Approved: Carl Dean Holmes
Date 1-26-99

MINUTES OF THE HOUSE COMMITTEE ON UTILITIES.

The meeting was called to order by Chairperson Rep. Carl Holmes at 9:09 a.m. on January 21, 1999 in Room 522-S of the Capitol.

All members were present except: Rep. Sloan (Excused)

Committee staff present: Lynn Holt, Legislative Research Department
Mary Torrence, Revisor of Statutes
Jo Cook-Whitmore, Committee Secretary

Conferees appearing before the committee:

Others attending: See Attached List

Chairman Holmes announced that previous meeting minutes had been distributed and he will take a motion at the end of the meeting.
The Chair welcomed John Wine, Chairman of the Kansas Corporation Commission, who gave a brief personal background statement. The Chair then welcomed Cynthia Claus, Commissioner for the Kansas Corporation Commission. She also gave a statement on her personal background.

The chair then introduced Brian Moline, Commissioner for the Kansas Corporation Commission, who gave a presentation that included history and background on the Kansas Corporation Commission. It also included information about the Commission's authority and supervisory practices. Mr. Moline included in his presentation a copy of the report he and William Drexel wrote titled "The TeleKansas Debate: Incentive Regulation or Deregulation?" printed in the Winter 1995 edition of **The Kansas Journal of Law & Public Policy.** The presentation was concluded with questions for all three Commissioners from the committee. (Attachment 1)

Rep. Dreher moved that the minutes of the January 12 and January 14 meetings being accepted. The motion was seconded by Rep. Loyd. Motion carried.

The Kansas Corporation Commission's "Report to the Legislature on Internet Access" was distributed to the committee members. (Attachment 2)

Meeting adjourned at 10:31 a.m.

Next meeting is Monday, January 25 at 9:00 a.m.

HOUSE UTILITIES COMMITTEE GUEST LIST

DATE: January 21, 1999

NAME	REPRESENTING
Tom Day	KCC
Mike Moffet	SWBell
Paul Snider	SWBT
Joe Dixie	BPU KCK
ED SCHAUB	WESTERN RESOURCES
Wayne Kitchen	Western Resources
John Wine	KCC
Brian Malin	KCC
Jack Glaves	Duke + KN Energy
Cynthia Claus	KCC
Heinemann	"
Doug Lawrence	SWBT
Mike Murray	Sprint
DAVID BYBEE	KDOCH
Cindy Zapletal	SWBT

HOUSE UTILITIES COMMITTEE GUEST LIST

DATE: _____

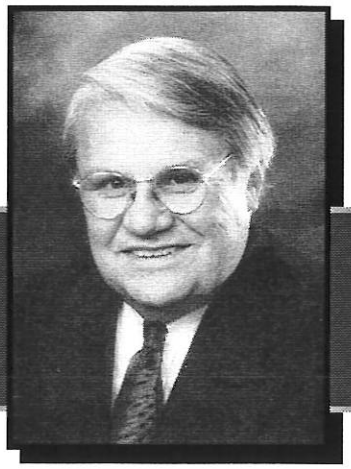
NAME	REPRESENTING
Von K Miles	KEC
Leslie Kaufman	Ks Farm Bureau
Julie Hein	Hein and Weir, Chtd.
Walker Hendrix	CURB
John Pinegar	SITA
Rob Hodges	KTIA
Jim Ludwig	WESTERN RESOURCES
Nelson Krueger	Leading Edge, Ltd FTCG
Cary Lee Cannon	Intern - Dan Dahl
Tom Gooles	McGill, Gooles & Asso.
Tom Gleason	Independent Telecom. Group

TESTIMONY OF BRIAN J. MOLINE, COMMISSIONER

KANSAS CORPORATION COMMISSION

January 21, 1999

HOUSE UTILITIES
DATE: January 21, 1999
ATTACHMENT 1



BRIAN J. MOLINE, COMMISSIONER

Brian J. Moline was appointed to the Kansas Corporation Commission on December 16, 1998, by Governor Bill Graves.

Mr. Moline served as General Counsel to the KCC from 1979 - 1985 and from 1991 - 1995. He has also been General Counsel to the Kansas Insurance Commissioner and the National Association of Insurance Commissioners. Throughout his career, he has alternated between state government service and Kansas Legal Services, the statewide public interest law firm he co-founded in 1978. At various times, he has been Executive Director for both the Wichita and Topeka programs.

Mr. Moline holds a Bachelor of Arts from Wichita State University, a Juris Doctor from Washburn University, and a Masters in Public Administration from the University of Kansas. He is the author of Regulation in Transition, a monograph of the KCC and has published numerous articles and book reviews. He is on the Board of Editors of the Journal of the Kansas Bar Association and has served as Chairman of the Ethics and Grievance Committee of the Topeka Bar Association and on the Board of Trustees. In 1993, he received the Topeka Bar Pro Bono award for continued commitment to legal services for the indigent and received the Distinguished Service Award of the Kansas Bar Association in 1994.

Mr. Moline and his wife Kathy have four grown children and reside in Topeka.

Commissioner Moline is serving a four-year term, which expires March 15, 2002.

January 1999

Testimony of Brian J. Moline, Commissioner
Kansas Corporation Commission
January 21, 1999

Public utilities have existed, in one form or another, for over three hundred years. The English common law courts soon noticed that certain business enterprises–ferries, highways, toll bridges, stagecoaches–had an important effect on the public welfare. It became gradually apparent that the public interest demanded that these enterprises be obliged to serve all who applied for service, without preference and at reasonable rates. The term of art that was used was and is "affected with a public interest".

In America, the first public enterprise recognized as affected with a public interest and subject to regulation was the railroad. The railroads were termed "common carriers" and it was early established that states had the right to regulate them.

In 1877, in the landmark case of *Munn* v. *Illinois*, this notion of common carriage was extended to include grain elevators owned by Munn. The United States Supreme Court found that this particular business stood at the gateway of commerce and "took toll of all who passed"; therefore, the court reasoned, the grain elevator business was really a part of the carriage of goods in commerce and, as such, properly subject to regulation as a public utility. *Munn* was the first of a chain of U.S. Supreme Court cases that greatly extended the theory of common carriage.

As the cases developed, the courts began to pay less attention to the carriage or transportation aspects and more attention to the public interest characteristics of the enterprises. Financial services such as banking, insurance, certain health and environmental enterprises and firms delivering public utilities all fell under the rubric "affected with a public interest". Gradually, a two tier legal test began to develop to determine public utility status. First, the courts look for a special interest, inquiring what the consequence to the public would be if the particular enterprise went unregulated; second, the courts examine whether competition is present and effective as a regulatory force in the industry.

It was also determined quite early that certain utilities–such as gas, electric and water–are natural monopolies. This natural monopoly status is based upon a presumption that huge capital outlays were necessary to engage in these types of enterprises. It was believed competition in such industries would be ruinous and counterproductive. In order to induce investors to provide the capital needed to furnish these important public services, it was deemed necessary to grant exclusive franchises so that the economics of the industry would operate.

Public utilities, traditionally, are natural monopolies which are granted exclusive service areas, allowed to charge fair and reasonable rates, and allowed to impose reasonable conditions as to the terms under which services will be rendered. In return, the utilities must provide safe, adequate service to all who seek it in the service areas at fair and reasonable rates and without

preference or discrimination. The duty of enforcing this delicate balance sometimes called the "regulatory bargain" falls upon the regulatory agencies.

The Kansas Commission was one of the first state regulatory bodies in the nation: a three member Board of Railroad Commissioners was established by the Kansas Legislature in March, 1883. Most of its early activities were confined to rates and services of common carriers. In fact, the first case on record was filed by an individual on April 19, 1883, in the form of a complaint against a railroad alleging overcharges for transportation of freight which in turn produced discrimination in favor of one particular city over another.

The Railroad Commission had power and authority to regulate all steam-operated railroads, express companies, sleeping car companies and inter-company electric lines. The members were appointed by the Executive Council. Membership in the early Railroad Commissions was so prestigious that a United States Senator from Texas left the Senate to seek election to the Texas Railroad Commission.

When the populists controlled Kansas government (1892-1900), they were convinced the existing regulatory mechanism was ineffective and created a "Court of Visitation". This appointed agency attempted to combine regulatory techniques with judicial authority. The commissioners were called judges and could exercise judicial power such as contempt and confiscation of property. However, the scheme violated the constitutional doctrine of separation of powers and was declared unconstitutional by the Kansas Supreme Court and a three member Railroad Commission was restored.

As telephone service and electric energy became a part of daily life, the Legislature created a three member Public Utilities Commission in 1911 to replace the Railroad Commission. The new Commission also regulated telegraph and telephone companies, pipeline companies, water, light, heat, all power companies (except those municipally owned), mutual telephone companies and public utilities and common carriers situated and operated wholly or principally within any city. The members of this Commission were appointed.

For a brief period in 1920, the Legislature flirted with a rather curious institution called the Kansas Court of Industrial Relations. The Court of Industrial Relations combined traditional regulatory tasks with authority to arbitrate wages, hours, and other industry-labor disputes; however, there were procedural and conceptual difficulties with the idea, and after nine months experience, the Legislature abolished it and restored the Public Utilities Commission.

A successor agency was created by the 1925 Legislature: an appointed five-member Public Service Commission. Eight years later, the present regulatory body, the State Corporation Commission, was established with its jurisdiction extended to include the regulation of motor carriers. In 1933, Governor Alf Landon wanted intrastate sale of securities regulated because of the Finney bond scandal. He recommended regulation of securities be added to the Public Service Commission and the name changed to Corporation Commission to reflect the expanded

jurisdiction. Gas conservation and supervision of plugging of abandoned wells to protect fresh and usable water from pollution by oil field practices were later added to Commission jurisdiction. In the late 1970s, mined land reclamation was also put under the aegis of the Commission. In 1982, the Securities Division was severed from the Commission and made a separate regulatory agency and mined land reclamation was later transferred to the Department of Health and Environment. In 1991, the legislature removed most cooperative electric utilities from KCC regulation.

Although Kansas has had a Railroad Commission, Court of Visitation, Public Utilities Commission, Court of Industrial Relations, Public Service Commission and Corporation Commission, only one regulatory agency has been in existence at a given time.

The Kansas Corporation Commission is, like most regulatory agencies, something of a hybrid in state government. Because they combine legislative, judicial and executive powers, promulgate rules and regulations having the force of law, "adapt" the rules of evidence, administrative agencies have been a traditional source of frustration to practitioners, academics, legislators and judges.

The administrative process emerged primarily because the logical government alternatives, the legislative and judicial processes, had historically proven unwilling or unable to provide the desired degree of regulation on those private businesses "affected with a public interest". Legislative bodies soon discovered they function best when determining broad outlines and general direction of major policy. Large legislative bodies, however, are ill suited for handling masses of detail or for sifting through the often conflicting ideas of economists, engineers, accountants and other experts essential to fair and effective regulation. Gradually, legislatures developed the custom of legislating only the main outlines of programs and leaving to administrative agencies the task of working out subsidiary policies. This system facilitated not merely the promulgation of law through rules and regulations but also the correlation of rule making with such other necessary activities as adjudication, investigating, prosecuting and supervising.

Neither was the judicial branch suited to handle the type of business regulation an industrial society required. Courts are constrained by the evidence and witnesses the parties chose to present to them. Clearly courts could not investigate, supervise, fix rates, grant or deny licenses or perform any of the myriad regulatory tasks without an organization of accountants, engineers, rate specialists, economists and assorted other disciplines.

The Kansas Corporation Commission, then, exercises legislative authority delegated to it by the legislature but does so in a quasi-judicial fashion while being located in the executive branch of government.

Setting of rates is a leg. func.

The organic law that delegates legislative rate-making authority to the State Corporation Commission is found in chapter 66 of the *Kansas Statutes Annotated*. The regulatory power

exercised by the Commission falls into three broad categories.

Licensing
Prior to doing business in this state, all public utilities and common carriers must be licensed and obtain a certificate from the Commission. The utility or common carrier must demonstrate that the public convenience will be promoted by the transaction of such business. The statute was enacted to avoid unnecessary duplication and competition, and judicial decisions indicate that the public convenience should be the primary criteria.

Rate Making
Every public utility and common carrier under the Commission's jurisdiction is mandated to establish just and reasonable rates, and every unjust, unreasonable, discriminatory or unduly preferential rate is prohibited. The utilities and common carriers must publish and file with the Commission copies of all rates, rules, regulations and contracts. Kansas law confines the utilities or common carriers to charging rates on file.

Supervision over Business Practices
The Commission has been authorized to supervise certain business practices of the utilities and common carriers. A public utility can be required to furnish accounts, reports and other information detailing such items as depreciation, salaries, legal expenses, taxes, and rentals. Investor owned public utilities or common carriers are prohibited from issuing securities or from purchasing, acquiring or holding the stocks or bonds of a competing utility or carrier without Commission approval. The Commission has the authority to examine and inspect all accounts, books, papers, records, property, and memoranda of utilities and carriers.

The state's objective with respect to regulation of public utilities and common carriers is the same as all the other state and federal regulatory bodies–to see that the public interest is served by the rendering of sufficient, non-discriminatory service at such prices as will be fair, equitable and reasonable to the customer, yet allow the enterprise such a return on investment as will be adequate. This same standard applies to the regulation of common carriers to the extent that regulation of motor carriers that still exists after federal deregulation and the Staggers Rail Act. In regard to the regulation of the production of oil and gas and the protection of fresh and usable water, the state objective is to conserve these precious natural resources and to protect correlative rights.

In a society committed to the general principle of free competition, the economic justification for rate regulation in certain industries has always been framed in terms of the exceptional conditions prevailing in those particular businesses. Public utilities as a class lend themselves readily to such touchstones of an integrated industrial structure, because of their enormous economic power. Such power often lends itself to abuse and tends to be concentrated in relatively few hands. Utilities, as a group, are either enterprises that move toward monopoly or those whose highest efficiencies may be reached under monopolistic operation. This characteristic may be due to a variety of reasons: The necessity of unitary management for adequate service, as with telephones, or the limited capacity of city streets, as with most

municipal utilities. More strikingly, such monopolistic operations grow out of the huge investment in plant required in proportion to current income, the operation of that plant largely at joint cost, and the consequent necessity of a large and steady volume of traffic to maintain the investment. These circumstances under traditional regulatory theory, render complete competitive duplication of facilities improbable or impossible. If a duplicate exits, the facility is wasteful and uneconomical. New competitors are slow to enter, and old ones slow to leave an industry in which participation involves such a large economic commitment. Monopoly, once secured, tends to perpetuate itself. On the other hand, competition, if it exists at all, offers only the alternatives of combination or destructive price cutting designed to maintain volume at any cost. The historic experience with railroads and other utilities suggests the likelihood of instability and waste, high rates, ruthless price cutting, inadequate service, and price discrimination. These dangers often follow from periods of unrestrained competition.

The traditional concept of regulation has been under critical examination for at least three decades. This examination began at the most logical and weakest assumption–the notion of limiting market entry to eliminate duplication of services. In a society generally committed to the concept of free, private, competitive enterprise, artificial barriers to entry are naturally suspect and often invalid. It also seems self-evident that regulatory activity that prohibits or controls price increases in goods and services during periods of substantial general price inflation will inevitably lead to shortages in the delivery of those goods and services. Today many economists and some policy makers hold the view that economic regulation of business enterprises actually can have a negative and counterproductive result on the industry without commensurate benefits, particularly in a time of rapid technological change.

Economic regulation has usually rested on two dominant theoretical underpinnings. First, where competition is non-existent or ineffective, regulation must replace competition in the form of rate or price determination. When true competition emerges in these industries, obviously the need for price regulation recedes and may ultimately become non-existent. Many believe the proper role for regulation where true competition has entered is three-fold: (1) to monitor and encourage competition, ensuring a level playing field and controlling predatory pricing; (2) to ensure that all vestiges of artificial monopoly are ultimately dismantled; (3) allow the marketplace to set prices and quality of service while monitoring for abuses of market domination and ensuring access to service.

The second underpinning, however, is the one that is most troublesome–the concept that the public interest requires relatively equal access to services affected with a public interest which often translates to the notion that revenues from highly traveled routes or densely populated areas can and should be used to subsidize access in more sparsely populated areas.

A case can certainly be made that rural America and particularly rural Kansas has developed and prospered in no small part because of this aspect of traditional regulatory theory. Many observers have expressed concern that an inevitable consequence of deregulatory policy will be higher prices, limited access and lower quality of service to thin markets.

On the other hand, some economic theorists and policy makers argue that this aspect of regulatory policy is actually destructive. By disguising the true costs of service, regulation promotes economic distortions and sends misleading price signals that are ultimately counterproductive.

One hallmark of the last several decades has been the dramatic and often sudden economic changes that have drastically affected many of those industries we have traditionally thought of as public utilities. The areas of transportation, telecommunications, electricity, and natural gas are at various stages in moving from positions of total natural monopoly to at least a mixture of natural monopoly and competition. In some instances, particularly telecommunications, they could well move completely away from being populated by natural monopoly suppliers to a totally competitive marketplace.

If there is one economic lesson we have all learned, it is that change, whether driven by economics, technology, or customer demand, is inexorable and unstoppable. To ignore change can be dangerous; to be unwilling to accept change can be potentially disastrous. It goes without saying that regulators and legislative policy makers can no more ignore competitive intrusions in a traditionally monopolistic industry than the industries themselves can. The presence of real and effective competitive factors can promote efficiencies and opportunities beneficial not only to the companies but to the consuming public. In that instance, it is the function of regulators to monitor developments and allow competition to flourish while maintaining vigilance that the competition is real and not illusory.

The presence of competition in those businesses historically affected with the public interest substantially changes the landscape. Once competition enters a traditional monopoly industry, the firms in that industry will experience an increase in business risks. That increase arises from the existing possibility that the firm may experience loss of business to competitors that they did not have to consider previously. Faced with an increase in business risks, the companies will attempt to adjust themselves to absorb competitive losses of revenues without experiencing impairment to their financial well being. Competition drives firms to profit maximization. Profit maximization can force avoidance of thin or less profitable markets. It is this potential consequence that most concerns policy makers of both urban and rural orientation.

To summarize, I would state that there has always been a larger societal reason for the monopoly status of public utilities. The whole point of governmentally guaranteed monopoly in the public utility area was to remove competitive risk and replace it with an essentially cost plus return formula. In return, the public utility submitted itself to political decision making that tolerated, even encouraged, certain economic inefficiencies in return for the larger societal object: A regulatory imposed safety net that guaranteed access to those goods and services was deemed essential for survival at reasonable costs. As indicated earlier, technology cannot long be constrained or denied. Similarly, neither can economic realities be ignored for very long. Competitive factors into the formerly monopolistic areas are inevitable and inexorable. Competitive factors, however, put new risk elements into a precariously balanced equation.

Until recently, the existing legal framework and regulatory traditions of most state agencies have remained essentially unchanged since their creation, but it should also be recognized that in many respects, regulators were mirror images of the businesses they regulated. Insulated from competition, guaranteed an opportunity to earn a profit, holding a monopoly on a basic necessity of life, many utilities became complacent and resistant to change. Today the electric, gas and telecommunications industry face a host of significant economic, technological, political and philosophical issues. Virtually all firms, to one degree or another, have developed operational, product market diversity and structural strategies to deal with the new environment.

Just as the utility industry was jolted from complacency by sudden and dramatic change, so regulators were jolted from their sedate and largely routinized existence. The same challenges that face this industry also face its regulators. Like the industries they attempt to regulate, regulators are in a transitional phase where long cherished assumptions and procedures must be tested, adapted and discarded if necessary. Some states are further along than others in adjusting regulatory techniques and procedures to new technical and economic realities.

A classic example of the evolution of a monopoly industry into the twilight between monopoly and completely competitive is the intra-state telecommunications business. I have attached a 1995 article from the Kansas Journal of Law and Public Policy co-authored by myself and William Drexel which highlights the complex policy dilemmas and competing values inherent in the transition from monopoly to competitive status.

Another example of regulatory evolution is the struggle virtually all states are experiencing in implementing the Federal Telecommunications Act which is designed to stimulate competition while retaining the traditional regulatory goal of providing affordable telephone service to all consumers regardless of costs. This effort illustrates the delicate balance of sometimes competing values involved in the process.

The TeleKansas Debate: Incentive Regulation or Deregulation?

Brian Moline

&

William R. Drexel*

TeleKansas I changed the KCC's historic rate base regulation, which monitored Southwestern Bell's profit, to an incentive pricing scheme.

Introduction

When originally enacted, TeleKansas was an agreement between the Kansas Corporation Commission ("Commission" or "KCC") and Southwestern Bell. Southwestern Bell agreed not to increase local, directory assistance, long distance, and access service rates, and in turn the Commission would not audit Southwestern Bell earnings. Moreover, Southwestern Bell had to spend around $140 million to improve its network, as well as cut some basic local service and toll rates.[1] TeleKansas I was to end in 1995. The Kansas Legislature adopted a proposal to extend the terms of TeleKansas I (subsequently to be referred to as TeleKansas II) for two more years.[2] In effect, the Legislature extended the Commission's TeleKansas order that the KCC not investigate Southwestern Bell earnings, while capping basic local service and toll rates.[3] In addition, TeleKansas II requires Southwestern Bell to spend an additional $64 million on improvements.[4]

To obtain different perspectives on TeleKansas, the *Kansas Journal of Law & Public Policy* invited attorneys from both Southwestern Bell and the KCC to comment. The first part of the article will focus on the plan's legislative background and details, as well as competition generally for local telephone service. The second part will consist of opinions from Brian Moline, former general counsel of the Kansas Corporation Commission, and William Drexel, general attorney for Southwestern Bell. This article intends to help readers decide for themselves whether TeleKansas is good public policy regulation that should be continued in 1997 or just an experiment in incentive rate-making that did not work.

I. History of TeleKansas

A. Legislative Background

The provisions of TeleKansas have been controversial both in form and substance. The bill that the House of Representatives passed had a different wording than the one passed in the Senate.[5] This caused concern that the bill did not meet constitutional bicameralism requirements. State Representative Carl Holmes requested the opinion of the Attorney General to address problems raised by the passage of TeleKansas II.[6]

The discrepancy between the bills that passed the House and Senate was the result of an amendment that was made in the Senate after the House had already passed its version.[7] The following sentence was amended in the Senate: "The Corporation Commission shall monitor each approved project and the expenditures therefore . . . "[8] The Senate Journal reflected that the word "monitor" was changed to "maintain" before the bill passed the Senate.[9] Because the

Brian Moline *is general counsel for the Kansas Insurance Commission. He was general counsel for the Kansas Corporation Commission during the passage of TeleKansas.* **William Drexel** *is general attorney for Southwestern Bell Telephone Company in Kansas.*

1-10

bill was on emergency action, the House "could only concur or not concur with the Senate amendments."[10] The bill as presented to the House for concurrence contained the word "monitor" rather than "maintain."[11] The House concurred, and the bill containing the word "monitor" was then enrolled and later signed by the Governor. The Attorney General opined that it was irrelevant that the House was under the impression that the discrepancy was a clerical error and not a true amendment.[12] Because of the discrepancies in the wording, the bill contravened the bicameralism and presentment requirements of the Kansas Constitution, Article 2, section 14, and was thus void.[13]

The Senate amended its journal to reflect the use of the word "monitor" in accordance with the enrolled bill.[14] The Attorney General opinion noted above did not address the issue of whether the Senate has the power to amend its journal to match the language of the enrolled bill. Thereafter, Attorney General Robert T. Stephan personally addressed this issue. He stated, "I have been asked repeatedly to elaborate on whether the Senate's attempt to correct its journal in regard to an amendment to House Bill 3039, the TeleKansas legislation, removes the constitutional impediment to its validity which was printed in an opinion earlier this week."[15] The general rule is that "enrolled bills may be impeached when the journals 'clearly, conclusively, and beyond all doubt' demonstrate that the enrolled bill differs from the one passed by the houses of the legislature."[16] Since the correction was made in the Senate Journal[17] and read into the journal by Senator Salisbury, the Attorney General ended in saying that it would be difficult to demonstrate that the passed bill was "clearly, conclusively, and beyond all doubt" different than the bill as signed.[18] Accordingly, the conclusion of the Attorney General was not to bring an "action to set aside the bill."[19]

B. TeleKansas: The Basics

The TeleKansas I plan can be found in the KCC order, *In the Matter of Southwestern Bell Telephone Company's Proposal for Network Modernization, Rate Stability and Pricing Regulation, a/k/a "TeleKansas"* dated February 2, 1990. On an experimental basis, TeleKansas I changed the KCC's historic rate base regulation, which monitored Southwestern Bell's profit, to an incentive pricing scheme. This plan[20] allowed Southwestern Bell to increase its overall earnings and pricing flexibility for certain services in exchange for rate reductions and service modernizations.[21] Under traditional rate based/rate of return regulation, the KCC sets a total profit margin for a company, then bases the utility's service rates on that margin. Under both TeleKansas I and II, the Commission directly sets prices for individual services, but does not otherwise regulate Southwestern Bell's profits.

Southwestern Bell was able to enter into such an agreement because of the plan's potential for improving efficiency in telecommunication services. On one hand, Southwestern Bell may see considerable earnings, even with caps on rates for an extended period, which Southwestern Bell can use to make modernizing investments. TeleKansas is thus appealing because customers can recognize benefits from the improvements while maintaining basic service prices.[22] On the other hand, declining costs have historically afforded regulators the opportunity to reduce the costs of basic local service, increasing the possibility that Southwestern Bell could earn more than a reasonable profit.

Major components of TeleKansas I, in effect from February 1990 until March 1, 1995, included:[23]

- Permanent reduction in MTS and WATS rates by $17.1 million beginning in year one.
- Reduction in intrastate interLATA access charges by $2 million beginning in year one.
- Waiver of all basic 911 service charges resulting in a $75,000 permanent reduction for customers beginning in year one.
- Reductions in residential touch-tone rates of 25¢, totalling a $1.6 million permanent reduction beginning in year one.
- Reductions in residential service connection charges for new customers by $5.15 and by $8.15 for reconnections, amounting to a $1.5 million permanent reduction beginning in year one.
- Introduction of the 1+ Saver Plan at an estimated reduction in annual revenue of $1.4 million, no later than the beginning of the third year of the plan.
- Increases in Directory Assistance rates by 10¢, totalling $1.3 million in year one.
- Increases in Rotary Hunt rates to $1.75 resulting in a $1.3 million increase in year one.
- Increases in Dual Party Relay Service expenses by $2 million per year.
- Establishment of an Assistance Fund for Local Service Rates to benefit low income households.
- Elimination or reduction in mileage charges as proposed by Southwestern Bell, and replacement of party line service by one-party service (although

customers must pay for the upgrade when it takes place).

- Cap on basic local residential and business rates for five years, except for increases due to party line elimination or exchange reclassifications.
- Institution of $140 million investment in network modernization.
- Flexible pricing of certain non-basic and discretionary services.
- Duration of the trial plan for five years, during which time neither the Commission nor Southwestern Bell will file or support a general rate case proceeding to alter rates.

TeleKansas presents serious questions about the role of government oversight in industries traditionally believed to be affected with a public interest.

The Commission order implementing TeleKansas I stipulated that Southwestern Bell and the KCC evaluate the result of the initial TeleKansas agreement and file recommendations regarding the continuation of TeleKansas I. At the end of TeleKansas I, however, Southwestern Bell argued that any evaluation of the program should not focus exclusively on a comparison of rates under the new and old plans because there were many ancillary benefits associated with the infrastructure modernization that enhanced statewide economic development.[24] The KCC staff responded that it was obligated to ensure just and reasonable rates; therefore, it was necessary to determine whether Southwestern Bell collected unreasonable earnings with TeleKansas I.[25] Based on their individual evaluations, neither party could agree on recommendations for a continuation of the regulatory plan and so the Commission never issued a second order.

As a result, the 1994 Kansas Legislature codified TeleKansas II, extending the Commission's TeleKansas I order until March 1, 1997.[26] In addition, Governor Joan Finney and Southwestern Bell Kansas President Susan Fox signed a Memorandum of Understanding, agreeing to use TeleKansas II to protect jobs and to provide advanced technology for Kansas schools.[27] The TeleKansas II plan accomplishes the following:[28]

- Continues the alternate price regulation plan until March 1, 1997. While the Commission staff cannot audit Southwestern Bell's earnings until 1996, the Commission does retain authority over prices of company services and complaints lodged by customers.
- Guarantees that the company will spend at least $64 million on infrastructure construction in the next two years, creating at least 100 temporary jobs.
- Maintains Southwestern Bell's work force in Kansas at the current level plus 100 new jobs in Kansas. The total payroll cannot be reduced.
- Provides price discounts averaging 42% on the use of fiber-optic video systems by Kansas educational institutions in Southwestern Bell areas.

C. Competition for Local Phone Service

One point of debate before its passage was whether the TeleKansas plan increased any monopoly power by Southwestern Bell over local phone and toll rates. The KCC regulates Southwestern Bell, as a "telecommunications public utility."[29] Accordingly, the Commission has the power to do all things necessary to ensure that "[e]very unjust or unreasonably discriminatory or unduly preferential rule, regulation, classification, rate, joint rate, toll, charge or exaction is prohibited, unlawful and void."[30] All public utilities[31] are entitled to charge reasonable rates for providing an efficient public service. Unfortunately, there is no magic formula for determining reasonableness. Rates must not be so low as to be confiscatory, nor so high as to be oppressive.[32] The utility is entitled to earn a reasonable return, but the profits must not be excessive.[33] Moreover, if operating costs go down, yet rates remain the same, the utility is making more than the prescribed reasonable return.

Increasingly, local telephone companies find themselves in a more competitive market than they have ever known before. This increase in competition results from two phenomena. First, long-distance carriers have begun to provide services traditionally offered exclusively by local telephone companies.[34] That is, long-distance companies have entered the intraLATA toll markets that historically were serviced only by Local Exchange Carriers (LECs). Second, new firms have begun to provide services previously offered only by local telephone companies.[35] Technological innovation has spurred this increase in competition within the local telephone market.[36] Furthermore, technological innovation has caused previously segregated markets to converge. "The lines between media formerly segregated by mode of transmission (radio vs. landline) and function (telephone, cable, broadcast, computer) are quickly disappearing. We are moving rapidly toward a myriad of mixed media (radio/landline), integrated, digital, broadband (video) networks, all interconnecting seamlessly to one another."[37]

Local Telephone as a Natural Monopoly

Traditionally, local telephone service has been perceived as a natural monopoly.[38] A natural monopoly exists when an industry with a single producer can supply the entire market more efficiently than two or more competitors.[39] Competition is not sustainable in a natural monopoly market in the long run because the natural monopoly will have economies of scale over the entire market.[40] The view of local telephone service as a natural monopoly developed based upon "[the] high cost of fixed plant, the steadily declining average cost of service, and the need for all customers to interconnect with one another."[41] As such, government has subjected the telephone industry to regulation designed to protect consumers from that monopoly power.

Technological Innovations

Although the local telephone market may have resembled a natural monopoly in the past, the market has evolved over time and now resembles a market capable of sustaining competition. Currently, local telephone companies must compete in the local telephone market for radio based services, especially cellular telephony, and local fiber networks.[42] Technological innovations have eliminated many problems initially encountered with cellular communications.[43] These cellular systems once relied upon the local telephone carriers for access to the local loop. Nevertheless, the cost of creating an independent wireless local exchange is not insurmountable, as demonstrated by the merger of AT&T and McCaw Cellular Communications.[44]

Furthermore, personal communication networks (PCNs) represent even more of a competitive threat to local telephone carriers. These systems "serve 'microcells' on microwave frequencies with low power, digital transmitters to provide mobile service over small areas, such as an office building or neighborhood."[45] PCNs may eventually evolve into ultra-light and fully mobile phones.[46]

Besides competing directly with the PCNs for customers, local telephone carriers face stiff competition from cable television companies for landline links.[47] As early as the late 1960s, the fledgling cable television companies realized that technology would eventually allow them to provide two-way services.[48] Although only some cable television systems presently have the capacity to compete directly with local telephone carriers, the development of fiber optics will eventually allow widespread competition between cable television and local telephone carriers.[49] Fiber-optic systems represent the most serious threat to the local telephone carriers' monopoly position because these systems have the potential to transmit up to 600 million telephone conversations or several hundred color television signals simultaneously.[50] Fiber-optic technology allows for the development of "full-service networks" that use "digital compression and advance technology for storage and retrieval of information and for signal switching."[51] This allows the system to provide interactive information services and will eventually allow for telephone service.[52] At least one cable carrier, Time Warner, has announced plans to upgrade one of its cable systems to a "full-service network."[53] Cable television carriers clearly represent a substantial competitor to local telephone carriers.

These developments have caused local telephone carriers to object to the lack of regulation in these areas. Local telephone carriers have argued that these new services should be regulated as common carriers.[54] If the Federal Communications Commission (FCC) regulated these new technologies as common carriers, providers would have to obtain state franchises and offer universal service.[55] Without such regulations, new service providers might supply service only to the low cost, high revenue consumers.[56] The FCC has not been sympathetic to the arguments of the local telephone carriers and has continued to regulate the new services as hybrids.[57]

Staff writers: B. Getty, E. Hodgkins, E. Moneymaker, L. Plaisted

II. The Debate

The original agreement between the KCC and Southwestern Bell was set to expire in March 1995. Instead, TeleKansas will exist for two more years, at which time the Commission "shall formulate a successor alternative regulation plan to take effect after March 1997."[58] With the creation and extension of TeleKansas as a public issue, the arguments for and against TeleKansas are convincing. In addition, as a statutory and constitutional creature, the Commission must employ staff (attorneys, accountants, economists, and others) to protect the public interest.[59] Thus, as political and legal forces tug at the public interest that the agency must protect, we should ask ourselves two questions: "[W]as the justification for this regulation reasonable?" and "[I]s the government utilizing the appropriate regulatory method or tool?"[60]

Comment by Brian Moline
(Former General Counsel for KCC)

TeleKansas was, and is, part of a systematic, nationwide attempt by RBOC's (Regional Bell Operations Companies) to: (1) freeze local rates at current levels; (2) prohibit regulatory review of profits while freezing prices at current levels; (3) position themselves favorably for what is expected to be an assault on their traditional monopoly on local services; and (4) gradually transition themselves into an unregulated environment.

The KCC approved the original TeleKansas proposal after considerable modification in 1989. The KCC order approving TeleKansas[61] made abundantly clear that the plan was considered an experiment in incentive ratemaking. The order clearly mandated a thorough review of Southwestern Bell earnings, before consideration of the next step.

When the KCC's staff began its evaluation in 1993, Southwestern Bell steadfastly opposed any regulatory review of earnings and insisted on immediate and permanent cloture to rate base regulation in Kansas. When Commission staff opposed such a drastic change in public policy, Southwestern Bell took the issue directly to the Kansas Legislature. A very similar scenario was played out in Missouri. After protracted and sometimes bitter debate, the legislature extended TeleKansas for two more years, prohibited regulatory review of Southwestern Bell earnings during the experimental period, and created a study committee to assess competition in the telephone industry with a charge to recommend appropriate, if any, regulatory constraints on telecommunication companies.

Southwestern Bell's flat refusal to allow review of profits freezes rates at the present level until the company decides otherwise.

The issue in the continuing TeleKansas saga is a simple but profound one: Whether ratepayers at the local loop will have an opportunity to share in the anticipated financial benefits of the "information superhighway." For some years, Southwestern Bell costs have been decreasing for a variety of reasons. Absent TeleKansas, state regulators would investigate the possibility of reducing local rates. Southwestern Bell's flat refusal to allow review of profits freezes rates at the present level until the company decides otherwise.

Active opponents of Southwestern Bell's legislative efforts to extend TeleKansas I included virtually every other provider in the state. Potential players in the telecommunications market expressed great concern about Southwestern Bell's absolute control of the local loop, massive financial resources, and traditional hostility to any efforts to penetrate the monopoly. Potential competitors support continued regulatory oversight of local service.

In a society committed to the general principle of free competition, the economic justification for rate regulation in certain industries has always been framed in terms of the exceptional conditions prevailing in those particular businesses. Public utilities as a class lend themselves readily to such key stones of an integrated industrial structure, control of which is evidenced by extraordinary economic power. Such power often lends itself to abuse and tends to be concentrated in relatively few hands. Utilities, as a group, are either enterprises that move toward monopoly or those whose highest efficiencies may be reached under monopolistic operation. This characteristic may be due to a variety of reasons: The necessity of unitary management for adequate service, as with telephones, or the limited capacity of city streets, as with most municipal utilities. More strikingly, such monopolistic operations grow out of the huge investment in plant required in proportion to current income, the operation of that plant largely at joint cost, and the consequent necessity of a large and steady volume of traffic to maintain the investment. These circumstances render complete competitive duplication of facilities often improbable or impossible. If a duplicate exists, the facility is wasteful and uneconomical. New competitors are slow to enter, and old ones slow to leave an industry in which participation involves such a large economic commitment. Monopoly, once secured, perpetuates itself. On the other hand, competition, if it exists at all, offers only the alternatives of combination or destructive price cutting designed to maintain volume at any cost. The experience with railroads and other utilities attests to the following dangers: Instability and waste of alternating high rates, ruthless price cutting, inadequate service, and price discrimination. These dangers often follow from periods of unrestrained competition.

The whole concept of regulation on the discretion of economic enterprises has been under attack for at least the last two decades. This attack began at the most logical and weakest point–the idea of limiting market entry to eliminate duplication of services. In a society generally committed to the notion of free enterprise, policy makers naturally questioned regulation prohibiting market entry. From this, it was just a matter of time before it was determined that regulatory activity prohibiting or controlling price increases in goods and services during periods of substantial general price inflation also leads to shortages in the delivery of those goods and services. From there it was just a short step to reach the political judgment that economic regulation had a generally negative and depressing effect upon regulated industries without commensurate benefits. Thus, for at least the past decade, federal and state policy makers have been on a course of weakening, if not dismantling, economic regulation. This deregulatory policy has had many positive effects for urban dwellers. Wider freedom from regulation has often led to new competitive factors that have reduced the costs of intercity airline services and long-distance telephone calls. Nevertheless, deregulation has had painful and sometimes disastrous effects on sparsely populated areas. The simple truth is, that whatever its symbolic, rhetorical, and often occasionally real value, deregulation of transportation, communication, and utility services in a rural state like Kansas could lead to economic and cultural desolation of the rural areas of the state if not properly managed.

Economic regulation has usually rested on two dominant theoretical underpinnings. First, where competition is non-existent or ineffective, regulation must replace competition in the form of rate or price determination. When true competition emerges in these industries, obviously the need for price regulation recedes and may ultimately become non-existent. The proper role for regulation where true competition has entered is two-fold: (1) to monitor and encour-

age competition, ensuring a level playing field and controlling predatory pricing; (2) to ensure that all vestiges of artificial monopoly are ultimately dismantled. As a regulator, I am occasionally disappointed and surprised to learn that some people's idea of emerging competition is, in actuality, little more than allowing an unregulated monopoly to function undisturbed.

The second underpinning, however, is the one that is the most troublesome. The theoretical concept is that the public interest often requires that revenues from highly traveled routes or densely populated areas can and should subsidize more sparely populated areas. History can be at least as instructive as economic theory in formulating public policy. The historical lesson is stark. Rural America, and particularly rural Kansas, has developed and prospered in no small part as a direct result of federal and state economic regulatory policy. Deregulatory policy unless carefully managed has and will continue to raise prices and cut quality of service to sparsely populated areas, what economists persist in calling "thin markets." When farmers and other rural Kansans are forced to bear the true costs of furnishing basic goods and services to sparsely populated areas, the consequences of policy decisions formulated by theoretical economic models and constructs in classrooms and hearing rooms become crushingly real.

One hallmark of the last several decades has been the dramatic and often sudden economic changes that have drastically affected many of those industries we have traditionally thought of as public utilities. The areas of transportation, telecommunications, electricity, and natural gas are at various stages in moving from positions of total natural monopoly to at least a mixture of natural monopoly and competition. In some instances, particularly telecommunications, they could well move completely away from being populated by natural monopoly suppliers to a totally competitive marketplace.

If there is one economic lesson we have all learned, it is that change, whether driven by economics, technology, or customer demand, is inexorable and unstoppable. To ignore change can be dangerous; to be unwilling to accept change can be potentially disastrous. It goes without saying that regulators can no more ignore competitive intrusions in a traditionally monopolistic industry than the industries themselves can. The presence of real and effective competitive factors can promote efficiencies and opportunities beneficial not only to the companies but to the consuming public. In that instance, it is the function of regulators to monitor developments and allow competition to flourish while maintaining vigilance that the competition is real and not illusory.

The down side of competition in public utilities concerns me most as a regulator. The presence of competition in those businesses historically affected with the public interest substantially changes the landscape. Once competition enters a traditional monopoly industry, the firms in that industry will experience an increase in business risks. That increase arises from the existing possibility that the firm may experience losses of business to competitors that they did not have to consider previously. Faced with an increase in business risks, the companies will attempt to adjust themselves to absorb competitive losses of revenues without experiencing impairment to their financial well being. Competition drives firms to profit maximization. Profit maximization virtually ensures avoidance of thin or less profitable markets.

To summarize, I would state that there has always been a larger societal reason for the monopoly status of public utilities. The whole point of governmentally guaranteed monopolies in the public utility area was to remove competitive risk and replace it with an essentially cost plus return formula. In return, the public utility submitted itself to political decision making that tolerated, even encouraged, certain economic inefficiencies in return for the larger societal object: A regulatory imposed safety net that guaranteed access to those goods and services deemed essential for survival at reasonable costs. As indicated earlier, technology cannot be constrained or denied. Similarly, neither can economic realities be ignored for very long. Competitive factors into the formerly monopolistic areas are inevitable and inexorable. Competitive factors, however, put new risk elements into a precariously balanced equation. The regulatory challenge of the 1990s and beyond will be to re-calculate the regulatory bargain to accommodate the inevitable competitive changes that will profoundly alter the landscape, while attempting to preserve some resemblance of access to goods and services necessary for survival to both the urban and rural elements of society.

Few observers would disagree that the telecommunication industry is changing at a dizzying pace. As the industry transitions into a more competitive arena, regulation must continue to play an important role in managing the transition, securing a level playing field for competition and guaranteeing universal access at reasonable rates. TeleKansas presents serious, perhaps profound, questions about the availability, cost, and fairness of telecommunication services and technology, and the role of government oversight in industries traditionally believed to be affected with a public interest.

Comment by William R. Drexel
(General Attorney for Southwestern Bell Telephone Company)

Five years ago, the KCC adopted a bold plan to streamline telephone regulation in Kansas by directly regulating the reasonableness of prices rather than indirectly doing so through earnings reviews. This plan, known as TeleKansas I, implemented a price regulation plan for Southwestern Bell that provided the company with strong incentives to streamline its operations while increasing its investments in modernizing Kansas telecommunications infrastructure. The Kansas Legislature extended the TeleKansas I plan through March 1, 1997, in order to provide time to study the need for more pervasive changes in regulatory policies.

Price regulation may be an appropriate alternative to traditional rate of return regulation for many public utilities. Price regulation is

articularly appropriate in the telecommunications industry due to the dramatic changes facing the industry and the importance of telecommunications to an information-based service economy.

Technological changes are causing a convergence of the local telephone, cable television, long-distance telephone, and wireless communications industries in a manner that assures increased competition in traditional local telephone markets. With increasing competition, a cornerstone of traditional rate of return regulation, the KCC's ability to provide existing telephone companies a reasonable opportunity to achieve a fair return on their investment, is increasingly in doubt. This is especially true in view of the regulatory-prescribed depreciation periods that spread investment recovery over periods as long as thirty years.

TeleKansas brought rate stability to all Kansas customers by capping Southwestern Bell's local service, long-distance, and intrastate access rates.

TeleKansas, while constituting an improved form of regulating prices directly rather than indirectly through rate of return analysis, clearly does not constitute deregulation. Indeed, the TeleKansas stipulation expressly stated it was not intended to deregulate Southwestern Bell's telecommunications services in Kansas.[62]

During TeleKansas, Southwestern Bell has been prohibited from raising basic local residential and business prices. Southwestern Bell also has been required to prove the reasonableness of proposed price changes for other non-basic services, to provide the KCC staff a list of potential filings for new services and new prices every six months and to file those proposed changes twenty to thirty days in advance of the proposed effective date, with the KCC retaining the discretion to take up to eight months to review each tariff. Indeed, the extent of the remaining regulation is illustrated by the fact that the re-regulation of the cable television industry via the 1992 Cable Television Consumer Protection and Competition Act ("Cable Act") imposes less exacting regulation than Southwestern Bell has faced under TeleKansas.[63] For example, under the Cable Act, services provided on a per channel or per program basis are not subject to any regulation.[64] Moreover, the Cable Act allows cable companies to increase prices for basic programming service on an annual basis at the same rate as increases in the Gross National Product price index.[65] In contrast, Southwestern Bell's basic telephone service rates have frozen during TeleKansas. The heart of the debate thus is not whether TeleKansas has deregulated Southwestern Bell. The debate instead is whether the focus of TeleKansas on price, not profit, regulation serves the public interest.

Price regulation accommodates the uncertainty associated with increasing competition by equally placing the risks and benefits of increased investment on the regulated firm. By shifting both the risks and benefits of increased investment, price regulation helps reduce the chilling effect traditional rate of return regulation would otherwise have on an existing provider's investment decisions.[66]

Price regulation also provides the basis for a more flexible and adaptive form of regulation that is better suited to accommodate the way in which competition has spread into some but not all telecommunications services or areas simultaneously. Specifically, price regulation of services that continue to be provided by only one firm is particularly appropriate where that firm also provides other services subject to competition; in such cases a price regulation plan insures there are no incentives for cross-subsidies. The firm will not have any financial incentive to shift costs from competitive to non-competitive lines of business because such cost-shifting could not lead to increased prices for the non-competitive services.

An objective review of the results under TeleKansas I confirms the propriety of the KCC's action in originally adopting this improved form of regulation. TeleKansas I provided network modernization throughout Kansas, offered rate stability for local service, brought pricing flexibility to the market, and provided efficiency incentives through elimination of traditional rate base regulation.

TeleKansas Spurred Network Modernization

Under TeleKansas I, Southwestern Bell satisfied its commitment to modernize the telecommunications network in Kansas. By the end of TeleKansas I, Southwestern Bell replaced all of its remaining 131 electro-mechanical offices with digital switches, replaced over 1,000 miles of interoffice analog N-Carrier facilities with digital facilities, and replaced all party-lines with single line service. Southwestern Bell would not have completed these improvements in this timeframe without TeleKansas. Traditional rate base regulation impedes the incentives for this type of new capital investment and improved efficiency.

TeleKansas I brought investment in modern telecommunications services to customers in even the most remote Kansas locations. A partial list of services that TeleKansas brought to the market faster than would have occurred under traditional regulation includes: 911 Universal Emergency Number service, Single-Party service, Call Waiting, Call Forwarding, Equal Access, MaxiMizer 800®, Plexar®, and 900/700 Restriction. TeleKansas also was instrumental in Southwestern Bell decision's to select Wichita, Kansas as the first city in Southwestern Bell's five-state region to test new Advanced Intelligent Network services. One of these services is, for example, Intelligent Call Forwarding, which forwards incoming calls to multiple telephone numbers with multiple routing features. Another is

Selective Call Acceptance, which screens incoming calls based upon a list of telephone numbers from which calls will be accepted while routing remaining calls to another number.

The economic and customer benefits of this modernization effort have been significant. Customers report that the quality of service in rural areas remains high. Rural communities have been able to attract industries that operate on an international level. Metro-area hospitals, schools, and businesses are able to communicate effectively and efficiently with their rural patrons. Farmers are utilizing home computer networks to obtain information they had to travel miles to get before TeleKansas. Small town families are able to have the same modern telecommunications services that metro customers often take for granted.

TeleKansas Provided Rate Stability for Kansas Customers

TeleKansas brought rate stability to all Kansas customers by capping Southwestern Bell's local service, long-distance, and intrastate access rates. During TeleKansas I, the Consumer Price Index increased 13.2% while local service rates remained the same.

Price comparisons with national averages also reflect the reasonableness of local service rates in Kansas. Kansas is well below the national average for basic local service rates with monthly residence rates about $2.00 below the national average and business rates about $10.00 below the national average. Further, the affordability of telephone service is reflected in the fact that the percent of households with telephone service in Kansas averaged 95.6% during 1993, which was higher than the national average of 94.2%.

Southwestern Bell customers enjoyed rate stability even though many Kansas telephone companies experienced an increase in the cost of providing telecommunications service during the TeleKansas period. One indication of these increased costs is that eleven independent telephone companies not subject to TeleKansas filed for intrastate access rate increases during the TeleKansas period.

Pricing Flexibility Has Worked

TeleKansas initiated pricing flexibility and streamlined filing and approval procedures for discretionary and non-basic services. Incremental costing methodology was used to determine pricing floors, while value of service pricing was used to determine the price ceilings. Southwestern Bell continued to offer promotions on a wide range of services, but with reduced filing requirements. Promotional discounts for certain services stimulated sales. With these procedures in place, Southwestern Bell was able to respond to the marketplace more quickly and be a more competitive provider.

With flexible pricing, Southwestern Bell was able to offer more cost-effective telecommunications services to customers. Business customers were particularly supportive of the Plexar® product line and appreciative of Southwestern Bell's ability to offer competitive pricing. As a result of Southwestern Bell's ability to flexibly price Plexar-II and Plexar-Custom, the company increased sales of these products and offered customers more cost-effective, state-of-the-art service. Flexible pricing allows for both upward and downward movement of rates. In several instances, downward pricing stimulates the market. While it would be expected that customers would not welcome rate increases, the KCC received no complaints regarding the flexible pricing rate changes.

Efficiency Incentives Have Been Successful

With the absence of rate base regulation, TeleKansas provided Southwestern Bell incentives to streamline its operations and pursue process improvements. Southwestern Bell restructured the company and re-engineered job functions as it strove to improve the ways it serves customers, utilizes employees and equipment, and stays competitive in the rapidly changing telecommunications industry. One example of the restructuring is the market center approach that focuses attention and resources on the unique aspects of individual market areas.

Another direct benefit to customers has been Southwestern Bell's pioneering effort to implement a quality program in Kansas. TeleKansas reaffirmed and encouraged the company's focus on quality as a way of doing business. Because of TeleKansas, Kansas became the pilot state within Southwestern Bell's region for a process improvement program known as Excellence Through Quality (ETQ). ETQ establishes methods to provide quality customer service in the most cost-effective manner. Because the company retains earnings generated from the increased efficiencies, and absorbs any losses associated with decreased efficiencies, Southwestern Bell has a renewed incentive to improve efficiency. Reduced clearing time for trouble reports, improved customer communications, and improved billing accuracy are just a few of the success stories of ETQ which directly benefit customers. ETQ demonstrates the efficiency incentives brought about by TeleKansas.

The continual decline in the number of complaints and inquiries to the Commission since the implementation of TeleKansas also reflects Southwestern Bell's commitment to quality of service and customer satisfaction. In fact, in 1992 only about 7 out of every 100,000 customers in Kansas had a justified complaint against Southwestern Bell, as determined by the Commission complaint staff.

Earnings Were Reasonable Under TeleKansas

The TeleKansas plan suspended Southwestern Bell's rate of return reviews with the stated intent of the parties "not to merely return to rate base regulation at the end of five years."[67] The intent and purpose of TeleKansas was to move away from earnings-type analyses, focusing instead on price regulation and technology delivery.

Financial results are relevant in determining whether Southwestern Bell has incurred significant financial windfalls under TeleKansas or, conversely, whether TeleKansas has caused Southwestern Be

irreparable harm. Actual financial results of Southwestern Bell's intrastate telephone operations during TeleKansas showed that the company experienced earnings in line with its cost of capital.

Indeed, even under the earnings analysis of the KCC staff, Southwestern Bell's commitment to invest in modernizing Kansas telecommunications infrastructure resulted in above normal investments that were 50% more than any alleged "overearnings" during the TeleKansas period. In any event, financial results cannot properly serve as the sole criteria for reviewing the success of the TeleKansas plan, which was designed to address broader social policy goals.

TeleKansas Objectives Were Met

Under TeleKansas, Southwestern Bell modernized the Kansas telecommunications network faster than would have been possible otherwise, successfully implemented flexible pricing procedures, capped over 70% of its revenue base, streamlined its operations, and improved universal service, while continuing to provide Kansans with basic telephone services at prices 10-25% lower than nation wide averages.

Future Public Policy Must Build On the Success of TeleKansas

In setting the future regulatory framework for telecommunications in Kansas, public policy makers must build on the success of TeleKansas. Other states increasingly have followed the KCC's lead in recognizing that pure price regulation serves an important role in streamlining regulation in a way that encourages telecommunications network modernization. Admittedly, there are other areas in which telecommunications regulation must be altered to reflect the dramatic changes occurring across the telecommunications industry. For example, steps must be taken to ensure that regulatory policies are equally applied to all firms and artificial regulatory restrictions on competitors entering each other's businesses are simultaneously lifted for all providers. The promise to Kansas customers of the benefits of competition cannot be fully realized without such regulatory parity. Equally important, policy makers must ensure that the chief goal of telecommunications policy for the last fifty years, namely the universal availability of affordable telecommunications service, is not jeopardized by the authorization of additional competition.

Notes

* The views expressed by Mr. Drexel in this article are his own and do not necessarily reflect the views of Southwestern Bell Telephone Company.

1. Kansas Corporation Commission Order, Doc. No. 166, 856-U, In the Matter of Southwestern Bell Telephone Company's Proposal for Network Modernization, Rate Stability and Pricing Regulation a/k/a "TeleKansas" (Feb. 2, 1990) [hereinafter TeleKansas I].
2. KAN. STAT. ANN. § 66-1,197 (Supp. 1994) [hereinafter TeleKansas II].
3. TeleKansas II, *supra* note 2.
4. TeleKansas I, *supra* note 1.
5. Op. Att'y Gen. 94-60 (1994); TeleKansas II, *supra* note 2.
6. Op. Att'y Gen. 94-60 (1994).
7. *Id.* at 2-3.
8. *Id.*
9. *Id.*
10. *Id.* at 3 (emphasis added).
11. *See id.* at 4.
12. *Id.*
13. *Id.*
14. *Id.*
15. Statement of Kansas Attorney General Robert T. Stephan regarding House Bill 3039, TeleKansas II (April 29, 1994).
16. *Id.*
17. SENATE JOURNAL, STATE OF KANSAS, 76th Cong., 1994 Session, at 1601 (Mar. 8, 1994).
18. *Id.*
19. *Id.*
20. *See generally* TeleKansas I, *supra* note 1.
21. Memorandum from the Kansas Corporation Commission to Internal Staff (undated) (available from the KCC Topeka) [hereinafter KCC Memo].
22. KANSAS LEGISLATIVE RESEARCH DEP'T, Report to the Senate Commerce Committee, at 4-5 (Feb. 2, 1994).
23. *See* TeleKansas I, *supra* note 1, at 15.
24. KCC Memo, *supra* note 21, at 5.
25. *Id.* at 4.
26. TeleKansas II, *supra* note 2.
27. John Petterson, *Finney Signs Bell Profits Plan*, KAN. CITY STAR, Apr. 15, 1994, at C-1.
28. *Id.*
29. KAN. STAT. ANN. § 66-1,187 *et seq.* (1992).
30. KAN. STAT. ANN. § 66-1,189 (1992).
31. KAN. STAT. ANN. § 66-104 (1992).
32. 73B C.J.S. *Public Utilities* § 34 (1983).
33. Smith v. Ames, 169 U.S. 466, 523 (1897).
34. WILLIAM J. BAUMOL & J. GREGORY SIDAK, TOWARD COMPETITION IN LOCAL TELEPHONY 6 (1994).
35. *Id.*
36. *See* MICHAEL K. KELLOGG ET AL., FEDERAL TELECOMMUNICATIONS LAW 53 (1992).
37. *Id.*
38. *Id.*
39. *Id.* at 423.
40. *Id.*

41. *Id.* at 1.
42. BAUMOL & SIDAK, *supra* note 34, at 6.
43. *See* KELLOGG ET AL., *supra* note 36, at 53-54 (providing a thumbnail sketch of the technological problems overcome in the cellular communications industry).
44. BAUMOL & SIDAK, *supra* note 34, at 16.
45. KELLOGG ET AL., *supra* note 36, at 651.
46. *Id.* at 712.
47. *See id.* at 693.
48. *See* Eli M. Noam, *Towards an Integrated Communications Market: Overcoming the Local Monopoly of Cable Television*, 34 FED. COMM. L.J. 209, 236 (1982).
49. *Id.*
50. Marshall Yates, *The Promise of Fiber Optics*, PUB. UTIL. FORT., Aug. 15, 1990, at 14.
51. BAUMOL & SIDAK, *supra* note 34, at 14.
52. *Id.*
53. Johnie L. Roberts & Mary Lu Carnevale, *Time Warner Plans Electronic Superhighway*, WALL ST. J., Jan. 27, 1993, at B10.
54. KELLOGG ET AL., *supra* note 36, at 712-13.
55. *See generally* KELLOGG ET AL., *supra* note 36, at 712-13; Frank W. Lloyd, *Cable Television's Emerging Two-Way Services: A Dilemma for Federal and State Regulators*, 36 VAND. L. REV. 1045, 1049-50 (1983).
56. KELLOGG ET AL., *supra* note 36, at 712-13.
57. *Id.*
58. *See generally* S. Con. Res. 1627, 76th Cong., 1994 Session (1994)(providing legislative history on TeleKansas II).
59. *See Midwest Gas Users Ass'n v. KCC*, 5 Kan. App. 2nd 653, 659 (1981); 73B C.J.S. *Public Utilities* § 61 (Supp. 1994).
60. SIDNEY A. SHAPIRO & JOSEPH P. TOMAIN, REGULATORY LAW AND POLICY vii (1993).
61. *See generally* TeleKansas I, *supra* note 1.
62. TeleKansas I, Appendix A, *supra* note 1, at 2.
63. *See generally* Cable Television Consumer Protection and Competition Act § 47 U.S.C 521 *et seq.* (Supp. 1994)[hereinafter Cable Act]. Unlike TeleKansas, under the Cable Act, the market rather than government regulates services subject to competition. *See also* FCC Order, Doc. No. MM 92-266, *In re* Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992, at 6 (April 1, 1993).
64. FCC Order, *supra* note 63, at 7.
65. *Id.*
66. To completely eliminate any skewed investment biases, regulatory policies must be applied the same to all providers. Today there are many disparities, some of which must be addressed at the federal level, such as the equal ability of local telephone, and long-distance telephone and cable television companies to simultaneously enter each other's businesses on the same terms and conditions. Others may need to be addressed at the local level, such as the disparate regulatory treatment of different providers.
67. TeleKansas I, Appendix A, *supra* note 1, at 9.

REPORT TO THE LEGISLATURE

ON

INTERNET ACCESS

K.S.A. 66-2011(e)

JANUARY 1999

HOUSE UTILITIES

DATE: January 21, 1999

ATTACHMENT 2

OUTLINE

I Introduction

This report to the Legislature has been prepared by the Commission's staff and is made in response to K.S.A. 66-2011(e), which states:

> "During the 1999 session of the Kansas legislature, the commission shall transmit a report to the chairperson, vice-chairperson and ranking minority member of the house standing committee on energy and natural resources, the senate standing committee on transportation and utilities and the joint committee on computers and telecommunications concerning implementation of this section. The report shall include recommendations for revisions in this section necessitated by technological innovation or market changes in the telecommunications industry. The report also may include an expiration date for this section."

For the reader's convenience, a complete text of K.S.A 66-2011 is included as Attachment A.

II Scope of report

This report is limited to a discussion of the adequacy of *dial-up access* to the Internet via the Public Switched Network in Kansas. Developments of new applications within the Internet itself and the many enhancements currently underway are beyond the scope of this report.

III Brief background[1]

In reviewing the development of the Internet it should be noted that the Internet is a completely separate and distinct network from the Public Switched Network. However, the end user (typically) must use the Public Switched Network to dial-up and gain access to the Internet. In addition the Internet is not subject to either state or federal regulation.

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[1] For a more comprehensive historical discussion see the Internet Society's web site, http://www.isoc.org/internet/history/brief.html
For a time line oriented discussion of the Internet's evolutions see http://www.pbs.org/internet/timeline/index.html

III Brief background *(continued)*

In the late 1960's and early 70's, a Defense Department agency named the Advanced Research Projects Agency funded a network called ARPANET. It was an experimental network intended, in part, to support research into the development of secure and efficient data exchange networks. Several protocols and architectures were developed during this effort. By today's standards and conventions, working with ARPANET was challenging and certainly not "user friendly". Lack of centralized information indexing, lack of standardization and detailed address schemes contributed to the early difficulties of accessing and retrieving information.

In 1985 the National Science Foundation (NSF) funded five supercomputer sites across the country to provide high-speed computing resources to the scientific research community. To facilitate access to these supercomputer sites, the NSF also funded a high capacity backbone network linking them and smaller regional networks together. This network of regional networks, supercomputing sites and the high capacity interconnecting facilities came to be known as the NSFNET.

During the 1980s The High Performance Computing and Communications Initiative (HPCCI) evolved to advance many of the (then) ambitious developments in computing and communication technologies. This initiative received added impetus and a more formal status when Congress passed the High Performance Computing Act of 1991. Development of the World Wide Web (WWW)[2] in 1991 and passage of the High Performance Computing Act of 1991 were significant developments opening the Internet to commercial applications and leading to the unprecedented interest that we are experiencing today.

Access to the Internet is provided through the services of an Internet Service Provider (ISP). An ISP is a company that connects members of the general public to the Internet, via either dedicated or 'dial-up' connections. These companies are <u>not regulated</u> and offer a wide range of services under a variety of pricing plans, responsive to their respective marketplaces. Many offer 'hourly plans', where the customer pays a small monthly fee (~$10.00) for 5-20 hours of connect time. Additional usage is billed at, typically, $1 to $2 per hour. So called 'unlimited' plans are very common, where the customer pays a fixed fee (in the $15 to $20 range) for an unlimited number of hours per month. Each ISP packages its services somewhat differently and uniquely, again in response to its respective marketplaces.

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[2] The WWW, very simplistically stated, is a network of software providing standard protocols for cataloging, indexing, addressing and retrieving information from the Internet. It was developed at the CERN, the European Laboratory for Particle Physics in Switzerland and was initially deployed in 1991.

IV Current status of Internet access

Access to the Internet is provided in a number of different ways. A large business will often use a dedicated broadband arrangement with bandwidth[3] capacities ranging from 56 Kbps to 1.54 Mbps. Others may use Basic Rate ISDN service which offers bandwidths of either 64Kbps, 128Kbps or 144Kbps. In addition to traditional Telephone Company offerings, various Cable operators are also providing high speed Internet access to a number of schools throughout Kansas. See Attachment B, provided by Kansas Cable Telecommunications Association, for additional detail. These and other similar services meet the needs for higher bandwidth (faster) transfer of data.

Users who do not require the higher bandwidth services typically access the Internet on a 'dial-up' basis. With a modem equipped Personal Computer (PC), using the Public Switched Network, they place a call to their selected Internet Service Provider (ISP), much the same as placing a normal telephone call. If the ISP is local they merely make a 7-digit local phone call. If the selected ISP is not local a 1+ long distance call (with the resulting long distance charges) is required for access to the selected ISP. Some ISPs offer access via toll free 800 service. However, with 800 service an additional ISP charge is incurred, typically in the $5.00/hour range.

Pursuant to K.S.A. 66-2011 if there is no *local* ISP available, the customer will have access to a $15/$30 flat rate long distance plan provided by the incumbent local exchange carrier. Attachment C provides a summation of the availability of ISP services within local calling scopes; 96% of Kansas access lines have local access to an Internet Service Provider.

As of October, Southwestern Bell reports 319 subscribers on the $15/$30 plan and Sprint/United reports 1,767 subscribers in the month of November.

V Quality of service provisions

The current statute contains two quality of service criteria for internet access providers: 1) the service must support a minimum speed of 14.4 kbps (increases to19.2 kbps on July 1, 1999); and 2) there must be no more than 5% blockage during the service's busy hour. The Commission monitors these standards upon complaint. A summary of complaints received and handled by the Commission's staff is provided in Attachment D.

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[3] The term bandwidth refers to the range of signal frequencies that can be carried on a communications channel. The capacity of an analog channel is measured in cycles per second, or Hertz (Hz), and is expressed as the difference between the highest and lowest frequencies carried. The capacity of a digital channel is measured in the number of 'bits per second' that the facility can carry. A digital channel's capacity is typically expressed in units of thousands, or kilo, bits per second (kbps) or million, or mega, bits per second (mbps). Bandwidth will vary according to the sort and method of transmission.

VI Emerging alternative services

While the focus of this report centers on dial-up access to the Internet, a brief discussion of at least some of the emerging new services for use in accessing the Internet is in order.

Cable services. After years of technology trials and evaluations CableLabs, a research and development consortium of cable television system operators, announced standardization on technical specifications (known as Data Over Cable Service Interface Specification (DOCSIS)) for Cable TV modem devices in early 1998. This development, along with the distribution upgrades, are positioning the Cable industry to offer very high bandwidth services, including access to the Internet, in the near future. To advance the development and deployment of this expanded cable capacity, leaders from within the industry have formed the Cable Broadband Forum, Inc. (CBF). Current information concerning the CBF may be found at their web site http://www.broadbandforum.com. However, specific service availability dates and pricing structures are not generally available, at this time. Attachment B, prepared by the Kansas Cable Telecommunications Association, provides additional detail.

xDSL service. xDSL refers to a growing family of Digital Subscriber Line (DSL) services. DSL service is delivered over existing copper loop facilities through advanced electronic terminal equipment providing transmission rates much higher than what can be achieved with current modems (ie. 28.8kbps). Of the xDSL family, Asymmetrical Digital Subscriber Line (ADSL) service is receiving most of the attention. ADSL provides a downstream (from the internet toward an end user) bandwidth of 1.5 to 8 Mbps and an upstream (from an end user to the internet) bandwidth of 64 to 640 Kbps. The Commission now has pending two applications for Local Exchange Carrier certification from companies proposing to offer ADSL services. However, at this time specific service availability dates and pricing structures are not generally available. The FCC, in an Order dated October 30, 1998, (FCC98-292) found ADSL service to be interstate in nature and, thus, under federal jurisdiction.

Satellite services. In a June 30, 1998, Order (FCC89-142) the FCC authorized the 47GHz band for satellite and stratospheric platform services. Several companies are pursuing the use of this newly assigned spectrum, as well as the previously assigned spectrums, for the delivery of high bandwidth services (ie. Internet access); Sky Station International, Inc. and Teledisic LLC are two such ventures. Attachments E and F provide insights to these development efforts.

VII Conclusions

The 1996 session of the Legislature introduced and passed the initial version of K.S.A. 66-2011 instituting a cost effective alternative for rural Kansans to access Internet services. The 1998 session provided needed clarification, as highlighted in Attachment A. This Commission's experience in administering the provisions of 66-2011 indicate that the plan does, in fact, offer a reasonable alternative for Kansans; 116 registered ISPs provide local, 7-digit, access to approximately 96% of the access lines in the state and, in addition, over 2,000 customers receive access by means of the discounted $15/$30 plan. The quality of service provisions of the statute, although not perfect, do provide for a cost effective approach for assuring access to the Internet.

VII Conclusions *(continued)*

This report includes a cursory discussion of emerging alternative services for use in accessing the Internet. While absolute time frames or specifics concerning deployment of those services in Kansas is not yet available, it is clear that significant developments are underway and will be available in the near future.

It is this Commission's opinion that the provisions of 66-2011 are reasonably effective in meeting the needs of Kansans for an economical alternative in accessing the Internet and that such an alternative will continue to be needed for the next two to three years, during which time one or more of the emerging alternative services will, no doubt, become widely available. We are therefor, recommending no changes in the existing statute. This is consistent with the recommendation made to you from the KUSF-Working Committee.

Attachments:

A. Existing Kansas Internet access legislation, House Sub. for Senate Bill 212, Sec. 3.
B. Kansas Cable activity, as of Nov. 30, 1998
C ISP Service Summary, as of Nov. 19, 1998
D. Summary of Complaint Activity
E. Sky Station
F. Teledesic, LLC

House Substitute for SENATE BILL No. 212
** Excerpts **

An Act concerning telecommunications services; relating to enhanced universal service and internet access; amending K.S.A. 1997 Supp. 66-2005, 66-2008 and 66-2011 and repealing the existing sections.

Be it enacted by the Legislature of the State of Kansas:

Sec. 3. K.S.A. 1997 Supp. 66-2011 is hereby amended to read as follows: 66-2011.

(a) As used in this section, ``the internet" means the international network of interconnected government, educational, and commercial computer networks. An ``internet service provider" means an entity that provides end user access to the internet. Nothing in this section shall be construed to mean that the commission has any regulatory jurisdiction over internet service providers. The provisions of this section apply only to those locations of the state where local (7-digit) internet access, which supports at least 14.4 kilobits per second service with no more than 5% blockage during the busiest hour of the service, is not available on *or after* October 1, 1996. ~~The provisions of this section also apply to those locations where local access has been discontinued as of October 1, 1996, or access to the service deteriorates to more than 5% blockage during the busiest hour of the service.~~

(b) On or after July 1, 1996 and prior to October 1, 1996, rural telephone companies shall file concurring tariffs to offer internet access in locations identified in subsection (a) to an intraLATA internet service provider of the customer's choice. All rural telephone companies, including local exchange carriers pursuant to subsection (c), shall provide dial- up access to support at least 14.4 kilobit per second service ubiquitously throughout the exchange service area, with ~~28.8~~ *19.2* kilobit per second service ~~made available to any requesting customer on or~~ *on and* after July 1, 1999. *The commission shall increase the 19.2 kilobit per second requirement when the commission determines that more advanced technology is both technically and economically feasible.*

(c) On or after July 1, 1996 and prior to October 1, 1996, all local exchange carriers, other than rural telephone companies, shall file tariffs with the commission for two flat-rate dial-up plans, which would provide internet access in locations identified in subsection (a) to an intraLATA internet service provider of the customer's choice. All such plans shall be approved by the commission if they meet the criteria established in this section. The first plan includes:

(1) For off-peak users, a monthly rate of not more than $15 per line for the hours of 5 p.m. through 7:59 a.m. weekdays and all hours on weekends and federal holidays. Calls placed outside this specified off-peak period shall be billed at prevailing toll rates.

(2) For unlimited usage, the rate shall not exceed $30 per line per month. The commission shall waive imputation considerations in reviewing and approving these service offerings.

(d) If a location was previously eligible for the plans provided in sub-section (c) and a new internet service provider establishes a local presence in that location, the local exchange carrier serving the location shall:

(1) Notify all subscribers of the discounted internet access service that a local internet service provider is now available;

(2) continue to make the discounted internet access service available to existing subscribers of such service with no deterioration of such service; and

(3) allow no new subscribers of the discounted internet access service.

(e) Nothing in this section shall be construed to imply that the commission has any regulatory jurisdiction over the internet or internet service providers with respect to quality of service, rates, billing and collection practices, end-to-end bandwidth, technical support or any other aspects of the business of providing internet access service. However, the commission shall monitor the adequacy of connectivity to internet service providers. Upon complaints of inadequate access, commission staff shall request a seven-day traffic busy line study from the local exchange carrier serving the internet service provider. Commission staff shall analyze the study results to determine whether there is more than 5% access blockage and shall provide the analysis to the internet service provider for consideration and possible action. If the analysis indicates a need for additional capacity and the internet service provider fails to take a corrective action within 45 days after the analysis is provided to such provider by the commission staff, the internet service provider shall be removed from the commission's internet service provider registry and subscribers of such internet service subscriber shall be eligible for the plans provided in sub-section (c) if there is no other local internet service provider serving the location.

~~(d)~~ *(f)* All internet service providers operating in the state shall register with the commission. Such registration shall include the name of the internet service provider and the provider's address, contact name, phone number, and access line numbers. This information shall be maintained by the commission ~~and disseminated to all local exchange carriers and rural telephone companies providing access to internet service providers in accordance with provisions of this section. This information shall be used to validate customer service requests~~ *at the commission's internet home page (http://www.kcc.state.ks.us). This information shall be used to determine a requesting customer's eligibility for the plans provided in subsection (c) and to provide a single authoritative listing of internet service provider access numbers for local exchange carriers to use in processing service orders. Absent complaints to commission staff,*

internet service providers shall be assumed to provide service with 5% or less access blockage upon registration. If, upon complaint and subsequent investigation, access blockage is determined to exceed 5%, the provider shall be removed from the commission's registry.

(e) (*g*) During the 1999 session of the Kansas legislature, the commission shall transmit a report to the chairperson, vice-chairperson and ranking minority member of the house standing committee on energy and natural resources, the senate standing committee on transportation and utilities and the joint committee on computers and telecommunications concerning implementation of this section. The report shall include recommendations for revisions in this section necessitated by technological innovation or market changes in the telecommunications industry. The report also may include an expiration date for this section.

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This Bill was signed into law by the Governor on April 23, 1998. It is presented here in 'marked up' Bill form for the reader's convenience in identifying revisions that were introduced in the 1998 session.

A Cable Online Summary, by the
Kansas Cable Telecommunications Association

Cable System Upgrades

Cable television systems, since the 1970s, have been two-way capable, analog transmission systems utilizing coaxial cable. By adding fiber-optic and two-way equipment cable system architecture becomes hybrid fiber-coax (HFC) and supports offering analog video, digital video, high-speed data and voice services. Furthermore, once stand-alone cable systems, are being interconnected with fiber-optic technology to bring the benefits of new products and services to communities of all sizes on a regional basis. Kansas cable operators are in the midst of such upgrades. Some communities such as Ellis, Goodland, Hays, Kansas City area systems, Liberal, Olathe, Salina, Topeka and Wichita are already served by HFC systems. Many others will follow in 1999 – 2000. HFC upgrades have been announced for Arma, Caney, Cherryvale, Coffeyville, Dodge City, Erie, Fredonia, Garden City, Gas, Humboldt, Iola, Junction City, Lawrence, Manhattan, Ogden, and Yates Center.

A New Technology Standard

In 1995 cable operators were installing proprietary and non-interoperable cable television modems and envisioned the need for interoperability. Cable operators, equipment manufacturers and Cable Television Laboratories, Inc. (CableLabs) announced an agreement to specify some of the technical ways cable networks and data equipment talk with one another. CableLabs was asked to coordinate the Multimedia Cable Network System (MCNS) Data Over Cable System Interface Specification (also know as Data Over Cable System/Interoperability Standard) (DOCSIS) process. Such interface specifications will benefit consumers and cable operators by providing multiple sources of interoperable modems, thereby encouraging marketplace competition, enabling economies of scale and reasonable prices. Multiple suppliers building to the industry specification, but adding unique capabilities, will give consumers a wide selection of high-quality recognizable products from which to choose. In late March 1998, MCNS DOCSIS was approved as an international standard for transmitting data over cable. In December 1998 CableLabs is evaluating external two-way DOCSIS 1.0 modem certification tests with the expectation of certifying some manufacturers in the next several months. Participating vendors include 3Com, Askey, Broadcom, Cadence/Daewoo, Cisco, Com21, E-Tech, General Instrument, Motorola, NEC, Nortel/Bay Networks, Samsung, Sony, Thomson/RCA, Toshiba, and Zenith. Internal DOCSIS cable modem card testing and development of DOCSIS 1.1 which will support toll-quality Internet Protocol (IP) telephony are also underway.

The Cable Modem

A cable modem is a device that allows high-speed access to the Internet via a cable TV network. A cable modem will typically have two connections, one to the cable wall outlet and the other to a computer (PC). Cable modem customers access the Internet at a fraction of the time it takes traditional telephone modems because cable's broadband plant makes the connection up to a hundred times faster and allows the service to be always on. Unlike telephone modems, cable modem customers keep their telephone lines free. Internet browsing using a telephone line can be painfully slow, especially when photographs, graphics or video images are encountered. Cable modem users not only get online faster but also can move around quickly allowing information providers to offer better quality content.

Comparative data transmission speeds

Time required to transmit a single 1 megabit graphic image:

Telephone Modem @ 28.8 kbps ..... Approx. 5 minutes
ISDN @ 64kbps ..... Approx. 2 minutes
Cable Modem @ 10 mbps ..... Approx. 1 second

Time required to transmit a 5 megabit audio/video clip of approximately 1.5 minutes in length:

Telephone Modem @ 28.8 kbps ..... Approx. 22 minutes
ISDN @ 64kbps ..... Approx. 10 minutes
Cable Modem @ 10 mbps ..... Approx. 4 seconds

kbps = kilobits per second mbps = megabits per second

Cable Online Services

Cable modem customers enjoy 24-hour instantaneous access to the Internet and other on-line services such as Time Warner's Road Runner. Road Runner is an easy-to-use broadband online service that integrates multimedia programming, communications and personalized services such as e-mail, home page hosting and chat events. The service contains world, national and local programming and information. Road Runner is deployed over a regional network architecture the center of which is a Regional Data Center (RDC). RDC's contain computer systems to deliver Electronic Mail, UseNet News, Web Caching, and Directory services to users in the region. RDC's also contain network management and monitoring tools, and house a professional staff to manage the system. Content is distributed from content servers located at the RDC. Kansas City is home to a Road Runner RDC. All regions are joined by a national backbone infrastructure. The national backbone provides high speed region-to-region connectivity and direct access to the Internet and allows visibility of the regional systems by a National Operating Center.

Cable Online Services (continued)
Service prices vary from market to market but are generally less than $50.00 per month. The monthly fee includes unlimited, connectionless access to the online service and the Internet (without hourly fees) and the rental of the cable modem.

Internet connection services will also be offered to businesses.

Internet Access Without PCs
Cable operators may also offer cable services that enable low cost Internet access for consumers through the cable system without the need for a PC, modem, or any additional in-home equipment. For example, WorldGate is an interactive Internet service, which uses an advanced analog or digital cable converter, the existing TV set, and a remote control. Using the vertical blanking interval, a normally unused portion of the video spectrum, the existing cable infrastructure will allow WorldGate to offer data rate speeds of 128,000 bps. WorldGate has pioneered Channel Hyperlinking, the ability of subscribers with a single keystroke, to connect directly to a Web site associated with a TV show or commercial announcement. Logging on to the service, for E-mail, Web browsing or Channel Hyperlinking, requires less than 5 seconds.

Education Commitment
Cable television operators are committed to serving schools. Of the 1,622 public and private elementary and secondary schools in Kansas, 1,264 or 78%, serving 86% of K-12 students, are connected to cable television systems free of charge. In addition to Cable in the Classroom, which offers 525 hours of copyright cleared programming and curriculum assistance to schools each month; Kansas cable operators are assisting schools with distance learning and online projects. Multimedia, for example, began providing high speed Internet access to schools in 1998 using cable modems and currently has over 50 schools connected. Some of these include: Sedgwick Public Schools, Circle High School in Towanda, Burrton Public Schools, Newton Schools, Eldorado Public Schools, Blessed Sacrament, Catholic Diocese, Sunrise Christian Academy, and Rainbows United. For USD 259 Multimedia has connected Sowers, College Hill, Colvin, SE High, Wilbur, South High, School Service Center, Instructional Support Center, Mayberry, North High, Metro Meridian, Metro Mid-Towne, Benton, Heights High School, and Washington, as well as, Hutchinson Community College, Hutchinson City Hall, and Derby City Hall.

Cable modems can also be used to cost effectively network schools together and Multimedia currently provides this technology to the McPherson School District, the Great Bend School District, the Newton School District and is working with the Eldorado School District and the City of Hutchinson. Cable modems allow for an Ethernet Wide Area Network to be established between each remote site. In addition to cable modem technology, cable operators continue to work with educators to create Interactive Distance Learning Networks by utilizing capacity on fiber optic networks. Multimedia has a network operating between Hutchinson Community

College, Burrton, Sedgwick, Fairfield and Hesston, Kansas. Galaxy Cablevision has a network connecting Basehor-Linwood. Classic Cable is at work in Phillipsburg, Oberlin, and Paola/Osawattomie, Kansas.

Finally, the cable industry has created an online Internet tutorial for teachers called webTeacher. We encourage everyone interested in using the Internet to visit the site at http://www.webteacher.org

ISP Service Summary

a/o November 19, 1998

-- Number of -- ISPs	Localities	Total Network Access Lines	Ave. # of NALs	% of Total NALs	% of Rural NALs
0	127	64,965	512	4.1%	8.4%
1	330	275,448	835	17.4	35.8
2	51	114,139	2,238	7.2	14.8
3	12	61,707	5,141	3.9	8.0
4	4	37,259	9,315	2.3	4.8
5	4	34,053	8,513	2.1	4.4
6	3	18,773	6,258	1.2	2.4
7	2	52,686	26,343	3.3	6.8
8	1	Note: Line count information is considered proprietary			
9	1	by at least one of the LECs in the following locations.			
10	1				
11	1				
14	1				
20	1				
25	1				
26	1				
Totals	540	1,582,614		100%	100%

Total Rural NALs == 769,760
Total Metro NALs == 812,854

Notes: 1. Network Access Line (NAL) counts are taken from the Dec. 1997 Annual Reports.
2. ISP data taken from the KCC's Registry, dated November 10, 1998.
3. Metro areas are defined as Kansas City, Topeka and Wichita.
4. Rural areas are defined as all areas other than Kansas City, Topeka and Wichita.

As identified in the above summation, there are 127 localities or communities in Kansas with no ISP within their local calling scope. These 127 locations account for 64,965 Network Access Lines, or 4.1% of the state; 96% of the access lines in Kansas have local access to an ISP.

Specific locality information is maintained in the KCC's Registry of ISPs and is available at http://www.kcc.state.ks.us.

Complaint Resolution Activity

K.S.A 66-2011 provides for the following quality of service monitoring and complaint investigation procedures:

(e) Nothing in this section shall be construed to imply that the commission has any regulatory jurisdiction over the internet or internet service providers with respect to quality of service, rates, billing and collection practices, end-to-end bandwidth, technical support or any other aspects of the business of providing internet access service. However, the commission shall monitor the adequacy of connectivity to internet service providers. Upon complaints of inadequate access, commission staff shall request a seven-day traffic busy line study from the local exchange carrier serving the internet service provider. Commission staff shall analyze the study results to determine whether there is more than 5% access blockage and shall provide the analysis to the internet service provider for consideration and possible action. If the analysis indicates a need for additional capacity and the internet service provider fails to take a corrective action within 45 days after the analysis is provided to such provider by the commission staff, the internet service provider shall be removed from the commission's internet service provider registry and subscribers of such internet service subscriber shall be eligible for the plans provided in sub-section (c) if there is no other local internet service provider serving the location.

Since the inception of this service, in October of 1996, six written complaints have been filed resulting in the following the investigative actions:

Location	Traffic Study Dates	Results	Disposition
Haven	Oct. 29-Nov. 4, '97	Excessive B.H. blockage was measured at 17%. Two additional lines are Req. to meet the 5%, or less, standard.	Provider took no corrective action. Provider was removed from the Registry on Jan. 6, 1998.
Osage City	Mar. 16-22, 1998	Excessive B.H. blockage was measured at 64%. Four additional lines are required to meet the 5%, or less, standard.	Provider initially took no corrective action and was removed from the Registry on June 22, 1998. Provider subsequently rearranged serving configuration and re-registered on October 15, '98.
Meriden	Mar. 16-22, 1998	Excessive B.H. blockage was measured at 96%. Six additional lines are required to meet the 5%, or less, standard.	Provider took corrective actions and remains on the Registry.

Attachment D:
Summary of Complaint Activity

Location	Traffic Study Dates	Results	Disposition
Wellsville	June 1-7, 1998	Excessive B.H. blockage was measured at 95%. Six additional lines are required to meet the 5%, or less, standard.	Provider took corrective actions and remains on the Registry.
Scranton	Nov. 17-23, 1998	Excessive B.H blockage was measured at 36%. Two additional lines are required to meet the 5%, or less, standard.	Provider took corrective action and remains on the Registry.

B.H. = The Service Provider's Busy Hour.

To date, there have been no formalized complaints of inadequate transmission speed performance. K.S.A. 66-2011 (b) states that "... All rural telephone companies, including local exchange carriers pursuant to subsection (c), shall provide dial- up access to support at least 14.4 kilobit per second service ubiquitously throughout the exchange service area, with *19.2* kilobit per second service made available on and after July 1, 1999....". In the event that a complaint is received in this area staff will investigate the matter on an individual case basis.

Stratospheric Telecommunications Service

Note: The following was taken from Sky Station International's web site http://www.skystation.com/telecom.html, on December 10, 1998. It has been reformatted to blend with the other text of this report.

Sky Station's platforms are ideally suited to delivering telecommunications services.

Located in the stratosphere 21Km above the earth, each platform acts as the highest tower in town, providing high density, high capacity, high speed service with low power requirements and no latency to an entire metropolitan and suburban area extending out into rural areas. No other existing or proposed technology offers this combination of high density service and low cost.

Subscribers transmit directly to the platform, where on board switching routes traffic directly to other Sky Station subscribers within the same platform coverage area. Traffic destined for subscribers outside the platform coverage area is routed through ground stations to the public networks or to other platforms serving nearby cities.

A Big Pipe into Every Home

Today's telecommunications networks have become stressed by the explosive growth of the Internet. As more users tie up lines for longer periods of time, the usage patterns for which the networks were originally designed have been fundamentally altered. Consumers have become increasingly dissatisfied with the slow speed of dial-up access and are demanding higher speed solutions. Sky Station satisfies this demand by delivering personal T1/E1 broadband service to the mass market at a lower cost than existing or announced alternatives.

With data rates bursting to 2Mbps uplink and 120Mbps downlink, subscribers enjoy high speed Internet browsing and hosting, as well as other broadband services such as video conferencing.

Spectrum in the 47GHz band has already been designated globally by the International Telecommunications Union (ITU) as well as the Federal Communications Commission (FCC) for use by high-altitude stratospheric platforms, paving the way for planned commercial service to commence in the year 2000.

Telephony for the Developing World.

All developing nations need low cost access to high density telecommunications links to support accelerated economic development and inclusion in the Information Revolution. Sky Station's stratospheric platforms provide the fastest, easiest and least expensive way to bring advanced services to the developing world. One Sky Station platform alone provides telephone service for millions of subscribers at a lower cost than any current or proposed system.

Mobile Solutions

The ability to communication anywhere, anytime is an integral part of today's global culture. A worldwide standard (IMT-2000) is evolving for a broadband service for mobile, portable and fixed users. The STS system is the ideal means for low-cost rapid deployment of mobile services and Sky Station is participating in the development and delivery of third generation cellular service.

The Sky Station Advantage

There are several unique attributes that allow Sky Station to offer a broad array of services with low operating costs:

- Sky Station platforms do not require a launch vehicle, they can move under theirown power throughout the world or remain stationary, and they can be brought down to earth, refurbished and re-deployed.

- Once a platform is in position, it can immediately begin delivering service to its service area without the need to deploy a global infrastructure or constellation of platforms to operate.

- The altitude enables the Sky Station system to provide a higher frequency reuse and thus higher capacity than other wireless systems.

- The low cost of the platform and gateway stations make it the cheapest wireless infrastructure per subscriber conceived to date.

- Joint venture companies and government authorities located in each country will control the Sky Station platforms serving their region to ensure the best service offerings tailored to the local market. Offerings can change as a region develops.

- Each platform can be retrieved, updated, and re-launched without service interruption.

- Sky Station platforms are environmentally friendly. They are powered by solar technology and non-polluting fuel cells.

- The 21Km altitude provides subscribers with short paths through the atmosphere and unobstructed line-of-sight to the platform..

- With small antennas and low power requirements, the Sky Station system allows for a wide variety of fixed and portable user terminals to meet almost any service need.

The capabilities and low cost of the Sky Station system will revolutionize telecommunications.

Teledesic Satellite Service

Note: The following was taken from Teledesic LLC's web site http://www.teledesic.com/overview/fastfact.html *on December 10, 1998. It has been reformatted to blend with the other text of this report.*

The Company

Teledesic is building a global, broadband "Internet-in-the-Sky." Using a constellation of low-Earth-orbit satellites, Teledesic and its partners will create the world's first network to provide affordable, worldwide, "fiber-like" access to telecommunications services such as broadband Internet access, videoconferencing, high-quality voice and other digital data needs. On Day One of service, Teledesic will enable broadband telecommunications access for businesses, schools and individuals everywhere on the planet.

Timeline

1990 Company founded
1994 Initial system design completed; FCC application filed1997
FCC license granted; World Radio Conference designated necessary international spectrum for service
1998 Motorola, The Boeing Company and Matra Marconi Space join efforts to build the Teledesic system.
2003 Service targeted to begin

Principal Shareholders/Industrial Partners

Teledesic represents the vision of telecommunications pioneer Craig McCaw, the company's chairman and co-CEO. Teledesic's primary investors are McCaw, Microsoft Chairman Bill Gates, Motorola, Saudi Prince Alwaleed Bin Talal and Boeing. Motorola, one of the world's premier communications equipment manufacturers, leads the international industrial team that will develop and deploy the Teledesic system. Boeing and Matra Marconi Space round out Teledesic's founding industrial team. Teledesic is a private company based in Kirkland, Washington, a suburb of Seattle.

Customers

Teledesic will develop alliances with service provider partners in countries worldwide, rather than marketing directly to end-users. Teledesic will enable service providers to extend their networks, both in terms of geographic scope and in the kinds of services they can offer.

Network Capacity/Access Speeds
The Teledesic system is designed to support millions of simultaneous users. Teledesic will offer a family of user equipment to access the network. Most users will have two-way connections that provide up to 64 Mbps on the downlink and up to 2 Mbps on the uplink. Higher-speed terminals will offer 64 Mbps or greater of two-way capacity. This represents access speeds more than 2,000 times faster than today's standard analog modems.

User Equipment
The Teledesic system's low orbit eliminates the long signal delay normally experienced in satellite communications and enables the use of small, low-power terminals and antennas. The laptop-size terminals will mount flat on a rooftop and connect inside to a computer network or PC.

Cost
Design, production and deployment of the Teledesic system are estimated to cost $9 billion. End-user rates will be set by service providers, but Teledesic expects rates to be comparable to those of future urban wireline services for broadband access.

Regulatory Approval
Teledesic cleared its last significant regulatory hurdle when the International Telecommunication Union's 1997 World Radiocommunication Conference in November 1997 finalized its designation of international radio spectrum for use by non-geostationary fixed satellite services, such as those Teledesic will provide. The FCC licensed Teledesic in March 1997.

Frequencies
Teledesic will operate in the high-frequency Ka-band of the radio spectrum (28.6 - 29.1 GHz uplink and 18.8 - 19.3 GHz downlink).

# of Satellites
288 plus spares

Employees
More than 100 and growing

Headquarters
Kirkland, Washington; offices in Brussels, Belgium, Madrid, Spain, Ottawa and Washington, D.C.