1. the interface, or gateway, which is used to interconnect the ALECs own internal OSS to an RBOC's OSS.

2. a processing link, either electronic or manual, between the interface and the RBOC's internal OSS (which includes all necessary back office systems and personnel).

3. all internal OSS or Legacy systems that an RBOC uses in providing UNEs to an ALEC. (¶134)

According to the FCC, an RBOC must provide more than just an interface in order to comply with the nondiscriminatory access standard for OSS. The FCC states that in order for an RBOC to meet the nondiscriminatory access standard, no limits may be placed on the processing of information between the interface and the legacy systems, if such limits did not permit an ALEC to perform a function in substantially the same time and manner as the RBOC performs the function for itself. Further, the FCC asserts that this standard requires it to review all of the processes implemented by the RBOC to provide access to the OSS functions. (¶135)

The FCC and the Department of Justice (DOJ) are in agreement that the inquiry into the processes used by the RBOC would involve two parts. First, the FCC will determine if the RBOC has provided the systems and personnel that are sufficient to provide access to each of the required OSS functions. In addition, the FCC will look at whether or not the RBOC is providing the assistance and training that ALECs need to use the OSS functions. (¶136) This assistance includes providing ALECs with the technical specifications of the interfaces and legacy systems, so that ALECs can modify or design their own internal OSS to communicate with the RBOC's systems. Also, the FCC states that the RBOC must demonstrate whether or not its OSS is capable of handling both current and projected demand. (¶137)

Second, the FCC will determine the readiness of the OSS functions to be used by the ALECs. (¶136) This, among other things, involves whether or not the RBOC's OSS is currently able to handle both current and foreseeable demand. The FCC and the DOJ agree on the standard for operational readiness, which is evidence of actual commercial usage. The FCC asserts that actual commercial usage is the most probative evidence of operational readiness. In addition, the FCC does not require an RBOC to ensure that ALECs are using all OSS functions available to them; however, the RBOC is charged with demonstrating that the reason an ALEC is not using a particular OSS function is strictly a business decision of the ALEC, rather than a lack of OSS function availability. The FCC

states that it may consider other forms of evidence for commercial readiness if the RBOC can demonstrate why ALECs are not using all available OSS functions. The other forms of evidence that the FCC will consider, absent actual commercial usage are: carrier-to-carrier testing, independent third-party testing, and internal testing. (¶138)

The FCC stated that OSS functions associated with pre-ordering, ordering, provisioning, maintenance and repair, and billing all have retail analogues for resale services and unbundled network elements, and thus equivalent access is the standard required by the Act for all of these functions. (¶140) For those OSS functions that do not have a retail analogue, the FCC stated that the RBOC must demonstrate that it is meeting the nondiscriminatory access standard for UNEs by offering an efficient carrier a meaningful opportunity to compete. (¶141)

The FCC concluded in the Ameritech order, that its requirement on RBOCs to demonstrate nondiscriminatory access to OSS functions is "achievable." The FCC stated: "We require, simply, that the BOC provide the same access to competing carriers that it provides to itself." (¶143)

FPSC's INTERPRETATION OF SECTION 271 REQUIREMENTS

In the FPSC's arbitration Order for Docket Nos. 960833-TP, and 960846-TP, the Commission agreed with all of the FCC's requirements related to UNEs (including OSS), except for the TELRIC cost methodology. The FPSC deviated from that methodology in determining UNE costs by adopting the TSLRIC cost methodology. The 8th Circuit Court ruled that states have the right to determine which cost methodology to apply. (Iowa Util. Bd. V. FCC, Nos. 96-3321, *et al.*, 1997 WL 403401, at 10-11(8th Cir,. July 18, 1997) As stated above, the FCC still believes that TELRIC is the appropriate cost methodology.

The PSC agreed with the FCC in allowing ALECs to combine UNEs in any manner they choose, including recreating services. However, this Commission did not address the pricing standard, UNE prices or resale, to be used when recreating services. The 8th Circuit did not vacate the FCC's rule on this, however, the Court did state that LECs are not required to perform the actual combining of the elements. (Iowa Util. Bd. V. FCC, Nos. 96-3321, *et al.*, 1997 WL 403401, at 36(8th Cir,. July 18, 1997)

SUMMARY OF REQUIREMENTS BEING USED FOR THIS ISSUE

Staff generally agrees with the FCC's interpretation of the requirements of Section 271 related to this issue. However, this Commission has not adopted the TELRIC cost methodology as the cost basis for setting rates. The 8th Circuit Court vacated the FCC's pricing rules stating "that the Act directly and straightforwardly assigns to the states the authority to set the prices regarding the local competition provisions of the Act in subsections 252(c)(2) and 252(d)." Staff will base its review of the record in this proceeding in accordance with the requirements of the Act and the FCC's rules, except for those rules that were vacated by the 8th Circuit Court. (Iowa Util. Bd. V. FCC, Nos. 96-3321, *et al.*, 1997 WL 403401, at 46(8th Cir,. July 18, 1997)

Staff believes that BST has the duty to prove that it is providing nondiscriminatory access to UNEs to requesting carriers, including the provision of nondiscriminatory access to its OSS functions. For those UNEs and OSS functions that have not been requested by carriers, BST must demonstrate that it currently has the capability to provide such UNEs and OSS functions, if requested.

STAFF DISCUSSION OF POSITIONS

A. DESCRIPTION OF SERVICE

BellSouth has a duty to provide, to any requesting carrier, nondiscriminatory access to UNEs on rates, terms, and conditions that are just, reasonable, and nondiscriminatory as stated in the Act. This includes providing access to individual UNEs as well as combinations of UNEs. This Commission determined in Docket Nos. 960833-TP, 960846-TP, and 960916-TP, Order No. PSC-96-1579-FOF-TP, issued December 31, 1996, that the following items were technically feasible for BST to provide on an unbundled basis:

A. Network Interface Device
B. Unbundled Loops
C. Loop Distribution
D. Local Switching
E. Operator Systems
F. Multiplexing/Digital Cross-Connect/ Channelization
G. Dedicated Transport
H. Common Transport
I. DA Transport
J. Tandem Switching
K. AIN Capabilities

L. Signaling Link Transport
M. Signal Transfer Points
N. Physical Collocation
O. Virtual Collocation

Although not shown in the list of UNEs above, the Act, FCC rules and orders, and the FPSC arbitration order, all require BellSouth to provide nondiscriminatory access to its operations support system functions. Although collocation is one method of providing access to UNEs, it is also a method for interconnecting facilities and, therefore, will be discussed with interconnection in Issue 2.

The FCC has determined that operations support systems generally include those systems and databases required for pre-ordering, ordering, provisioning, maintenance and repair, and billing. The FCC defines each OSS function as follows:

> Pre-ordering and ordering. "Pre-ordering and ordering" includes the exchange of information between telecommunications carriers about current or proposed customer products and services or unbundled network elements or some combination thereof.
>
> Provisioning. "Provisioning" involves the exchange of information between telecommunications carriers where one executes a request for a set of products and services or unbundled network elements or combination thereof from the other with attendant acknowledgments and status reports.
>
> Maintenance and repair. "Maintenance and repair" involves the exchange of information between telecommunications carriers where one initiates a request for maintenance or repair of existing products and services or unbundled network elements or combination thereof from the other with attendant acknowledgments and status reports.
>
> Billing. "Billing" involves the provision of appropriate usage data by one telecommunications carrier to another to facilitate customer billing with attendant acknowledgments and status reports. It also involves the exchange of information between telecommunications carriers to process claims and adjustments. (47 C.F.R. §51.5)

The FCC also determined that if competing carriers are unable to perform these functions:

> ...for network elements and resale services in substantially the same time and manner that an incumbent LEC can for itself, competing carriers will be severely disadvantaged, if not precluded altogether, from fairly competing. Thus providing nondiscriminatory access to these functions, which would include access to the information such systems contain, is vital to creating opportunities for meaningful competition. (EXH 1, FCC 96-325, ¶518; Calhoun TR 1044, 1045)

Description of Interfaces

BellSouth must demonstrate through its interfaces that competing carriers are receiving nondiscriminatory access to the five OSS functions defined above. In this proceeding, BellSouth has offered pre-ordering through the Local Exchange Navigation System (LENS) interface; ordering and provisioning through the Electronic Data Interchange (EDI), Exchange Access Control and Tracking System (EXACT), and LENS interfaces; maintenance and trouble reporting through the ALEC Trouble Analysis Facilitation Interface (TAFI) as well as the Electronic Bonding Interface (EBI or T1M1); and billing through the access to the Billing Daily Usage File. (Calhoun TR 1042-1106) In addition, carriers have the option of sending orders via facsimile. (Bradbury TR 2817)

1. Pre-Ordering: LENS

The Local Exchange Navigation System (LENS) is the interface developed by BellSouth to allow ALECs to perform both pre-ordering and ordering functions. Although LENS provides ordering capability, BST states that LENS is to be used primarily for pre-ordering functions. (Calhoun TR 1077) LENS can be accessed by : (1) dial-up; (2) LAN-to-LAN connection; and (3) the Internet. (Bradbury TR 2817) Pre-ordering functions generally take place while a customer is on-line negotiating a service order. (Bradbury TR 2839; Calhoun TR 1060) The parties agree that pre-ordering information generally refers to accessing information that allows a customer service representative to validate a street address, and access telephone number information, products and services information, due date information, and customer service record information. LENS provides access to each of these types of information. (Calhoun TR 1060; Bradbury TR 2839) According to BST, LENS has been available for ALEC use since April, 1997. (Calhoun TR 1096)

2. Ordering: EDI, EXACT, and LENS

BST offers two interfaces primarily for ordering. As stated earlier, LENS is also capable of providing the ordering function; however, BST recommends that ordering take place through the EDI interface. BST offers the Electronic Data Interchange (EDI) interface for ordering resold services and network elements. This interface is sanctioned by the Ordering and Billing Forum (OBF) for local service ordering. (Calhoun TR 1078) There are three methods of sending EDI orders: (1) dial-up; (2) value-added network; and (3) Connect direct, which delivers orders in a batch mode. (Bradbury TR 2818) In addition, a personal computer based version of EDI, known as EDI PC is available. (Calhoun TR 1078) BST claims the EDI interface is currently able to provide electronic ordering for 34 resale services and some UNEs. EDI can be used to order "simple" UNEs such as loops, ports, and interim number portability. (Calhoun TR 1079) BST states that it has been using EDI for about 30 years, and ALECs have had access since December, 1996. The EXACT system has been available for 12 years. (Calhoun TR 1096)

The Exchange Access Control and Tracking (EXACT) interface is to be used for ordering interconnection services and some network elements. (Calhoun TR 1077) The EXACT system has been in use by interexchange carriers for ordering access service requests, such as Common and Dedicated Transport. (Bradbury TR 2818)

In addition to offering the pre-ordering function, LENS provides ordering capability. Although LENS offers integrated ordering capability, BST recommends EDI for ordering, since the primary purpose of LENS is to provide pre-ordering functions. (Calhoun TR 1080) Staff would note that BellSouth does not use LENS for its retail operations. Instead, BellSouth uses a system known as the Regional Negotiation System (RNS) for most types of residence orders, and a system known as Direct Order Entry (DOE) for business and complex orders, and for the residence orders not supported by RNS. (Calhoun TR 1061)

3. Maintenance and Repair: TAFI and EBI

BST offers the Trouble Analysis Facilitation Interface (TAFI) for reporting problems with both residence and business basic services. BST states that any repair attendant can handle a trouble report on any BellSouth provided basic exchange service. TAFI is designed to interact with BST systems to analyze a problem and recommend the appropriate action to correct the problem. TAFI is capable of correcting a problem by implementing a translation change in a switch. (Calhoun TR 1088-89) For other services, BST

offers its Electronic Bonding Interface (EBI). (BradburyTR 2818-19) EBI handles trouble reports for designed or special services, which are services identified with a circuit number, instead of a telephone number. EBI is currently used by interexchange carriers for reporting problems with access services. (Calhoun TR 1092) TAFI has been available for ALEC use since March, 1997, and EBI, since December, 1995. (Calhoun TR 1097)

4. Billing: Billing Daily Usage File

BST provides billing data to ALECs through the Billing Daily Usage File. The file provides billable call detail records in an industry-standard format, known as the Exchange Message Record (EMR) format. The Billing Daily Usage File is an electronic interface which provides billable usage information associated with items such as directory assistance, interim number portability, and UNEs, such as unbundled ports. Specific types of data include: intraLATA toll, billable local calls and feature activations, operator services, and WATS/800 services. (Calhoun TR 1094) The billing daily usage file has been available to ALECs since March of 1996. (Calhoun TR 1098)

B. STATUS OF PROVISION OF SERVICE

BellSouth appears to be providing several, but not all, requested unbundled network elements to competing carriers. In addition, ALECs are experiencing problems with the billing of UNEs, and with the interfaces used to access BST's operations support systems. These problems are contrary to the non-discriminatory requirements of the Act, the applicable FCC rules and orders, and the FPSC arbitration order (PSC-96-1579-FOF-TP).

BST contends that it is providing UNEs to facility-based providers. For those UNEs that have not been requested, BST states that it will generally offer UNEs in the SGAT. According to BST, the network elements that are being provided to facilities-based providers in Florida include 7,612 interconnection trunks, 7 switch ports, and 1,085 loops. In addition, witness Varner stated that there are 7 physical collocation arrangements in progress, 34 virtual collocation arrangements completed and 24 more in progress. BST also asserts that it has 277 ALEC trunks terminating to BST Directory assistance, 911 and intercept and operator services, 11 verification and inward trunks, and 31 trunks for facilities based ALECs to access BST operator call processing services. (Varner TR 122-123; Milner TR 788)

BST also provided a breakdown of the network elements and network functions requested by ALECs serving Florida. (EXH 2) While this information is proprietary, the various witnesses verified the accuracy of the information relative to the company that each was testifying on behalf of, at the hearing. (Kouroupas TR 3515; Strow TR 2469; Closz TR 2608; Ball TR 3411) Staff would note, however, that the amounts listed for the UNEs in the confidential exhibit do not match the numbers provided by BST witnesses Varner or Milner. The confidential numbers are fewer than those presented in the prefiled testimony of the BST witnesses.

As shown above in the description of the interfaces, the LENS ordering interface has only recently become available for ALEC use. The EDI ordering interface has been available for ALECs for approximately one year. The EXACT interface has been in use for some time by IXCs, but not by ALECs.

ICI witness Chase stated that BellSouth has recently made EDI available for placing orders electronically, but that ICI is still using manual processes out of necessity. (TR 3075,3084) Witness Chase stated further, that despite BellSouth's claim that EDI was available to ALECs in December 1996, ICI was not informed by BellSouth that EDI was available until late April 1997. (EXH 42; TR 3048) Therefore, although it is in ICI's interest to utilize BellSouth's OSS as soon as practical, the transition from manual ordering to electronic ordering is a new process that will take time. (Chase TR 3075)

C. DISCUSSION OF PROBLEMS

The intervenors raised several problems and concerns related to UNEs and OSS. The problems have been separated into two sections. Section I will address the UNE problems and Section II will address the OSS problems.

I. UNE PROBLEMS

Problem 1: Rates for UNEs do not comply with the Act

AT&T and MCI witness Wood stated that interim rates set by this Commission in the arbitration proceeding do not meet the §252(d)(1) cost standard in the Act. This is because interim rates are not rates that have been determined by this Commission to be cost-based. (TR 1953) Witness Wood stated further that compliance with §252(d)(1) "is not created by the expectation that the Commission will determine cost-based rates for UNEs in the future. (TR 1956) Witness Wood also asserts that interim rates are not "rates" which companies can rely on for capital budgeting purposes,

since the rates represent costs to the company and are subject to change. (TR 1959) Witness Wood stated that interim rates do serve a useful purpose, which is to allow ALECs "to begin testing their market assumptions, training their employees, and testing the reasonableness and effectiveness of the processes established for interconnecting with BST." However, witness Wood stated that interim rates remain a barrier to entry that must be removed in order for local competition to develop. (TR 1961)

During cross examination, BST witness Varner was asked if BST filed any cost studies in this docket to support the prices in the SGAT. Witness Varner stated that no cost studies were filed because the rates for the SGAT came directly from arbitration proceedings (TR 312) BST witness Scheye also stated that the vast majority of the prices in the SGAT were taken from arbitration proceedings. (TR 575) Although witness Scheye did not comment on the price for each and every UNE, he did state that the rates contained in the SGAT are either permanent arbitrated rates, interim rates from arbitration proceedings, or rates that were determined in other states. (TR 575-76)

In addition to the interim rates claimed not to be in compliance with the Act, Witness Wood stated that the permanent rates set by this Commission do not meet the cost standard in the Act. Witness Wood stated that cost differences occur in some UNEs based on the geographic area being studied. (TR 1965) Witness Wood stated that the cost of loop facilities are geographically sensitive, since the loop length and line density are the primary drivers of the cost of these elements. Therefore, in order for the rates to be truly cost based, they must reflect any geographic cost differences. (TR 1966) Witness Wood points out that geographic deaveraging of wholesale rates should not be confused with geographically deaveraged retail rates. Witness Wood stated that it is "possible and appropriate" to have geographically deaveraged wholesale rates, while maintaining statewide average retail rates for end users. (TR 1966) Witness Wood concludes by stating that "[c]ost based rates, established pursuant to section 252(d)(1), can and must reflect this demonstrated cost variability." (TR 1967)

According to AT&T and MCI witness Wood, compliance with §252(d)(1) not only requires geographically deaveraged rates, but rates that are derived from costs that are based on an appropriate cost methodology. Witness Wood stated that the cost studies submitted by BST in the arbitration proceeding were based on BST's definition of TELRIC. Witness Wood stated that BST's TELRIC cost methodology calculates costs based on its embedded network, which, witness Wood stated, is consistent with this Commission's definition of TSLRIC. However, the costs that result from

methodologies based on an embedded network, are much higher than a methodology utilizing the "scorched node" approach. The scorched node approach only recognizes the existing locations of a LEC's existing wire centers. (Wood TR 1967-68) Witness Wood stated that the result of using a cost methodology that is not based on the scorched node approach, are costs that reflect inefficiencies inherent in an embedded network. (Wood TR 1968)

BST witness Varner stated that deaveraging is not a requirement of the Act, nor is rate deaveraging required to determine checklist compliance. Witness Varner stated that "BST agrees that costs may vary by geographic area and that there are different levels of universal service support in different rates, this is not the arena to address the issue." (TR 246) Witness Varner rebutted AT&T and MCI witness Wood's position that the rates set by this Commission in the arbitration proceeding are not cost based. Witness Varner stated that the Act does not specify a particular cost methodology, and reiterated that the 8th Circuit Court's ruling granted the jurisdiction to determine the appropriate cost methodology exclusively to the state Commissions. (TR 247)

The Commission set many permanent rates in the AT&T and MCI arbitration proceeding, consistent with the requirements of the Act. Several UNEs were assigned interim rates pending receipt and review of cost studies provided by BST. This Commission is currently scheduled to conduct a proceeding to determine the rates for those UNEs without permanent rates, including non- recurring charges for several elements. The UNEs listed below are those that have either interim rates that were set by this Commission in the BST arbitration proceeding, or no rate at all.

A. Network Interface Device
B. Loop Distribution
C. Ports: 4-wire analog
D. AIN Capabilities *
E. Physical collocation
F. Virtual collocation

* No rate was determined

The SGAT offers several UNEs that the Commission did not set rates for in an arbitration proceeding. These elements are sub-loop elements and consist of loop distribution, loop cross connect, and loop concentration. Because cost studies were not submitted with the SGAT for these elements, staff does not know what the cost basis is for the rates. Further, there is no cost evidence in the

record for this Commission to conclude that the rates for these sub-loop elements would be reasonable, even as interim rates.

The FCC stated in the Ameritech Order that it cannot conclude that the checklist has been met if the prices for interconnection and UNEs do not permit efficient entry. The FCC went on to say that "allowing a BOC into the in-region interLATA market in one of its states when that BOC is charging non-competitive prices for interconnection or UNE in that state could give that BOC an unfair advantage in the provision of long distance or bundled services." (¶287) In addition, the FCC concluded in the pricing section of the Ameritech Order that "a BOC cannot be deemed in compliance with sections 271(c)(2)(B)(I), (ii), and (xiii) of the competitive checklist unless the BOC demonstrates that prices for interconnection required by section 251, unbundled network elements, and transport and termination are based on forward-looking costs." (¶289) In order to determine checklist compliance, the FCC stated that it is important for it to know whether the prices are "based on completed cost studies, as opposed to interim prices adopted pending the completion of such studies." (EXH 1, FCC 97-298, ¶294)

In summary, staff believes that interim rates cannot be used to support the SGAT or checklist compliance. Staff believes that in order to be in compliance with the §271 requirements of the Act, the SGAT must contain only Commission approved cost-based rates pursuant to §252(d)(1).

<u>Problem 2:</u> BST has not provided requested loops.

Intermedia Communications, Inc. (ICI) stated that it has not received requested unbundled digital loops for data services from BST. (Strow TR 2384, 2438) ICI stated that it requested unbundled loops from BST on July 11, 1996. BST responded by letter on September, 10, 1996, stating that it could provide the requested loops. However, as of the date of this proceeding, some fourteen months later, BST has not provided the requested loops to ICI. This problem is addressed in Issue 5.

<u>Problem 3:</u> BST has not demonstrated that it can provide mechanically generated billing statements for all UNEs.

BST witness Scheye stated on cross examination that BST currently cannot render bills electronically for the usage charges related to a loop and port combination. (TR 591) BST witness Milner stated that unbundled local switching includes a monthly port charge and a per minute usage charge. (TR 782) BST witness

Scheye reaffirmed that BST was unable to electronically provide billing for unbundled switching usage charges when questioned about such charges missing from the billing statements for AT&T's UNE test orders. (TR 659) In addition, it appears to staff that the AT&T billing statement is fraught with errors.

Under cross examination, BST witness Scheye identified the elements and charges listed on the AT&T bills. (TR 649-651) Witness Scheye verified that the billing statement listed two loop/port combinations for a total of $34 ($17 each). (TR 657) However, the AT&T/BST arbitrated agreement lists the loop element alone as $17. In addition, this is the rate listed in the draft SGAT for an unbundled 2-wire loop. The bill listed a charge for a "USOC 1MR - Description of residential message rate line." (Scheye TR 656) BST witness Scheye stated that this appeared to be the port charge and not a rate for a message rate service. (TR 656) In addition to the errors just described, several items were listed on the bill, even though the items are not UNEs. First, a "listing not in directory" charge was added to the bill. BST witness Scheye agreed that this charge is not in the SGAT or any BST interconnection agreement. (TR 658) Second, there is a "South Miami manhole charge" listed on the bill. Witness Scheye could not explain the purpose for the manhole charge. (TR 659; EXH 21, p. 221) Finally, the bill contained numerous charges for direct dialed long distance calls that BST was assessing AT&T, even though AT&T was listed on the bill as the presubscribed carrier for both intraLATA and interLATA toll calls. (EXH 21, p. 223; EXH 27)

Also, neither the May nor June billing statement reviewed by witness Scheye during his deposition, or the June billing statement reviewed under cross examination at the hearing, included any recurring or non-recurring charges for local switching, local transport, tandem switching, call completion or directory assistance databases, or signaling system databases. (Scheye TR 652-661; EXH 21, p. 217-225; EXH 27) AT&T witness Hamman stated that the AT&T concept test consisted of four orders of the UNE platform. (TR 2652) As explained above in the definition, the platform contains all of these elements.

In the BST arbitration proceeding, the Commission directed BST to provide Carrier Access Billing System (CABS) formatted bills for both UNEs and resale. The Commission also stated that BST may provide Customer Record Information System (CRIS) generated bills in the interim. CABS is the industry standard system used by ILECs to provide bills for IXCs. The Commission ordered BST to provide CABS formatted billing within 120 days of the issuance of the order in the arbitration proceeding. (Order No. PSC-96-1579-FOF-TP, December 31, 1996, Docket Nos. 960833-TP and 960846-TP) According

to AT&T witness Bradbury, BST agreed to provide AT&T, no later than August 3rd, 1997, with bills generated by CABS or in a CABS format for all interconnection, UNEs, and resold services. Witness Bradbury also stated that BST notified AT&T that CABS formatted bills would not be available for all network elements until much later, and that bills for certain services would be provided in CRIS/Customer Large User Bill (CLUB) formats, and CABS for other services. (TR 2833)

Staff is unsure whether or not BST can mechanically generate CABS formatted bills at this time, since BST provided AT&T with CLUB billing statements for the AT&T concept test. (Scheye TR 652, 725-26) Although the draft SGAT provides CABS formatted billing for interconnection services (EXH 24, pg 5), the draft SGAT does not state how carriers will be billed for UNEs. (Bradbury TR 2881)

<u>Problem 4:</u> BST has not provided detailed access usage detail for billing purposes.

In addition to local switching usage, the local switch has the capability of recording access usage. (Scheye TR 1714, 1722) BST witness Scheye affirmed, under cross examination, that BST is capable and willing to provide the level of detail necessary for an ALEC to bill IXC carriers for access usage. (TR 1717-18) Staff notes that access usage refers to originating and terminating minutes of use for long distance calls that traverse the local switch. BST admits that when an ALEC purchases the loop and port, the ALEC becomes the access provider. (Scheye TR 557) However, BST has not provided billing detail for access usage to requesting ALECs. (Hamman TR 2713-14; Gillan TR 1928) Staff believes that this may be due to BST's position that providing the billing detail is not included in the rate for unbundled switching. (Scheye TR 1718)

<u>Problem 5:</u> BST's position on combinations of UNEs is contrary to the Law

The intervenors contend that BST's position on combinations of UNEs is contrary to the requirements of the Act, the FCC's rules, and this Commission's arbitration order. Although there are different possible combinations of elements, the minimum arrangement necessary to provide basic exchange service consists of the loop and switch capacity. (Gillan TR 1784). However, the complete combination of elements that would permit an ALEC to offer a full range of telecommunications services to end users is known as the "platform." The platform consists of the network interface device (NID), loop distribution, loop feeder, loop concentrator/multiplexer, local switching , operator systems,

common and/or dedicated transport, signaling and call related databases, and tandem switching. (Hamman TR 2651)

BST witness Scheye stated that the platform is not a capability that has been defined by the FCC, nor has it been endorsed by any state Commission within the nine state BST region. (TR 530) BST's position is that combinations of UNEs will be priced at resale. (Scheye TR 623) As part of a test trial, AT&T placed four orders with BST, for local service to be provided by combining UNEs. (Hamman TR 2652) During cross examination, BST witness Scheye verified several UNEs listed on the billing statement for the trial service. However, witness Scheye stated that if this was a real service, i.e., not a trial, then this service would have been billed at the retail price minus the avoided cost discount. (TR 661) There is evidence in the record, where BST has refused to provide combinations of network elements at UNE rates. When MCI ordered an unbundled loop and port combination from BST in Florida, the bill for these elements did not reflect UNE rates, but treated the order as resale. (EXH 113) Also, according to ICI witness Strow, ICI requested several types of loops. However, BST did not actually provide the loops. Instead, BST provided tariff services that are priced at UNE rates. According to Witness Strow, ICI has to purchase services out of the BST retail tariff, and the billing statements contain credits to reflect that tariffed item is being priced as a UNE. Witness Strow stated that ICI has no control or management capabilities with the UNEs. (Strow TR 2379-80) Staff would note that one purpose for using UNEs, as opposed to purchasing a service for resale, is that UNEs provide the flexibility to offer service different from that provided by the ILEC.

Also, BST has taken the position that when an ALEC orders multiple UNEs to provision service to an end user who is migrating from BST to the ALEC, BST will break apart the network elements that are currently used and will assess a "glue" charge for recombining the elements. (Scheye TR 622-26) Staff notes that this "glue" charge is not provided or defined in the SGAT, nor was it discussed in any prefiled testimony of a BST witness. The "glue" charge, by definition, represents a charge that will be assessed when BST performs the actual process of reconnecting UNEs for a requesting carrier. (Varner TR 344-45) BST witness Varner offered confusing statements about whether or not BST will actually offer the service of combining UNEs for requesting carriers. However, BST witness Scheye stated that it will provide such service, which would require negotiation, and apply the 'glue' charge. (Scheye TR 628-29)

UNE SUMMARY

Several UNE related problems were raised by the intervenors in this proceeding. First, the intervenors assert that rates, both permanent and interim, set by this Commission do not meet the cost standard of the Act. The issue raised over permanent rates centers on geographically deaveraged rates for unbundled loops. As discussed above, the intervenors suggest that since the loop feeder portion of unbundled loops varies in length, so should the rate. The intervenors suggest that unbundled loops should have deaveraged rates, while maintaining uniform rates to end users. BST maintains that this is a universal service issue and should be addressed in that forum. Staff does not oppose the notion of geographically deaveraged UNE rates. However, this Commission has taken the position that the Act could be read to allow geographic deaveraging of unbundled elements; however, the Commission did not interpret the Act to require geographic deaveraging. (Order No. PSC-96-1579-FOF-TP) Therefore, staff believes that the permanent rates set by this Commission in the BST arbitration proceeding meet the cost based requirements of the Act.

The issue raised over interim rates contained in the SGAT, is that the rates are not based on cost, and therefore, are not compliant with the Act. The Commission set interim rates in the BST arbitration proceeding for those elements listed above, because BST did not provide cost studies for those elements. The Commission has adopted the TSLRIC cost methodology for determining costs. Staff believes the intervenors are correct in their assertion that interim rates are not based on cost, because the interim rates do not have a TSLRIC basis.

Staff believes that interim rates cannot be used in the SGAT. Staff believes that in order to be in compliance with the requirements of §271 of the Act, the SGAT must contain only Commission approved permanent rates. To conclude, staff believes that the interim rates used in the SGAT do not meet the cost based standard of §252(d)(1).

Second, only one carrier in the proceeding complained that BST has not provided a specific UNE that it requested. As discussed above, ICI requested unbundled loops in order to provide Frame Relay Service. Staff has great concern over the fact that ICI requested such loops over 14 months ago, and still has not received access to such loops. Even if the ICI/BST interconnection agreement did not contain a provision for such elements, there is no reason for such delay. BST offers the bona fide request (BFR) process for a carrier to request UNEs and services that are not contained in an

interconnection agreement. Assuming that BST would act efficiently to provide a request for something it has a contractual commitment to make, one would question what level of expediency BST would make to fulfill a request submitted via the BFR process. Staff views 14 months to provision a requested UNE as a clear demonstration of anticompetitive behavior. However, staff also realizes that ICI could have petitioned the Commission for assistance in this matter, but chose not to do so. Overall, staff believes that BST has not met its duty to provide nondiscriminatory access to UNEs to requesting carriers.

Third, the intervenors stated that BST did not have the capability to render electronic, or mechanized billing statements for usage sensitive UNEs such as local switching and local transport. As shown above, BST witnesses Scheye and Milner admitted under cross examination that BST did not have the capability to do so at this time. During the hearing, staff requested a late filed exhibit from BST witness Scheye to answer what billing system was used to produce the AT&T billing statements, and whether or not BST could currently provide mechanized billing for all UNEs. The answer to the mechanized billing question on Late Filed Exhibit 31 was that BST could provide mechanized billing as of August 14, 1997. However, BST provided no evidence to support this claim. Without actual billing statements to demonstrate this capability, staff believes that it is impossible to conclude that BST has the capability to generate mechanized billing statements for usage sensitive UNEs. In addition, BST was ordered by this Commission to develop CABS formatted bills in the AT&T, MCI, ACSI arbitration proceeding. (Order No. PSC-96-1579-FOF-TP) BST has not demonstrated that it has the ability to generate CABS formatted billing statements. BST clearly is still having to generate CLUB formatted bills as demonstrated by the AT&T bills. In conclusion, BST provides mechanized billing for itself; therefore, staff believes that BST must provide such billing capability to ALECs.

Fourth, BST has not provided access usage detail to ALECs. As explained above, the local switch has the capability to record all access minutes that transit the switch. BST currently records such access minutes in order for it to bill access charges for IXCs. BST witness Scheye readily admitted that BST has the capability, and will provide such usage detail if requested. (TR 566-67) AT&T is one intervenor that has specifically requested such access usage detail, but has not received it. This is not merely a claim by AT&T. AT&T has filed a motion with this Commission to compel BST to provide the requested billing detail. BST has not done so. In addition, although providing such information for its own purposes, BST has not demonstrated that it has, or that it can provide access

usage detail to requesting carriers. In conclusion, BST records access usage billing for itself, therefore, it must provide such billing detail information to requesting ALECs.

Fifth, BST has taken a firm stance on the provision of combinations of UNEs at cost based rates. BST's position, as stated by BST witness Scheye, is that combinations of UNEs will be priced at resale. This assertion was made by witness Scheye, even though BST witness Varner acknowledged that the 8th Circuit Court decision requires BST to make UNEs available at cost-based rates, even if the UNEs will be combined to replicate an existing BST service. (Varner TR 317, 320) BST further denies that it must provide currently combined UNE to ALECs. When an ALEC places an order for combinations of UNEs, BST stated that it will separate existing UNEs and provide each one on an individual basis. BST stated that a carrier can negotiate a "glue" charge for BST to reconnect the UNEs. (Scheye TR 622-26) However, FCC rule 51.315 states that:

> (a) An incumbent LEC shall provide unbundled network elements in a manner that allows requesting telecommunications carriers to combine such network elements in order to provide a telecommunications service.
>
> (b) Except upon request, an incumbent LEC shall not separate requested network elements that the incumbent LEC currently combines.

The 8th circuit court did not vacate these subsections of rule 51.315. (Iowa Util. Bd. V. FCC, Nos. 96-3321, *et al.*, 1997 WL 403401, at 36(8th Cir,. July 18, 1997) However, staff believes there appears to be a conflict between the language used by the 8th circuit in its order and the FCC's rule. The 8th circuit has been asked to review its decision on this issue. In addition, this Commission has a pending complaint from AT&T on this specific issue. Since the 8th circuit has been requested to review its decision on this issue, the Commission has a pending proceeding, and that in staff's belief, BST fails this issue for other reasons, staff will not provide any recommendation on the issue of existing combinations of UNEs.

In summary, staff believes that BST has not met its duty to provide nondiscriminatory access to UNEs to requesting carriers. Staff agrees with FCC rule 51.307(c) that "an incumbent LEC shall provide a requesting telecommunications carrier access to an unbundled network element, along with all of the unbundled network element's features, functions, and capabilities, in a manner that allows the requesting telecommunications carrier to provide any

telecommunications service that can be offered by means of that network element."

II. OSS RELATED PROBLEMS

The intervenors have raised many problems and concerns with the various interfaces and with access to the OSS functions. These problems will be discussed within each of the five functions of OSS. Although the FCC defines pre-ordering and ordering as one function, there are different problems associated with each, as well as a series of problems that involve both functions together. The problems that are specific to the pre-ordering function will be addressed separately. Those problems that involve both pre-ordering and ordering functions will be addressed with the problems specific to the ordering function.

1. PRE-ORDERING

Problem 1: LENS requires multiple address validations for the same fields in different screens.

The intervenors state that LENS requires the address to be validated three separate times. In the inquiry mode of LENS, the address must be validated to obtain telephone numbers, validated again to view available features and services, and, finally, again to view the installation calendar. BST's RNS system does not require multiple address validations while accessing pre-ordering information. (Calhoun TR 1287-88, 1300-01; Bradbury TR 2911-12) MCI witness Martinez states that the RNS system automatically assigns a number, once the address is validated. Witness Martinez explains that this number is "hard coded so that anything that they did from then on would bring for [SIC] the features and functions of that particular office." Because the number is "hard coded," RNS does not require multiple validations at each step, as does LENS. (Martinez TR 3342)

Problem 2: No on-line customer credit checking capability and limited availability of customer service record information.

ALECs do not have access to customer payment history information when using LENS in the pre-ordering mode. BST's RNS system allows BST representatives the option of accessing such credit information online through Equifax. (Calhoun TR 1440) BST witness Calhoun stated that she was unsure if BST's internal interface, DOE, had such credit checking capability. (TR 1440)

LENS in the inquiry mode does not provide customer credit history and detailed billing information other than the billing name and address. BST witness Calhoun stated that this information was not agreed to in negotiations with ALECs, and therefore, was not provided via LENS. However, this Commission did require BST to provide such information to AT&T and MCI in the arbitration proceeding. (Calhoun TR 1271-72) BST witness Calhoun stated under cross examination that access to this information will be added to the LENS system on October 8th of this year. (TR 1272-73)

Problem 3: LENS requires human intervention

BST has not demonstrated that LENS provides non-discriminatory access to pre-ordering functions as compared to those available with BST's own RNS and DOE systems.

Human intervention occurs because the pre-ordering capability of LENS is not integrated with the EDI ordering interface. This is evidenced by the need for an ALEC service representative who must manually record the pre-ordering information obtained in the LENS inquiry mode and then manually re-enter the information into the EDI order. BST suggests in the LENS User Guide that the service representative print out each LENS screen as a method of recording the pre-ordering information. BST's interfaces do not require this level of manual intervention. (Bradbury TR 2840) This problem, as it relates to integration of interfaces, is also discussed below in Problem 6, of the Ordering and Provisioning section.

BST witness Calhoun stated that it is not necessary for an ALEC service representative to manually re-enter data accessed from LENS into the ALEC's internal OSS. Witness Calhoun stated that there are several methods that obviate the need to re-enter data. First, an ALEC service representative can "cut and paste" information from LENS, to any other computer application that supports the "cut and paste" function. (TR 1052, 1125) The second option suggested by Witness Calhoun, is to use the Common Gateway Interface (CGI). Witness Calhoun explained that CGI is a specification that could negotiate the movement of data between LENS and an ALECs OSS. In addition, Witness Calhoun stated that CGI is available to any interested ALEC. (TR 1053)

AT&T witness Bradbury stated that the CGI is not available to any new entrant interested in pursuing this option, as stated by BST witness Calhoun. Witness Bradbury provided a chronology of events that took place when AT&T sought the information necessary to implement CGI as BST proposes. AT&T's inquiry revealed that CGI builds upon the LENS interface, and firm specifications cannot be provided until the LENS interface is finalized. According to a

letter dated May 19, 1997 from a BST project manager, LENS will require multiple and frequent changes and will not be stable for six to nine months. (Bradbury TR 2841, 2890-93)

Problem 4: BST can reserve more telephone numbers than ALECs

MCI witness Martinez states that LENS only allows ALECs the ability to reserve or assign six telephone numbers per order. (TR 3240) AT&T witness Bradbury agrees stating, in addition, that BST can reserve up to 25 numbers through its own OSS. (TR 2845) In total, an ALEC is permitted to reserve a total of 100 numbers, or five percent of the available numbers, per central office. (Bradbury TR 2844) AT&T witness Bradbury states that numbers which are available when using LENS in the firm order mode are not available when using LENS in the inquiry mode. The inquiry mode of LENS is used to access pre-ordering information, when placing the actual order through EDI, PC-EDI, or by fax. (TR 2844)

There are other problems associated with accessing telephone numbers. First, an ALEC must go to a separate telephone number assignment screen each time it accesses a telephone number for a new customer. In other words, when the address is validated in LENS, a phone number is not automatically assigned to the customer. BST's RNS system on the other hand, only requires the BST service representative to visit a separate screen if the customer rejects the phone number that is automatically assigned when the address is validated. (Calhoun TR 1276-1277; Martinez TR 3342) Second, LENS does not provide a list of available NXXs to serve a specific address. However, BST service reps have access to these numbers when using either RNS or DOE. (Calhoun TR 1282-83, 1447-48; Bradbury TR 2910)

Problem 5: Cumbersome and inefficient methods of locating long distance company, and product and service information selected by customer

LENS provides a randomly organized list of long distance companies. The list is provided randomly so that long distance companies beginning with the letter "A" do not have an advantage over other companies. The problem here is that LENS does not provide a method of accessing a particular company name easily. The ALEC service representative must scroll through the extensive list of over 300 available carriers to find the name and carrier code of the long distance company. (Calhoun TR 1288-92; Bradbury TR 2846) BST's RNS and DOE systems permit the BST representative to access carrier information by typing the first few letters in the carrier's name. (Calhoun TR 1293) AT&T witness Bradbury states

that this is clearly not at parity in terms of timeliness or quality (TR 2912) This same inefficient condition is true when an ALEC's representative is trying to locate a service using LENS. The ALEC's representative must scroll through the list of available services to see if the requested service is available in the end office that serves the customer. (Calhoun TR 1295-97) BST's RNS and DOE systems permit the BST representative to access product and service information by typing the first few letters of the service or feature's name. (Calhoun TR 1299)

Problem 6: LENS does not provide access to calculated due dates in the inquiry mode

ALEC service reps do not have access to due dates in the same manner as BST's reps, when the ALEC's representative uses LENS in the inquiry mode to access pre-ordering information. LENS provides the ALEC representative with a table of dates which are not available, instead of the earliest available dates for a particular central office. (Bradbury TR 2848) In contrast, RNS provides a color coded calendar which shows the first available due date calculated by DSAP, and highlighted in green. All other dates, both available and unavailable, are distinguished by other colors. (Calhoun TR 1312-15)

Pre-Ordering Summary

As discussed above, the intervenors raised several problems with the LENS pre-ordering interface. The problems raised demonstrate that LENS simply does not provide access to pre-ordering information in essentially the same time and manner as does BST's RNS and DOE systems. First, LENS requires multiple validations of the address to access certain functions. BST's RNS and DOE systems do not require multiple validations. Therefore, the ALEC service representative will spend more time reviewing or accessing pre-ordering information than will a BST service representative.

LENS does not provide customer credit checking capability and limited customer service record information. On the other hand, BST's internal interface, RNS, provides on-line credit checking capability and access to the customer's full service record information.

LENS is a human-to-machine interface. Therefore, after an ALEC service representative accesses pre-ordering information, the representative must either cut and paste the information, or print out each LENS screen and then retype the information into an EDI

order. This is true also for putting information into the ALEC's internal OSS. RNS and DOE do not require any such manual handling of data, since both systems have ordering and pre-ordering functions that are integrated.

An ALEC cannot reserve the same number of phone numbers through LENS as can BST in RNS. In addition, RNS automatically assigns a phone number when an order is being taken for a new customer. LENS requires the ALEC service representative to access the number screen and select a number. LENS does not provide a list of available NXXs for a specific address, as does RNS and DOE.

When searching for the long distance carrier requested by the end user, the BST service representative can type the first few letters in the carrier name and both RNS and DOE will automatically bring up the carriers full name and identification code. This feature is also true when the BST service representative is searching for products and services. However, LENS does not offer such capability. In LENS, any searches performed by the service representative must be performed by scrolling page by page until the carrier name or service name is found. This clearly is not at parity with BST.

LENS does not provide access to calculated due dates. Instead, a table of dates appears showing all days that are unavailable for due dates. These unavailable dates include weekends, holidays, scheduled office down times, and days that are already filled with other service orders. However, the ALEC representative has to look at a calendar to figure out what the next available due date actually is. In contrast, RNS offers a BST representative a calendar that highlights, in a specific color, what the earliest due date available is. In addition, the calendar shows the dates that are not available in another color. In other words, the BST ordering interface has a color coded calendar that is user friendly and is efficient. BST has not offered an efficient due date recognition system for LENS users.

Staff believes that BST is not providing pre-ordering capabilities at parity with what it provides itself. In addition, the FCC has concluded that "in order to meet the nondiscriminatory standard of OSS, an incumbent LEC must provide competing carriers access to OSS functions for pre-ordering...that is equivalent to what it provides itself, its customers or other carriers." (EXH 1, FCC 97-298, ¶130) As explained below in the ordering and provisioning summary, staff believes that BellSouth must provide a pre-ordering interface that is integrated with the EDI ordering

interface, and that it must correct the LENS pre-ordering deficiencies discussed above.

2. ORDERING and PROVISIONING

Problem 1: EDI does not have electronic edit capability at parity with BST's RNS and DOE systems.

BST witness Calhoun admitted that RNS and DOE have greater edit checking capabilities than are provided to either EDI or LENS. (Calhoun TR 1267) This means there is a greater likelihood that an ALEC order will be rejected by the downstream systems than will a BST order. (Bradbury TR 2911) Witness Calhoun testified that RNS, DOE and EDI distinguish the fields that must be populated, so the customer service representative knows that the order is complete. (TR 1442-1443, 1445) Although EDI does distinguish the fields that must be populated, staff would note that witness Calhoun testified that LENS does not distinguish which fields must be populated. (TR 1445) In addition, witness Bradbury testified that the FUEL and SOLAR databases work simultaneously with RNS, while a BST customer service representative is working on an order. Therefore, FUEL and SOLAR are checking the order as it is being processed. This online edit checking capability does not exist with LENS or EDI, because LEO and LESOG are downstream databases that check the ALEC's order after it has been sent. (TR 3004-3005) Once the order is rejected downline, the ALEC is notified either by fax or through a phone call by the LCSC. (TR 2911) This notice could take days. (Martinez EXH 113, p.46-47) However, errors in BST submitted orders, not caught by the on-line edit checks, but caught by the downstream checking database, are sent to an error handling group, typically within 30 minutes. (Calhoun TR 1440)

Problem 2: No order summary screen exists in either EDI or LENS as in RNS.

When an ALEC representative completes taking the order from a customer, there is no order summary screen in LENS or EDI to confirm the order while the customer is on line, before sending the order off for completion. (Calhoun TR 1319-20; Bradbury TR 2910) BST witness Calhoun admitted under cross examination that RNS provides an order summary screen so that the order may be confirmed with the customer. (TR 1441)

Problem 3: ALECs cannot access or make changes to pending orders.

Once an order is placed through LENS or EDI, the ALEC service representative cannot access the original order to make a change.

(Calhoun TR 1320; Calhoun TR 1443) EDI allows a change order to be made and submitted to BST; however, the original order cannot be accessed in order to make modifications directly. (Calhoun TR 1443; Martinez TR 3347) In contrast, the original order placed by a BST representative using RNS and DOE can be changed by accessing an order update screen. (Calhoun TR 1439)

Problem 4: BST has not provided requesting carriers with the technical specifications of the interfaces.

BellSouth stated that if an ALEC wants to integrate its pre-ordering information from LENS with its EDI ordering system, then the ALEC needs to use a Common Gateway Interface (CGI) program to build its side of the interface. (Calhoun TR 1336) Witness Calhoun testified that CGI is a program that manipulates data between two systems, thus eliminating the need for an ALEC customer service representative to move from one system to another. (TR 1335-1336) BellSouth began the development of CGI technical specifications for the ALECs, but abandoned the effort citing that it appeared no party wanted to pursue that option. (Calhoun TR 1335) However, AT&T and MCI state that they have both requested, and not received, the technical specifications from BellSouth. (Martinez TR 3236, 3305; Bradbury TR 2955-2957, 2964-2966) Further, witness Calhoun admitted that an ALEC cannot complete development of a commercial system that integrates LENS and EDI until BellSouth completes the CGI technical specifications on its side of the interface. (TR 1337) Witness Calhoun also stated that BellSouth is willing to continue to develop the CGI specifications with any interested ALEC. (TR 1126)

AT&T witness Bradbury stated that an ALEC will be at a disadvantage until BellSouth develops its side of the interface. (TR 2909) For example, witnesses Calhoun (BST) and Bradbury (AT&T) testified that RNS displays the rate for a service and calculates the taxes for that service. (Calhoun TR 1447; Bradbury TR 2931) She stated that when a BellSouth customer service representative validates a customer's address, a tax code is returned that provides the appropriate taxes for that address. This information then flows through the order to the billing system. (TR 2931) She also testified that in the products and services section of RNS, an option button appears beside each product or service which allows the BST customer service representative to offer promotions to BellSouth's end users. (TR 1440-1441) However, witness Calhoun stated that pricing, promotion, and packaging of services that an ALEC offers to its customers is at the ALEC's discretion. She stated that an ALEC can choose, "to organize information on its

side of the interface in whatever way suits its pricing or marketing objectives." (TR 1447)

The parties also state that BellSouth has not notified them or provided them, with the modifications BST makes to LENS. The parties state that this is essential, because LENS is a proprietary system that BellSouth owns and controls. (Martinez TR 3233; Bradbury TR 2825-2826) Witness Bradbury stated that changes to LENS are made unilaterally by BellSouth, which can make this interface unstable, disruptive, inefficient and expensive for new entrants to use. (TR 2825) In addition, witness Martinez testified that since March BellSouth has made three revisions to the LENS Users Guide, none of which were disclosed to MCI. Witness Martinez further stated that in all cases, MCI learned of these revisions from a source other than BellSouth. (TR 3237) In addition, witness Calhoun testified that the latest version of the LENS User Guide was dated June 17, 1997. However, she agreed that some changes to LENS have taken place since it was published, and the next update to LENS is scheduled for October 8, 1997. (TR 1333) She further testified that no specific method was used other than through LENS itself to communicate the subsequent LENS modifications to ALECs since June 17th. (TR 1334)

<u>Problem 5</u>: Interfaces are not fully electronic or integrated, and require manual intervention

There are three forms of manual intervention that are raised by the intervenors. The first form occurs because BST's proposed interfaces do not link an ALEC's OSS with BST's OSS. The second occurs because BST has not provided an interface that integrates pre-ordering and ordering capabilities together, as does its own internal interfaces. The third occurs on behalf of BST. LENS and EDI do not enable an ALEC to place orders for the same services as BST, which flow through BST's downstream systems untouched by human hands.

AT&T witness Bradbury states that LENS is a human-to-machine interface, since there is no electronic communication between BST's OSS and the ALEC's OSS. This is evidenced by the need for an ALEC service representative who must manually enter data into BST's OSS, and then manually re-enter the same data into the ALEC's OSS. (Bradbury 2822-24) BST believes that it is up to the ALEC to develop the integration capability for the interfaces. However, as discussed above in problem 4, BST has not provided the technical specifications necessary for an ALEC to design such capability. In addition, witness Bradbury stated that LENS cannot process orders electronically for simple network elements. When an ALEC uses LENS to make an order for a UNE, it must type the request in the