BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

IN THE MATTER OF THE PETITION OF WWC HOLDING CO., INC. FOR ARBITRATION OF AN INTERCONNECTION AGREEMENT

DOCKET NO.: 03-2403-02

Direct Testimony and Exhibits of

Chad A. Duval

On behalf of

Gunnison Telephone Company

Manti Telephone Company

South Central Utah Telephone Association

Uintah Basin Telecommunications Association

UBET Telecommunications, Inc.

September 5, 2003

Q. What are your name, title, and business address?

A. My name is Chad A. Duval. I am employed as a Senior Consultant for GVNW Consulting, Inc. (GVNW). My business address is 2270 La Montana Way, Colorado Springs, Colorado, 80918.

Q. Please describe your educational background and experience.

A. My educational background includes a Bachelor of Science degree in Business Administration, with an emphasis in Statistics, from the University of Denver, in Denver, Colorado. In 1995 I was hired by GVNW Consulting to serve as a Consulting Analyst in the Company=s Colorado Springs office. In 1998 I was promoted to Management Consultant. In 1999 I accepted the position of Manager of Strategic Pricing with US WEST Communications in Denver, Colorado. In January of 2000 I was promoted to Group Manager of Strategic Pricing. In October of 2000 I accepted the position of Director of Product Management with Vanion, Inc., a competitive local exchange carrier headquartered in Colorado

Springs. In September of 2001, I accepted the position of Senior Consultant with GVNW in Colorado Springs, Colorado.

Q. Can you please describe your duties and responsibilities as a Senior Consultant for GVNW?

A. GVNW provides financial and management consulting services in the communications industry, particularly to rural telephone companies. I serve as a consultant to companies in several states, providing separation studies, business plans, budgets, and management analysis on various regulatory and company actions. In addition, I provide expertise to clients nationwide on certain forward-looking economic cost models.

Q. For whom are you appearing in this proceeding?

A. I am appearing on behalf of Gunnison Telephone Company (AGunnison@), Manti Telephone Company (AManti@), South Central Utah Telephone Association (ASCUTA@), and Uintah Basin Telecommunications Association (AUBTA@), and UBET Telecommunications (AUBET@). I refer to them hereafter collectively as

Athe Companies@ or Athe Rural Independent Local Exchange Carriers (AILECs@)@, or individually as AGunnison@, AManti@, ASCUTA@, AUBTA@, and AUBET@, respectively.

Q. Have you ever testified before the Utah Public Service Commission (Commission) or any other regulatory agency?

A. I have not previously testified before the Utah Public Service Commission. However, I have testified before the Wyoming Public Service Commission and the Colorado Public Utilities Commission.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide support for the forward-looking economic cost based rates, as required by the Federal Communications Commission (AFCC@), proposed by the Companies in the above referenced proceeding.

Q. Why are the Companies proposing rates based on a forward-looking economic cost model?

A. In its *First Report and Order In the Matter of Implementation of the Local Competition* Provisions *in the Telecommunications Act of 1996 & Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers,* the FCC stated that:

> Having concluded in Section II.D., above, that we have the requisite legal authority and that we should establish national pricing rules, we conclude here that prices for interconnection and unbundled elements pursuant to sections 251(c)(2), 251(c)(3), and 252(d)(1), should be set at forward-looking long-run economic cost. In practice, this will mean that prices are based on the TSLRIC of the network element, which we will call Total Element Long Run Incremental Cost (TELRIC), and will include a reasonable allocation of forward-looking joint and common costs. (Paragraph 672, First Report and Order)

In the same order, the FCC further states:

> We conclude that the pricing standards established by section 252(d)(1) for interconnection and unbundled elements, and by section 252(d)(2) for transport and termination of traffic, are sufficiently similar to permit the use of the same general methodologies for establishing rates under both statutory provisions. Section 252(d)(2) states that reciprocal compensation rates for transport and termination shall be based on Aa reasonable approximation of the additional costs of terminating such calls.@Y We, therefore, find that the Aadditional cost@ standard permits the use of the forward-looking, economic cost-based pricing standard that we are establishing for interconnection and unbundled elements. (Paragraph 1054, First Report and Order)

Q. Has the FCC or the Utah Public Service Commission identified a specific forward-looking economic cost model that should be used in determining these rates?

A. No they have not. However, it should be noted that both the FCC and the Utah Public Service Commission have utilized the HAI Model in previous proceedings. The FCC has largely based its own forward-looking economic cost model, the Synthesis Model, on the HAI Model. In addition, the Utah Public Service Commission has utilized the HAI Model in the development of Qwest=s Unbundled Network Element pricing.

Q. What forward-looking economic cost model have the Companies utilized in the development of rates in this proceeding?

A. The Companies have used the HAI Model 5.0a.

Q. Why did the Companies choose to utilize the HAI Model 5.0a?

A. The Companies chose to utilize the HAI Model 5.0a for several reasons. First, the model has been widely available throughout the industry and has been carefully studied by industry participants, the FCC and many state Commissions. Both its strengths and weaknesses are known and have been evaluated. In fact, the Utah Public Service Commission utilizes the HAI Model in the development of Unbundled Network Element (AUNE@) rates for Qwest. Second, the HAI Model produces results in formats that are readily available to identify the cost of individual access cost elements. Third, because the model includes default input values necessary to produce cost results for each company, the cost of developing appropriate inputs to run the model are minimized. Fourth, by reviewing and modifying a relatively small number of inputs, we felt we could develop adequate estimates of forward-looking costs to meet the requirements of the FCC rules.

Q. Do you have any concerns about utilizing the HAI Model to develop forward-looking economic costs for the Rural ILECs?

A. In spite of the fact that I recommended that the Companies use this tool as the best available to develop forward-looking costs for this arbitration proceeding, I have concerns about the validity of the results of the HAI Model that the Companies are presenting. These concerns include:

1) A concern that the use of broad inputs and generalized formulas for all companies, rather than specific inputs for individual companies, tend to mask unique circumstances of individual companies, which cause substantial differences in costs in the real world.

2) A concern that the HAI Model can produce results for small companies that vary widely from comparable actual data.

3) A concern that results from the model are likely to be less accurate for smaller geographic areas, such as individual exchanges or small companies with a few exchanges, than they are for large companies, such as Qwest, who have hundreds of exchanges. This concern is due both to techniques used to generate customer locations and data in the model and to a recognition that the law of

averages leads to offsetting impacts between individual areas within a large group of exchanges that may not occur in a small company or a single wire center. A review of the access lines developed by the model compared to actual company lines, for example, shows significant differences on an individual company level.

Q. Given these concerns, do you still support the forward-looking economic costs that you have developed?

A. Yes. Given the requirements in the FCC rules to develop forward-looking costs and the current state of tools that are available to develop such cost results at a reasonable cost to the Companies, I believe the costs developed are the best available forward-looking costs of these Companies to meet the requirements of the FCC rules.

Q. Can you briefly discuss the historical background of the HAI Model?

A. Yes. The HAI model was initially known as the Hatfield Model, developed by Hatfield Associations, a consulting firm in Colorado, at the request of AT&T. The model was developed with the intent of providing a tool to develop the forward-

looking cost of the telephone network throughout the United States as the cost basis for universal service support and to develop the estimated cost of UNEs for interconnection proceedings under Section 252 of the Telecommunications Act of 1996. As the model faced scrutiny in various state and federal proceedings over several years, it underwent continued development and modification through a series of versions. Generally, the later versions were more sophisticated in the cost development methods and techniques than were earlier versions of the model. Version 5.0a of the model was the latest version presented in formal comments to the FCC in CC Docket #96-45, the federal USF proceeding.

Q. Can you briefly describe the overall design of the model?

A. Yes. The model is comprised of several different modules that interact and are interconnected to produce the overall model results. The modules develop the costs for various network elements and for the overall cost of the company. The Model includes a module to develop the cost of distribution and feeder plant, a module for developing the cost of switching and interoffice plant, a capital cost

module and an expense module. Results of all these modules are fed into a series of model output reports. A much more complete description of the model design is included in the Model Description manual developed by the model creators, which is available electronically upon request.

Q. Can you describe any changes that you made to these interconnected modules that make up the model?

A. Yes. These underlying modules contain a couple of databases that must be modified to reflect the actual operations of the Companies. The first database that must be modified includes data about each of the clusters within a given wire center. A cluster is a grouping of customers identified by the model as being served by the same distribution facilities, either with or without a digital loop carrier. This database was modified to reflect the Manti acquisition of the Ephraim exchange and the UBTA acquisition of the UBET exchanges, and encompasses the modification of the Company Name and NECA ID to those of the acquiring company.

The other database that must be modified is referred to as the Distance File, which includes information on various tandems that serve the state and the distance from each wire center to each respective tandem. The Distance File was first modified to reflect the Manti and UBTA acquisitions discussed above. Second, we modified the Distance File to reflect that SCUTA=s Orderville wire center and UBTA=s Flattop Butte wire center are not served by tandem switches. Third, we modified the Distance File to show Qwest=s Provo Main wire center as a tandem, including adding the necessary tandem distances. Fourth, we modified the Distance File to reflect the appropriate tandem for each of the Companies= wire centers: Provo for Gunnison, Provo for the Manti wire centers, Cedar City for the SCUTA wire centers, and Salt Lake City for the UBTA/UBET wire centers. Finally, we modified the distance from each of the Companies= wire centers to the appropriate tandem

Q. Can you briefly describe the default model inputs?

A. Yes. The HAI model has well over a thousand different user adjustable model inputs, including physical equipment characteristics, cost relationships to

geographical factors, traffic characteristics, unit costs of telephone plant, costs of installing telephone plant, depreciation factors, capital costs, and expense ratios. To assist users in utilizing the model quickly, the developers have populated the model with default values that, based on their research, judgment and evaluation, represent appropriate values for each input element. These values are known as the default input values. When running the model, the user can either use these default values or individually modify as many of the values as the user believes are appropriate. The HAI Inputs Portfolio is a document developed by the model creators that describes each individual input item, the default value and the model developers' rationale and support for adopting the particular default value. This manual is also available electronically upon request.

Q. Did you utilize only the default inputs in the forward looking economic cost studies that you prepared for the Rural ILECs?

A. No. While we have used the default values for a large portion of the inputs, we have not used them exclusively. Based on prior experience in other states and at

the national level using the HAI Model, and based on testing individual inputs in conjunction with the cost development for this case, I have modified a number of the default inputs.

Q. Can you make some general observations about why you modified some of the default inputs?

A. Yes. There were a variety of reasons for modifying various inputs, which I will describe in detail later in this testimony. In some cases inputs were modified, in my opinion, to better reflect the operations of rural companies as compared to the large urban Bell Operating Companies whose operations are generally reflected in the default inputs. Some inputs were modified to reflect the specific circumstances in Utah rural areas as compared to the wide variety of geographic conditions throughout the United States. Some inputs were modified to reflect judgmental differences with the HAI Model developers regarding the forward-looking cost characteristics of certain inputs. Some inputs were modified to reflect the current costs of network components, as compared to the costs used when the model was

created.

Q. Did all of the input modifications you made increase the cost of the network derived by the model?

A. No. While many of modifications we made resulted in cost increases, others resulted in cost decreases. In each case that changes were made from the default inputs, they were made with the intent of better reflecting the forward-looking cost characteristics of the Rural ILECs based on circumstances within Utah.

Q. Have you prepared a schedule detailing the modifications you made to the default inputs?

A. Yes. Schedule CAD-1 is a document outlining the input items that I changed from the default values for each of the Companies in the development of the forward-looking costs in this proceeding. Schedule CAD-2 is an output report from the HAI Model showing the specific model inputs changed and the values used for each of these inputs for each of the Companies. In the following section of my testimony, I

will discuss in greater detail the reason for each of the changes made in the default inputs.

Q. Why did you modify the plant type assumptions as outlined in Schedule CAD-1?

A. The HAI Model develops costs of distribution and feeder plant in nine different density zones. One of the series of input items in these density zones are inputs to designate the type of plant (aerial, buried or underground) that is used for feeder, distribution, and interoffice plant. The default inputs for these items vary between density zones based on the model developers' estimates of the type of plant built in these zones on a nationwide basis. Even in the most rural zones, the default inputs assume that a substantial amount of aerial plant will be constructed. In Utah, based on a number of factors related to geography, weather and cost of construction, it has been standard practice for the Rural ILECs to build primarily buried plant for distribution, feeder, and interoffice plant. A cursory review of the Companies= plant accounts will show that the preponderance of cable and wire

facilities is buried. Based on these observations, the costs developed for the Rural ILECs reflect changes in the model inputs in all appropriate places to reflect a larger percentage of buried plant as the method of outside plant construction from that used in the default assumptions. In all density zones, buried plant has been assumed to be 100% of the plant constructed. I believe that this is more reflective of the Companies= specific circumstances than are the national default inputs.

Q. Why have you set the Fraction of Buried Plant Available for Shift parameters to zero?

A. These inputs are included in the model to allow the model to change the assumption regarding the amount of buried plant that would be constructed, as discussed in my previous answer, based on internal cost calculations made by the model. The model would substitute aerial plant for buried, if based on model calculations, aerial plant was less expensive. I have set this value at zero so the model reflects the buried plant construction types as discussed above. Some of the

factors that lead to the large proportion of buried plant construction in Utah may not be fully reflected in the default cost assumptions; and without this change, the model might not construct the full level of buried plant we believe is appropriate.

Q. Schedule CAD-1 discusses changes made in the structure sharing default assumptions. What does structure sharing mean?

A. In the HAI Model, the costs of the cable and its installation are separated from the cost of the structures (poles for aerial cable, trenches and plastic tubing for buried cable, and conduit for underground cable) built to "carry" the cable from one location to another. The structure costs are developed using separate input amounts and are calculated separately. The structure sharing assumptions are built into the model to reflect circumstances where these structures may be able to be used by a utility other than the telephone company, and the costs of the structures may be borne by these other companies, thus reducing the effective cost to the telephone company.

Q. Can you give some real world examples where structures might be shared?

A. Yes. The most common example is probably with the use of pole lines. In many locations, particularly in-town locations, one utility builds a pole line and other utilities rent space on the poles to place their own facilities. Where aerial plant is used by both electric and telephone utilities, they frequently share a single pole line. In addition, in many in-town situations, a cable TV company may also place its facility on some of the same pole lines.

In some new subdivision construction, trenches dug for utilities may be shared by electric, telephone, and cable TV companies. When electric facilities are involved in trench sharing, the cost of trenching is typically significantly increased due to code requirements for separation of electric cables from telephone and cable TV facilities.

In urban locations, conduit facilities may be placed to service multiple utilities in order to minimize the street disruption of placing additional facilities in the future and to maximize the use of below street surface land space.

Q. Can you, in general terms, describe the conceptual assumptions underlying the HAI default structure sharing assumptions?

A. Yes. There are several key conceptual assumptions that are inherent in the HAI default assumptions regarding structure sharing. First, the model developers assumed that not only is the telephone network being hypothetically reconstructed from the ground up, but that the electric, cable TV and competitive telecommunications services networks are being constructed at the same time so that structure sharing can take place. Second, the modelers assume that, in the future, there will be high motivations for these various utilities to share structures and build facilities using the same kind of plant in the same areas. Third, the modelers assume that the cost of structure construction will be unchanged from typical telephone plant construction, even with the addition of other utility facilities associated with the structure. While this may be somewhat true for aerial construction, it is not true for buried construction where code requirements for buried electric service generally require significantly deeper construction for electric

plant than for telephone plant.

Q. Can you describe the specific assumptions encompassed in the HAI Model regarding structure sharing for buried plant?

A. Yes. The HAI Model default assumptions assign 33% of the cost of the structure to the telephone company for buried structures in the lower density bands. This presupposes that in these density bands, buried telephone company plant will be accompanied by a buried electric facility and a buried cable TV facility, with no increase in the cost of the facility because of the presence of the other two facilities.

Q. Do you believe this assumption is at all realistic?

A. No. It is my belief that this assumption has little basis in reality. To put this assumption into perspective, let me first indicate for the four lowest density bands the size of an average lot that would be inherent at the maximum lines in the density band, assuming all households had equal size lots. They would be as follows:

Band 1	0-5 lines/sq. mile	128.0	acres
Band 2	6-100 lines/sq. mile	6.4	acres
Band 3	100-200 lines/sq. mile	3.2	acres
Band 4	200-650 lines/sq. mile	.98	acres

Based on discussions with clients about their communities throughout the mid-western and western parts of the country, there would be no cable TV provider in at least the first two density bands; and the provision of cable TV service in Band 3 areas would be spotty. There would probably be a cable TV provider in many, though not all, of the Band 4 areas. However, in these areas, a large portion of the cable TV is aerial and constructed using the electric poles. The likelihood of the cable TV provider sharing buried structures with the telephone company in any of these areas is remote.

As to the electric utilities, my experience in rural areas is that electric service is provided primarily by the use of aerial plant while the telecommunications facilities use primarily buried facilities. I believe that there are strong economic and safety

reasons why electric plant is generally aerial while the telephone plant is buried. I do not see any evidence to suggest that in rural areas this difference in plant construction will suddenly change in the electric industry. Thus, there is little reason to believe that there will be any appreciable structure sharing with the electric industry.

Q. Based on your observations, what assumptions have been made regarding structure sharing?

A. Based on my belief that there is a limited to non-existent likelihood of sharing buried structures, I have assumed that the structure sharing for buried and underground plant for all density zones should be set at 100%; that is the full cost of the buried structures are assigned to the telephone company. For aerial cable, a 100% structure sharing assumption is assumed for the first three zones, but a 50% assumption is used in Zone 4 and higher where telephone company aerial cable, if built, frequently shares poles with the electric company.

Q. Why are you proposing to change the end office switching investment input, as

detailed in Schedule CAD-1?

A. My analysis indicates that the default input values are not representative of the cost of end office switching equipment for small companies and small switches. The default switching input values used by the HAI modelers are based on an analysis of switch costs for larger companies (Bell Operating Companies and GTE, as acquired by Verizon) that were publicly available. The input values are used in a fairly straight-line formula based on number of lines. In viewing results of the default analysis, it is clear that the input does not correctly estimate the cost of switching for small offices.

We also did an analysis comparing the default model results with the actual investments incurred by companies for COE switching in Utah. With the default inputs, the COE switching investments produced by the HAI Model ranged from 49% to 86% less than the actual COE switching investments for the Companies. I believe that is a strong indicator that the default input is generating inappropriate results for these companies.

Q. Are comparisons between model results and actual investments and expenses always an appropriate test of the model results?

A. No, not always. Since the model is developing a cost for a forward-looking network, comparisons would not be valid if the network elements being developed are of a different design than that actually being used. Since the model is generating forward-looking costs, there may be differences between the model and actual results because of differences in cost (either up or down) when actual plant was purchased as compared to the forward-looking cost of the plant. There may also be differences between costs developed by the model and actual costs because the model does not develop costs for all of the functions that a company may be performing. In making comparisons between model results and actual results, all of these factors need to be taken into account.

Q. What is your assessment of the validity of comparing the cost of central office switching equipment from the model to actual costs?

A. This is one area where I believe comparisons are relatively meaningful. If you were

to review the forward-looking technology for switching, you would find that it includes digital central office switches, both host and remote, that are generally equipped with currently required functions and features including SS7 signaling capability. If you were to review the switching equipment actually in use by the Rural ILECs, you would find digital central office switches, both host and remote, that are equipped with these features and functions. These switches include such recently required capabilities as interchangeable NXX codes, four-digit CIC code capability, intraLATA presubscription, and SS7 signaling. In addition, the Companies either have upgraded, or will be upgrading, their switches in the near future to provide features required by the Communications Assistance for Law Enforcement Act ("CALEA").

The switching equipment utilized by the Carriers is relatively new (probably on the average between two and eight years old) and has been upgraded since installation, as needed. While it is generally believed that the cost of switching equipment has been falling over time, the falling costs of hardware have been at

least partially offset by increasing costs of switching software. Overall, it is my belief that the model costs for forward-looking COE switching equipment should be relatively close to actual costs. In my mind, the significant variance between the model and actual costs for this equipment indicates that the model costs do not truly reflect the forward-looking costs of this equipment.

Q. How have you modified the default inputs for central office switching investment?

A. There are two different areas within the model that allow for the modification of switching investment, depending on the switching infrastructure used by the individual company. For companies that utilize strictly a standalone switching network, the Constant End Office Switching Investment is the appropriate input to modify. For companies that utilize a host/remote switching architecture or a combination of a standalone and a host/remote switching architecture, there are numerous fixed and per line investment inputs that must be modified. These inputs were modified for each of the Companies, as detailed in Schedules CAD-1 and CAD-2, to reflect the company=s actual switching architecture and to more closely

match the company=s actual investment in switching equipment.

Q. Have you changed any other investment inputs throughout the model?

A. Yes, as detailed in Schedule CAD-1, we have changed several of the Distribution and Feeder inputs. These changes were made to reflect the current costs of network equipment, such as: copper cable, fiber, digital loop carrier equipment, manholes and pullboxes, poles, etc.

Q. Where did these revised investment inputs come from?

A. GVNW Consulting, Inc. solicited actual purchase prices from four (4) representative telephone companies that have recently purchased this type of equipment, as well as quotes from a vendor that provides this equipment to rural telephone companies. A GVNW Consulting professional engineer then analyzed the pricing provided and recommended values for input into the model.

Q. Why have you increased the input value related to the percent of interLATA and intraLATA traffic switched at the tandem switch?

A. The default value for this input is 20%, indicating that 20% of interLATA and

intraLATA traffic is switched at a tandem switch and 80% of the traffic is trunked directly from an end office to an interexchange carrier. This input was modified to 100% for Gunnison and Manti to reflect that all of their traffic that is routed to an interexchange carrier today is routed through the tandem. This input was modified to 69% for SCUTA to reflect the actual percentage of interexchange carrier bound traffic that is routed through the tandem today. No change was made for UBTA/UBET, as the default is reflective of the current scenario.

Q. Why and how have you changed the input values related to the number of call attempts, calls completed, and dial equipment minutes?

A. These inputs were changed to more closely reflect the traffic volumes and patterns of the Rural ILECs. For SCUTA, the inputs were modified to utilize the actual volumes experienced by the company in 2001, which was the last year for which a completed traffic study was available when the model was run. For UBTA/UBET, the inputs were modified based on actual per line volumes experienced by the company in 2000. We used per line volumes because the 2000 traffic study,

which is the last year for which credible data was available when the model was run, did not include the acquisition of the UBET property. For Gunnison and Manti, the inputs were modified using SCUTA and UBTA/ UBET per line volumes as a surrogate. A surrogate was utilized because neither Gunnison nor Manti conduct annual traffic studies. As carriers who settle on Average Schedules with the National Exchange Carrier Association, neither company is required by the FCC to conduct an annual traffic study.

Q. Do you agree with the default assumptions that develop the cost of capital as indicated in Schedule CAD-1?

A. No. I believe the cost of capital assumptions in the default scenario are not appropriate. The default assumptions assume a 55% equity/45% debt ratio with a cost of debt and equity generating an overall cost of capital of 10.01%. This cost of capital is not reflective of a forward-looking cost of capital in today=s environment. As a means of increasing the cost of capital to 11.25% overall, the cost of capital used by the FCC at the interstate level, I have increased the cost of

equity from the default input to 14.15%.

Q. Why have you changed the default Corporate Overhead Factor?

A. Corporate Operations Expense encompasses the General and Administrative Expense account, Account 6720, in the Uniform System of Accounts. This account includes such activities as general management, accounting, human resources, and other administrative functions. The model develops Corporate Operations Expense as a percentage of all capital costs and operations expenses calculated by the model. Many of the components that make up the General and Administrative account are fixed in nature, such as a general manager=s salary, board of director compensation, the cost of an annual audit, etc. Due to this fixed nature of these costs and the need for every company, large or small, to meet these functions, a one-size-fits-all approach is not appropriate when looking at Corporate Operations Expenses. In addition, it is very unlikely that any of these costs are eliminated, or even reduced, in a forward-looking environment. Therefore, we have modified the Corporate Overhead Factor to yield Corporate Operations Expenses that reasonably

reflect each of the Rural ILECs= actual expenses.

Q. Why have you changed the default Forward-Looking Network Operations Expense Factor?

A. Network Operations Expense encompasses the following accounts in the Uniform System of Accounts:

Network Operations Expense	6530
Power Expense	6531
Network Administration Expense	6532
Testing Expense	6533
Plant Operations Administration Expense	6534
Engineering Expense	6535

Expenditures in these areas for small companies differ significantly from larger companies. For example, the plant administration expense account includes the cost of overall supervision of plant operations, including overall planning, developing methods and procedures, developing plant training and coordinating safety

programs. The account excludes immediate or first level supervision, which is included in the plant specific accounts. In most small companies, the second level of supervision is the company manager; consequently, most small companies have very little plant administration expense. Engineering expense is generally less in small companies than larger companies, as most engineering is performed on a specific project basis rather than of a general nature. Network administration activities in small companies do not include extensive network control facilities because their networks are limited.

In the HAI Model, Network Operations Expense is generated based on a composite level of expenses for the ARMIS reporting companies on a per line basis. The model then multiplies this expense level by the Forward-Looking Network Operations Expense factor to arrive at a final estimate of Network Operations Expense. The HAI modelers have assigned this factor a 50% value, essentially indicating that Forward-Looking Network Operations Expenses would/should be half of the current level. Their rationale for doing so is summarized as follows:

A.... these costs are artificially high because they reflect antiquated systems and practices that are more costly than the modern equipment and practices that the HAI Model assumes will be installed on a forward-looking basis. Furthermore, today's costs do not reflect much of the substantial savings opportunities posed by new technologies, such as new management network standards, intranets, and the like."

Because small companies have very different circumstances and do not have many of the systems typical in large companies, it is our belief that the types of forward-looking savings the modelers anticipated for large companies will not, nor cannot, be achieved in small companies. We are, therefore, proposing that the Network Operations Expense factor be set at 100% rather than 50%.

Q. Why have you changed the Alternative CO Switching Factor and the Alternative Circuit Equipment Factor?

A. In developing expenses for most of the plant specific expense categories, the HAI Model uses ARMIS data from around the country to develop ratios between current

expenses and investments as a basis for developing projected forward-looking expense levels. However, in the case of central office switching and transmission expense, this data is overridden by two alternative expense ratios, one for each investment category. The input levels for these items are based on a 1993 incremental cost study performed by New England Telephone Company in New Hampshire and are considerably lower than current levels experienced even by the Bell Operating Companies. The age of this data and the sample company that it was taken from are not indicative of the forward-looking costs of the Rural ILECs in Utah.

The Rural ILEC inputs are developed based on the current ratio of average expenses to investment for these expense/investment categories for the Companies. Since the type of investment included in these accounts is generally reflective of forward-looking technology, it is reasonable to expect that the ratios currently experienced by the Companies are reflective of the forward-looking costs they can expect to experience.

Q. Why have you changed the Carrier to Carrier Customer Service expense?

A. Carrier-to-carrier billing costs include the ongoing cost of responding to IXC service change requests and the cost of rendering Carrier Access Billing System (_CABS_) bills to individual carriers for their use of the local exchange network in providing toll services. These bills are rendered at an individual wire center level to each interexchange carrier, mostly on a monthly basis. With average wire center sizes for the small companies at a significantly smaller level than the average for large Bell Operating Companies, it is not surprising that the cost of this function is different for small companies.

The default input for this item is $1.69 per line per year. The actual per line per year cost was used for SCUTA and UBTA/UBET, while a four (4) company average cost of $4.50 was used for Gunnison and Manti. The average cost was used for Gunnison and Manti because their actual booked costs vary from the average, with one being greater than the average and the other being less than the average.

Q. Please describe the changes you made in economic lives for development of depreciation rates?

A. It is my understanding that for several years the Utah Public Service Commission Staff has made available a schedule of depreciation rate ranges developed on a generic basis for use by rural telephone companies within the state. The economic lives in the HAI model have been modified to reflect the lower bound of the range of depreciation rates contained in the Staff=s generic depreciation schedule.

Q. With these assumptions modified from the default values, how did you obtain results for the Rural ILECs?

A. The HAI Model was run for each of the Companies with company specific inputs. Access rate results were obtained from one of the cost detail worksheets included in the model output report file, an Excel spreadsheet.

Q. Are the rates that you have proposed to be used for the reciprocal compensation of terminating traffic in this proceeding those that were developed by the HAI Model?

A. In some cases yes, and in some cases no. In the case that the interconnection with the Rural ILEC=s network takes place at the Rural ILEC=s end office, we are proposing that the rates developed by the model should be used. However, in the situation that the interconnection with the Rural ILEC=s network takes place at the tandem, we have proposed a recalculated rate. We have recalculated this rate because of an anomaly in the model, whereby the Common Transport rate element included in the tandem switched rate is not consistent with other calculations in the model. The Common Transport rate element is calculated within the model by dividing the costs associated with common transport by a theoretical network utilization of 10,044 minutes per trunk per month. All other rate elements within the model are calculated using actual minutes of use, rather than a theoretical trunk utilization. Actual minutes of use are also used in the derivation of intrastate and interstate access rates. In order to maintain consistency and, we believe, accuracy, we have recalculated the Common Transport rate element using actual minutes of use. I have attached, as Schedule CAD-3, a schedule of the rates proposed by

the Companies.

Q. In the case of UBTA and UBET, you have run two (2) different studies and presented the results in Schedules CAD-1, CAD-2, and CAD-3. Could you explain why you ran different studies and which study you propose to use in setting rates in this proceeding?

A. I ran one study for the UBTA study area prior to the acquisition of the UBET properties from Qwest, and a second study for the combined UBTA and UBET study area. When UBTA acquired the UBET properties from Qwest, it also acquired a traffic exchange agreement with Western Wireless. The purpose of the first study was to show the forward-looking, economic of the UBTA study area prior to the acquisition of the UBET properties, which were to be governed by the traffic exchange agreement with Western Wireless. It is my understanding that Western Wireless has not been providing compensation to UBET for the termination of its traffic, in accordance with this agreement. Because of this, and due the actual operation of the combined UBTA/UBET study area, we believe that it is appropriate

to redevelop a forward-looking, economic cost based rate for the entire study are. Therefore, we are proposing to use the combined UBTA/UBET study in the determination of forward-looking, economic cost-based rates for UBTA and UBET.

Q. Do you believe that the rates that you have proposed represent the forward-looking, economic costs of the Rural ILECs?

A. Yes. I believe that the development of the proposed rates are consistent with the FCC=s rules that require that interconnection rates be set in accordance with the forward-looking, economic cost of the provider. In addition, I believe that the input modifications to the HAI Model 5.0a are representative of the forward-looking costs that would be incurred by the Rural ILECs. Therefore, I also believe that the Utah Public Service Commission should adopt the rates proposed by the Rural ILECs in this proceeding.

Q. Could you please summarize your testimony?

A. Yes. The FCC has issued rules that require interconnection rates to be developed using forward-looking, economic cost-based pricing standards. WWC Holding, Inc.

has petitioned the Utah Public Service Commission for arbitration of an interconnection agreement with the Rural ILECs, which is subject to the FCC rules discussed above. The Rural ILECs have chosen to utilize the HAI Model 5.0a in the development of forward-looking, economic cost-based pricing in this proceeding. The HAI Model 5.0a was selected for several reasons, including the availability of the model, the usability of the outputs, and the flexibility to easily modify the model=s inputs. Some of the model databases and inputs were then modified to more closely reflect the network design and cost characteristics of rural telephone companies in general, and the Rural ILECs specifically where possible. Changes to individual inputs both increased and decreased the model-derived costs of each company. The Rural ILECs are proposing to utilize the model-produced rates for interconnection at the end offices of each of the Companies. In instances where interconnection takes place at the RBOC tandem, the Rural ILECs are proposing to utilize the recalculated rates based on the actual minutes of use, rather than the theoretical network utilization for common transport. I believe that these rates are

consistent with the FCC=s rules, are reflective of the Companies= forward-looking costs, and are the appropriate rates to be utilized in this arbitrated proceeding.

Q. Does this conclude your testimony?

A. Yes.