SWBT's common cost study includes costs that are associated with access, toll and retail services and includes both regulated and non-regulated expenses. The common cost study includes some portion of executive planning expenses that have been allocated to the state of Oklahoma. During 1997 a small amount of the executive and planning expenses may have been spent on the Pac Bell merger.

There are a number of non-recurring charges ("NRC's") that are included in Ms. Smith's cost studies. In deriving these NRC's, she went to a number of subject matter experts to obtain time estimates in connection with the non-recurring activities in the studies. To the extent that the time estimates were the same across different states or the activity was the same regardless of the state in which the activity occurred, she went to these SME's once and obtained a time estimate that was used in all cost studies filed in all the different states in which SWBT operates.

Ms. Robey of SWBT prepared a Service Order Cost study which Ms. Smith is now sponsoring. This cost study applies in a manual environment and not a mechanized environment. The costs included in this cost study do not apply to any mechanized service orders. The costs associated with processing a service order include both labor costs and the costs associated with using SWBT's computer systems (CPU costs). The labor costs included in this study comprise the time that the SWBT representative takes to negotiate and type the order. Thus, the Service Order cost study includes the time for the Southwestern Bell service rep to take an order and looks at it to make sure everything is alright, types the order into the system and the computer costs associated with processing the order through SWBT's OSS systems.

In a mechanized environment, there would be no labor costs associated with all orders which flow through. For flow through orders, the only costs incurred by SWBT are the CPU costs associated with using SWBT's computer systems. Once a mechanized order generator ("MOG") is created, some portion of the orders will flow through electronically. A mechanized order generator is an electronic interface which will take an electronic service order submitted by a CLEC and electronically enter that order into SWBT's SORD system where the order will flow into SWBT's various OSS systems for further processing. Where a MOG is created, there is no need for the SWBT service representative to either type or negotiate the order and no manual intervention of SWBT will be required at all unless the order falls out for some reason. Those portions of the orders that flow through electronically, the service order study filed by SWBT would not apply. SWBT has not conducted a study to capture the TELRIC costs associated with an electronic service order. Nevertheless, SWBT has proposed and agreed in other jurisdictions to a $5 electronic service order charge. That $5 service order charge was not based upon a cost study that's been filed in this docket. If Ms. Smith were doing an electronic service order cost study, the best way to determine the costs would be to determine the percentage of fallout to which labor costs would apply and add to that your CUP costs.

In a resale environment there has not been a cost study prepared which captures the costs associated with converting a customer from Southwestern Bell to a CLEC on an electronic basis. The LSP simple conversion study that was filed assumes a manual process.

Ms. Smith acknowledged that some CLEC's such as AT&T have been provided access to SWBT's consumer EASE system to place orders electronically for resold services. Those CLEC's with access to consumer EASE will be able to process orders electronically without SWBT's involvement (unless fallout occurs). Indeed, even in a fallout situation, the order will be returned to the CLEC service representative for further processing. Thus, some percentage of fallout orders will be fixed without any manual intervention of SWBT. SWBT itself achieves 99% flow-through or 1% fallout on its orders processed through EASE.

12. Barry A. Moore

In his direct testimony in Pud 97-213, SWBT witness Barry A. Moore testified that he is Area Manager for Product Cost Development and Analysis for SWBT. In his testimony, he discussed the results of cost studies for those unbundled network elements (UNEs) associated with local loops, cross-connects, and dedicated transport. Specifically, he described the bases for these cost studies, the data sources and methodology used, and why the results reflect the minimum costs of providing those elements on a forward-looking basis.

The results of these studies are based on *Oklahoma-specific* data and facility records. In calculating the costs for UNEs, the following principles were utilized:

- Costs are based on the incumbent LEC's existing wire center locations and local network distribution routes, and employ the most efficient technology available to the network;
- Costs are attributed on a cost-causative basis. This means that costs are attributed to a specific network element when those costs are incurred as a direct result of providing that network element;
- Forward-looking incremental costs are utilized; and
- All costs associated with the UNE are included in the incremental cost.

The following forward-looking incremental cost studies were conducted to support the associated UNEs:

- Unbundled Loop Cost Study. This study identifies the forward-looking long run incremental costs (LRIC) of providing specific unbundled local loop UNEs. A local loop provides a transmission path from the SWBT central office to the customer's premises. In calculating loop investments, SWBT estimated the plant investment required to satisfy the entire demand for loops in Oklahoma. Today, there are approximately 1.5 million basic loops in service. Therefore, SWBT's cost models had to reflect the actual physical characteristics of the network, which is a forward-looking, efficient design of local facilities. SWBT utilized loop lengths as determined by wire center locations, facility routes, and the locations of customer premises. It determined how these access lines would

be provisioned, reflecting current construction costs, forward-looking fiber, and other current technologies and underground outside plant. Loop lengths were determined by random samples of actual loops in rural, suburban, and urban wire centers.

- Decibel (dB) Loss Conditioning Cost Study. This study identifies the cost to condition a loop to achieve a lower dB loss level, lower than that provided by an 8 dB loss loop. The investments required for dB loss conditioning are provided by SWBT network personnel and involve the price associated with conditioning equipment placed at the customer's premises.

- Network Interface Device Cost Study. This study identifies the forward-looking LRIC for rearrangement activities at the point of demarcation or interconnection between customer inside wiring and SWBT's loop facilities at the customer's premises. The costs associated with the resources required for NID rearrangements are labor oriented, and are, therefore, nonrecurring in nature. This study is not associated with the UNE loop studies which include the cost for NID installation and rearrangements for SWBT's UNE loops.

- Cross-Connect Cost Study. This study identifies the forward-looking LRIC for provisioning unbundled cross-connect arrangements from SWBT's Main Distribution Frame (MDF) to a facility designated by the local service provider (LSP) (*e.g.*, central office collocation arrangement or SWBT-provided multiplexer). It also identifies the cost for provisioning unbundled cross-connect arrangements to Digital Cross-Connect Systems (DCS) and switch ports. The investments associated with the unbundled loop cross-connects include the various equipment components required to provide the specific cross-connect. Mr. Moore also filed Supplemental Direct Testimony in this cause to present a recent cost study conducted to specify UNE costs for cross-connects between switch ports and facilities designated by the LSP such as collocation facilities, multiplexers or DCS.

- Dedicated Transport Cost Study. This study identifies the forward-looking LRICs to provision UNE unbundled entrance and interoffice facilities for dedicated transport. "Entrance facility" components include the investment to extend electrical or optical connections from the serving central office to the LSP's location. These investments are calculated much the same as those for the local loop: distance multiplied by the investment per foot, plus any necessary additional equipment. "Dedicated interoffice transport facility" components include the investment to extend facilities and equipment between central offices in order to send electrical or optical signals. The investment necessary for dedicated interoffice transport is calculated by

determining the fixed equipment costs at the central offices and the interoffice facility (or "line haul") costs between offices. The Dedicated Transport Cost Study also includes costing for UNE multiplexing components, transport cross-connects (to extend transport signals for SWBT's interoffice network) and digital cross-connect systems (or "DCS"). The costs for these additional components represents the respective construction costs for each.

- SS7 Link Cost Study. This study identifies the forward-looking LRIC for provisioning UNE SS7 links from SWBT's Signal Transfer Point (a packet switching device providing signaling distribution for the network) to a local service provider's collocation arrangement or to a SWBT-provided unbundled transport element. The investments for these elements represent the construction costs for the particular equipment resources required.

To perform the foregoing studies, recurring and non-recurring costs had to be determined:

- Recurring costs were developed by identifying the investment necessary to provide the functionality for the element studied. The recurring cost was then calculated by identifying capital costs (i.e., depreciation, cost of capital, income tax) and operating expenses (e.g., maintenance, administration) associated with the investment. This is a standard process widely used in cost development.

- Non-recurring costs are typically incurred only as a result of a one-time event and do not recur as part of facility maintenance. Non-recurring costs were calculated for each unbundled element study. These costs were calculated using the following steps: (i) identify the work groups involved in providing the element and their respective work functions; (ii) identify the time required to complete each work function/activity; (iii) identify the labor costs for the personnel who typically perform each work function; and (iv) multiply the time required to perform these activities by the associated labor costs adjusted to represent the planning period of the cost study as appropriate.

In his rebuttal testimony in PUD 97-213 and 97-442, Mr. Moore testified concerning SWBT's unbundled element cost studies (e.g., UNE studies that are related to the categories of Unbundled Loop, Unbundled Cross Connects, and Unbundled Dedicated Transport).

AT&T's testimony generally assumed that SWBT must provide UNEs "as is" on a bundled basis. Mr. Moore identified this improper approach and demonstrates how SWBT's cost studies comply fully with applicable law.

I. UNBUNDLED LOOP STUDIES

A. Use of Loop Length Samples

Testimony – AT&T claims that SWBT's sampling of loop lengths injects bias towards overstatement of costs. **Rebuttal** – SWBT's cost model algorithm used to develop the cable portion of loop costs is, in general terms:

Length x Investment per Pair Foot = Investment per Pair (cable)

Correct modeling of loop length is important to overall loop investment calculation. Understating or overstating cable lengths by 5% would result in a much lower corresponding overall monthly loop cost understatement or overstatement because the cable facilities only represent a portion of the overall loop cost. However, such modeling is not an issue because AT&T agreed to use the SWBT loop model for this proceeding. SWBT correctly modeled the sampled loop lengths to calculate the investment per pair. The use of 1,000 foot bands, instead of actual lengths, has been the process used by SWBT for some time and was created to simplify the calculations that involve a great number of sampled loops. The difference between using the kilofoot band algorithms from the model and the actual sampled loop lengths would be approximately 1.2% in the monthly unbundled loop cost.

B. Loop Fill Factors

Testimony – Given competition, AT&T argues that SWBT cannot be expected to continue its current utilization level. Fill factors charge today's customers with tomorrow's demand, which violates LRIC principles. Liberty recommends distribution fill factors of 44% for urban and suburban areas, and 60% for rural areas. **Rebuttal** – Use of a fill factor does not result in charging today's customer with tomorrow's demand. SWBT is required under the Act to unbundle its existing network. This existing network has an actual existing utilization which is a product of total demand, consistent with TELRIC principles. Therefore, the total current demand and its relationship to current capacity serve as the basis for the current existing network fill factor. Fill factors are not new to service costing and have been utilized, at a minimum, in telecommunication cost studies for many years. Their legitimate use, however, is to calculate the cost for the "lumpiness" in capacity that is necessary to serve a quantity of demand. As SWBT witness Dr. Lehman illustrated in his rebuttal testimony, this lumpiness is a result of purchase size availability, area movements, and geographic constraints which require placement planning in order to have capacity ready when customers request service. As demand continues to grow, so will the additional placements that are needed to serve customers in a manner that complies with the Commission's minimum service standards. If AT&T's claim regarding fill factor were to be accepted, it would mean that SWBT's placement practices should meet demand exactly as it occurs. This is not an efficient practice. It would result in absolutely no recognition of quality of service considerations or the economies inherent in larger size cables because smaller cables always would be used to meet immediate demand. Liberty's recommendation does not reflect SWBT's actual fill. Dr. Lehman's rebuttal addresses the problems associated with Liberty's recommendations regarding fill.

C. **Feeder Cable Investments**

Testimony – AT&T states that SWBT's feeder cable costs do not reflect efficient cable sizing characteristics. SWBT inaccurately calculated the cost of the equipment that connects this feeder plant to the distribution plant. Certain cables should be reflected as feeder cables instead of identifying them as distribution in the study. SWBT has produced feeder termination costs that are excessive. **Rebuttal** – The loop cost study does not assume that there is a single cable serving a distribution area that never tapers as it approaches the central office. As these underground cables approach the central office, their size increases at taper points, and the cables become larger as they are serving more than one distribution area. The studies do, therefore, reflect the scale economies that were alleged to have been omitted. Liberty concluded that no refinements were essential.

D. **Feeder - Distribution Interface Costs**

Testimony – According to AT&T, application of a Feeder/Distribution Interface ("FDI") cost for every loop is inconsistent with SWBT witness Deere's depiction of its loop configuration. Furthermore, it is not an efficient practice in all circumstances. **Rebuttal** – AT&T's conclusions, based upon its references to the Deere testimony, are misleading. In Mr. Deere's direct testimony, he describes SWBT's current loop network with 25% of its facilities that do not utilize cross-connects in the field. Based upon Mr. Deere's discussions, there is a number less than 25% (considering the buildings and campuses) that reflects current conditions excluding FDIs and this number will decrease minimally in the short run. Assuming AT&T's own logic that the study should reflect Mr. Deere's depiction of the current network, this percentage is definitely not 25%, but something less, from a short term perspective. On the other hand, the cost study was conducted in such way that it assumed that, from a long term perspective, FDI placement on facilities represents the most efficient technological choice. There is no inconsistency, save perhaps the differing perspectives, short term/ long term, that were taken.

Testimony – Regarding the engineering principles associated with the use of FDIs, Liberty deferred to SWBT's judgment. However, in its discussion regarding the relationship between feeder fill and the FDI concept, Liberty indicated that its recommended change to the feeder fill factor was "a reasonable way to make these assumptions consistent." **Rebuttal** – While SWBT would agree that the use of the FDI concept would increase the utilization of feeder plant, on average, it has not been able to determine what fill adjustment would be appropriate. Nonetheless, the concept appears to be reasonable, even though Liberty's proposed fill factor is not reasonable, as discussed by SWBT witness Lehman in his rebuttal testimony.

E. **Feeder Versus Distribution Cable Costs**

Testimony – AT&T claims that 25% of the loop plant should be adjusted so that it reflects feeder investments only. **Rebuttal** – AT&T again has misused the Deere testimony to reach the wrong conclusions. It is not logical for AT&T to conclude that 25% of the loop facilities should take on the cost characteristics of feeder cable only. This flaw is especially apparent when

AT&T's witness (Zubkus) confirmed that the cable is not feeder-only, but rather feeder and distribution facilities that simply are "hardspliced." Although Mr. Deere did state that multi-customer buildings and campus complexes are often connected using only feeder plant, he was referring to the common F1 classification of that plant and not that it was purely feeder in nature. The AT&T witness certainly could not conclude that this arrangement represents 25% of the plant in Oklahoma. The main differences between feeder investments and distribution investments are the different sizes of cables that are used as well as the amount of fill associated with each type. It is simply incorrect for AT&T to apply feeder costs to 25% of SWBT's loops because it would result in an understatement of costs.

F. Premises Termination Costs ("NID")

Testimony – AT&T claims that SWBT's premises termination costs are unreasonable and should be revised. **Rebuttal** – When SWBT conducted the unbundled loop cost study, it was assumed that the best representation of a potential customer circuit was that of a single line arrangement. However, SWBT now would agree that some weighting, although certainly not AT&T's 50%, could be made to reflect both single and multi-premises termination arrangements. Using a 50% figure would suggest that there will be an equal amount of multiline and single line terminals which would not be realistic. A more appropriate approach would be to develop this weighting on a more current assessment of multi line to single line relationships. These changes should not have significant impact on loop costs. Liberty concurs.

G. Digital Loop Carrier Costs

Testimony – AT&T recommended that the loop cost study should be based upon Integrated Digital Loop Carrier ("IDLC"), in lieu of any use of Universal Digital Loop Carrier ("UDLC"). **Rebuttal** – This attempted use of the IDLC is totally inappropriate in this proceeding for several reasons. Since IDLC bundles the loop with the switch it should not be the object of a study on unbundled elements. IDLC is not designed to work in an application that is not bundled with the switch, (e.g., to a CLEC point of access). Including only IDLC investments will ignore necessary equipment, grossly understate the cost of an unbundled loop, and certainly not reflect how the loop will be bundled. Liberty concluded that the alternative to IDLC, or the UDLC which SWBT uses, is forward looking.

H. Supporting Structure Costs

Testimony – AT&T recommends that SWBT's supporting structure (pole and circuit) costs should be adjusted. It declares that SWBT should be required to "forecast future vendor utilization" and then remove costs from the loop studies to reflect what is "already being recovered elsewhere." AT&T bases its recommendations on the assertion that SWBT already is receiving revenues from lease arrangements and should project what those revenues will be in the future. Liberty asserted that SWBT's loop cost study ignored the effects of structure sharing with other utilities, but it concluded that such changes would not significantly affect final loop costs. **Rebuttal** – The costs for support structures have been accurately calculated. The pole and circuit costs

associated with an unbundled loop amount to around 5% of the overall loop costs. When this amount is compared with the amount of leasing that actually takes place in Oklahoma, .04% of conduit duct feet, and 2.42% of pole space, it is easy to see that any attempt to reduce loop costs would be meaningless. An increase by SWBT in the amount of leasing is not anticipated. AT&T offers no evidence suggesting that revenues from leasing will change to any degree whatsoever during the contract period. With respect to Liberty's statement, structure sharing was taken into account in the cost study.

I. **Loop Studies**

Testimony – AT&T, in part, used SWBT's loop cost study to make its changes, with the exception of replacing SWBT's LPVST (Loopvest) cost model with its own model to calculate cable investments. The specific changes that AT&T made were as follows: set distribution fill to 50%; reduced FDI investments to 25%; changed 25% of distribution investment to reflect feeder cable investment; set Premises Termination to 50% multi and 50% single; and used 100% IDLC for fiber facilities. **Rebuttal** – These changes to the unbundled 8dB loop recurring costs study are unjustified as earlier addressed. They result in a significant and invalid cost reduction over SWBT's results.

II. UNBUNDLED CROSS CONNECTS

Testimony – AT&T claims that the use of intermediate distributing frame ("IDF") is not necessary to extend unbundled loops to cages and is not necessary for any other unbundled arrangements. **Rebuttal** – The IDF is a necessary component for these scenarios. The cost studies at issue must reflect the design or risk prices that are non-compensatory. Liberty agrees.

Testimony – AT&T alleges that the cross connect investment already has been recovered in the elements that connect to them. AT&T bases this allegation on its claim that: (i) the 2-Wire analog cross connect to a multiplexer plug includes a plug investment for the same plug that is included in the Unbundled Multiplexing element study; and (ii) the investment for DSX-3 appearances are included in both the Entrance Facility element and the DS3 Cross Connect. **Rebuttal** – Service plugs are not included the stand alone multiplexing studies, as exemplified in the response to AT&T's data request, Item 17 (November 18, 1997). Liberty concurs that there is not a problem (although it still is in the process of obtaining some additional information on the subject). The rebuttal to AT&T's claim regarding the investment for DSX-3 appearances is in Part III, Unbundled Dedicated Transport, infra.

Testimony – AT&T claims that IDLC technology replaces the need for physical cross connects. **Rebuttal** – The use of IDLC is not appropriate for unbundling. Assuming however, that IDLC were to be used to provision unbundled loops, this would certainly not result in the exclusion of any physical cross connect arrangement.

III. UNBUNDLED DEDICATED TRANSPORT

A. Circuit Counts

Testimony – SWBT selectively eliminated a large portion of circuits, which resulted in fewer economies of scale and higher costs. **Rebuttal** – It is critical to ensure that the appropriate unbundled element is addressed when discussing the cost methods related to circuit quantities. There is but one UNE study that requires the use of circuit quantities to develop a weighted average cost. That UNE is called *Interoffice* Dedicated Transport and it requires such a weighting because there are numerous interoffice networks that are involved that have to be weighted. The circuit count of customer traffic is only used for weighting purposes, which AT&T classifies as a "weighting mechanism." The cost study for the unbundled dedicated interoffice transport element was conducted to match the definition of that rate element, which calls for interoffice dedicated transport circuits between SWBT's offices. A different UNE rate element, Entrance Facilities, would be charged for transport between SWBT's wire centers and other wire centers owned by AT&T or its affiliates. This is where AT&T used the incorrect approach. AT&T should not have included, in the weighting process for the interoffice study, private line circuits (they do not reflect dedicated transport type circuits), SWBT company official circuits (do not reflect potential customer traffic), and, of course, circuits that were not interoffice.

Testimony – AT&T claims that SWBT did not include message circuits in its weighting calculations because it did not pull circuits that are related to the message traffic used for local and intraLATA toll traffic. AT&T further states that SWBT only included private line type circuits and that inclusion of these circuits was incorrect. **Rebuttal** – These message circuits were included and private lines were excluded. SWBT has clarified this in subsequent data request responses.

Testimony – AT&T claims that there should be many more DS3s in the Oklahoma City area than what is included in the cost study. **Rebuttal** – AT&T's study shows approximately six times the quantity of message circuits for Oklahoma City than are in SWBT's interoffice study for weighting. AT&T's estimated number of circuits is based on flawed assumptions (e.g., circuits assumed to be DS3 are really DS1 or are circuits that should not be used for interoffice dedicated transport). By contrast, SWBT's study utilizes actual data from its records that include the true amount of circuits that are transported across its network as opposed to AT&T's unsupported derived calculation. Liberty concurs. It concluded that AT&T had yet proven SWBT wrong on this issue. Nevertheless, SWBT has maintained that it would be open to updating the analysis based upon current circuits and inventory. In addition, SWBT could agree to an independent review of the circuit data being utilized with such an update, which would be more than appropriate for verification.

B. Entrance Facilities and Loops

Testimony – AT&T claims that SWBT should not have split out the circuits between its offices and AT&T's offices into an Entrance Facility Study because these facilities are really the same as those that should already be in the "Dedicated Transport Cost Study." **Rebuttal** – As with the Unbundled Interoffice

Transport cost study, the Entrance Facility cost study matches the definition of the rate element from the interconnection agreement. There is no Unbundled Dedicated Transport element study; there is a Dedicated Transport Interoffice element study, a Dedicated Transport Entrance Facility element study, as well as other Dedicated Transport element studies, just as AT&T confirms. These studies match the rate elements mapped out in the interconnection agreement.

Testimony – AT&T states that, since Entrance Facilities really are defined as loops, then all that is needed is just a loop study, which should be an Entrance Facility element. **Rebuttal** – AT&T's approach is incorrect. Under the interconnection agreement, interoffice facilities run between SWBT offices, but Entrance facilities run between SWBT offices and AT&T facilities. Even though Entrance Facilities are sometimes configured with the same type of equipment that is required for Interoffice Transport, they should not be included in the same element study. Equipment types do not define UNEs. Moreover, UNE Dedicated Transport Entrance Facilities will not be configured in a central office ring diversity arrangement. SWBT will consider such arrangements under a Special Request Process. Therefore, no study is required, nor has one been conducted, for UNE Entrance Facilities with central office ring diversity.

Testimony – Liberty indicated that there are Entrance Facilities and that there should be a price for them. **Rebuttal** – The Entrance Facility component is a valid UNE as provided for in the interconnection agreement. However, as Mr. Sparling has described in his rebuttal testimony, SWBT's UNE Dedicated Transport Entrance Facility is not provided under a central office SONET ring diversity arrangement. Therefore, there should be no cost study at issue for such an arrangement.

Testimony – AT&T claimed that SWBT's use of stacked rings might possibly result in an inefficient network. **Rebuttal** – By law, SWBT is required to unbundle its existing network, regardless of how many stacked rings it might have in place.

C. **Unbundled Transport Fill Factors**

Testimony – AT&T asserts that the high speed side of the SONET equipment used for interoffice transport should reflect a utilization that is near capacity and that the low speed side, mainly plug-ins that can be put in or taken out easily as demand requires, should reflect a 100% utilization. Its rationale for the high speed fill approaching full utilization is that factors, such as "reserve" capacity, redundancy, administration, and peak demand planning, do not impact SONET equipment, and, therefore, such equipment can be planned to carry almost full capacity. The rationale for the low speed side plug-in fill of 100% is that plug-ins can be added and removed consistent with demand. AT&T recommends the use of objective fill factors. **Rebuttal** – AT&T's recommendations regarding SONET equipment fill are not consistent with SWBT's actual fill levels. Nor are they realistic. As Mr. Deere describes in his rebuttal testimony, the high speed side of SONET equipment is, on average, seldom at or near capacity levels. SWBT's actual fill for this type of equipment is substantially less than near capacity. Low speed side plug-in units, although modular in nature, must come from a central stock. The actual fill for such plug-in stocking is 92%. Although this plug-in fill is not reflected in the currently filed cost study,

SWBT has agreed that any revised unbundled interoffice transport study should include a new and separate factor for SONET plug-ins, (e.g., low speed service plug-in equipment). The use of stacked rings does not result in the exaggerated fill levels for interoffice transport described by AT&T. The overall fill for the equipment across those rings could be any number, and furthermore, only would represent that one area, not the network on average. Objective fill factors are not appropriate for use in a TELRIC cost analysis. A TELRIC analysis for UNEs should include a reasonable projection of actual utilization. This is also consistent with the principle of attributing shared costs and spare capacity to the greatest extent, which, as Dr. Lehman has described in his direct testimony, is consistent with TELRIC principles. In TELRIC studies, using objective fill factors as surrogates, when actuals are not obtainable, typically will result in conservatively lower cost estimates than what is required. However, on average for the different types of network components, the use of actual fill is consistent with TELRIC principles.

Testimony – Liberty claimed that actual fill factors are only appropriate in a TELRIC study if SWBT could demonstrate that such fills are "optimal," which it did not. Liberty also recommended that SWBT use objective fill factors. **Rebuttal** – Actual fills are appropriate in a TELRIC study and represent a reasonable projection of actual UNE component utilization. In addition, there is no evidence to support that SWBT will achieve such objective fills for electronics and fiber, which is a valid question for this exercise.

D. Other Transport Issues

Testimony – AT&T witness Klick asserts that SWBT's ring designs are inefficient in that the smaller rings are not designed properly, which drives up the cost of transport. **Rebuttal** – Mr. Klick references purported excerpts from AT&T witness Turner's testimony using "straight forward analyses" to determine optimum ring sizes. However, no reference is made by Mr. Turner that address any such "small ring" issue or analyses. Furthermore, the costs developed for Unbundled Dedicated Transport are based upon SWBT's existing network which it is required to unbundle.

Testimony – AT&T claims that SWBT's transport studies should be adjusted to reflect for the rounding up of the rate of the next whole mile. If this is not done, AT&T will be required to overpay for unbundled interoffice transport. **Rebuttal** – The agreement between SWBT and AT&T was that the mileage rate would be rounded to the next whole mile. SWBT's cost model reflects the unbundled rate element, in essence, this per-mile structure. Liberty saw no reason to "nullify" the AT&T/SWBT agreement. Nor did it make "rounding-up" an issue in this proceeding.

Testimony – AT&T indicated that SWBT inconsistently multiplied the DS3 count by 28 for the DS3 interzone elements. **Rebuttal** – AT&T is correct in this regard and the study would need to be re-weighted in this zone to be consistent with the weighting conducted in other zones. However, there is no reason to make any revisions at this juncture because it likely would have only a minimal impact on DS3 costs.

E. **Unbundled DCS Costs**

Testimony – AT&T asserted that the DCS costs have been calculated incorrectly by applying an incorrect capacity for the DS1 calculation. In addition, it contends that the multiplexing included in the DCS cost calculations also have included an incorrect capacity. **Rebuttal** – With regard to the DSC DS1 capacity, AT&T is correct and the study should have utilized a different capacity of 28,672 instead of 7,168. However, the assertion that the multiplexing component of the DSC study should utilize a large capacity is incorrect, as Mr. Deere discusses in his rebuttal testimony. Liberty indicated that the studies should be conducted using the appropriate values.

F. **Unbundled Multiplexing Costs**

Testimony – AT&T asserts that SWBT's study has double counted power and sales tax expenses through the application of cost factors in two places instead of one. AT&T contends that, since its intention is to purchase the whole capacity of the multiplexer, then the use of a fill factor for this element that is anything but 100% is inappropriate. Liberty takes a fairly similar position regarding the multiplexer by requesting an additional option that contemplates full purchase. **Rebuttal** – AT&T is correct in asserting that the Multiplexing study double counts the power and sales tax expenses. This error would need to be corrected. The cost study has been conducted under the assumption that AT&T will not be purchasing the whole capacity of the Multiplexer. To date, AT&T negotiators have not requested this element on a total capacity basis. If a multiplexing study were to be conducted under the presumption that the CLEC would purchase the total capacity, then simply changing the fill factor would not be enough. The investment basis, currently a portion of the multiplexer, also would have to be revised to the total amount. Furthermore, the concept of purchasing this element at 100% is only valid if the UNE is available on that basis. Therefore, the preparation of an additional study only would be applicable to the extent that there is truly an additional element being offered as described.

G. **Unbundled Transport Cross Connects**

Testimony – AT&T asserts that SWBT has included, in its Dedicated Transport Cost Study, the investment for "both ends at a DSX-3," which is the panel at which jumpers are run to connect DS3 circuits to a connecting component. Doing so recovers the cost for the DSX-3 arrangements and therefore there is no need to include these investments in any DS3 Transport cross connect element. **Rebuttal** – AT&T is correct that "both ends" of the DSX-3 are included in the Entrance Facility Element (or what it describes as the Dedicated Transport Cost Study). However, to conclude that, "in every case, the recurring cost associated with equipment is duplicative" is not valid. The conclusion that should be drawn is that SWBT's Entrance Facility study, if modified for this small change, could remove one of the DSX-3 appearances. The conclusion that should not be drawn is to remove the cross connect element in its entirety, as AT&T infers, because doing so will not reflect the true arrangement and will result in unrecovered investment in the study.

IV. ADDITIONAL NONRECURRING ISSUES

A. Different Loop Technologies

Testimony – AT&T asserts that IDLC-303 provides the ability to cross connect loops on a virtual basis, requiring no physical cross connect. **Rebuttal** – This type of switch-integrated technology is not efficient or appropriate for unbundled loop provisioning. It is not to be used for unbundling.

Testimony – AT&T witness Segura claims that an "electronic cross connect" resulting from IDLC is appropriate for loop and port combinations. **Rebuttal** – Mr. Segura states that the "most efficient and non-discriminatory method to provision a loop and port combination is to treat the new entrant the exact same way as SWBT provisions its own customers; that being, [an] electronic cross connect." What is apparent is that the main reason for AT&T's choice of such an integrated technology is to obtain network elements "as is." Cross connects that should be at issue herein are unbundled cross connects and not those that have anything to do with combining any elements. Liberty recommends a 75/25 split between UDLC and IDLC, which, for the same reasons, is unjustified.

Testimony – AT&T witness Segura alleges that SWBT's use of an intermediate distributing frame to connect to a collocation presence is unnecessary and instead recommends the use of a single frame. **Rebuttal** – As Mr. Deere describes in his rebuttal testimony, this is the efficient choice of planning for the connection to the CLEC. The study should reflect the configuration that will be used. Liberty agrees.

Testimony – AT&T alleges that SWBT was not able to establish what type of equipment was being provided to accomplish conditioning, and therefore, the cost of this element should be eliminated. **Rebuttal** – Mr. Segura confirmed that there is some type of equipment that is required to accomplish this conditioning but yet elects to eliminate any associated cost. The equipment that is identified in this study is called STE (Station Terminating Equipment) and the purchase price for this equipment serves as the basis for the recurring cost development for dB Loss Conditioning.

Testimony – AT&T asserts that the nonrecurring costs for transport did not include DCS and EDSX equipment combinations that would allow for remote installations. Liberty agrees. **Rebuttal** – As Mr. Deere has described in his rebuttal testimony, these are not the appropriate arrangements to be considered. There simply is not any support that AT&T systems should be used in lieu of those used by SWBT.

B. Unbundled Loops and Design Circuits

Testimony – AT&T has claimed that SWBT has classified loops as "design" circuits and that it, therefore, has included manual costs that are not necessary. Liberty concurs. **Rebuttal** – AT&T has reiterated in numerous cases that SWBT classifies its unbundled loops as design loops, which is a complete mischaracterization of what is really at issue. The cost studies in this proceeding do not treat unbundled loops, in this case 2-Wire analog loops, as true design circuits, per se. What the studies do reflect, however, is that the

processes and systems that are used to provision the unbundled loop are different than those used for POTS service. Again, as Mr. Deere describes in his rebuttal testimony, these systems are required because unbundled loops cannot utilize the same systems as used for POTS. The pure "design" activity that is performed on the 2-Wire analog 8dB loop, which generally includes the determination of equipment needs, is less than 2 minutes, as opposed to a DS1 circuit that requires substantial design work. Thus, it is really a mischaracterization to infer that this type of loop is full of unnecessary design work and is a "designed service."

C. **Where Nonrecurring Functions Are Included**

Testimony – AT&T implies that the loop cost study duplicates service order costs that are in the Service Order study. **Rebuttal** – This is an incorrect assumption. Spreadsheets, which are part of the study, support SWBT's position. The service order activity is simply not duplicative in the loop cost study. Service order "related" costs included in the loop study are appropriately accounted for in that study.

Testimony – AT&T implies that tariff charges, or Central Office Access ("COA") charges, have been applied in this proceeding. **Rebuttal** – This is not the case. It is most likely that AT&T witness Segura is referring to some other proceeding in another jurisdiction where some separate tariff charge may have been applicable.

D. **Installation and Maintenance**

Testimony – AT&T claims that I&M functions should not be attributed to 8dB loops because they are not necessary for Total Service Resale and loop port combinations. **Rebuttal** – UNE combining or reselling of tariffed services should not be the subject of unbundled element cost calculations. The cost characteristics of I&M functions and their relationship to resale or combining has not been presented in this proceeding and is not at issue. In addition, Mr. Segura later confirms that I&M activity is required.

Testimony – AT&T witness Segura also claims that, since field plant is already in place, then there will be no activity required for I&M "when the end user becomes a customer of the CLEC." **Rebuttal** – This is a duplication of Mr. Segura's previous argument involving conversion or resale scenarios. On the contrary, the cost study should, and does, reflect a reality that field work will be required a certain percentage of the time.

E. **Support For Nonrecurring Time Estimates**

Testimony – AT&T witness Segura contends that there is a lack of information supporting SWBT's cost studies (e.g., no record of what information was provided to the individuals who were involved in estimating the time spent on the various provisioning activities). Liberty had similar concerns. **Rebuttal** – The individuals that lend assistance on these time estimates are, in many cases, given requests for specific time estimates. Requests and replies in other areas also have been documented. In addition, these individuals are members of SWBT product teams that address the requirements for the services and

elements for which studies are required. SWBT forwarded AT&T considerable nonrecurring input support for its cost studies. SWBT provided AT&T with documentation of activity resources and times. This level of detail is in stark contrast to the AT&T process used to analyze SWBT's proposal, which was developed by few individuals, and communicated in a haphazard, mostly verbal, manner. In addition, Mr. Segura indicated that many of AT&T's numbers actually are default values that reflect an unidentified national average.

F. **Time Estimate Levels**

Testimony – AT&T claims that SWBT's loop cost study includes travel to the central office in all cases. **Rebuttal** – In SWBT's unbundled loop cost study, central office trip costs reflect a staffed and non-staffed scenario. SWBT therefore does not assume that a central office trip is required every time. The SWBT study only recognizes the probability (less that 100%) that travel time will be required.

Testimony – SWBT, according to AT&T, unnecessarily includes the cost for test shoes in its cross connect studies. **Rebuttal** – Nowhere in the cross connect studies filed in this proceeding has the cost for any such "shoes" been included.

Testimony – AT&T complains that SWBT does not include the appropriate labor rates for cross connect activities in its studies. A Craft 1 employee labor rate should be used in the study to calculate the activity cost instead of a frame technician's labor rate. **Rebuttal** – Frame technicians include several types of specific technician classification. For example, Frame Attendants are used to conduct work at the frame and are classified as Craft 2. However, Communications Technicians are also utilized at the frame, as described by Mr. Deere in his rebuttal testimony. These technicians utilize a Craft 1 assignment.

Testimony – AT&T claims that SWBT's Special Service I&M technicians are paid a higher wage rate than their counterparts in I&M. **Rebuttal** – By contract, both Special Service (Systems Technician) and Customer Service Technicians are paid at the same labor rate which is a Group 1 craft.

Testimony – AT&T claims that SWBT's studies should be revised to reflect 15 minute increments instead of 30 minute increments for travel time. **Rebuttal** – The 30 minute travel time is supported and reflects what is required on average. In addition, AT&T did not even utilize 15 minutes in its cost study, but instead applied its 2% to that figure.

G. **Disconnect Costs**

Testimony – AT&T states that nonrecurring disconnect costs should be modeled separately. Liberty agrees. **Rebuttal** – Outside of addressing how disconnects are priced, Liberty's basis was one that considered combinations and not the unbundled elements that are at issue in this proceeding. Decisions on disconnect activities included in unbundled elements should not be made based upon arguments that are irrelevant to unbundling.

H. Additional Comments Regarding Liberty's Nonrecurring Recommendations

Testimony – Liberty recommends that the nonrecurring unbundled loop component costs, I&M and CPC, be set to zero for all loops, with the CPC category cost moved over to cross connect elements. In addition, for cross connects, it implies that the "loop/port combination" cross connect be addressed separately from the "loop/cross connect" scenario. **Rebuttal** – With regard to CPC, the elements at issue should not be loop/port combinations as the studies should reflect UNEs and not combinations thereof. In addition, for unbundled loops, the movement of CPC to the cross connect elements presents a problem in that such activities are applicable to the loop element, not to cross connect elements. Regarding I&M, Liberty improperly assumes that a UNE loop is to be installed and working. Mr. Krafcik is correct that 2% should not be applied to what he describes as "loop/cross connect." However, any "loop/port" combination should not be at issue, and his 2% recommendation for such a combination should be moot. Mr. Krafcik's recommendation, to multiply travel/dispatch by 2% of the "loop/cross connect," is incorrect as this does not approximate the SWBT percentage dispatch, which has been documented at a higher percentage. It was not apparent what Mr. Krafcik was referring to when he described his confirmation that plug-in activities were included in recurring elements. The Craft 2 recommendation for frame activities is unacceptable. Using AT&T's SSC times is troublesome because it does not include any SSC test time for 2-Wire analog loops. Without testing, quality cannot be ensured. The recommendation to multiply the cross connect cost by 75%, or reduce it by 25%, is not appropriate for unbundling, as IDLC should not be included in a study that should address unbundling and not integration (or bundling) with the switch.

Summary of Cross-Examination of Barry A. Moore

Mr. Moore sponsored a number of studies in this docket including the unbundled loop, unbundled transport, and cross-connect studies. Mr. Moore also sponsored many of the non-recurring changes proposed by SWBT. Mr. Moore acknowledged that the cost studies he is sponsoring must comply with the requirement of the Federal Telecommunications Act and the requirements of the Oklahoma costing rules. Consequently, these cost studies muse be based on forward-looking technology. Mr. Moore's understanding of forward looking technology for purposes of a LRIC cost study is existing technology, currently available and is efficiently deployed. Mr. Moore claimed that the cost studies that he is sponsoring are TELRIC studies. A TELRIC study requires you to use the least cost, most efficient technology currently available. Based upon this understanding of a forward looking cost study, Mr. Moore assumed that, with the exception of the quantity of fiber in loops and the percentage of IDLC, the current configuration of SWBT's network satisfied the definition of a forward looking study. All such equipment could, in his opinion, be included in a LRIC study that complies with the Oklahoma costing rule. In performing his studies, Mr. Moore did not analyze whether there was more efficient or less costly equipment available to replicate the services being provided by SWBT unless his engineering group told him that they had plans to replace their equipment. Consequently, Mr. Moore believes it is all right to use old equipment in a forward looking TELRIC cost study. Mr. Moore believes the Commission in Oklahoma has required SWBT to produce cost studies that require SWBT to reflect its

network as it exists today. In performing his cost studies, he included all of the technology currently available in SWBT's network.

In the loop studies sponsored by Mr. Moore, if the length of the loop was greater than 15,000 feet, Mr. Moore assumed fiber and digital loop electronics across the entire feeder portion of the loop. Mr. Moore did acknowledge that SWBT does have some loops greater than 15,000 feet where copper is provisioned over the feeder portion of the loop. He did not perform and is not aware of any analysis to look at the cost of provisioning fiber over 15,000 feet of feeder, as compared to copper over 15,000 feet of feeder.

Cable coming out of the central office is called the feeder cable, while cable on the other side of the FDI is called distribution. The cable does not necessarily have to go through an FDI to transform from feeder to distribution. If there is an FDI or cross-connect box at the location, feeder cable is generally found on the central office side of the FDI or cross-connect box and distribution cable is generally found on the other side of the FDI or cross-connect box. There are loops in Oklahoma today that are configured in a fashion that do not have a cross-connection or FDI box. About 25 percent of the loops are configured in that fashion in Oklahoma. In his loop studies, however, Mr. Moore assumed that 100 percent of all loops will be provisioned with an FDI.

In performing all of his studies, Mr. Moore did not include any demand growth in the study. Rather, he only incorporated total current demand as of 1996. Mr. Moore is aware that Southwestern Bell performs demand forecasts and demand growth analyses. He did not incorporate any of this information into his cost studies.

The fill factor that Mr. Moore used in the loop studies is approximately 30 percent for distribution. In performing the loop studies, he determined the investment per pair and divided that investment by the fill factor so that the study incorporated all existing spare capacity. For example, in Zone 1 the loop investment for distribution is divided by .32 which has the effect of multiplying the investment by three because the investment is divided by a fraction.

When Southwestern Bell deploys facilities for a planned neighborhood, it deploys distribution for the entire neighborhood. Roughly one-third of the distribution is being utilized throughout SWBT's entire network today. Mr. Moore included the application of a fill factor in order to calculate the cost of the loop on a per line basis. By including a fill factor, the cost per line includes the cost of SWBT's unutilized capacity.

In Zone 1, Mr. Moore utilized a .32 fill factor. He assigned all of the costs associated with his utilized lines to all of the lines in Zone 1. For Zone 1, Mr. Moore captured the costs of the unutilized lines and assigned that to the cost per line.

The rate that SWBT is proposing for loops in Zone 1 is approximately $49.30. That rate includes costs for both utilized and unutilized capacity. Thus, AT&T is paying for a portion of SWBT's unutilized capacity when it purchases that Zone 1 loop.

Mr. Moore acknowledged that he has not assumed any feeder only loops in the studies. Southwestern Bell's network distribution cables have a maximum length of 12,000 feet. Mr. Moore admitted, however, that SWBT's responses to RFIs indicate that some loops in the study had a maximum distribution length of 29,000 feet.

In the loop studies, SWBT used an internal model called LPVST. In general, LPVST takes loop lengths and assigns them to different "buckets". More specifically, it takes actual sample loop lengths and assigns them to what are called kilofoot band groupings as opposed to actual loop lengths. All loops within that grouping are then assigned the length of the grouping and not assigned their actual length for pruposes of determining cost in the cost study.

In the loop studies, Mr. Moore assumed 25 percent integrated digital loop caller ("IDLC"). This information was obtained from the network organization.

In the loop studies Mr. Moore has included the cost of the network interface device ("NID"). The NID is a box which sits on the side of your house that connects the loop to the inside wiring of the customer premise. In calculating the cost of the NID, SWBT developed that cost based on the number of pairs or drops that will terminate into the NID. In the studies Mr. Moore assumed 15 percent single pair drops and 85 percent two-pair drops.

With respect to the outside plant that was used in the loop studies, Mr. Moore took the existing configuration of buried, underground and aerial plant and used that existing configuration. He did not perform any analysis to determine how that plant would be provisioned today.

Mr. Moore performed a cost study to determine the nonrecurring charges associated with the loop to switch port cross-connect. This study includes the labor costs necessary to run the cross-connect jumpers, as well as some testing of the loop after the cross-connect has been performed and some dispatch. Mr. Moore acknowledged that when an existing customer migrates to a CLEC such as AT&T, the jumper wire is already in place to connect the MDF to the switch port. In his cross-connect study, however, Mr. Moore assumed that jumper wire would be disconnected, reconnected and then tested. Indeed, Mr. Moore admitted that the testing is only necessary because the wire has been disconnected. The type of testing that is included in the study is called MLT testing. Mr. Moore has assumed in 100 percent of the times in the study that there will be a disconnect and a reconnect. Also has assumed in 100 percent of the time that there will be MLT testing.

In loop nonrecurring costs, Mr. Moore has assumed that 100 percent of the loops will be provisioned through the circuit provisioning center ("CPC"). He also assumed in the study that 56 percent of all orders provisioned through the CPC will fall out and require manual processing by SWBT before the order can be completed.

Mr. Moore has reviewed the testimony of AT&T witness Steve Turner that has been filed in this case. In some instances, he agrees with proposals or changes that Mr. Turner is recommending to the transport studies. For example, Mr. Moore now admits that the completed 26 percent fill factor for the low side equipment

that was used in the study is wrong and should be changed. SWBT now admits that the appropriate fill factor for this equipment is 92 percent. Mr. Moore also acknowledges that the transport studies should only include DC3 circuits in the DS3 study, and not the surrogate count that was used in the study be sponsored. Mr. Moore also admits that the common transport cost studies should be restated to use updated DSI dedicated transport investments. Mr. Moore also agreed with Mr. Turner to use 100 percent fill factor for DS3 and DS1 multiplexing equipment in those cost studies. None of these changes has yet been made in the SWBT cost studies.

Mr. Moore was generally aware of the stipulated rates in the agreement reached between Southwestern Bell and Cox. Mr. Moore reviewed the transport rates that are included in that agreement. Mr. Moore could not say whether or not the prices that are in that agreement are above or below the rates that would be generated by rerunning the study to include the changes that have been discussed.

In the DS3 cost study, Mr. Moore assumed a DS3 for every 28 DS1s. Mr. Moore claimed that they had to make that assumption because with the DS3s that they included in the study, there was not enough to obtain a valid weighting. SWBT didn't pull enough DS3s to perform the studies with DS3 information only. Therefore, he used theDS3/DS1 weighting as a surrogate. In the dedicated transport studies, SWBT has assumed a SONET ring technology. Mr. Moore explained what information he would include in his cost study in a hypothetical situation in which SWBT has a SONET ring that includes central offices which are marked as C, D, E, F and G. If, for instances, you wanted to get traffic from Southwestern Bell's central office A to Southwestern Bell's central office F, the cost information that he would include in COSTPROG would include the ring costs for both fiber and equipment for both your OC 12 ring and your OC 48, a network access cost, and a certain interconnection cost at point C. There is no other circuit information that would need to be included in COSTPROG to establish the unit cost to get from A to F in this example.

If you wanted to change the ring up and instead of having an OC 12 ring, you just had one central office. In terms of what you enter into COSTPROG, it would be the same information discussed above. You would enter in the fiber ring cost and the equipment ring cost for both rings. If, however, instead of office A being a Southwestern Bell central office, it is an AT&T POP and all other information remains the same, Mr. Moore admitted that while SWBT could enter that information into COSTPROG, he would not do so, even if the AT&T POP is connected to the SWBT SONET equipment. Mr. Moore admitted that he could use COSTPROG to develop transport costs from an AT&T POP to a SWBT central office and that the information that would be entered into COSTPROG would be the same as that entered to determine transport costs between SWBT's central offices, but he chose not to use COSTPROG for this cost study. If Mr. Moore wanted to use COSTPROG to derive those costs, he would enter into COSTPROG ring costs for fiber and equipment, the network access costs and the interconnection costs. The only reason that he did not determine these costs through COSTPROG or because SWBT decided to call these costs Entrance Facilities where costs should be developed in a different manner. Mr. Moore did not include in the dedicated transport study DS3s that exist in this network today between a Southwestern Bell central office and any IXC POP.

Mr. Moore admitted that in some instances it is appropriate to use an objective fill factor as a surrogate for actual fill. For example, Mr. Moore used objective fill factors for purposes of DCS and multiplexing equipment used in his cost studies.

13. Mike Michalczyk

In his rebuttal testimony in PUD 97-213 and 97-442, **SWBT witness Mike Michalczyk** testified that he is an Area Manager-Network I/M Operations for SWBT. His responsibilities include network operations support of designed and non-designed installation and maintenance ("I/M") services and cable repair. Mr. Michalczyk also has related responsibility over new products, services and technologies development.

Testimony – OCC Staff witness Krafcik and AT&T witness Segura suggested that the time/activities study detail for SWBT's UNE nonrecurring cost studies was inadequate or unsupported, that no effort was taken to verify the results, and that no documentation supports the results. **Rebuttal** – Mr. Michalczyk assisted in preparing the data request packages used to develop nonrecurring cost studies for Private Line and Special Access Services and for UNEs underlying these types of services (e.g., metallic 8dB loops, DS1). The facility types covered range from simple metallic services to optical service. Each service type was separated into logical sub-tasks, with each task defined by beginning function, work activity and ending function. The data requested for each sub-task included the level of the person who normally performs the activity and an estimate of time to perform the activity. Mr. Michalczyk prepared these definitions, along with the assistance of two other managers also skilled in this area, to delineate the precise activities that would accompany each element.

SWBT verified previously collected time estimates for nonrecurring UNE cost studies. Time estimates for specific [underlying] UNE facility types and services (particularly those on the "sub-task" lists) were identified. The time estimates were developed by experienced SWBT staff who are responsible for the areas involved. They all are reflective of an "average skill level" of the technicians who will do the work. The SWBT work force is made up of employees with varying levels of experience and time on the job. Time estimates are reflective of that variance and are targeted for an average work time.

Summary of Cross-Examination of Mike Michalczyk

Mr. Michalczyk verified time estimates previously submitted to the SWBT cost study group for private line and special access services. He admitted that there can be more time involved in provisioning private line and special access services compared to provisioning 2-wire POTS loop service.

For Oklahoma, the SWBT cost study group asked Mr. Michalczyk to verify certain time estimates that were previously submitted in another jurisdiction for a private line and special access non-recurring cost study. Mr. Michalczyk had participated in the prior cost study, which encompassed all five states in SWBT's territory. For the Oklahoma private line and special access cost study, SWBT used the time estimates from the prior five-state study without any changes. With regard to the prior five-state study, the cost study group did not specify

to Mr. Michalczyk what type of technology to assume in providing the time estimates.

For the Oklahoma study, Mr. Michalczyk did not verify the time estimates against the SWBT Work Force Administration computer system, which is used for automated scheduling purposes. The Work Force Administration system gives a broad estimate of the time it takes to perform a particular function.

Mr. Michalczyk simply relied on the field foremen and his own judgment for the reasonableness of the time estimates. Some of the testing functions for which time estimates were supplied can be performed electronically. For example, the soak test is computerized, and the technician can perform other tasks while the soak test is running. Mr. Michalczyk cannot verify whether efficiencies like this were taken into account in his time estimates or the cost study.

14. Ronald F. Huelsing

In his direct testimony in PUD 97-442, SWBT witness Ronald F. Huelsing testified that he is Director-Product Management (Public Safety) for SBC Communications, Inc. In his testimony, he explained SWBT's 911 Emergency Number Service and presented proposed prices to be charged to CLECs for interconnection with that system. Attached to his testimony was Exhibit A, which is a list of prices proposed in this docket with the 911 prices shaded.

SWBT maintains a 911 Emergency Number Service. This service is provided to governments or their agents that have a public safety responsibility to respond to emergency police and fire calls within the 911 service area. SWBT's customer under these arrangements is the public safety agency that is responsible to receive the emergency calls. Rates are now charged according to SWBT's general exchange tariff. Under these arrangements, SWBT is the host system for numerous other telephone companies and some private switch providers. Interconnection rates for these carriers are established by the general exchange tariff.

SWBT proposes to offer interconnection to its 911 systems to CLECs at prices which are based on the same rates SWBT currently charges for interconnection under its tariff. There is a monthly rate and a non-recurring charge (1) for each 911 trunk connecting the CLEC network to the SWBT network and (2) per 1,000 exchange access lines in the CLEC's service area.

In his rebuttal testimony in PUD 97-213 and 97-442, Mr. Huelsing responded to complaints from Mr. Flappan that the nonrecurring charge for 911 service will have some adverse effect on market entry. Mr. Huelsing pointed out that SWBT proposes here that CLECs should be billed for interconnection to the 911 network using the same rate methodology applied to other telecommunications companies which now interconnect with that network. These methodologies are based primarily on labor costs. Furthermore, the charges have been approved by the appropriate regulatory bodies as part of legitimate costs to be recovered in SWBT's tariffed offerings.

The charges proposed here are necessary to cover SWBT's cost. Whether they have an impact on competitive entry to AT&T or others is simply not relevant.

15. David D. Clippard

In his direct testimony in PUD 97-213, SWBT witness David D. Clippard testified that he is Area Manager - Product Management for Southwestern Bell. In his testimony, he explained how the company developed prices for query access to the Line Information Data Base (LIDB).

LIDB is a transaction-oriented database system, providing centralized data storage and retrieval. It contains records associated with subscriber line numbers and special billing numbers, and it can process a high volume of queries very rapidly.

There are two types of queries handled by LIDB. The first is referred to as a Validation Query. These are queries to validate requests for calling card, collect and third number billing. These services are offered to operator service providers to allow the end user to bill calls to accounts that may not be associated with the originating line. Validation queries allow the operator service provider to determine whether the customer's request for alternate billing is allowed on the account to be billed.

The second type of query to LIDB is referred to as a CNAM Service Query. This query relates to the calling name (or "CNAM") associated with the calling line. When such a query is made, LIDB obtains the name associated with a calling line and other line-specific information to provide services like Caller ID.

For LIDB usage, SWBT proposes a bifurcated price structure. Each query will have (1) a per-query charge and (2) a per-query transport charge. This bifurcated price structure is the same structure SWBT already uses for LIDB Validation Queries and CNAM Service Queries for IXCs and other telecommunications companies. In 1991, the FCC concluded that a single rate element for query access to LIDB was not optimal. The two charges in the price structure proposed here are explained as follows:

- The per query charge. This charge is for use of the database and related equipment. There is a different per query charge for Validation Queries on the one hand and CNAM Service Queries on the other. The differences are based on (1) different apportionment between the per query and per transport charge and (2) fraud detection costs which were included in Validation Queries, but which were not appropriate for CNAM Service Queries.

- The per query transport charge. The per query transport charge relates to the transport of a query on the signaling network from the Signaling Transfer Point (STP) to the Service Control Point (SCP) where LIDB resides. It is the same for both Validation Queries and CNAM Service Queries.

In addition to the LIDB usage charges described, there are also nonrecurring charges for service order and point code additions.

Line Validation Administration System (LVAS) is a SWBT-owned and operated software application responsible for all LIDB administrative functions.

Telecommunications companies that store data in LIDB enter their information first into LVAS, which then updates LIDB. The FCC defines LVAS as Service Management System (SMS) which allows competitors to create, modify, or update information in call-related databases. In a change from its filings in the AT&T arbitration proceedings, SWBT has eliminated independent prices for LVAS and includes these LVAS costs in LIDB usage prices.

Sleuth is an adjunct fraud detection system SWBT uses to monitor fraud on alternately billed calls. Sleuth receives output from LIDB on every Validation Query received. Sleuth performs profile analysis on this output to identify occurrences needing investigation. Both SWBT and non-SWBT fraud investigators use Sleuth output reports to investigate and resolve potential fraud occurrences.

Summary of Cross-Examination of David Clippard

Mr. Clippard testified that the market penetration for the Caller ID feature in Oklahoma is between 40% and 50%. This is important because elsewhere, SWBT assumed that CLECs would achieve 100% Caller ID penetration in their octet per call calculation.

Mr. Clippard proposes a price for the use of certain SWBT computer systems called LVAS, Sleuth and LIDB. Mr. Clippard does not know that the expenses associated with these computer systems are recovered by SWBT in other cost studies by se of the support asset factor.

16. L. Bruce Sparling

In his direct testimony in PUD 97-213, **SWBT witness L. Bruce Sparling** testified that he is Director-Competitive Assurance for SWBT. In his testimony, he addressed SWBT's proposed prices for a number of UNEs, including Loops, Cross-connects and Multiplexing. He also described each UNE, the associated rate elements and the pricing methodology.

This Commission has established cost and pricing standards for setting UNE rates in recent ratemaking proceedings. Pursuant to OAC 165:55-17-27(a), UNE prices:

- shall be based on the cost of providing the network element, determined without reference to a rate-of-return or other rate-based proceeding;
- shall be nondiscriminatory; and
- may include a reasonable profit.

To determine UNE prices that comply with these Commission requirements, SWBT conducted forward-looking economic cost studies using forward-looking long run incremental costs (LRIC). In addition, SWBT developed a common cost allocator that results in a reasonable allocation of common costs to each UNE.

Consistent with historical regulatory practices at this Commission, SWBT proposes a rate design that is based on three separate geographic zones to

recognize that costs vary geographically across the state. These zones are referred to as Rural Zone, Sub Zone and Metro Zone.

SWBT's Local Exchange Tariff uses six rate groups based on geographic zones. In this docket, the Commission could order one state-wide zone for UNE pricing, but that would result in no de-averaging of rates at all. The higher-cost rural elements would cost the same as the lower-cost urban elements. On the other hand, SWBT recommends against six zones for UNE rates because that would cause too much disparity with SWBT's retail tariff rates, which have been set in *inverse* relation to costs. Inefficient competitive entry would result in such a case. LSPs could enter only the lower cost urban areas of the state and successfully compete with SWBT's higher retail prices there, even if the LSP were a less efficient provider than SWBT.

In the AT&T Arbitration case, the Arbitrator used the same rate zones for certain interim rates as proposed here. SWBT's forward-looking economic cost studies for UNEs were conducted as to these three zones so that unbundled prices could be developed on a geographically de-averaged basis. Of the UNE prices presented by Mr. Sparling, discernable geographically-based cost differences were found only as to unbundled loops and dedicated transport.

Testimony in this proceeding submitted by Barbara Smith (including the testimony of Linda Robey that Ms. Smith adopted) and Barry Moore identified recurring and nonrecurring UNE costs. SWBT proposes rates to recover each cost separately as recurring or non-recurring prices. These witnesses also identified both monthly recurring costs and usage sensitive costs. SWBT proposes rates that will recover these costs in the manner in which each is incurred: monthly recurring prices to recover monthly recurring costs and usage sensitive prices to recover usage sensitive costs.

Generally, SWBT's proposed UNE rates were developed by: (i) rounding the results of these witnesses' forward-looking economic cost results; (ii) allocating common costs to the nearest $.05 for monthly recurring and nonrecurring charges; and (iii) truncating the forward-looking economic cost results at the sixth decimal place for elements charged on a per minute-of-use (MOU) basis. This rate proposal gives SWBT an opportunity to earn a reasonable profit.

Mr. Sparling's testimony described the following UNEs, which SWBT will offer:

- Network Interface Device (NID);
- Unbundled Loops;
- Loop Cross Connects;
- Dedicated Transport;
- Dedicated Transport Cross Connect;
- Digital Cross-Connect System;
- Multiplexing
- Toll Free Database;
- AIN; and
- Dark Fiber.

Mr. Sparling described how the proposed price for each of these UNEs was determined. The chart attached to Mr. Sparling's testimony as Exhibit A summarized these pricing methodologies. The chart attached to Mr. Sparling's testimony as Exhibit B listed the prices proposed by SWBT for all UNEs; the prices sponsored by Mr. Sparling are shaded on such chart.

In his rebuttal testimony in PUD 97-213, Mr. Sparling dealt with and rebutted a number of issues concerning the testimony by AT&T witnesses, as follows:

- SWBT has conducted separate cost studies to support its proposed price for installation and for disconnection of service. AT&T acknowledged this, but objected to SWBT's proposal to recover both charges at the time of installation. This is actually an objection to SWBT's cost model, not to its input. As such, the AT&T objection is contrary to the parties' stipulation entered in this cause. Furthermore, AT&T never proposed a disconnection rate which it proposes to pay. In any event, the common practice of combining installation and disconnection rates into a single recovery item is efficient and assures cost recovery for LECs when customers disconnect, whether these customers are retail or wholesale.

- AT&T's witness Segura adjusted SWBT's cost studies to eliminate non-recurring costs what he called "duplicative" tariff charges for "central office access." However, no such tariff charges exist in Oklahoma. AT&T is accordingly eliminating charges that do not exist.

- By presenting its own methodology to determine the price for dark fiber, AT&T again violated the stipulation in this cause to adopt SWBT methodologies and models. The SWBT cost study is based on the pricing of this element on an Individual Case Basis (ICB). This element must be priced on such basis. Elements or activities involved in constructing such facilities are likely to be so variable in nature that it is not reasonable to develop meaningful prices through a cost study approach. Furthermore, the activities which may be involved in provisioning this highly sensitive equipment could be complex and will not initially follow routine patterns. The demand for dark fiber is not developed sufficiently or with enough uniformity in Oklahoma for SWBT to fully understand the characteristics that users may elect when and if any orders for UNE dark fiber are received.

- Rates for AIN have already been established and are not subject to further determination in this docket. In the AT&T/SWBT Interconnection Agreement (approved by this Commission), AT&T agreed to purchase AIN services on an ICB. This determination was not interim and is now final. As such, it is not subject to further consideration in this docket.

- AT&T proposes rates for a number of new elements which are not properly a part of this docket. These elements are not included in AT&T's Interconnection Agreement with SWBT. If additional items are

needed by AT&T, the Interconnection Agreement provides for a procedure by which AT&T must request the same.

- The Interconnection Agreement between AT&T and SWBT provides for customized routing on an ICB. Nevertheless, AT&T now proposes rates for this element. This matter has already been decided and there is nothing to be determined in this cost docket.

- AT&T witness Flappan proposed no recurring or non-recurring charge for call blocking or screening on the grounds that SWBT did not submit a cost study. Mr. Sparling explained why this element must be provided on an ICB and why no cost study can effectively be conducted at this time. Until AT&T's requirements for this element are sufficiently known, SWBT is unable to determine what must be done. Accordingly, the pricing should remain ICB.

- The rounding mechanism to be used in this docket is the same as agreed between AT&T and SWBT in their Interconnection Agreement. AT&T has agreed to this approach, which mirrors industry practices. SWBT has appropriately followed the provisions of the Interconnection Agreement and AT&T's proposal to ignore that agreement should be rejected.

- AT&T's witness Turner improperly identified the architecture that can be used between SWBT's wire center and AT&T's IXC POP.

- SWBT has priced the dedicated transport entrance facility which was ordered on an interim basis in the AT&T Interconnection Agreement. It has been specifically priced for DS1 and DS3 in accordance with the provisions of existing infrastructure facilities and equipment. The Agreement also provides that dedicated transport elements are provided over such routes as SWBT may elect at its own discretion. If AT&T wishes to request special routing of dedicated transport, SWBT will respond to such request under the special request process in the Interconnection Agreement, not in this cost docket.

In his direct testimony in PUD 97-442, Mr. Sparling presented SWBT's proposed prices for (1) Intercompany Compensation For Local Traffic (Transport and Termination) and (2) Interim Number Portability. He described each element, the associated rate elements and the pricing methodology for each. The prices proposed by Mr. Sparling for these elements are based on the technical descriptions provided in Mr. Deere's testimony and the cost studies presented in Ms. Smith's testimony. Exhibit A attached to Mr. Sparling's testimony contained a list of all prices proposed in this docket. Prices sponsored by Mr. Sparling are shaded such list.

This Commission has established costing and pricing standards to be used in setting prices for some (but not all) non-UNE interconnection services. The standards set forth in OAC 165:55-17-25 and 55-17-27 apply to the transport and termination of traffic, but not to Interim Number Portability.

The rules of this Commission set out in OAC 165:55-17-15 and the provisions of section 252(d)(2) of the Telecommunications Act of 1996 provide for the mutual