rate case reduces the likelihood of misunderstandings later on. Similarly, negotiations require significant preparation.

6. **Market design is an important issue for regulation.** A key task of regulation is mitigating the exercise of market power. Avoiding situations like the disaster in California requires that those implementing reform understand the implications of market structure and the incentives facing market participants. In California, the absence of price signals meant that consumers had no incentive to conserve.
7. **The domain of regulation goes beyond technical issues.** Regulators also require leadership skills, which involve listening to as well as persuading others. Listening comes first. “A leader is best when people barely know he exists; when his work is done, his aim fulfilled, they will say, we did it ourselves” Lao-Tzu).
8. **Communication is crucial.** Regulators and managers interact with stakeholders in a variety of settings. The resulting communications range from information requests, conversations with unhappy consumers, reports to the legislature, and press conferences. Each activity conveys a message to groups affected by regulation. If those messages are unclear, the institution will lose credibility with stakeholders.
9. **Regulation is a new and evolving subject.** Traditional disciplines like law, engineering, economics, and accounting have addressed different aspects of infrastructure development. In emerging markets, there are few educational opportunities for gaining exposure to regulatory issues. Universities are beginning to develop programs that can meet the new demands of regulatory institutions.
10. **Key lessons apply across sectors.** Although telecommunications, energy, and water/wastewater have very different production technologies and opportunities for innovation (and competition), all are network industries, and lessons regarding reform, benchmarking, incentives, and other issues can be applied across sectors. Good decision-making requires skills in “pattern recognition,” so familiarity with developments in one particular sector can improve policies in others.
11. **Networking among professionals is a valuable activity.** Because lessons can also be applied across countries, working with colleagues in other organizations can strengthen the knowledge base of regulators. Many regional associations serve as clearinghouses for studies and reports. They give people a chance to expand their professional education. Such interactions provide opportunities to mentor and to learn from others.
12. **Technical issues can be clarified through the sharing of experiences across sectors and countries.** Such sharing gives you confidence that you have considered a wide range of policy options and applied the best analytic tools in evaluating those options. Nevertheless, if you lack communication skills, the best technical analysis is useless.
13. **We (as individuals) can control our reactions to external stimuli.** We are all reminded that events and people can trigger counterproductive behavior. Stepping back from the emotional intensity of the moment may be an essential skill if we are to be effective in dealing with others. According to Skip Everitt, “emotional intelligence” can contribute to goal-seeking by helping us to (1) be self-aware, (2) practice self-intervention (stop, think, choose), (3) display empathy (understand a situation from another’s viewpoint), and (4) apply social skills (reflecting our ability to truly engage others in dialogues). We often hear the phrase “Seeing is believing.” It is also true that “Believing is seeing.” That is, our own pre-conceptions and needs can sometimes color a situation, causing us to over-react and to miss an opportunity for reconciliation or compromise.
14. **It is easy to lose sight of the ultimate goal.** We all get caught up in day-to-day routines and get lost amidst the trees. Sometimes we need to step back or float up “to see the forest.” The big picture is

where sector performance is measured, monitored, and improved—via policies that avoid micromanaging suppliers. Furthermore, it is important to identify our circle of concern and our circle of influence. We can monitor the former, but our true impact occurs in the latter area.

- 15. Multiple skills are needed in an organization.** Not everyone needs to be a financial expert familiar with alternative approaches to estimating the cost of capital, but someone does need this skill (or have the ability to interact with a consultant on the topic). The same applies to engineering, the law, and other fields. In addition, each specialist needs to appreciate how the different disciplines affect the way infrastructure industries operate and how the general public can be kept informed of sector performance.
- 16. Public perceptions of regulatory autonomy affect citizen confidence in the quality of regulatory decisions.** Distance from both government ministries and the operator is essential if regulatory decisions are to be based on merit rather than the influence of politically powerful actors. Of course, complete political independence is unrealistic: infrastructure is an important contributor to national growth and access to networks has significant symbolic meaning. In addition, complete independence would be counterproductive, since that would imply a lack of accountability. Nevertheless, the time horizons for infrastructure investments require credible commitments to policies—so regulatory decisions do need to be insulated from day-to-day political considerations.
- 17. Benchmarking is a valuable tool for both regulators and managers.** In the case of a local natural monopoly, multiple suppliers would greatly raise costs. However, because of information asymmetries, the regulator needs additional data on performance of comparable firms. The techniques for making valid comparisons must be carefully applied. Nevertheless, scorecards for firms and managers provide information on opportunities for further cost reduction, thus helping regulators establish better incentives for controlling costs and improving service quality.
- 18. Analytical capacity at organizations is an important determinant of sound decisions.** Regulatory rulings must be able to withstand appeals. Thus decisions must be based on the clear application of the law and the use of appropriate facts in reaching conclusions. Faulty analysis leads stakeholders to have legitimate concerns regarding the resulting rules. Expertise promotes critical thinking, which can then blossom into creative thinking that identifies win-win outcomes.
- 19. The complexity of regulation means that problems are never solved, only managed.** Regulators face a significant challenge in trying to apply lessons from previous decisions and from other nations to the current context in an industry. Continuity requires some attention to precedents, yet new situations may demand flexibility in the application of past approaches to related issues. Ultimately, success depends on four “I’s”: information, ideas, incentives, and institutions.
- 20. Two requirements of good regulation are *vision* and *communication*.** Any organization can prepare a mission statement, but implementing the organization’s vision requires a deep commitment to prioritizing outcomes and monitoring performance. Agencies expect ethical behavior by all staff; procedures must be applied to ensure that violations are identified and punished, lest the commission lose public trust. The vision must be communicated to stakeholders and progress reported on a regular basis, so everyone is aware of the extent to which the agency is meeting its objectives.
- 21. Never lose sight of the big picture: broad perspectives require exposure to international experience.** Despite long experience with regulatory commissions in the United States, state and national commissions are changing their processes to cope with rapid changes in infrastructure. Other nations have important lessons to share as well. There is no simple recipe for sustainable regulatory systems. National laws, local expectations, citizen values, and political stability all constrain what a regulator can do. Nevertheless, “It’s sector performance that counts.”

- 22. Be firm in decision-making.** A regulatory ruling affects the revenues of suppliers and the pocketbooks of customers. To increase the probability that stakeholders will accept a ruling, the process must be timely, transparent, and viewed as reflecting the legitimate concerns of all parties. A rule-making process involves a number of steps. Ultimately, the decision must be clear, concise and definitive, so all affected parties understand the factors supporting the decision and the weights given to expected performance outcomes.
- 23. Because market stability affects investor perceptions, the regulatory system should be perceived as fair.** Fairness is very difficult to define with precision, but it certainly involves balancing the interests of stakeholders in a way that promotes the financial sustainability of the sector. At the same time, the process and outcome must pass the test of “legitimacy” from the standpoint of consumers. The first axiom of private investment is that “It is voluntary.”
- 24. Learn from others so that pitfalls can be avoided and successes can be replicated.** Each nation has a unique context, so the lessons will require fine-tuning for application to the local situation. Nevertheless, there is much to learn from the experiences of others. For example, benchmarking is one technique for evaluating performance in a way that compares “like to like” while recognizing geography, population density, and other factors beyond the manager’s control.
- 25. Communication within and beyond the commission is crucial for making good decisions and for making decisions good.** Good decisions require input and careful analysis: the talents within the commission are crucial. However, just publishing a decision will not improve sector performance. Making decisions good requires that implementation be given appropriate attention. Stakeholders need to be kept informed of how the new rules create incentives that will promote cost containment, quality improvement, and service expansion.
- 26. The regulatory process is not set in stone: there can be opportunities to fine-tune decisions.** However, commissions should not try to micromanage the situation between rate reviews. In extreme circumstances, adjustments may be required for the financial health of the supplier or for the political acceptability of outcomes. Of course, such flexibility reduces the predictability of the regulatory regime, so such adjustments should not be made without recognizing the potential downside.
- 27. Three pillars of sound regulation include having clarity of goals, technical competence of professional staff, and attention to media relations.** If objectives are not prioritized, then stakeholders are likely to challenge decisions on the basis that those decisions damage the goals of the commission. In addition, sound analysis improves the likelihood that the ruling will reflect an understanding of impacts. Finally, educating and learning from stakeholders requires expertise in working with the media.
- 28. Regulators must be able to explain the California experience to convince policymakers that infrastructure reform can create value.** Two lessons of California are that self-regulation and self-organizing markets fail. In addition, the exercise of market power is much more likely when demand is pressing on expensive capacity. Regulatory failures in some jurisdictions represent learning opportunities for others.
- 29. No mathematical formula can provide a detailed recipe for regulation.** The “classical approach” has the regulator “in the middle” mediating among consumers, suppliers and government ministries. The implication is that an “independent” or “somewhat autonomous” regulator is able to focus on the long term, brings expertise to the table, and provides some distance from day-to-day politics. However, it may be that significant initiatives occur only when the current system is shown to be broken or is not delivering on public policy promises.

- 30. Legal, economic, and engineering skills are all needed at a regulatory agency.** No discipline has a monopoly on the skills required to analyze options and implement decisions. Thus, members of the professional staff need to understand and appreciate the usefulness of complementary disciplines. In addition, those making decisions must be able to draw on the talents of a variety of people who know that it is more important to “ask the right questions” than to offer “half-baked solutions” to problems.
- 31. Analytical skills are important but communication skills should not be undervalued.** To shape the perceptions of stakeholders and underscore regulatory independence, professional staff and commissions need to be educators of the general public and advocates for efficiency. A pragmatic approach to decision-making recognizes that the future is unknowable, but the system must be robust enough to withstand a wide range of contingencies. “In bureaucratic organizations, things are accomplished in memos; in hierarchical ones, in meetings; and in academic-collegial ones, in the interstices between meetings and in the margins of memos” (Adam Gopnik). If this is true, then regulatory commissions might be viewed as resembling collegial bodies that (to be productive) require openness within the organization and the use of teams in exploring policy options.
- 32. Without a long regulatory tradition, the initial years of new commission are fraught with difficulty.** The agency cycle can be viewed as moving through four phases: Birth, Youth, Maturity, and “Old Age.” From the standpoint of improving sector performance, each phase has its own threats and opportunities. In the early stages, in particular, policymakers often want to retain authority, so reform and private participation raise extremely difficult political issues for decision-makers. “Power is the single most difficult thing for a person to relinquish” (Lord Acton).
- 33. Since key stakeholders benefit from efficiency, the question is how to create incentives so decision-makers improve performance.** Detecting improvement means that the baseline must be widely known and publicized. Also, targets must be understood by affected parties. Incentives matter. Better outcomes are likely to be based on policy designs that emphasize rewards and penalties (e.g., obtaining greater effort by offering bonuses for reaching set goals). In addition, giving credit to others is more likely to gain allies than claiming success for oneself. “My plan” sounds like a decree; “our plan” (developed in a workshop setting) is more likely to avoid residual resentment.
- 34. A sound policy evaluation process requires four steps.** First, appropriate data should be obtained and organized so that it becomes useful information about the baseline. Second, critical thinking must be part of the process so that logical fallacies are recognized and incentives are linked to outcomes. Then the evaluating team can engage in creative thinking that develops new options and provides the basis for convincing others of the merits of those options. Finally, there needs to be a step involving accountability—usually requiring the recognition of ethical concerns (regarding both the process and the outcome) and the explicit prioritization of outcomes. “Memory stocks the mind, a critical regard sifts through information, and a synthesis of creativity and practicality stimulates new ideas and successful action, guided, ideally, by wisdom” (Jeri Nicole).
- 35. You cannot please everyone.** If each stakeholder is disappointed in a regulator’s decision, it is likely that no party was given excessively favorable treatment. Nevertheless, the process needs to be transparent, so investors view the decision as credible and citizens view the decision as legitimate. Regulation involves balancing divergent interests and attempting to identify win-win options. “In this age, which believes that there is a shortcut for everything, the greatest lesson to be learned is that the most difficult way is, in the long run, the easiest” (Henry Miller).
- 36. The regulatory process has limitations and we as individuals have limitations.** No regulatory process (or decision) can be perfect: there will always be timing issues, unhappy stakeholders, and disappointed politicians. Similarly, no decision-maker is perfect: we all have limited capacities for

identifying policies that will improve performance. Nevertheless, we move forward and learn from our own mistakes. Perfection is the greatest enemy of the good.

- 37. Decision-makers need both discipline and openness to ideas.** There is deep joy in being curious about why and how the world works the way it does. Having a questioning mind is essential if options are to be identified. “The real voyage of discovery consists not in seeking new landscapes but in having new eyes” (Marcel Proust).
- 38. Patience is another virtue to be encouraged.** Reform and change do not always come quickly. In the past, government ministries established public policy and promulgated rules. Today, most nations have created independent regulatory commissions to *monitor* the behavior of firms and establish rules for market entry along with procedures for changing prices. These new institutions generally establish incentives to promote service quality and universal access. Some have antitrust responsibilities. Other agencies may *monitor* performances by firms across sectors, including environmental impacts and worker safety. Improvements in infrastructure take time, so the focus should be on targeted outcomes that are highly valued by citizens. “The intuitive mind is a sacred gift and the rational mind a faithful servant. We have created a society that honors the servant and has forgotten the gift” (Albert Einstein).

Topics Warranting the Attention of Policy-Makers—Seeking New Lessons

Mark Jamison and I were asked to contribute to a survey attempting to identify the most important topics that cut across sectors and regions. Here are several topics we identified, based on our work with international regulators. The list is included here to spark discussion about these issues.

- 1. Credibility of new regulatory regimes:** Have the commissions been able to create confidence among key stakeholders that the rules are designed to improve sector performance and not to reward politically powerful groups? This means that media leaders and professionals understand the role of regulators in implementing public policy. The design and legal basis for the regulatory agency is one element affecting credibility. Key reasons for regulatory agencies include opportunism (both from government and operators), market power, and information asymmetries. The design and role of the regulatory agency has a significant impact on the regulator's success in dealing with these issues.
- 2. Financial sustainability of infrastructure suppliers:** Are the public and/or private suppliers able to maintain and operate current assets and to expand systems to meet stated public policy objectives? Capital attraction via legislative appropriations, development banks and private markets remains a crucial issue for electricity and for water/wastewater. Telecommunications seems to have unique advantages (innovations and consumer willingness to pay) that make capital less an issue for these suppliers. Price level (and structure) and service quality are two important elements to consider here.
- 3. Mispriced inputs:** To what extent are political and regulatory leaders willing to address the long-term consequences of over- (or under-)utilization of some resources? Telecommunications has spectrum issues, electricity has siting and environmental issues, and water has water resource management problems. In addition, for public firms, the cost of capital may be too low (or too high in some cases). Unique events in a particular region (such as currency devaluation) may trigger capital market responses that result in generalized increases in the cost of capital, when the "true" risks are much more nation-specific. Regulation also affects the cost of capital: price/revenue caps, rate of return, and methodologies used to estimate the cost of capital vary across sectors, but the fundamental need to attract capital so that service can expand and improve is key in all sectors.

Finally, if there are poor incentives for managers, there will be inappropriate payments to this key input (leading to poor sector performance).

4. Growth and infrastructure: What is the relationship between infrastructure and national growth? Some analysts seem to make a supply-push argument, with infrastructure being a catalyst for growth. Others emphasize the demand for services (consumer valuations) as the key driver for network expansion. We need a better understanding of the factors driving development. Perhaps the institutional elements most conducive to growth also are the ones that promote investments in infrastructure (longer time horizons for decision-makers and citizen confidence in the economic system).

5. Division of labor among various stakeholders: What are the legitimate roles for the legislative, judicial, and executive branches of government, sector regulators, infrastructure suppliers, local and international NGOs, the press, consumer advocates, and academia in developing, implementing, and evaluating infrastructure sector performance? In emerging markets, a number of stakeholders vie for power. Promoting a serious national discussion on infrastructure policy and sector performance requires that these stakeholders be brought together to identify the ways each can contribute to improving performance, while avoiding self-serving rent-seeking. Ultimately, leadership needs to emerge from several of these groups if infrastructure is to become a high priority for emerging markets.

6. Leadership in regulation: How can people with significant responsibility be equipped to provide leadership? The regulator is in a precarious position: Independence decreases the political power of otherwise powerful players. The regulator is a key player in the infrastructure sector, but has only limited authority. The practice of regulation affects policy even if the regulator is to have no formal policy role. Regulators need adaptive leadership skills if they are to thrive in this system.

7. Efficient pricing, including for services to the poor: To what extent can prices be consistent with what one would expect to observe in a well-functioning competitive market? Poor regulatory policies lead to operators' making decisions that lower consumer welfare and customers making inefficient purchasing decisions. In addition, the economy does not grow at its potential, and the preferred market structure may be difficult to maintain. Finally, developing targeted subsidies for groups that would otherwise be unserved is important for social cohesion.

8. Identifying efficient market structures: How can those developing and implementing infrastructure policy create market structures that promote cost containment, service quality improvement, and the introduction of valued new products? Operators make strategic decisions based on their perceptions of how real/potential rivals, government, and customers will respond. This is important for market design (e.g., electricity), bidding for contracts (e.g., water concessions or management contracts), and rivalry and innovation (e.g., telecoms). Good sector performance involves value creation. Ultimately, policy-makers need to direct managerial effort toward expanding the pie rather than to increasing the share of a fixed amount going to a stakeholder: zero sum games dissipate value.