

I. Key Qualifications

Ms. Kalver has over 26 years' experience in the economics of regulated industries. Since September, 2002, she has been Principal Regulatory Specialist in the South Asia Energy Division of the Asian Development Bank. She seeks to return to consulting.

From 1996 through 2002, Ms. Kalver was engaged as an independent consultant in the former Soviet Union, Eastern Europe, and Africa as a member of interdisciplinary teams, including economists, engineers, lawyers, and accountants, who advise ministries, regulatory commissions, and other government organizations in the planning and implementation of all aspects of the restructure, institution building, and privatization of the electric power and telecommunications sectors.

From December 2001 through February 2002, on behalf of the World Bank, she advised the Privatization Unit of the Government of Lesotho in the privatization of the electric power sector. She provided economic and market analysis, and she was a member of the team that advised in strategy and recommended the conditions of privatization.

During the winter of 2000-2001, on behalf of USAID, she advised the Minister of Justice of Armenia in the reform of the telecommunications sector, with particular regard to renegotiating the license of ArmenTel, the monopoly provider. In September 2001, she consulted to the World Bank in the establishment of an independent regulatory body.

From August through September, 2001, on behalf of USAID, she advised the Ministry of Communications of Romania in drafting regulations for electronic signatures. She assisted attorneys and technical staff in obtaining information about legislation and industry standards in the European Union and the United States. She made recommendations on licensing fees, liability, enforcement processes, and the industry structure and regulation.

From June through September, 2000, on behalf of USAID, she worked for the United Nations Mission in Kosovo, as a member of the Public Utilities Department, which was responsible for the restoration of infrastructure, governance, and regulation of the electric power and water industries in Kosovo. Ms. Kalver was engaged in improving the informational capabilities of the electric power sector for the purposes of monitoring operations, setting tariffs, and preparing the industry for the liberalization of markets. In addition, she advised the Reconstruction Department on the telecommunications sector of Kosovo.

From fall of 1999 through winter of 2000, she was part of a team that advised the electricity regulators in Armenia on the privatization of the distribution sector and the setting of tariffs. She was responsible for developing electricity tariffs for

generation, transmission, and distribution, as well as for advising and educating the Energy Regulatory Commission on western practices in cost allocation and ratemaking.

In May 1999, she was part of a team that assessed the privatization process in Ukraine, evaluated the effectiveness of educational programs sponsored and funded by the US Agency for International Development (USAID), and made recommendations for USAID's new Mission Strategy.

In 1997, she was part of a team that worked with USAID to advise the Government of Kyrgyzstan in restructuring its electric power sector and setting wholesale and retail tariffs. She built a financial model of the electric power sector for the State Property Committee, to assess the profitability of the distribution companies under various restructuring scenarios and to provide insight to the State Energy Agency about rate levels that would cover costs.

In 1996, she was part of the team that worked with USAID to advise the Government of Kazakstan in the restructuring and privatization of its electric power sector, establishment of a regulatory body, and design and implementation of a power pool.

In the domestic electric power industry, she evaluated demand-side management programs on behalf of electric utilities. As a load forecaster at American Electric Power, she forecasted energy sales.

Ms. Kalver was an economist in the former Bell System for more than eight years. Her responsibilities included all aspects of revenue requirement, including depreciation, demand forecasting, and rate case preparation.

From 1987 through 2001, Ms. Kalver consulted to intervenors in postal rate proceedings. In this capacity, she testified in several areas of cost of service estimation, providing economic, technical, and policy analysis. She contributed to briefs and comments on regulatory issues that are filed by the client's attorneys. Through her knowledge of domestic and international postal issues, she organized a successful series of meetings for the newly-established British postal regulators when they visited the United States and Canada in the fall of 2000.

Ms. Kalver has performed research in the areas of knowledge management and intellectual capital. She has applied economic theory, including demand theory and economic depreciation, to the measurement of intellectual capital and other intangibles, and she has presented her research at professional and academic seminars.

Ms. Kalver has provided analysis and advice in the development and implementation of regulatory reform in the telephone, cable, and satellite communications industries. She has provided consulting services to France

Télécom's advisers on privatization. She has testified in telecommunications proceedings and participated in numerous depreciation rate cases in the telecommunications and electric power industries. She has also evaluated safety regulations for interstate trucking for the Federal Highway Administration.

Her other experience in regulated industries includes: demand forecasting, management audits, point-to-point studies of telephone traffic, analyzing and projecting company operating expenses, and benefit-cost analysis.

Her experience in economic and technical consulting includes: microeconomic theory, industrial organization, market research, econometrics, mathematics, statistics, and operations research. She has provided litigation support in various industries.

II. Education

- MA Economics, Graduate School of Arts and Sciences, University of Pennsylvania, Philadelphia, PA. Doctoral Candidate, 6/75; M.A., 12/81. Academic Scholarship, 9/73-6/75. Topics studied: microeconomic theory, econometrics, public goods, externalities, regulatory economics, risk. Completed all doctoral course work and examinations, including special field examinations in econometrics and microeconomic theory.
- MA Mathematics, Graduate School of Arts and Sciences, Harvard University, Cambridge, MA, 6/66. Academic Scholarship, 9/65-6/66; Traveling Fellowship, 9/68-6/69. Completed all doctoral course work.
- BA Mathematics, Harvard University, Cambridge, MA, Cum Laude in Mathematics, 6/65.
- Mathematics, Massachusetts Institute of Technology, Cambridge, MA, 9/61-6/63.
- Operations Research and Statistics, New York University Graduate School of Business Administration, New York, New York, 2/72-6/73 (part-time). Topics studied include: experimental design, nonparametric statistics, linear programming, non-linear programming.

III. Employment Record

- 2002-date **Principal Regulatory Specialist**, South Asia Infrastructure Division, Asian Development Bank, Manila, Philippines.
- 1986-2002 **Economic Consultant**, Washington D.C. Independent consultant (President, LCK Associates) from 1991.
- 1980-1986 **Senior Economist**, New York Telephone and NYNEX, New York, New York.
- 1978-1980 **Load Forecaster**, American Electric Power, New York, New York.
- 1976-1978 **Economist**, AT&T Long Lines, Bedminster, New Jersey.

IV. Details of Selected Experience

A. Institution Building, Regulatory Reform, Restructure, and Privatization

- **Asian Development Bank.** Principal Regulatory Specialist, South Asia Infrastructure Division, 9/02-date. Ms. Kalver has participated in six loans and technical assistance (TA) grants. Her activities in these projects include:

Kerala (India) Power Sector Development Program: Prepared for Second Tripartite Meeting by reviewing consultants' Inception and Interim reports. Wrote 7-page memorandum as basis for discussions with consultants. Attended Tripartite Meeting with utility, government, and consultants. Met separately with attorneys to discuss draft Reform Bill.

Gujarat (India) Power Sector Development: Officer in Charge (Mission Leader). Participated in Contact Mission to discuss conditions for release of second tranche of loan. Met with Government of India in Delhi and with Government of Gujarat in Gandhinagar. Met separately with attorneys to discuss draft of Reform Bill. Currently engaged in satisfying requirements for release of remainder of loan (second and third tranches combined). Officer in Charge in Review Mission. Officer in Charge in Technical Assistance: Capacity Building of the Electricity Regulator.

Energy Sector Reform in Assam (India): Project economist in loan processing. Responsible for the economic evaluation of the project, which is measured by the Economic Internal Rate of Return (EIRR), Financial Internal Rate of Return (FIRR), and Poverty Impact Ratio (PIR). Participated in Fact-Finding Mission and Appraisal Mission. Officer in Charge in Technical Assistance, Capacity Building of the Electricity Regulator. Lead role in First Tripartite Meeting: evaluating consultants' work in Inception Mission.

Capacity Building of NEPRA, the Electricity Regulator of Pakistan (TA): Desk review of consultants' deliverables, including Inception, Interim, and Final reports, as well as numerous reports on specific topics. Wrote 14-page memorandum for Project Leader identifying remaining gaps in NEPRA's knowledge and ability to regulate, after the end of the TA. Adapted it to be suitable for circulation outside ADB, as a memorandum identifying areas where further TA (e.g., from other donors) would be beneficial.

Capacity Building in the Electricity Regulator of Bhutan (TA): Advised Project Leader in drafting consultants' terms of reference. Advised Project Leader on the need for regulation and the responsibilities and authorities of an electricity regulator, addressing the particular situation in Bhutan, where electricity exports are an important part of the economy. Advised him in general on capacity-building TAs, based upon the deficiencies observed in the NEPRA TA.

In addition, Ms. Kalver is a member of the Private Sector Development Committee and is the co-chair of the Working Group on Regulation of Utilities, where she makes presentations, leads discussions, and participates in the planning of training programs in regulation. She regularly attends outside seminars on regulation in the region.

- **Restructure and privatization of electric power sector, in the Kingdom of Lesotho.** Senior Economist, 12/01-2/02. Ms. Kalver was engaged by Barents/KPMG Consulting (KPMG) to provide consulting services on behalf of the World Bank to the Privatization Unit of the Government of Lesotho. She was responsible for an economic and market analysis of the sector, which will be a component of the due diligence review. She was a member of the team that will defined and evaluated privatization options, determined performance criteria for the investor, and recommended the optimal privatization scheme for the tender offer.
- **Developing independent telecommunications regulator and assessing the benefits of a multi-utility regulator, in Armenia.** Senior Telecommunications Specialist, 9/01. Ms. Kalver was engaged by Economic Consulting Associates (ECA) to provide consulting services on behalf of the World Bank to the Armenian Energy Regulatory Commission (ERC). The scope of work was to make recommendations for regulation of the telecommunications and water industries in

conformance with the existing regulation of the energy sector, and to assess the advantages and disadvantages of extending the responsibilities of the ERC to include the regulation of these other utilities. Ms. Kalver's responsibility was the telecommunications sector, with particular regard to the issues surrounding the broad and long-lasting monopoly power of ArmenTel over most telecommunications services.

Her activities included

- Met with ERC to discuss the characteristics of multi-utility regulator.
- Reviewed the license of ArmenTel and the Telecommunications Law of Armenia.
- Met with the Minister of Justice to discuss the progress in renegotiating ArmenTel's license.
- Met with the Minister of Transportation and Communications to elicit their views on regulating ArmenTel.
- Met with ArmenTel to discuss their view of the IT sector.
- Met with other stakeholders, including attorneys, IT venture capitalists, and political advisers, to discuss their views of the impact of ArmenTel's monopoly.
- Reported on utility regulation in the United States which, at the state level, consists of a multi-utility regulator for at least telecommunications and electricity.

Her findings included:

- The license of ArmenTel provides strong monopoly power coupled with no universal service requirement and no definite requirement for service standards.
- The license of ArmenTel does not require stringent regulation, but it permits much tighter regulation than is now being provided by the Ministry of Transportation and Communications.
- Even if the monopoly power of ArmenTel is undiminished, the effects can be mitigated by strong regulation, which can be administered within the scope of the exiting license. This militates for an independent regulatory body that is committed to balancing the needs of ArmenTel with the need of the consumer.
- In the light of the experience in the United States and the established record of the ERC, it appears advisable to extend the powers of the ERC to include regulation of telecommunications, making it a multi-utility regulator.

She presented her conclusions and recommendations in the final report, for which she wrote the section on telecommunications and contributed to the introductory section on regulation.

- ***Developing Secondary Legislation for Electronic Signatures, in Romania.*** Senior Telecommunications Specialist, 8/01-9/01. Ms. Kalver was engaged by Associates for Rural Development, Inc., to provide consulting services on behalf of USAID to the Ministry of Communications and Information Technology (MCIT) in the area of electronic signatures. Her responsibility was to advise in writing regulations for electronic signatures that conformed to the electronic signature law of Romania and to the EU directives on electronic signatures by informing the MCIT of the regulatory climate in the United States and in Western Europe and determining how this legislation applied to Romania.

Her activities included initiating communication of the legal and technical staff of the MCIT with the General Director and staff of the National Institute for R&D in Informatics (ICI) and with members of the IT community, so that the regulations would not only conform to the desired legal and regulatory standards but also promote electronic signatures as an industry. In particular:

- Met with legal staff of MCIT to discuss their activities in drafting legislation and regulations.
- Met with technical staff of MCIT and staff of ICI to discuss standards for security.
- Met with large representative group from the ICT sector, including ICI, ISPs, and software providers in an integrated forum about the electronic signature industry in Romania. She facilitated a discussion among diverse stakeholders in the IT sector concerning their requirements for a thriving industry in the provision of electronic signatures.
- Held follow-up meeting at ICI with a small group to discuss their final questions about electronic signature legislation in other countries, both the US and the EU countries. She responded to these questions by providing written and electronic sources of information.

She reviewed legislation and reports on electronic signatures and provided the documents and her comments on them to counterparts. These documents included:

- Electronic signature legislation, which was passed by Parliament in July 2001.
- Electronic commerce legislation.
- EU standards for electronic signatures.
- Consultants' report (sponsored by USAID) on the IT industry in Romania.
- Report summarizing and analyzing e-signature legislation in US, comparing and contrasting federal legislation with legislation at the state level.

She presented her conclusions to USAID and made recommendations for further technical assistance to promote the electronic signature industry and, more generally, the IT industry in Romania.

- ***Regulation and Competition in Telecommunications Sector, in Armenia.*** Senior Consultant, 12/00-2/01. Ms. Kalver was engaged by the Barents Group to provide consulting services on behalf of USAID to the Minister of Justice. Her responsibilities were to advise in renegotiating the license of ArmenTel, the monopoly telecommunications provider, and in establishing an independent regulatory body for the telecommunications sector.

Her activities included meetings with members of the IT community to develop strategy for reducing the monopoly power in the most advantageous manner for business, education, and the economy. In particular:

- To determine the need for renegotiating the license, culminating in the writing of a report describing how ArmenTel's monopoly impedes economic growth in Armenia;
- To identify particular outcomes (e.g., growth in the IT sector) that might result from a complete or partial elimination of ArmenTel's monopoly; and
- To advise concerning what ArmenTel might want in return.

She reviewed proposed legislation and wrote analysis and comments:

- Reviewed the Draft Privacy Law, wrote comments and recommendations, and presented them at a meeting that included the writers of the law, attorneys, members of the ICT community, and other interested parties.

- Reviewed Draft Law Establishing an Independent Regulatory Body and wrote comments and recommendations for the Minister of Justice.
- At the request of the Minister of Justice, compared the above law to the Draft Energy Law and identified the deficiencies of the former as the basis for regulation. Prepared comments and recommendations.
- ***Governance and Regulation of Energy Sector, and Development of Telecommunications Sector, in Kosovo.*** Senior consultant, 6/00-9/00. Ms. Kalver was engaged by the Barents Group to provide consulting services on behalf of the United States Agency for International Development (USAID) to the United Nations Mission in Kosovo (UNMIK). Her primary responsibility was in the governance and regulation of the energy sector.

As a member of the Public Utilities Department of UNMIK, she worked with the electric utility (KEK) and the local district heating company, Termokos Pristina, in all processes leading to the better reporting of data, improved billing and collections, and the eventual setting of cost-based unbundled tariffs. She advised on strategy, including the possible privatization of KEK or the licensing of its management activities to an international firm.

Her activities included:

- *Privatization:* Wrote report expounding the need for unbundled generation, transmission, and distribution tariffs, stressing their importance for power trading, as well as restructure and privatization. Wrote report setting out the steps for privatization of electric power sector, discussing issues specific to Kosovo.
- *Utility accounting system:* Wrote report describing in detail an integrated utility expense, capital, and revenue accounting system, structured in modules suitable for donor funding. Identified mechanisms necessary for collecting the required cost, revenue, and engineering data from KEK.
- Made improvements to the interim accounting system, the Monthly Report, to make it more accurate and complete. Initiated the collection of as much non-financial data as possible (e.g., labor force, kWh), in order to use the Monthly Report as a tool for economic analysis.
- *Cost and tariff estimation:* Adapted the Monthly Report into a simulation model to estimate transfer prices and retail tariffs. Added parameters, such as the price of imported and exported electricity, technical and commercial losses, and the percentage of bills that are not collected. Used the model to evaluate costs, transfer prices, and retail tariffs, under alternative assumptions about these parameters.
- *District heating:* Advised district heating consultants in adapting the model for use in district heating.
- *Estimation of commercial losses:* Made independent estimates of commercial losses using monthly engineering reports.
- ***Restructure and Privatization of Electric Power Sector in Armenia.*** Senior consultant, 11/99-2/00. Ms. Kalver worked with Hagler Bailly Consulting, Inc., to provide consulting services on behalf of USAID to the Government of Armenia in support of the process of restructuring the electric power sector, privatizing the distribution companies, and establishing wholesale and retail tariffs. She advised the ERC in developing a tariff methodology appropriate for Armenia, which comports with cost-of-service ratemaking.

Her activities included:

- *Institution Building:* Provided written analysis and recommendations on Draft Electricity Law. Advised the Energy Regulatory Commission of Armenia (ERC) in rate-setting appropriate for Armenia, and trained them in cost-of-service rate-setting as practiced in the United States.
 - *Privatization:* Worked with the ERC to develop tariffs for the transitional period of privatization and for the first decade afterwards. Assessed the retail tariff margins initially proposed, made recommendations, and developed a procedure to adjust them for inflation and changes in the exchange rate.
 - Reconciled independent financial models of privatization and developed procedure for running both models under consistent sets of assumptions. Evaluated alternative scenarios about purchase price, tariffs, and several financial parameters. Presented results to ERC, World Bank, and financial adviser to the Government of Armenia (GOA).
 - Provided written analysis and recommendations on: letters of commitment from ERC and GOA to potential investors, draft of Tariff Agreement from ERC to potential investors, and draft of "Instructions to Bidders".
 - *Tariff study:* Developed model for two-part tariffs for generation and wholesale sales, which incorporated the most recent engineering and economic forecasts, including operating and maintenance costs, net generation, peak load, and sales.
- ***Restructure and Privatization of Electric Power Sector in Ukraine. Evaluator, 5/99.*** Ms. Kalver worked with The Mitchell Group, Inc., to advise USAID in their strategic planning for deploying funds. She evaluated the progress of the privatization process in the electric power sector and she assessed the educational and training programs that USAID provides to government officials, regulators, and electricity professionals and managers.

Her activities included:

- *Institution building:* Evaluated the effectiveness of an international not-for-profit organization in training managers in the electric power sector to manage the utility according to western standards. She appraised their courses in regulation, utility accounting, economics, and other energy-related related subjects.
 - Interviewed graduates of the Energy MBA program, read feedback written by other graduates, and read assessments by the supervisors of graduates. Independently reviewed training materials.
 - Wrote strategic recommendations for USAID's continued funding.
 - Similarly evaluated the effectiveness of this organization in providing short-term seminars in utility management.
 - *Privatization:* Reviewed history of privatization of Ukraine's electric power sector from reports, and met with organizations involved in privatization, to share experiences and viewpoints.
 - Analyzed obstacles to attracting strategic investors, including: government's reluctance to offer controlling share of stock; insufficient time between tender offer and due date for bids; lack of guarantees to foreign investors; controversy concerning commercial versus non-commercial tenders.
 - Made general recommendations concerning the privatization process.
 - Made strategic recommendations for USAID's involvement in privatization.
 - Wrote chapter on Privatization for Mitchell Group's final report to USAID.
- ***Restructure of Electric Power Sector and Tariff Setting in Kyrgyzstan. Senior Consultant, 10/97-12/97.*** Ms. Kalver worked with Hagler Bailly Consulting, Inc., to provide consulting services on behalf of USAID to the Government of Kyrgyzstan in support of the process of restructuring the

electric power sector, privatizing the distribution companies, and establishing wholesale and retail tariffs. Ms. Kalver contributed, as requested, to Hagler Bailly's general activities, including making recommendations on proposed legislation, drafting documents, and providing business and financial counsel.

Her activities included:

- *Financial model of electric power sector:* Developed financial model of the state electric power company demonstrating the potential profitability of the eleven state-owned distribution companies under alternative scenarios of reorganization into a smaller number of privatized entities.
 - Used model to simulate under alternative assumptions about national economic conditions, evaluate financial implications of political and managerial decisions, and evaluate financial results of alternative wholesale and retail rates.
 - Model was presented to President and to Parliament.
- ***Restructure and Privatization of Electric Power Sector in Kazakstan.*** Senior Consultant, 7/96-12/96. Ms. Kalver worked with Hagler Bailly Consulting, Inc., to provide consulting services on behalf of USAID to the Ministry of Electricity and Coal Industries during the process of restructuring and privatizing Kazakstanenergo, the state electric power company.

Her activities included:

- *Power pool:* Advised in determining market rules proposed for Kazakstan. Analyzed the power pool market rules in UK, Australia, Russia, and Ukraine and wrote technical report describing and contrasting the systems.
 - Drafted members' agreement for Kazakstan power pool.
 - Prepared two seminars on purpose, nature, and characteristics of a power pool.
 - *Institution building:* Drafted policy papers on energy. Commented and advised on proposed energy legislation.
 - *Privatization:* Met with groups of counterparts, including Ministry of Energy and Coal Industries, Anti-Monopoly Committee, State Property Management Committee, State Privatization Committee, and the electric utility. Identified commonalities of interest among the groups and promoted them by conducting joint meetings.
 - Developed the "big picture" of privatization process, identifying the specific responsibilities of each organization, and reported on the progress of privatization in internal memoranda to Hagler Bailly and USAID.
 - Advised on establishing independent regulatory body, establishing a privatization timetable, and developing strategies for attracting international investors.
- ***Regional System Reliability Pricing Workshop for the Southern Tier (Bulgaria, Romania, and Macedonia).*** Speaker, United States Energy Association, Sofia, Bulgaria, February 11-13, 1997. Ms. Kalver was invited to make four presentations, based upon her experiences in Kazakstan: characterization of power pools, market rules for power pools, load forecasting, and regulation.
 - ***Society of Government Economists conference, "Implementing Reform in Emerging Market Economies: Reports from the Trenches"***. Ms. Kalver organized and chaired the session on Natural Resources and Infrastructure, November 1998. She presented a talk at that session, "Electricity in Central Asia".

- **France Télécom. Senior Economic Consultant, 1990.** Ms. Kalver consulted to France Télécom on the privatization of telecommunications in France. She introduced them to the utility depreciation practices used in the United States and explained the implications for taxes and ratemaking.

B. Rate Regulation

Ms. Kalver has extensive experience in analyzing and implementing ratemaking methodologies, both for expert testimony and for internal use by the client. She has prepared testimony on revenue requirement under rate-of-return regulation in numerous rate cases in the former Bell System. She has testified on both variable-cost-plus-markup and value-of-service regulation. She has also consulted on price caps, rate floors, and the constraints of universal service.

Telecommunications Ratemaking

- **Intervenor Witness on Value of Service Pricing. Senior Consultant, 1988.** Ms. Kalver testified on rate design in the Mountain Bell of Colorado rate filing, on behalf of Federal Executive Agencies (FEA). In this proceeding, the company proposed value-of-service rates that, they alleged, were revenue-neutral. Ms. Kalver demonstrated that the rates were not revenue-neutral and that they would cause a significant increase to many customers. The regulator's decision relied heavily on her analysis and quoted from her testimony and FEA's brief. She was cross-examined on her testimony.
- **Studies of Avoided Costs of Wholesale Telecommunications Services. Senior Economic Analyst, 1998.** Ms. Kalver worked with David Chessler & Associates, on behalf of the Indiana Office of Utility Consumer Counselor. She estimated the costs that Ameritech of Indiana and GTE/Contel, respectively, would avoid if they were to offer their "retail services" at wholesale to resellers, as required by the United States Telecommunications Act of 1996. Ms. Kalver performed an econometric analysis of the avoided costs, employing data filed with the FCC.
- **Rate Case Support on Revenue Requirement. Senior Economist, New York Telephone, 1980-1984.**

Her activities included:

- **Rate case preparation:** Ms. Kalver coordinated the testimonies and exhibits of the company's witnesses on revenue requirement. She produced economic forecasts, wrote testimony, wrote and responded to data requests, and prepared intervenor cross-examination on all aspects of the revenue requirement.
- **Expense forecasting model:** During the period 1980-1982, Ms. Kalver initiated, designed, and directed the Market Basket Project, a computerized financial system that analyzed and forecasted the effect of inflation on each of the company's expense accounts.
- The Market Basket results were implemented in New York Telephone's rate filings as a replacement for the "general inflation rate" that had been in use.
- The Market Basket Project was also introduced into New York Telephone's budgeting process. After the divestiture of the Bell Operating Companies from AT&T, the Market Basket Project was adopted by the NYNEX Corporation and expanded to include data for New England Telephone.

Regulation of Postal Rates

- **Intervenor Support. Consulting Economist, 1992-present.** Ms. Kalver's client is an intervenor in postal rate proceedings and active in postal policy issues. Ms. Kalver has participated in the following proceedings:
 - *Rate case R94-1, filed in 1994:* The Postal Service proposed an across-the-board rate increase.
 - *Rate classification case MC95-1, filed in 1995:* The Postal Service proposed a redefinition of customer classes together with a radical restructuring of rates, which was intended to be revenue-neutral in the aggregate, but which impacted individual classes of mailers differently.
 - *Rate case R97-1, filed in 1997:* The Postal Service provided economic testimony on contestability theory, which it proposed as the basis for postal ratemaking. This approach would allow services subject to competition to be priced to cover only their incremental costs, leaving the burden of common costs to the monopoly services.
 - *Rate case R2000-1, filed in January, 2000:* The case in chief was a traditional cost-of-service study. However, the Postal Service reopened the issues of incremental costs and Ramsey pricing.
 - Numerous rulemakings and requests for comments.

Ms. Kalver's activities include:

- *Analysis of rate case:* Analyzing policy assumptions that underlie the proposed rates to determine how these principles comport with economic theory.
 - Assessing the case in chief, intervenor testimony, and rebuttal testimony with regard to precedents in previous postal rate cases and proceedings in other regulated industries.
 - Writing internal reports which analyze the technical studies, policy, and economic issues in the case and provide recommendations to the client.
 - Using the Postal Service's models to replicate the proposed tariffs and perform sensitivity analysis under alternative assumptions.
 - Writing interrogatories, drafting lines of cross-examination, and drafting sections of the attorneys' briefs.
 - *Impact analysis:* Ms. Kalver directs the impact analysis system, which estimates the impact of actual, proposed, and hypothetical rates on the client's postal costs. The results are presented to the client's top management and utilized in the company's budget.
- **Intervenor Support. Consulting Economist, 1987.** Ms. Kalver testified in the postal rate case R87-1, filed in 1987. She submitted direct testimony in two areas and rebuttal testimony in one area. Ms. Kalver was cross-examined on all testimonies.

Her testimonies concerned:

- *Postal Service's demand models and price elasticities for Second-Class Regular Rate (now Periodicals) mail (direct testimony):* Ms. Kalver testified to the inadequacy of the demand models proposed by the Postal Service for determining Periodicals rates. She argued that the low price elasticity of Periodicals mail corresponded to a lack of alternative means of distribution, rather than to a high value of service, as claimed by the Postal Service. In R2000-1, a Postal Service witness explicitly acknowledged that low price elasticity might correspond to either a high value of service or a lack of alternatives.
- *Postal Service's method of estimating city carrier street costs (direct testimony):* Ms. Kalver was one of the earliest supporters of "single-subclass stops", according to which method the entire cost of one delivery stop is allocated to a single subclass of mail, if the delivery consists of only the one subclass of mail. The Postal Rate Commission adopted "single-subclass stops" and quoted Ms. Kalver's testimony extensively in its decision.
- *Another intervenor's econometric models for purchased highway transportation (rebuttal testimony):* Ms. Kalver demonstrated that the models were fatally flawed because of underlying errors in economic theory. The Commission agreed with her analysis and quoted her testimony in the decision.

C. Market Reform and Competition

- ***Reform and Competition in Postal Markets in the US, Europe, and Canada. Consultant, 6/00-11/00.*** Ms. Kalver was engaged by the new Postal Services Commission of the United Kingdom to prepare a series of informational meetings with the postal community during their visit to the US and Canada. She identified the issues of concern, organized the sequence of discussions, and facilitated meetings with the USPS, US Postal Rate Commission, Canadian Postal Corporation, FedEx, and UPS.
- ***Analysis of NYNEX's Embedded Cost of Local Exchange Service in Vermont. Senior Economic Analyst, 9/95-1/96.*** In anticipation of competitive entry into local telecommunications service, many state regulators have established a "high-cost fund" to preserve universal service throughout the state. On behalf of the Vermont Public Service Board, the consulting team examined the cost of service in each of 82 telephone exchanges, in order to identify where costs were above average and where below. They determined that subsidies required for a high-cost fund would not be prohibitively expensive for the customers who would pay them.

Ms. Kalver's activities included:

- Projected expenses and revenue requirement associated with basic exchange service for each exchange.
- Reviewed several methods of estimating incremental cost in use by the Bell Operating Companies and wrote a literature review as a chapter of the team's final report.
- ***Market Research on Digital Audio Radio Satellite Service (DARS). Senior Economic Consultant, October 1995.*** Ms. Kalver provided market research and wrote comments for an intervenor in FCC Docket No. 90-357, the proceeding to establish rules and policies for the Digital Audio Radio Satellite service (DARS).
- ***Cable Rate Regulation. Senior Economic Consultant, 1993.*** As consultant to a municipality, Ms. Kalver reviewed the rate request filed by the local cable provider and identified and documented deficiencies in the filing. She recommended that the request be denied, and the client acted upon her recommendation.

D. Electric Power

- **LILCO Demand-Side Management Project. Senior Consultant, 1991.** Ms. Kalver evaluated commercial and non-profit customers' satisfaction with several demand side management rebate programs. She wrote questions for a telephone survey, and she designed the conjoint analysis study that was included with the survey. She developed the methods of analyzing the survey responses to determine how effectively alternative financial and non-financial incentives would induce customers to install energy-efficient equipment.
- **Con Edison Compact Fluorescent Light Bulb Pilot Project. Senior Consultant, 1991.** Ms. Kalver evaluated the impact of two programs in which Con Edison offered compact fluorescent lights to residential customers. Using the results of a customer telephone survey, she estimated the effect on both peak demand and energy usage due to using the energy-efficient bulbs, incorporating the possible "snapback" effect of using the more efficient bulbs for longer periods of time.
- **Load Forecast and Forecast Report. Load Forecaster, Regional Load Analysis and Forecasting, American Electric Power (AEP), 1978-1980.** Ms. Kalver forecasted the energy requirements of residential and commercial customers in each of the operating companies of AEP. She wrote, coordinated, and edited the annual forecast report for 1979, which included both demand and energy forecasts by company and customer class, aggregate system forecasts, and the economic outlook for the service area.

E. Telecommunications Management Audits

After the breakup of the Bell System into regional operating companies, state public utilities commissions wanted to ensure that the deregulated entities of the regional companies were not being cross-subsidized by the monopoly services. Periodically, therefore, they engaged independent firms to perform audits of the company's management practices and finances.

- **Audit of New York Telephone. Senior Consultant, New York Public Service Commission, 1992.** Ms. Kalver interviewed senior management of New York Telephone to learn the history and organizational purpose of the NYNEX Service Company. She examined the charges for tariffed services levied by New York Telephone on its unregulated affiliates, to ensure that they conformed to the tariffed rates.
- **Focused management audit of C&P of Maryland. Senior Consultant, Maryland Public Service Commission, 1991-1992.** Ms. Kalver examined the distribution of charges for directory warehousing among the Bell Atlantic affiliates to determine whether they exceeded costs, and interviewed managers in the directory warehouse organization. She examined billings for tariffed services from C&P of Maryland to Bell Atlantic to ensure that the unregulated affiliates were charged the full tariffed rates. She investigated possible cross-subsidies between C&P of Maryland and C&P of Washington, D.C. in capital planning activities.

F. Demand Studies and Market Research

- **Approach Control Project. Senior Economic Consultant, Federal Aviation Administration, 1992-1993.** Ms. Kalver performed cost-benefit analysis of proposed consolidation of radar facilities. She reported her results in technical proprietary memoranda to the client.
- **FIRM Models. Economist, AT&T Long Lines, 1977-1978.** Ms. Kalver built econometric models for FIRM, the company's system of demand and revenue forecasts. Using both single-equation and multi-equation techniques, she modeled the demand for overtime minutes in 98 market sectors. Her

results were a key component of AT&T's presentation of the FIRM model to the FCC. Additionally, in modeling overtime minutes for FIRM, Ms. Kalver initiated the use of multi-part tariffs, in the form of a separate overtime-price index. She wrote a paper justifying the need for a two-part tariff and presented the results at a seminar on demand modeling, for discussion by AT&T colleagues and Professor Hendrik Houthaker.

- **Damage Claims of SPCC against AT&T.** *Senior Economic Consultant, SPCC, 1987.* As a principal investigator in the suit of SPCC (now Sprint) against AT&T, Ms. Kalver applied the FIRM model and other telephone demand models to estimate damages.
- **Point-to-Point Toll Study.** *Senior Economic Consultant, Puerto Rico Telephone Company, 1989.* Ms. Kalver performed a point-to-point study of originating toll traffic for the Puerto Rico Telephone Company. The study was used in rate design.

G. Industrial Organization and Business Research

- **Research in Knowledge Management.** *Consultant, IBM Institute for Knowledge Management, 1998-2000.* In 1998, Ms. Kalver was part of a team that developed a survey to determine the social capital inhering in organizations. She identified areas of inquiry and developed a preliminary pool of questions. In 1999, she was part of the team that consulted to the World Bank in its Knowledge Management initiative. She organized and chaired a session on Measurement of Costs, Benefits, and Risks in Knowledge Management Projects for the 1999 Multi-Client Program Conference.
- **Research in Intellectual Capital and the Measurement of Intangibles.** *Consultant, Ernst & Young Center for Business Innovation (CBI), 1994-1996.* Ms. Kalver performed research in the areas of knowledge and intellectual capital. She applied economic theory, including demand theory and economic depreciation, to the measurement of intellectual capital and other intangibles. She participated in CBI's continuing research in methods of incorporating intellectual assets into private- and public-sector accounting systems. She presented her research at five professional and academic seminars.
- **Analysis of Market Power.** *Consultant, HMO, 1993.* On behalf of a health maintenance organization, Ms. Kalver reviewed the literature concerning market power of health care insurers. She analyzed the effect of market power on both the cost and quality of insured services to the customer and reported her results to the client.

H. Depreciation and Capital Planning

- **Depreciation Rate Filings.** *Senior Economist, New York Telephone, 1985-1986.* Ms. Kalver was responsible for producing the company's depreciation report. In 1986, Ms. Kalver introduced economic depreciation into New York Telephone's depreciation rate filing.
- **Depreciation Rate Case Support to State Commissions and Intervenors.** *Senior Economic Consultant, 1986-1990.* Ms. Kalver participated in depreciation rate filings in numerous jurisdictions. She designed and programmed a set of spreadsheets to estimate the depreciation expense for each capital account. She evaluated various scenarios, combining assumptions of the company and of the client. For each jurisdiction, she customized the spreadsheets to reflect recent policy changes governing the procedure. The tables were filed as exhibits to testimony.
- **Discounted Cash Flow Model of Capital Planning.** *Senior Economic Consultant, State Commission, 1987.* Ms. Kalver designed and programmed a discounted cash flow analysis that replicated and extended the standard program used by the Bell Operating Companies in planning

capital projects. Her program evaluated each project from both the utility's and the ratepayers' standpoints and accounted for the difference in the respective discount rates of the ratepayer and the utility. She evaluated projects under various scenarios. Ms. Kalver's program was used by the Commission in rebutting BOC depreciation rate filings.

- ***Impact of Proposed Disallowances of Telephone Plant.*** *Senior Economic Consultant, Washington, D.C. Office of People's Counsel (OPC), 1991.* For a C&P telephone rate case, Ms. Kalver quantified the impact on the intraLATA rate base that would result from the OPC witness's proposed disallowances for plant that did not serve the local ratepayer.

I. Federal Systems Telecommunications Procurements

- ***Procurement of ETN.*** *Senior Consultant, General Services Administration (GSA), 1988.* Ms. Kalver's team of consultants were engaged to analyze the selection criteria employed by GSA in the procurement of ETN, the Federal Government's internal telecommunications system that preceded the FTS2000. AT&T had protested some segments of the award, which it had lost, as well as the selection process itself.
- ***Procurement of FTS2000.*** *Senior Consultant, General Services Administration (GSA), 1988.* Ms. Kalver was part of a team that performed independent oversight of the MITRE Corporation's procurement of the FTS2000 on behalf of GSA. Ms. Kalver worked on-site at the MITRE Corporation to ensure that MITRE's analysis was accurate and its judgment fair. She reviewed MITRE's criteria for the decision, reproduced some hands-on testing of the competing offerors' systems, and affirmed the propriety of MITRE's evaluation.

V. Presentations and Reports

A. Representing IBM Institute for Knowledge Management

- Organized and chaired session, "Measurement Issues in Knowledge Management," at Multi-Client Conference, November 1-3, 1999, Kingsmill Inn, Williamsburg, Virginia.

B. Representing Ernst & Young Center for Business Innovation

- "Managing Intellectual Capital in Public Utilities", at the conference, "Managing, Measuring & Valuing Your Company's Intellectual Capital", May 11-12, 1995, Chicago Marriott Downtown.
- "Measuring Knowledge and Other Intangibles", with Larry Prusak, at the conference, "Measuring the Unmeasurable", American Statistical Association, May 17, 1995, University of Illinois at Chicago.
- "Measuring Intellectual Capital", at the conference, "Link Your Intellectual Capital to Your Bottom Line!", June 5-6, 1995, Hotel Westin Mont-Royal, Montreal.
- "Measuring Intellectual Capital in Project Planning", at the conference, "The Knowledge Advantage II", presented jointly by the Planning Forum and CBI, November 16-17, 1995, Chicago Hilton and Towers Hotel.
- "Incorporating Knowledge into Project Planning", at the semi-annual meeting of the multi-client project, "Managing the Knowledge of the Organization", February 5-7, 1996, Sheraton El Conquistador Resort, Tucson, Arizona.

- Working paper on the economics of knowledge, coauthored with Larry Prusak. Mr. Prusak presented the paper at the OECD seminar on Human Resource Accountancy, in March 1996. This paper is discussed by Keith Drake, in *Enterprise Value in the Knowledge Economy: Measuring Performance in the Age of Intangibles*; The Ernst & Young Center for Business Innovation (jointly published with OECD), 1997.

C. Other presentations

- Organized and chaired session on Natural Resources and Infrastructure for Society of Government Economists conference, "Implementing Reform in Emerging Market Economies: Reports from the Trenches", November 1998. Presented talk, "Electricity in Central Asia".
- Power Pool Concepts; Power Pooling Market Procedures; Regulatory Oversight; Load Forecasting, at USEA Regional System Reliability Pricing Workshop for the Southern Tier, February 11-13, 1997, at Sheraton Hotel, Sofia, Bulgaria.

D. Writing or contributing to final reports

- Evaluation of commercial and non-profit customers' satisfaction with several demand side management rebate programs, for Long Island Lighting Company (LILCO), 1991.
- Impact evaluation of two (residential) compact fluorescent light programs, for Con Edison, 1991.
- Focused management audit of Bell Atlantic, for State of Maryland Public Service Commission, 1991.
- Focused management audit of NYNEX, for State of New York Public Service Commission, 1992.
- Analysis of the effect of market power on quality and cost to the customer of insured health services, for health maintenance organization, 1993.
- Coauthored intervenor comments in the FCC Docket No. 90-357, the proceeding to establish rules and policies for the Digital Audio Radio Satellite service (DARS), October 1995.
- *Analysis of NYNEX Embedded Cost of Local Exchange Service in Eighty-Two Exchanges in Vermont, in support of the Development of a High Cost Fund for Vermont*, for Vermont Public Service Board, January 1996.
- *Power Sector Reform Program Evaluation*, for United States Agency for International Development (USAID), June 1999. Wrote two sections: the history of privatization of the electric power sector, and assessment of the training offered by IIE.
- *Assessment of E-Signature Regulations and Industry in Romania*, for USAID, September 2001.
- *Armenia: Development of an Institutional Framework for Regulation of Public Utilities*, for World Bank, October 2001.

E. Testimonies

- Intervenor Testimony: Mountain Bell of Colorado rate case, 1988.
- Intervenor Direct Testimony: Elasticity Estimates for Second-Class Regular Rate, Postal Docket R87-1.

- Intervenor Direct Testimony: City Carrier Street Costs, Postal Docket R87-1.
- Intervenor Rebuttal Testimony: Purchased Transportation Costs, Postal Docket R87-1.

VI. Jurisdictions in which work has been performed:

A. Testimony

Postal Rate Commission; State of Colorado

B. Rate Case Preparation and Support

District of Columbia; State of Indiana; State of Kansas; State of Michigan; State of New York; State of Pennsylvania; State of South Carolina

C. Utility Management Audits

State of Maryland; State of New York

D. Cable Rate Regulation

City of Brecksville, Ohio

E. Telecommunications Policy

Federal Communications Commission; State of Rhode Island; State of Vermont

F. USAID Technical Support

Province of Kosovo; Republic of Armenia; Republic of Kazakhstan; Republic of Kyrgyzstan; Republic of Ukraine

G. World Bank Technical Support

Republic of Armenia; Kingdom of Lesotho

H. Asian Development Bank

State of Kerala (India); State of Gujarat (India); State of Assam (India); Sri Lanka; Pakistan; Bhutan