ORIGINAL

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE JOINT COMPLAINT OF COMMUNICATIONS VENTURE CORPORATION D/B/A INDIGITAL TELECOM; THE INDIANA WIRELESS ENHANCED 9-1-1 ADVISORY BOARD; BENTON COUNTY, INDIANA, AS THE BENTON COUNTY PSAP OPERATOR; AND CARROLL COUNTY, INDIANA, AS THE CARROLL COUNTY PSAP OPERATOR, AGAINST INDIANA BELL TELEPHONE COMPANY, INC., D/B/A AT&T INDIANA, CONCERNING CONNECTION OF WIRELESS ENHANCED 9-1-1 CIRCUITS AND RELATED SERVICES TO FACILITIES LOCATED AT PUBLIC SAFETY ANSWERING POINTS AND AT&T'S REFUSAL TO PERMIT SUCH CONNECTIONS FOR PROVISION OF WIRELESS ENHANCED 9-1-1 SERVICE, AND REQUEST FOR THE INDIANA UTILITY REGULATORY COMMISSION TO ORDER NECESSARY CONNECTIONS AND DETERMINE REASONABLE TERMS, CONDITIONS AND COMPENSATION THEREFORE.	)	**CAUSE NO. 43499** **FINAL ORDER** **APPROVED:** FEB 10 2010
RESPONDENT: **INDIANA BELL TELEPHONE COMPANY INC. D/B/A AT&T INDIANA**	)	

BY THE COMMISSION:
Larry S. Landis, Commissioner
Lorraine Hitz-Bradley, Administrative Law Judge

On May 16, 2008, Communications Venture Corporation d/b/a INdigital Telecom ("INdigital"); the Indiana Wireless Enhanced 911 Advisory Board ("IWB"); Benton County, Indiana, as the Benton County Public Safety Answering Point Operator ("Benton County"); and Carroll County, Indiana, as the Carroll County Public Safety Answering Point Operator ("Carroll County"); (collectively, "Complainants") filed a complaint with the Indiana Utility Regulatory Commission ("Commission") against Indiana Bell Telephone Company, Inc. d/b/a/ AT&T Indiana ("AT&T") and requested the Commission to order AT&T to permit INdigital to connect its telephone system to the Automatic Number Information ("ANI")/Automatic Location Information ("ALI") Controllers controlled and furnished by AT&T to Indiana Public Safety Answering Points ("PSAPs") pursuant to Ind. Code § 8-1-2-5. Complainants also requested the Commission to determine the reasonable terms and conditions and compensation, if any, to be paid by INdigital for the required connections.

AT&T filed its answer to the Complainants' complaint on June 9, 2008. On June 23, 2008 Intrado Communications Inc. ("Intrado") filed a petition to intervene, and on July 1, 2008, the Commission issued a docket entry granting Intrado's petition.

Pursuant to notice published as required by law, proof of which was incorporated into the record by reference and placed in the official files of the Commission, a public hearing was held in this cause on May 5 and 6, 2009 at 9:30 a.m., in Room 222, National City Center, 101 West Washington Street, Indianapolis, Indiana. At the hearing, the IWB submitted testimony by Ken Lowden, Joel McCamley, David Boyce and Dale Hatfield; Benton County submitted testimony by Robert Jack Steele; Carroll County submitted testimony by Jay Dee Cree; INdigital submitted testimony by Mark Grady and Byron Smith; Intrado submitted testimony by Eric Sorensen; and AT&T submitted testimony by J. Scott McPhee and Mark Neinast. The Indiana Office of Utility Consumer Counselor ("OUCC") did not offer testimony, and no member of the public participated in the hearing or otherwise sought to testify. The parties thereafter submitted proposed orders and exceptions, with the final filing made on August 28, 2009.

The Commission, based upon the applicable law and the evidence of record, now finds as follows:

1. **Jurisdiction and Notice**. AT&T is a public utility, a telephone company and a telecommunications service provider as those terms are defined by I.C. §§ 8-1-2-1, 8-1-2-88[1], and 8-1-2.9-0.5, is authorized by the Commission to provide local exchange and other telecommunication services in the State of Indiana and provides telecommunications service to various PSAPs in Indiana using AT&T's existing E911 dedicated network and database.[2] INdigital is also a public utility, a telephone company, and a telecommunications service provider as defined by I.C. §§ 8-1-2-1, 8-1-2-88 and 8-1-2.9-0.5; holds a CTA to provide interexchange telecommunication services issued by the Commission on March 29, 1998 in Cause No. 9805-16; has a CTA to provide facilities-based and bundled resale local exchange service issued by the Commission on Aug. 19, 1998 in Cause 41183; and provides telecommunications services to the IWB.[3]

The IWB is a body corporate and politic organized pursuant to I.C. § 36-8-16.5-18. Among other things, the IWB oversees the collection and disbursement of wireless 911 fees and provides for the implementation of a statewide wireless 911 call delivery network. Benton County and Carroll County are both municipal organizations and bodies politic involved in the receipt of emergency calls and the dispatch of public safety personnel in response thereto. The Complainants brought this action under I.C. § 8-1-2-5, which applies to disputes between public utilities concerning physical interconnection of their telephone systems, and under I.C. § 8-1-2-54, pursuant to which any body politic or municipal organization may complain to this Commission concerning a public utility's practices.

The interconnection requirements of I.C. § 8-1-2-5 have existed since 1913 to ensure an interconnected telephone system, and P.L. 27-2006, which substantially modified the

[1] While reference to I.C. § 8-1-2-88 was appropriate at the time of the filing of this case, that section has since been repealed by action of law on July 1, 2009. We retain the reference for the sake of historical accuracy.
[2] AT&T Exhibit MN-1, p. 5, ("Neinast Direct").
[3] INdigital Exhibit 1, A. 11 ("Grady Direct").

Commission's regulation of service, specifically preserved the Commission's authority and jurisdiction under that section. *See,* I.C. § 8-1-2.6-1.5(a)(1), (b); I.C. § 8-1-2.6-13(d)(11). Notwithstanding the shift to a competitively-driven marketplace and growing dependence on wireless service, the Commission retains oversight of interconnection between and among telecommunications companies, particularly where the public safety is involved. Therefore, the Commission has sufficient jurisdiction over the parties and the subject matter of this Cause to consider the Complaint and issue this order.

2. Relief Requested. That part of INdigital's telephone system affected by this proceeding comprises the Indiana Wireless Direct Network ("IWDN" or "IN 911 network"), which is an enhanced 911 delivery network designed to route wireless 911 calls to PSAPs. AT&T's telephone system, which includes its ANI/ALI controllers, provides 911 service to certain Indiana PSAPs. Complainants request the Commission to order AT&T, pursuant to I.C. § 8-1-2-5, to allow INdigital to physically connect its telephone system to ANI/ALI controllers that are owned and controlled by AT&T. Complainants request this physical connection so that all PSAPs in Indiana may be fully connected to the IWDN and may transfer both the voice and data components of a 911 call to any other PSAP in Indiana. Complainants also request the Commission to determine the reasonable terms and conditions and compensation, if any, to be paid by INdigital to AT&T for the required connections.

3. Summary of the Evidence.

A. Complainants' Direct Testimony.

i. Indiana Wireless Enhanced 911 Advisory Board.

(a) Testimony of Kenneth Lowden. The IWB sponsored the testimony of its executive director, Kenneth D. Lowden, and also of Joel McCamley, Senior Vice President and Division Manager for L. Robert Kimball & Associates, the IWB's consultant. Mr. Lowden described the purpose of the IWB as including responsibility for implementing a statewide wireless 911 call delivery network. He further explained the steps taken by the IWB to fulfill its public mandate since 2003, including its solicitation and review of proposals from competing network providers which led to its contracting with INdigital to build and operate the IWDN.

Mr. Lowden listed several goals for the IWDN, including provision of a redundant, reliable network for E911 wireless calls throughout the state with consistent, county-by-county E911 call delivery in a uniform and cost-efficient manner. The IWDN was designed to accommodate future E911 call types by providing a framework for their routing, transport and presentation, with a network architecture that would also allow competing wireless providers to deliver their E911 calls to a competitively-neutral network operator.

Mr. Lowden testified that the second generation of the IWDN with enhanced call-delivery capabilities has been successfully implemented in 52 of Indiana's 92 counties. Mr. Lowden stated that in the rest of the state, AT&T has thwarted completion by refusing to allow a direct connection to AT&T's equipment at the PSAPs it serves. Mr. Lowden opined that AT&T was denying to the public the enhanced public safety benefits that would otherwise be available through utilization of a direct connection of the IWDN to all PSAPs.

(b) Testimony of Joel McCamley. The IWB also sponsored the testimony of Joel McCamley, Senior Vice President and Division Manager for L. Robert Kimball & Associates, the IWB's consultant. Mr. McCamley described the design and purpose of the IWDN and explained why the direct interconnection sought by the Complainants in this cause is essential to achieving its full functionality. He also described the IWB's efforts to establish a direct connection arrangement to the ANI/ALI controllers that AT&T bundled with its 911 service, and explained why such a direct connection did not pose a security risk, as AT&T had previously alleged.

ii. Carroll County. Testimony of Jay Dee Cree. Complainant Carroll County's Emergency 911 Coordinator, Jay Dee Cree, testified that AT&T provides Carroll County with equipment and network service for its 911 center under a contract that is nearing its end. Mr. Cree described the benefits of Carroll County being directly connected to the IWDN, stating that Carroll County has a mapping application that is interfaced directly to the IWDN. He said INdigital had installed circuits and equipment for the IWB which pays the costs of this wireless network, and that Carroll County wants to have a direct connection for voice so that it can transfer calls to the Tippecanoe County and Cass County PSAPs, and it can transfer wireless 911 calls to Carroll County, and get the location of the caller.

Mr. Cree testified that Carroll County sent a formal request letter to AT&T on January 25, 2007, asking AT&T to either allow or make the direct connection to the IWDN, and that he also spoke with AT&T about getting the connection. The letter, included with his written testimony, states that INdigital had installed equipment in Carroll County's equipment room and INdigital was ready to connect Carroll County to the wireless system. The letter further stated that Carroll County requested AT&T to cooperate with INdigital in the implementation of the initiative undertaken by the IWB for the benefit of citizens and those that pass through Carroll County, to provide the best possible service to the citizens of Carroll County and the State of Indiana. Mr. Cree testified that AT&T did not respond to Carroll County PSAP's request, and that the Carroll County Commissioners authorized Carroll County's participation in the current proceeding.

Mr. Cree did not dispute that AT&T owns the ANI/ALI equipment that Carroll County uses, but Carroll County believes the connection with the IWDN by INdigital to the PSAP's ANI/ALI controller is necessary for public convenience and safety. He stated that Carroll County needs to have better communications between different 911 centers, because callers in Carroll County's part of the state often do not know where they are and at times Carroll County has to transfer the calls to the right jurisdiction. He further testified that Carroll County can cut costs by moving to the state wireless network.

Mr. Cree acknowledged that the Carroll County PSAP is located within a Verizon exchange and that Verizon provides 911 service. He testified that Carroll County has never received 911 service from Verizon; AT&T was selected by Carroll County as the 911 service provider in the first contract period. Mr. Cree stated that between the time he filed his prefiled written testimony and the hearing, the Carroll County 911 service contract with AT&T expired and Carroll County renegotiated an extension of that agreement under the same terms and conditions. Mr. Cree acknowledged that even though Carroll County wants the call transfer

ability and knew that AT&T was not "real interested in playing with INdigital," Carroll County renewed its contract with AT&T for a one-year period.

Mr. Cree testified that Carroll County wants the ability to transfer calls with data from or to any county and that today it can transfer the call, but not the location data. He testified that Carroll County will eventually be paying less for 911 service, because the Wireless Board is paying for the wireless connections and wireline call volume is decreasing; he anticipates that eventually the costs for wireline calls will virtually go away. He acknowledged that Carroll County has two trunks serving the PSAP and that the requested direct connection arrangement between INdigital and AT&T's ANI/ALI controller will require it to have an additional trunk, but he believes the IWB will cover the cost of the additional trunk and any expenses for any modifications needed to lease equipment from AT&T.

iii. Benton County. Testimony of Robert J. Steele. Robert J. Steele, Benton County's Assistant 911 Coordinator, testified that Benton County currently leases call-taking equipment and other network services from AT&T, including provision of an ANI/ALI controller. With respect to the benefits of Benton County being directly connected to the IWDN, Mr. Steele testified that the County uses a mapping application purchased from a mapping provider, and that provider has developed its software to provide a direct connection with the IWDN. He testified that INdigital has installed circuits and equipment to deliver wireless caller information directly to Benton County, and that Benton County would like to have a direct connection for the voice portion of the wireless 911 call.

Mr. Steele testified that in September 2006 he requested AT&T to move toward a connection of IWDN wireless trunks to Benton County's 911 equipment. Mr. Steele stated that he has not received a response to that request, even after multiple attempts to follow up with AT&T. Mr. Steele believes the connection of the IWDN by INdigital to the ANI/ALI controllers serving Benton County is necessary for public convenience and safety, and he stated that Benton County uses the mapping application on every 911 call, which is helpful in the County's 911 center. He further testified that in his opinion, the direct connection for the voice portion of the call would allow Benton County to transfer 911 calls with Newton County in Kentland, Indiana, Tippecanoe County in Lafayette, Indiana, and White County in Monticello, Indiana. He testified that occasionally Benton County receives calls from I-65 that need to be transferred to one of those counties, but they cannot send the ALI data with the call. Mr. Steele testified that his understanding is that this would be possible if Benton County had a direct connection to the IWDN.

Mr. Steele testified that there are two voice trunks serving the Benton County PSAP. He testified that there was not a formal written request by Benton County to AT&T to allow the direct connection by INdigital, but there was a written request by Benton County for "Phase II", which he thought would encompass that.

Mr. Steele testified that AT&T has provided 911 service to Benton County under a contract since 2003, and that contract requires AT&T to deliver both landline and mobile 911 calls. Mr. Steele testified that although he has not given any thought to whether or not the contract between AT&T and Benton County might need to be changed if Benton County is directly connected to the IN911 network, it might be appropriate. On the issue of whether Benton

County's contract with AT&T constitutes a "lease" of ANI/ALI controllers, the contract was offered and admitted into evidence as INdigital's Exhibit CX-1.

iv. INdigital Telecom.

(a) Testimony of Mark Grady. Mark Grady, President and CEO of INdigital, testified that INdigital is a company owned by ten (10) independent telephone companies. INdigital and its business partner, Indiana Fiber Network, have created a state-of-the-art internet protocol ("IP")-based network on a fiber optic backbone throughout the State of Indiana. Mr. Grady testified that INdigital became involved in wireless enhanced-911 issues in Indiana in April 2003, when the IWB commissioned a study to determine the feasibility of designing and implementing a wireless enhanced 911 delivery network to directly route wireless E911 calls to the appropriate PSAP. Mr. Grady testified that using the study as a starting point, in February 2004 the IWB issued a Request for Information ("RFI") to vendors who might be able to develop an advanced wireless enhanced 911 network, and received responses from four vendors – Verizon, Sprint (now CenturyLink), SBC (now AT&T) and INdigital.

Mr. Grady testified that the IWB chose INdigital and entered into a contract with INdigital for the design, construction and implementation of a network known as the IWDN. Mr. Grady testified that the rollout of the IWDN occurred in two phases (or "generations") and that the generation phase 1 of the IWDN project was completed in December 2006, linking the IWDN with all 137 PSAPs that take wireless calls throughout the state. He stated that generation phase 2 is underway and will establish a direct connection of the IWDN to the PSAP's equipment, allowing interagency transfers with all of the 911 call information and direct integration of other network services and features.

Mr. Grady testified that the only remaining PSAPs which are not connected to the generation phase 2 of the IWDN project are the 40 counties that rely on equipment and wireless location services from AT&T, which has not allowed these PSAPs to be connected to the generation phase 2 of the IWDN.

Mr. Grady testified that one of the limitations of AT&T's "legacy" 911 network is that it relies on the selective routing and call delivery functions of the wireline LEC network, and wireless 911 calls are converted or translated to look very similar to a wireline call. He stated that this is done using a routing key called an Emergency Service Routing Key ("ESRK"). Mr. Grady testified that for a moving wireless E911 call, the ability to transfer both the voice and ALI of the call seamlessly between PSAPs is critical to providing high-quality public safety.

He stated that although it is technically possible to achieve interoperability between the different legacy 911 systems, the complexity becomes a barrier. He testified that by virtue of a direct connection to each PSAP the IWDN resolves these complex issues in a simple, direct manner for all wireless E911 calls; all PSAPs would be on the same network and could seamlessly transfer both voice and ALI location information to any other PSAP in the state, which was one of the project goals set by the IWB.

Mr. Grady testified that INdigital's work in developing the network is to coordinate open, competitively-neutral access to the PSAPs at a statewide level. As an example, he stated General

Motors' OnStar division and ATX, a similar specialized emergency service, are working to develop a more complete set of data related to an emergency 911 call, and OnStar has recently enhanced its service so that it can include information from data sensors embedded in the car. He testified that such information as speed and direction of travel, crash impact, number of occupants and other key data points are now becoming available. Mr. Grady said that INdigital plays an active role in the deployment of these emerging technologies, and the end goal of the IWDN is to establish a direct connection to the display systems and other equipment at the PSAPs. He stated that the PSAP is benefitted by having more information available to enable it to improve public safety.

Mr. Grady testified that the ANI/ALI controllers are part of AT&T's telecommunications system, and this equipment is part of a lease or service agreement signed by the PSAPs with AT&T and used to provide transmission of 911 calls. Mr. Grady stated that INdigital has requested a direct electrical arrangement through both direct requests by INdigital and from the PSAP as the lessee. He testified that AT&T's refusal to allow a direct connection arrangement indicates that AT&T categorizes these ANI/ALI controllers as an integral part of its telecommunications system.

Mr. Grady testified that INdigital is a public utility that provides telecommunications services to the IWB, including interexchange telecommunications services pursuant to INdigital's Certificate of Territorial Authority. Mr. Grady testified that INdigital has had a number of meetings with AT&T to develop or facilitate the connections INdigital requires, but AT&T has steadfastly refused to allow the connection of the IWDN to its ANI/ALI controllers.

Mr. Grady further testified that INdigital submitted a Bonafide Request ("BFR") to AT&T for "other interconnections" under Section 251 of the Federal Communications Act, even though INdigital does not believe a BFR is required for the connection it seeks. Mr. Grady testified that AT&T maintains that it owns the ANI/ALI controller and will not allow connection by any other party, thereby prohibiting all attempts to establish a physical connection. He further stated that INdigital has been unable to reach an agreement with AT&T with respect to the required physical connections through either direct or indirect negotiations, and INdigital is therefore requesting the Commission to order a reasonable connection between the two companies' telecommunications systems under I.C. § 8-1-2-5.

Mr. Grady testified that the AT&T equipment INdigital needs to connect to is comprised of a purpose-built phone system (similar to a key system or a private branch exchange ("PBX") system that is installed at the PSAP building), which includes the function of an ANI/ALI controller. He further stated the ANI/ALI controller's purpose is to capture a numeric value often referred to as a pseudo-automatic number identification, or pANI, or ESRK. He stated that the pANI/ESRK is used to create location information and a call-back number of the wireless handset, and the resulting response to this query is the ALI, which is the geospatial location of the caller.

Mr. Grady testified that two types of connection arrangements are needed by INdigital – a voice connection to deliver the voice component of the wireless E911 call, and the data connection to deliver the ALI or location information of the caller. He stated that the simplest voice connection would be a 2-wire twisted copper pair connection to the ANI/ALI controller

located at the PSAP site, and this is frequently in the form of a reverse battery[4] centralized automatic message accounting ("CAMA") trunking arrangement. He stated that this is an industry standard connection.

Mr. Grady testified the simplest data connection would consist of an RS232 serial interface at the ANI/ALI controller located at the PSAP site, but any functionally equivalent connection would be acceptable. Mr. Grady stated that these connections are well-known to AT&T within the E911 industry, and that INdigital is not requesting a new type, class or function of the ANI/ALI controller.

Mr. Grady testified that the purpose of the IWDN is to provide the most efficient, redundant level of service possible while minimizing costs. One benefit of this connection is the ability to transfer calls with the accompanying data among PSAPs served by differing ANI/ALI equipment providers. He testified that an additional benefit is the availability of new and emerging network-based services related to wireless E911 service, including integrated language line translation service and direct termination of telematix calls from OnStar, ATX and others.

He further stated that a direct connection to the network allows emerging services such as custom annoyance call routing ("CACR") service to be made available to all PSAPs. Mr. Grady testified that under the limits of the current network architecture, there is no easy way for another agency to perform a voice or data transfer to or from a PSAP served by AT&T. He also stated that without the requested connection INdigital does not have the ability to route an incoming wireless 911 call from an enhanced 911 service provider, such as OnStar or ATX, directly to an AT&T-served PSAP, and the AT&T network creates an overly burdensome level of complexity as it forms a bottleneck for the last mile.

Mr. Grady testified that this situation is analogous to the competitive wireline marketplace in the 1970s and 1980s, in which a customer with a telephone system owned by AT&T could not establish a direct or indirect connection arrangement to the interexchange long-distance carrier of their choosing. He stated that many of the same general conditions that existed in the telephone industry prior to the divestiture still remain, and form limitations that impact E911 service today. He stated that the purpose of the IWDN is to circumvent the limitations of the legacy 911 network. He testified there are certain standards AT&T requires for its legacy network that are no longer generally available, and duplicating these legacy characteristics increases the complexity and cost of the IWDN network compared to the simpler direct connection arrangement INdigital requests.

Mr. Grady testified that INdigital is asking the Commission to order AT&T to permit connection by INdigital to the AT&T-provided ANI/ALI controllers, and if the Commission finds that AT&T should be compensated for those connections, INdigital requests the Commission to determine reasonable payment and compensation for those connections. Mr.

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[4] "Reverse battery signaling" is defined as "[a] type of loop signaling in which battery and ground are reversed on the tip and ring of the loop to give an 'off-hook' signal when the called party answers. Some systems employ reverse battery, either for a short period or until the call is finished, to indicate that it is a toll call. In some [private branch exchanges] this is used to provide toll diversion." Harry Newton, *Newton's Telecom Dictionary,* 676 (19th ed., CMP Books 2003).

Grady proposed the compensation terms based upon AT&T pricing information in various public files and product catalogs or approved tariffs in other jurisdictions.

He testified that the set-up required for the requested connections includes hardware plug-in circuit packs and components, and the labor to install and program them. He testified that there should be no monthly recurring charges directly associated with the provisioning of this type of connection arrangement, and ongoing maintenance for this hardware can be provided on a time-and-materials basis by AT&T. He asserted that there is no need to modify AT&T's current agreements with AT&T's PSAP customers, and AT&T can offer these items for purchase directly to INdigital, the IWB, or any combination of the two. Mr. Grady testified that in calculating these charges he analyzed the current service and equipment contracts AT&T has in force. He provided an approximation of the cost of additional trunks by dividing the wireless install rate elements contained in some of AT&T's contracts by the number of trunks in the ANI/ALI controllers. Mr. Grady testified that AT&T's pricing should not be discriminatory and should be competitively neutral.

On cross-examination by AT&T, Mr. Grady testified that Phase I of the IWDN project links the IWDN with all 137 PSAPs and that is accomplished, at least in part, through INdigital's interconnection with AT&T pursuant to the parties' interconnection agreement ("ICA") under Sections 251 and 252 of the Federal Telecommunications Act. Mr. Grady acknowledged that under both AT&T's legacy 911 network and INdigital's network, a database is required to be populated with routing keys in order to link a physical address with a wireless phone call under the current circumstances. With respect to special services such as OnStar, Mr. Grady acknowledged that in order for a PSAP to take advantage of all of the data that OnStar might have to offer, the OnStar system must have the ability to transmit the data to a PSAP, the network over which the call rides must have the ability to carry the data, and the PSAP on the receiving end must have the ability to accept and ultimately display the data. He testified that if any of those three parts is missing, the OnStar data will not be received by the PSAP. Mr. Grady also acknowledged that currently no PSAP served by AT&T has equipment capable of accepting data from a system like OnStar, but stated there is third-party software available that would have the capability of displaying OnStar data in PSAPs served by AT&T. Mr. Grady said it is common for PSAPs to use other third-party software such as mapping software.

In response to questions about a series of meetings held with AT&T, the IWB and INdigital, Mr. Grady testified that although there were no representatives of PSAPs at those meetings, there were several meetings that involved PSAPs in Shelby and Boone Counties, at which both AT&T representatives and PSAP representatives were present, during the time period 2005 through 2008. Mr. Grady testified that AT&T has agreements with PSAPs, and under those agreements AT&T delivers wireless 911 traffic as well as wireline 911 traffic to the PSAPs. He testified that if the direct connection is ordered by the Commission and AT&T is not going to deliver wireless traffic to the PSAPs any longer, he would not necessarily need to change the agreements between AT&T and the PSAPs if the wireless service component of AT&T's service is fairly insignificant or de minimus. As an example, he cited agreements in which the wireless service was only $7 a month.

In response to a question about whether INdigital cares what the IWB is willing to pay for and not willing to pay for, Mr. Grady testified that INdigital cares to the extent that it has a

contract with the IWB to complete the project and to connect the wireless direct network to the PSAPs. He testified that INdigital worked with those PSAPs served by Verizon and CenturyLink to determine the best method of connection and the best way to expand capacity if needed, and that it was a fairly straightforward arrangement. He stated that some of those PSAPs chose to split trunk groups to ensure, for example, that if there was an accident along the highway there would be adequate capacity in their systems for both wireless and wireline traffic and that they wouldn't tie up all of their trunks with wireless calls.

He testified that with guidance, PSAPs are quite capable of making decisions about what type of equipment to purchase and how to expand their capacity. Regarding whether that would be true with respect to a PSAP's choice of network provider, Mr. Grady testified that it might be true but that PSAPs have limitations in the choices that they may have available in a non-competitive marketplace; though there are some competitors, the equipment purchased by the PSAPs is provided largely by the incumbent or the legacy local exchange carrier ("LEC") for a particular area. Mr. Grady acknowledged that INdigital does plan to offer wireline 911 service to PSAPs in the future.

Mr. Grady testified that INdigital has built its network into some PSAPs served by AT&T to allow those PSAPs, among other things, to use a mapping application or in order to get to another PSAP in a "daisy-chain" arrangement. Mr. Grady testified that its contract with the IWB requires the IN911 network to be built even if INdigital is unable to reach a satisfactory solution with AT&T. Mr. Grady testified that where INdigital has located facilities on the property of a PSAP, it typically does not compensate the PSAP, and the PSAP has given permission for the equipment to be installed. With respect to the limits of the current network architecture, Mr. Grady testified that he couldn't speak to whether PSAPs served by AT&T could transfer both voice and data to another PSAP served by AT&T; AT&T did not provide a matrix of its call transfer capabilities despite INdigital's request for that information.

Mr. Grady testified that INdigital had established a direct connection to all of the PSAPs served by Verizon and CenturyLink similar to the direct connection arrangement requested in this Complaint. He testified that INdigital is physically connected to those ANI/ALI controllers and that some of those ANI/ALI controllers are located at the PSAP and some are not. Mr. Grady also testified that it is not true that the ANI/ALI controller is utilized by Verizon as a piece of network equipment that is integral with their selective router. With respect to the Verizon ANI/ALI controllers, Mr. Grady stated that in some cases the ANI/ALI controller was located in a Verizon central office, and in some places there are PSAPs that are served from a centralized ANI/ALI controller. However, for other Verizon PSAPs the ANI/ALI controller is on the PSAP premises and INdigital has established direct connections to all of those. Mr. Grady further testified that for CenturyLink, the ANI/ALI controller is located on the premises of the PSAP.

Mr. Grady acknowledged that in some AT&T-served PSAPs, the equipment might need to be enhanced or upgraded to facilitate the direct connection to the ANI/ALI controller. He testified that most likely AT&T would perform any required work on its equipment, that there are a number of ways that AT&T could be compensated, and that ultimately the IWB would pay for the work as a legitimate project cost. Mr. Grady testified that INdigital would not be marking up any type of costs to perform any work on AT&T's equipment, and that INdigital simply wants to get the project finished.

With respect to the matrix of prices provided by Mr. Grady in his direct testimony in Question 22, Mr. Grady testified that INdigital developed the prices based on AT&T's proposal to the Wireless Board on or about July 2006 and a response by AT&T to a discovery request made by INdigital, and that INdigital also looked at tariffs in place in Illinois, Ohio, Michigan and other areas where AT&T typically does business. Mr. Grady testified that INdigital, the IWB and the IWB's consultants requested pricing from AT&T for the expansion of the ANI/ALI controllers and that AT&T responded in July with some prices, but subsequently told INdigital and the IWB that the offer was "off the table". Mr. Grady clarified that the pricing matrix set forth in this direct testimony is an average of the different costs for the three or four classes of ANI/ALI controllers that are in the field, and that it was INdigital's best guess.

(b) Testimony of Byron Smith. Byron Smith, Senior Engineer for INdigital, testified concerning the processes by which wireless E911 calls are currently transmitted to the 911 dispatchers at PSAPs and how the IWDN is involved. He stated that a wireless emergency call is initiated by an individual by dialing 911 on a wireless handset, commonly known as a cell phone, and that the call is carried through a system of wireless towers and networks by the individual's wireless carrier through its system of radio receiver transmitters or towers until it is switched to a wireless carrier mobile switching center ("MSC"). He testified that the MSC is owned and operated by the wireless carrier and may be, and often is, physically located outside the State of Indiana.

Mr. Smith testified that for a 911 call, the MSC sends the wireless call to INdigital's selective router in either Fort Wayne, Indiana or Hancock County, Indiana. He testified that INdigital provides interexchange service to the IWB to facilitate the hand-off from the wireless MSC to the IWDN. The IWDN uses a network of fiber-optic cables comprising interlocking rings around the State of Indiana to deliver the call to the point of presence ("POP") closest to the appropriate PSAP.

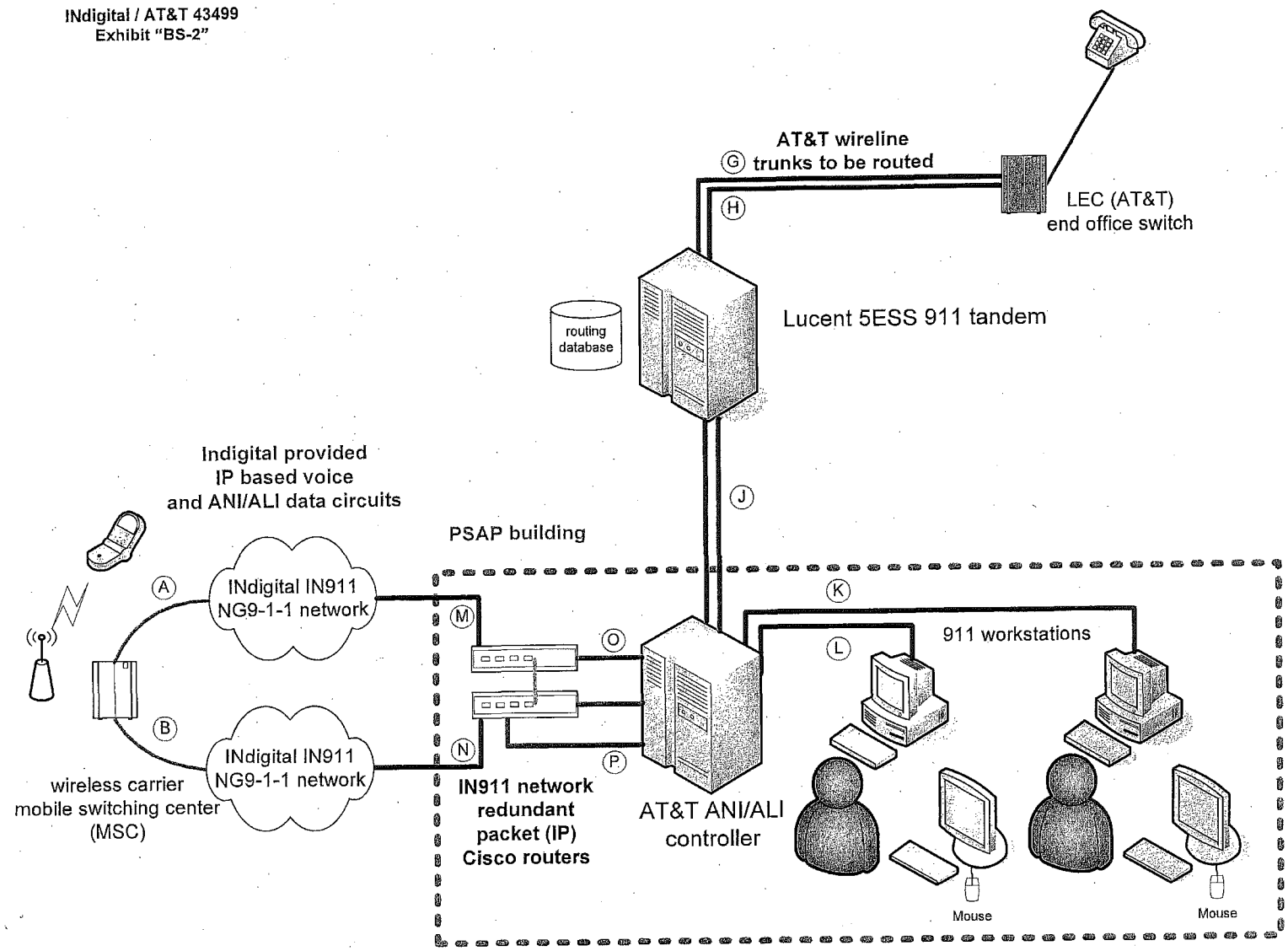
Mr. Smith testified that IWDN transfers the call using internet protocol, or "IP" networking technology, but if the wireless 911 call is routed by INdigital to a PSAP served by AT&T, it is converted to industry standard Signaling System 7 ("SS7"), trunking and handed off to AT&T at one of the three 911 selective routers in Indiana at Evansville, Kokomo or Crown Point using a conventional time division multiplexing ("TDM") interface. Mr. Smith further testified that AT&T then takes the selectively routed call handed off by INdigital and provides a second selective routing process in the Lucent 5ESS911 tandem. Mr. Smith stated the second step of selective routing is not required for the routing or delivery of the call but cannot be avoided under the current legacy connection arrangement.

He testified the call has been converted to an older legacy signaling format known as CAMA, or "Enhanced MF". He testified this legacy analog format uses Multi-Frequency tones (MF) to provide a numerical query key that the PSAP can use to retrieve the 911 call information. He testified that AT&T completes the delivery of the call to the PSAP on its own network, and that the PSAP does not receive the call directly from the IWDN. Mr. Smith testified that on receipt of a call (the voice portion only) the PSAP generates a query requesting the location information of the caller using the number transmitted via the MF signaling. He testified that, presently, instead of using the IWDN, the PSAP query is transported, answered and

the location information is returned over AT&T's legacy network using AT&T circuits. He testified this data circuit is linked by AT&T to circuit "F", which connects to various third-party providers.

Mr. Smith testified that INdigital needs to connect the IWDN to the ANI/ALI controllers provided by AT&T located at the PSAP in order to deliver the voice component of the call directly to the PSAP via the IWDN. He stated that the data connection requested by INdigital would allow the query to travel on the IWDN to one of several database providers and then return to the PSAP, where the location information for the caller would be displayed on the 911 dispatcher's screen. He testified that the wireless 911 call originates from the handset to the MSC and is forwarded to INdigital's network using circuit elements "A" or "B". The call is then routed by the IWDN and delivered to the PSAP on redundant voice and data IP circuits "M" and/or "N", and then converted to an industry standard signaling format known as CAMA (or "Enhanced MF"). Mr. Smith testified that the ANI/ALI data that accompanies the wireless 911 call is delivered to the PSAP's ANI/ALI controller using circuit "P", which is an industry standard RS-232 data connection. He testified all other aspects of operation at the PSAP are unchanged, with the exception that the call can be transferred to any other destination within the IWDN, that is, to any other PSAP.

Mr. Smith testified, however, that without the connection of the ANI/ALI controllers, the PSAPs served by AT&T are not wholly benefitting from the IWDN. He stated that this is because the calls and data are forced to travel the last mile over AT&T's legacy system; the IWDN cannot control the destination of the call because the AT&T selective router is applying its own rerouting of the call between the IWDN and the PSAP. He testified that there are a number of scenarios, such as call transfers between PSAPs, where a call that would initially be routed to PSAP "A" should, after the transfer, be routed to PSAP "B", but without the direct connection to the PSAP, the AT&T switch could reroute the call again to PSAP "A".



Mr. Smith also testified that AT&T has provided PSAPs with a variety of equipment and systems and that the types of ANI/ALI controllers AT&T has provided use industry standard

interfaces. He testified that INdigital's work on the IWDN project has been successfully connected to equipment similar or identical to the equipment AT&T provides the PSAPs it serves.

Mr. Smith testified that the specific type of connection requested by INdigital was driven by the make and model of the ANI/ALI controller currently in service, and that INdigital requires a voice connection and a data connection to the ANI/ALI controller utilized by the PSAP operators. He testified that while INdigital is open to a number of specific types of connections for voice and data, INdigital suggests for ease of implementation and simplicity a two-wire voice connection arrangement using CAMA trunking, MF signaling and an RS-232 serial data connection for the transmittal of ANI/ALI data at the PSAP site. He testified that these are industry standard connections identical to the type and method AT&T has used to interface its own 911 network to the PSAP equipment.

Mr. Smith further testified that in order to make a voice connection at the PSAP site, INdigital's IWDN uses a self-healing, or automatically rerouting, IP network for the transmission of 911 calls. He testified that INdigital provisions two edge routers[5] that have reverse battery CAMA interfaces. He testified that these can be connected directly to the ANI/ALI controllers and that INdigital has employed many of these types of connections at multiple sites throughout Indiana as part of the IWDN project. With respect to making a data connection at the PSAP site, Mr. Smith testified that the standard industry connection uses an RS-232. He testified that the format of the ANI/ALI data can be unique to each ANI/ALI controller but that INdigital has built its ALI network in such a way that unique data templates are available to work with a wide variety of PSAP equipment and PSAP requirements. Mr. Smith further testified that the ANI/ALI data connection is a two-way signaling conduit and, after the establishment of the wireless enhanced 911 call, the call-taker can issue a command that updates the display location of the caller. He testified that this update is important because wireless callers are frequently moving during the course of a 911 call, and INdigital has developed relationships with third parties that allow supplemental information to be presented to the 911 call centers, but that information cannot be presented via the AT&T proprietary network.

Mr. Smith testified that INdigital has successfully established data connections to a wide variety of other PSAP call-taking equipment throughout Indiana without the ill effects AT&T alleges, such as computer virus infections, and that the IWDN is a closed system that is not connected to the internet. He testified that INdigital believes the threat of viruses or other security issue concerns is a red herring, and is unwarranted and misguided. Furthermore, Mr. Smith testified that AT&T appears to have no reasonable basis to refuse to allow the connections, and that it appears that AT&T is trying to preclude INdigital from completing its work in constructing the IWDN because AT&T wants to exclude INdigital from competition. He testified that AT&T unsuccessfully bid against INdigital for the opportunity to build the IWDN and opined that AT&T now apparently seeks to interfere with the build-out of the network as envisioned by the Board. He testified that AT&T's arguments against a direct connection arrangement due to adverse impacts on the AT&T network have no basis in fact.

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[5] An edge router is a device used by Internet service providers that forwards packets of information at high speed while performing authentication, filtering, address translation and other services, allowing an ISP to create different services by combining different features. "Edge routers sit at the edge of the Internet – just at the connection by the local phone company to the Internet." *Newton's Telecom Dictionary, infra,* at 281.

Finally, with respect to compensation for allowing the connections, Mr. Smith testified that hardware costs are typically priced from a price list or product catalog, and AT&T has a sales method of determining this pricing to the PSAP at the time of the original sale. He testified that in some jurisdictions AT&T routinely provides itemized pricing for these types of connection arrangements, many of which are provided under filed, approved tariffs. Mr. Smith testified that INdigital recommends that AT&T be ordered to provide an industry standard connection arrangement through a voice and data connection to the ANI/ALI controllers used by PSAP operators at a reasonable cost that will allow the PSAPs served by AT&T to have the advantages of the new network designed and constructed by the Board.

On cross-examination by AT&T, Mr. Smith testified that INdigital does not hand off traffic to a Verizon selective router but rather to the Verizon ANI/ALI controllers. He acknowledged that the traffic that INdigital hands off to Verizon is not IP, but stated that although there is no place in the State of Indiana that is IP all the way from end to end, there are a couple of places that are very, very close and that are IP up to the phone that is on the desk. Mr. Smith acknowledged that the Siemens Nokia selective router that INdigital has deployed today is not an IP router. Mr. Smith also acknowledged that INdigital is able to deliver the voice component of wireless 911 calls to an AT&T-served PSAP, but stated that the delivery is via the AT&T selective routers. He testified that today all of the wireless carriers serving the State of Indiana are connected to INdigital's network and the wireless carriers have been very receptive to the IWDN project because it reduced their costs and improved their quality of service. This is due to the fact that instead of having to run a dedicated circuit directly to all of the selective routers of all of the 911 service providers, such as AT&T, CenturyLink and Verizon, the wireless carriers now only have to run dedicated circuits to INdigital's two tandems. With respect to Mr. Smith's direct testimony regarding why AT&T has refused to allow the direct connection arrangement, Mr. Smith testified that he has heard AT&T representatives raise concerns and questions at Indiana NENA meetings with PSAPs present.

B. Intervenor – Intrado Communications. ***Testimony of Eric Sorenson.*** Intervenor Intrado's witness Eric Sorensen adopted and presented the written testimony prefiled by Intrado's Director of Carrier Relations, Thomas W. Hicks; and its Vice President of Regulatory and Governmental Affairs, Carey Spence-Lenss. Mr. Sorensen testified that Intrado sought interconnection with AT&T for the mutual exchange of 911 traffic, stating that Intrado requested Section 251 interconnection throughout AT&T's 22-state service territory, including Indiana, in May 2007. He testified that Intrado has Section 252 arbitrations pending against AT&T in 5 states, and hearings have been held in 3 of the 5 states.

Mr. Sorensen also testified that Intrado plans to negotiate an interconnection agreement with INdigital for the mutual exchange of 911 traffic. Mr. Sorensen stated that INdigital has expressed an interest in establishing interconnection in Ohio where Intrado has been chosen by the Hamilton County Communications Center PSAP, which borders Indiana, to serve as their designated 911/E911 service provider. He testified that as wireless sites or sectors commonly overlap state boundaries, Intrado anticipates that there will be a need for Intrado-served PSAPs and INdigital-served PSAPs to transfer 911 calls in both directions between their respective PSAPs.

Mr. Sorensen testified that Intrado's IP-based network is designed to be interoperable with existing legacy PSAP equipment in existing incumbent networks but makes available more robust capabilities to PSAPs and enables PSAPs to receive calls from newer technologies. He testified that Intrado is a direct competitor of AT&T and INdigital in the 911 marketplace. He testified that the 911/E911 network provided by Intrado increases public safety and the ability to share applications with other PSAPs and authorized agencies over the Intrado network, such as CAD, call loggers/recorders, GIS and other applications normally housed at each PSAP location since they cannot be deployed over the legacy infrastructure.

Mr. Sorensen testified that there are differences between Intrado's 911/E911 network and INdigital's network. He testified that the outcome of this proceeding could have direct impact on the ability of any new entrant to officially and effectively provide a competitive alternative to the incumbent's wireline 911 service offering. Mr. Sorensen stated that E911 is a competitive service that essentially consists of three integrated components that are necessary for the routing and transmission of an E911 call including: (1) the switching element that consists of the selective router or 911 tandem; (2) the database system that retains the ALI records used to make an automatic query through the ANI/ALI controller; and (3) 911 network facility transport infrastructure between the selective router and the PSAP. He testified that a new entrant needs access to these functions to compete in the marketplace.

Mr. Sorensen testified that AT&T itself enjoys direct access to its ANI/ALI controllers in order to provide E911 service to its PSAP customers and that the ANI/ALI controller is a tariffed service that is available through AT&T's Indiana tariffs. He testified that AT&T's network arrangements demonstrate that the direct access to an ANI/ALI controller for the retrieval and display of 911 data during an emergency call is technically feasible and necessary. Mr. Sorensen testified as to the importance of a new entrant into the market like Intrado being able to interconnect with the AT&T-served PSAPs in the same manner that AT&T provides to itself; he opined that in the enactment and implementation of the federal Telecommunications Act of 1996, the goal of both Congress and the Federal Communications Commission ("FCC") was to ensure that new entrants could effectively compete with the entrenched incumbent provider.

He testified that Section 251(c)(2) of the Federal Act therefore entitles Intrado to interconnection that is at least equal in quality to that provided by the incumbent local exchange carrier ("ILEC") to itself or to any subsidiary, affiliate or any other party to which the carrier provides interconnection. Mr. Sorensen then testified that to compete in the State of Indiana, Intrado will require direct access to AT&T's ANI/ALI controllers, as well as to any automated call distributor or PBX system trunks necessary to present Intrado traffic to a PSAP call-taker's position. He testified that neither the Commission nor Congress intended that the opening of the markets to competition would result in less functionality. He further stated that AT&T's assertion that its ANI/ALI controllers and/or PBXs are not currently equipped with an adequate quantity of access ports and their request to deny Indiana PSAPs the ability to deploy statewide 911 wireless call delivery with ALI is groundless.

Mr. Sorensen further testified that there is no technical reason why AT&T cannot permit a competitor to access the ANI/ALI controller in the same manner AT&T currently provides for itself, and there is also no need for AT&T to continue to use its selective router to process wireless 911 calls or to use its ALI system to retrieve ALI information when a competitor has

been chosen to provide these services to the PSAP. He testified that the direct connections, such as those sought by INdigital, eliminate the need to introduce an additional and unnecessary step of processing from the competitive E911 service provider's network to the PSAP responsible for delivering emergency assistance.

Finally, Mr. Sorensen testified that INdigital's proposal is consistent with the NENA guidelines and that, contrary to AT&T's characterization, NENA is not an industry standard-setting body but provides guidelines and makes recommendations to the industry. He testified that AT&T's reliance on NENA in describing call transfers is misplaced, and that NENA is not dictating that only one selective router and one ALI system serve a PSAP. He said that the document cited by Mr. Neinast in his testimony indeed defines how call transfers may be accommodated, but it is Intrado's understanding that call transfer arrangements are not what are being sought from AT&T by INdigital.

On cross-examination by AT&T, Mr. Sorensen testified that Intrado has begun informal discussions with INdigital regarding an interconnection agreement for the mutual exchange of 911 traffic to serve Intrado's customer in Hamilton County, Ohio, but it has not made a formal request for interconnection with INdigital.

Mr. Sorensen testified that he does not know who owns the customer premise equipment ("CPE") at Hamilton County's PSAP. Mr. Sorensen testified that Intrado seeks interconnection with INdigital because INdigital supports wireless 911 calls for the State of Indiana and there may be a need to exchange wireless calls between PSAPs in Indiana and the Hamilton County, Ohio PSAP.

In response to a cross-examination question as to whether it would be pro-competitive or anti-competitive if INdigital connects to the only remaining unused port at a PSAP's ALI database, Mr. Sorensen testified that the ANI/ALI controller capacity is reasonably sufficient for today's market and that he views it as a challenge to either help the PSAP upgrade or replace its equipment or for Intrado to replace one of the other providers that is currently plugged into that equipment.

When asked for the basis of the direct testimony which states that PSAPs directly connected to the INdigital selective router may already be receiving the benefits of competition in the form of reduced costs associated with concentrating and aggregating wireless trunking from mobile switching centers, Mr. Sorensen testified that in addition to, or in lieu of connecting with all of the selective routers maintained by the local exchange companies, wireless carriers could connect their MSCs to the INdigital selective routers for the purpose of routing 911 mobile calls.

However, Mr. Sorensen also testified that his understanding of the network in Indiana is that AT&T continues to require INdigital to connect through AT&T's selective router. He also testified that where Intrado has sought interconnection with AT&T in other states, Intrado has requested interconnection at AT&T's selective router. In summary, Mr. Sorensen testified that he thinks the direct testimony regarding PSAPs receiving the benefits of competition refers to a reduction of overall costs in a network due to fewer connections needed, and while he is not aware or familiar with the pricing that is charged by INdigital to PSAPs, there may be reduced

costs based on the configuration that INdigital proposes. Mr. Sorensen testified that it might be more efficient for a wireless carrier to be able to connect at fewer points than more points.

With respect to his direct testimony that E911 customers should be empowered to make decisions as to their provider of choice from network services to applications and CPE, Mr. Sorensen testified that the network services associated with 911 have predominantly been provided by ILECs and that the market is just now becoming more competitive. Mr. Sorensen testified that when he speaks of "network services", he refers to selective routers, connectivity to the PSAP, connectivity to the selective routers and some might consider the ALI database a part of the network. Mr. Sorensen testified that the local exchange carriers in Indiana continue to provide ALI database services.

In response to a question about his direct testimony that AT&T's reliance on NENA in describing call transfers is misplaced and that NENA is not dictating that only one selective router and one ALI system serve a PSAP. He testified that the intent of the comment addressed the fact that NENA is not a formal standards body and that while NENA may discuss one scenario, it offers alternatives as well. Mr. Sorensen did acknowledge that Intrado endeavors to comply with NENA standards in most cases.

By his adoption of the testimony prefiled by Intrado's Vice President of Regulatory and Government Affairs, Carey Spence-Lenss, Mr. Sorensen testified that Intrado is authorized as a CLEC in Indiana, and the company and its affiliates hold authority to provide competitive local telecommunications services in 40 states, including Ohio. He testified that Intrado has entered into two other Section 251 interconnection agreements with AT&T affiliates in Illinois and California, as well as agreements with Qwest. He testified that Intrado's telecommunications services include ALI services to form the basis for Intrado's intelligent emergency network. He testified that the intelligent emergency network enables the public safety community to transcend the limitations of the nation's legacy 911 infrastructure, making new applications and services available to PSAPs and other public safety entities that will increase their efficiency and effectiveness in responding to emergency calls.

Mr. Sorensen testified that Intrado will be a direct competitor of AT&T and will provide an alternative to AT&T's 911 service, sold directly to counties and PSAPs in Indiana. He testified that the demand for competitive 911/E911 services is growing, and that despite significant numbers of competitive providers in the local exchange market, competitive options and choices for the public safety industry do not exist today. He testified that Intrado seeks to change that with its IP-based intelligent emergency network. Mr. Sorensen testified that Intrado will also be a direct competitor of INdigital in Indiana, and the outcome of this proceeding will have an impact on Intrado's and other competitive providers' provisioning of 911 service to PSAPs. He testified that Intrado's 911/E911 service will enable PSAPs to better respond in a world that is becoming more complicated as options for communicating explode.

With respect to the importance to Indiana consumers and public safety agencies of innovative 911/E911 systems, he testified that today, consumer expectations, newer and less voice-centric technologies and major world events are necessitating further changes in 911 service capabilities and that the importance of public safety requires looking beyond the existing

legacy structure toward a more robust and secure 911 network that can manage both voice and data delivered from multiple types of service providers.

Mr. Sorensen testified that the PSAP will continue to have a relationship with the ILEC when they select Intrado, INdigital or an alternative provider, if the PSAP continues to purchase service from the ILEC. However, once the PSAP has selected an alternative provider to serve as its selective routing and ALI database service provider, it would be inappropriate for an ILEC like AT&T to continue to bill public safety for selective routing or ALI database services. He testified that, as the Florida Public Service Commission affirmed, in its June 4, 2008 Order in Docket No. 090089-TP, it is unlawful to bill for services not ordered or needed.

Mr. Sorensen testified that the ALI component of a 911 call is integral to a competitor's service offering, because the comprehensive 911 services offered to PSAPs by ILECs today are telecommunications services and treated as telephone exchange services under the law, as evidenced by ILEC tariffs. He testified that the provision of 911 services historically has been managed at the local level by the ILEC, and an effective 911 service requires the caller to be mapped to the closest PSAP, done at the selective router, to ensure emergency personnel closest to the caller can be dispatched. He testified that the Master Street Address Guide ("MSAG") maps the emergency personnel in the area to the relevant PSAP. He testified that the ALI database contains customer information associated with the caller, including the telephone number, location and other supplemental information about the caller to assist the PSAP in making a timely emergency response.

With respect to enhanced 911 calls, Mr. Sorensen testified that direct access to the ANI/ALI controller commonly located at the PSAP is absolutely essential to enable the call-taker to retrieve this critical information, whether served by AT&T or a competitor like INdigital or Intrado. Mr. Sorensen also testified that comprehensive 911 service, as defined by the FCC and tariffed by the ILECs, clearly falls within the definition of "telephone exchange service". He testified that the information service piece of the 911 service, ALI, is an inextricable part of the 911 service provided to PSAPs as demonstrated by the FCC's definition of 911 services and the unbundled access requirement imposed on ILECs to make the 911 databases available as telecommunications services, in the interest of promoting local competition, citing *VoIP 911 Order*, 20 F.C.C.R. 10245, ¶15 (2005); 47 U.S.C. §251(c)(3); 47 C.F.R. §51.319(f)). He testified that, without exception, 911 services are telephone exchange services when the ILECs or a competitor provides them.

Mr. Sorensen testified that the direct access proposed by INdigital to the ANI/ALI controller is similar to the equal access concept, and the primary reason for direct access is service quality to the PSAPs. He testified that as Congress and the FCC recognized, there are numerous operational barriers faced by competitors, which require that all aspects of local services be available to all competitors on an equal basis and that equal access is absolutely necessary for competition in the local market to survive. He stated that Indiana public safety entities must have assurances that 911/E911 service traffic destined for their first responders will be treated equally. He further testified that the delivery of data associated with wireless 911 calls should be provided using the most reliable process available – via direct access to the ANI/ALI controller, and if direct access is denied, competition will be relegated to simply reselling AT&T's ALI services. Finally, Mr. Sorensen testified that service quality and industry standards

call for the use of dedicated connections. He stated as an example that AT&T requires competitive providers to directly interconnect to its selective routers serving the PSAP to which the 911/E911 call is directed and, likewise, AT&T relies on direct access to its ANI/ALI controllers when it is serving its PSAP customers.

With respect to his direct testimony that Intrado will be a direct competitor of AT&T in Indiana, Mr. Sorensen testified that Intrado will be in a position to offer both wireline and wireless 911 service, but that the IWB has already contracted with INdigital to provide statewide wireless 911 network. Mr. Sorenson was questioned about how Intrado will be compensated for the services it will provide to the Hamilton County, Ohio PSAP and whether Mr. Sorensen believes that it is appropriate that Intrado will have to compete with a company that is being subsidized by a government agency in Indiana. He testified that any service procured by a government entity is funded through some method of that government raising those funds and 911 is no different. He further testified that he believes it is part of competition for Intrado to compete with a company that is being paid by a government agency for providing a service and that most 911 service providers are currently being paid by government entities through government funds.

When asked to clarify how Intrado will be a direct competitor of INdigital in Indiana, Mr. Sorensen testified that Intrado offers a service similar to that which INdigital has sold to the IWB, including wireless 911 support. He testified that he understands that INdigital may have entered into an agreement with a county to provide wireline 911 service and that he does not have any knowledge of whether that wireless 911 service will be provided through the IWDN. Mr. Sorensen testified that Intrado has sought to directly connect to customer premise equipment in PSAPs in Virginia and Ohio. Mr. Sorensen further testified that in making those connections, Intrado negotiated with the PSAP and, to the degree that the telephone company might have been the provider of the CPE, he presumes that the telephone company would have to have been aware of and involved in the process. He acknowledged that Intrado sold its services to the public safety entity, and negotiations were essentially between Intrado and the PSAP that had the CPE on its property. On redirect, Mr. Sorensen testified that he does not know who owns the CPE at the Hamilton County PSAP.

On redirect, Mr. Sorensen testified that the reason Intrado did not seek arbitration for its Section 251 interconnection request with AT&T in Indiana is that Intrado had to make choices as to where to use its limited resources in arbitration proceedings and filed for arbitration in six other states. Responding to questions from the bench, Mr. Sorensen testified that Intrado's service offering does not include an ANI/ALI controller but that it does anticipate connecting to the existing ANI/ALI controllers when it works with a legacy PSAP. He further clarified that Intrado does not have ANI/ALI controllers and that it simply connects to other ANI/ALI controllers. On subsequent redirect, Mr. Sorensen responded that if an ANI/ALI controller is owned by a LEC, Intrado would ask to connect with that ANI/ALI controller.

C. Respondent - AT&T Indiana.

i. Testimony of Scott McPhee. Scott McPhee is AT&T's Associate Director – Wholesale Regulatory Policy and Support. Mr. McPhee provided an overview of the evolution of the 911 emergency response system in Indiana, including the introduction of E911 services in the early

1970s. By transmitting ANI and ALI data along with the voice call, E911 allows for a visual display of a caller's telephone number and street address at the PSAP. Mr. McPhee explained that 911 calls from landline telephones are initially routed in the same manner as any other telephone call. The call is initially sent to the end-user's serving end-office. From the serving end-office, the call is routed to a Selective Router, also known as a 911 Tandem.

The Selective Router queries the E911 database maintained by AT&T Indiana to determine the correct PSAP that should receive the call based upon the caller's ANI, and routes the call to that PSAP. Equipment at the PSAP then queries an ALI database to determine the caller's street address or other location information, which will then appear on the call attendant's computer screen.

Mr. McPhee explained that wireless E911 calls require additional call processing steps, because a wireless telephone number is not necessarily associated with a fixed address. When a wireless caller dials 911, the call is sent from the receiving cell tower to a wireless carrier's MSC, which performs similar functions to a landline end office switch. The MSC routes the call to the E911 selective router and, at the same time, queries a Mobile Positioning Center ("MPC"), a third-party database containing information about the wireless telephone number. The MPC then gathers information about the wireless caller's location from separate Position Determination Equipment ("PDE"). This dynamic location information is then passed by the MPC to the ALI database so that the wireless E911 call can be routed to the appropriate PSAP, and the PSAP can obtain appropriate location information for first responders.

Mr. McPhee explained that AT&T Indiana and INdigital currently operate under an ICA approved by the Commission under Section 252 of the Telecommunications Act of 1996. The ICA contains an Appendix Wireless Emergency Services (E911) Traffic Routing that contains the agreed terms and conditions for interconnection of the parties' networks to allow routing of wireless E911 calls from INdigital's selective routers to AT&T Indiana's selective routers for delivery to PSAPs served by AT&T Indiana. Mr. McPhee asserted that this ICA and the parties' operations thereunder belie the claims of the Complainants, and demonstrates conclusively that AT&T Indiana has permitted "a physical connection to be made . . . between its telephone system and the telephone system of INdigital." Mr. McPhee stated that the connections sought by INdigital in this proceeding are not allowed under the parties' ICA.

Mr. McPhee testified that the connections provided for under the ICA between AT&T Indiana and INdigital are consistent with the standards of the National Emergency Numbering Association ("NENA"). Mr. McPhee said that standardizing E911 connections at the selective router is pro-competitive, since it allows for multiple E911 providers to interconnect at what is essentially a tandem switch that has significant capacity to accommodate multiple E911 providers. On the other hand, the capacity for multiple connections at a PSAP is extremely limited and would have to be handled, if at all, on a first-come, first-served basis.

Mr. McPhee's testimony also addressed the ability of the current network architecture to accommodate inter-PSAP transfers with location data, a stated goal of the IWDN. Mr. McPhee pointed out that AT&T Indiana is the system provider for both wireless and wireline E911 calls to 41 Indiana counties, which include 70% of all PSAPs, and an even higher percentage of the State's population. AT&T Indiana already offers its PSAP customers the capability of providing

interagency call transfers – both landline and wireless - among the PSAPs it serves, and supports industry standard solutions to allow inter-agency transfers between the PSAPs it serves and PSAPs served by other providers.

Mr. McPhee pointed out that the Wireless Board's asserted desire to "unify the delivery of wireless 911 calls to the various PSAPs," while understandable given its focus on wireless traffic, would come at the expense of unifying delivery of *all* 911 traffic, including wireless, wireline and VoIP traffic. Today, AT&T Indiana is contractually committed to the unified delivery of *all* 911 calls – both wireless and wireline - to the PSAPs it serves. INdigital's desire to route wireless E911 traffic to PSAPs served by AT&T Indiana over the IWDN without using AT&T Indiana's network cannot alter that contractual commitment.

ii. Testimony of Mark Neinast. Mark Neinast has been employed by AT&T for more than 30 years in various network engineering positions, including managing the conversion of AT&T's E911 network from analog to digital technology. Mr. Neinast testified that AT&T Indiana's E911 network uses industry standard switches, databases and software for the processing and delivery of all E911 calls, including landline, wireless, VoIP and OnStar emergency calls. The network allows for any PSAP on the network to transfer any 911 call to another PSAP on the network and provide the receiving PSAP with the voice, calling telephone number (or ANI), the wireless callback number for wireless calls, and the caller's location information (ALI), including the latitude and longitude of the wireless caller.

Mr. Neinast described the 911 services AT&T provides to Indiana PSAPs as a managed service offering, in which the AT&T 911 Resolution Center acts as the single point of contact for all 911 issues, whether landline, wireless or VoIP, and whether the issue relates to the network or to the call-taking equipment at the PSAP. Mr. Neinast explained that AT&T Indiana's network has the capability to transfer all types of calls, including wireless calls, between different PSAPs served by AT&T Indiana, since its three selective routers are all interconnected with tandem-tandem trunk groups in accordance with NENA standards.

Mr. Neinast stated that the tandem-tandem internetworking functionality is also capable of supporting call transfers with associated data between PSAPs served by different carriers. By using the NENA standard tandem-tandem feature, the transferred call maintains all of the information that was delivered to the original PSAP, including the voice, telephone number, wireless callback number, etc. In September 2007, AT&T entered into a BETA test agreement with the IWB to test these call transfer capabilities. AT&T installed new tandem-tandem circuits between its Crown Point router and INdigital's Ft. Wayne selective router, provided technical resources to update the CPE at the Lake County Sheriff, the test PSAP, and performed numerous database updates, at no cost to the IWB.

Mr. Neinast testified that, in the BETA test, while AT&T Indiana was capable of transferring calls with data to INdigital, INdigital's Nokia-Siemens selective router was not capable of transferring calls to AT&T Indiana without a software upgrade to bring it into compliance with NENA tandem-tandem transfer standards. AT&T Indiana informed the IWB of this solution, but based on INdigital's business decision not to pursue the upgrade, the IWB chose not to pursue the feature upgrade, and the BETA test was terminated.

According to Mr. Neinast, the industry standard tandem-tandem architecture is not only consistent with industry standards, it is a more cost effective solution than constructing direct connections to the CPE in every PSAP. Mr. Neinast also stated that the tandem-tandem architecture is also consistent with the FCC's determination that the 911 selective router is the appropriate demarcation point for allocating E911 implementation costs between wireless carriers and PSAPs. Mr. Neinast testified that the industry standard tandem-tandem interconnections do not limit the functionality of the IWDN. On the other hand, direct connections to the PSAP CPE could create significant problems.

Mr. Neinast stated that not all counties or PSAPs within counties may choose to utilize the IWDN. As an example, he pointed out that only 2 PSAPs chose to join in the instant proceeding. Therefore, Mr. Neinast concluded that it would still be necessary to utilize tandem-tandem trunking to transfer calls between these PSAPs. In addition, because wireless calling is based on Major Trading Areas ("MTAs") that overlap state boundaries, Mr. Neinast stated that it may be desirable to transfer calls between PSAPs in adjacent states. He said that this is possible under the NENA standard tandem-tandem solution, since only a single trunk group between AT&T Indiana's selective routers and the selective routers in adjacent states is required. Mr. Neinast opined that if INdigital was allowed to directly connect its network to the CPE at the PSAPs, it would effectively prohibit any other carriers or competitive E911 provider from obtaining the same type of connection, since approximately 70% (65 of 96) of the ANI/ALI controllers have no unused voice ports and/or ALI ports.

Mr. Neinast explained that the proposed direct connections at the PSAP CPE would also impact call re-routing. He said that currently, if a PSAP served by AT&T needs to abandon its building for any reason, it is able to reroute its traffic through the AT&T Resolution Center. Mr. Neinast stated that AT&T Indiana would have no ability to reroute traffic on the IWDN, requiring additional work by the PSAP. Similarly, Mr. Neinast opined that PSAPs would be required to perform additional trouble shooting before calling the appropriate network company (AT&T or INdigital) to resolve service or equipment related issues. He asserted that PSAPs would lose the single point of contact or "one throat to choke" they enjoy today. Accordingly, Mr. Neinast concluded that the requested direct connections sought by INdigital are neither necessary, nor in the public interest.

Mr. Neinast also testified in sur-reply to the testimony of Intrado's witnesses Hicks and Spence-Lenss. He acknowledged that recommendations put out by the National Emergency Numbering Association are not mandatory, but he recommended that, at least in this particular instance, they be considered. Mr. Neinast asserted that it could cost appreciably more for PSAPs to be able to have the direct connections requested by the Complainants than it would cost INdigital to upgrade its selective router to achieve a similar result.

D. Rebuttal Testimony.

i. Indiana Wireless Enhanced 911 Advisory Board.

(a) Rebuttal of Kenneth Lowden. In his rebuttal testimony, Mr. Lowden pointed out that regardless of AT&T's ability to transfer emergency calls within its own network, there was no dispute that AT&T's preferred connection arrangement lacks the full capability of a direct

connection to the IWDN. He reiterated the IWB's neutrality when it comes to a county's selection of the company to provide E911 service to its PSAPs, but he also noted that the IWB was still responsible for setting minimum standards so that all wireless customers, regardless of their provider or the provider service the PSAP(s) receiving their emergency call, have access to the full benefits of the IWDN.

(b) Rebuttal of David Boyce. Contradicting AT&T's witnesses' assertions that the direct connection sought by the Complainants in this cause does not meet industry standards, Mr. Boyce explained the distinction between the NENA recommendations, on which AT&T focused exclusively, and the best practices promulgated by the National Reliability and Interoperability Council, which the IWDN meets. He directed attention to a separate NENA recommendation calling for delivery of next generation 911 calls directly to PSAPs instead of, as AT&T currently insists, through selective routers. Finally, Mr. Boyce rebutted AT&T's arguments concerning the alleged capacity limitations of AT&T's ANI/ALI controllers and the relative ease with which their capacity could be increased when necessary.

(c) Rebuttal of Dale Hatfield. Mr. Hatfield is the former Chief of the Office of Engineering and Technology at the FCC who remains active in the field of telecommunications policy and regulation, including matters regarding E911. He stated his expert opinion that AT&T's refusal to allow the direct connection sought by the Complainants in this case is contrary to the public interest, and he praised the IWB as a national leader in migrating toward a next generation 911 system. He highlighted the importance of interconnection in determining the structure, scope and performance of competition in the provision of E911 services, and criticized AT&T for bundling the provision of its ANI/ALI controllers to PSAPs so that they became a part of AT&T's E911 call processing network along with its selective routers, data bases and associated trunk and data transmission facilities.

Mr. Hatfield critiqued AT&T's preferred indirect connection through its selective routers as adding unnecessary costs, constrained by the limitations of AT&T's analog, circuit-switched network, and more likely to lead to errors by unnecessarily introducing another network into the data stream.

ii. Rebuttal Testimony of INdigital Telecom. Rebuttal testimony of Mark Grady. Mr. Grady testified that Mr. McPhee's and Mr. Neinast's testimony and exhibits attempt to divert the Commission's attention from what this case is truly about – physical connections subject to the Indiana interconnection statute – and attempt to recast the complaint as an interconnection dispute under the Federal Telecommunications Act, which it is not. He stated in that doing so, AT&T mischaracterizes and misconstrues the Section 251 interconnection agreement ("ICA") that is currently in place between INdigital and AT&T. He stated that AT&T insists that amendment to the ICA is necessary to facilitate the direct connection arrangement sought by the Complainants, but this fails to acknowledge that AT&T has refused to consider any amendment to INdigital's current ICA. Mr. Grady testified that it is INdigital's position that the ICA does not apply to or prohibit the direct connection arrangements sought by Complainants. He stated his belief that the state interconnection statute is specifically applicable to disputes such as the one presently before the Commission.

Mr. Grady also testified that AT&T witnesses were in error in their assertions that the interconnectivity requested by the Complainants is non-standard, which Mr. Grady believed is a false and misleading statement. He stated that AT&T's claims that INdigital does not meet a particular industry standard is a case of AT&T "cherry-picking" from a wide range of acceptable industry practices, which fails to mention that its preferred standard is a standard AT&T alone has made applicable in Indiana. Mr. Grady testified that the type of connection arrangement requested by INdigital to the ANI/ALI equipment at the PSAP is commonly and frequently made in all states surrounding Indiana, and all other LECs in Indiana have allowed this type of connection arrangement to the PSAP equipment in every other county. He stated this artificially contrived barrier to the E911 service provided by INdigital exists only in those counties served by AT&T's individual-case based bundled 911 service offering. He testified that the non-AT&T telecommunications companies that currently provide ANI/ALI controllers to Indiana PSAPs have not prevented or denied the direct connection arrangement INdigital has requested. He stated that INdigital's goal is driven by the IWB's objective, through the IWDN project, to ensure uniform and consistent quality of wireless 911 for the entire state.

Mr. Grady testified that AT&T has also mischaracterized the interconnection agreement that presently exists between INdigital and AT&T, stating that agreement is clearly and solely to allow INdigital the use of AT&T's selective routers, and the ICA does not apply to or prohibit the direct ANI/ALI connection arrangement sought by Complainants. He noted that Section 1 of the Appendix to the ICA states:

> [t]his Appendix sets forth the rates, terms and conditions for access to the SBC Indiana E911 selective routers for the limited purposes of routing wireless E911 calls from the below-listed INdigital intermediary 911 selective routers in Indiana to the below-listed SBC Indiana E911 selective routers, but only insofar as is required to carry out the E911 Wireless Board contract for wireless E911 tropic delivery attached as Exhibit B.

He stated that the direct connection arrangement requested by Complainants was not contemplated by the ICA because it was not the subject of the ICA, and that INdigital purchases a number of different types of services of various types from AT&T, many of which are not covered by Appendix 1 of the ICA. Mr. Grady testified that INdigital's request is for interconnection under the Indiana statute. He stated that by their own earlier letter response to INdigital, AT&T has acknowledged that this request is not a matter for a § 251 agreement. The ICA between INdigital and AT&T was attached to Mr. Grady's written testimony as Exhibit MGR-1. As Exhibit MGR-1, page 1, note 3 states, "AT&T Indiana understands that INdigital may have been informed by AT&T that the contractual BFR [bona fide request] process was the appropriate manner in which to submit its request. The terms of the CLEC agreement, however, cannot be varied by oral representations, but must be modified in writing." Accordingly, Mr. Grady asserted that INdigital's request is for a new contractual relationship outside the ICA.

Mr. Grady responded to AT&T's claim that because INdigital does not support a unique method of switch-to-switch signaling using a secure signaling protocol known as the Calling Party-CATegory ("CP-CAT") parameter, the IWDN is archaic and in need of an upgrade. Mr. Grady testified that CP-CAT, which is a network signaling method to mark or identify and

characterize a call as a 911 call, is the alternative option contained in a NENA-recommended standard and is a contrived mandatory requirement by AT&T. He testified that the entire matter of tandem-to-tandem transfers and CP-CAT was created by AT&T as a red herring in this complaint, and is not an issue raised by the Complainants. He stated that PSAPs served by Verizon or CenturyLink do not use the inferior and alternative tandem-to-tandem method to transfer wireless 911 calls.

Mr. Grady explained that a selective router determines the designation of a call based on the location of the caller. He testified that one of the goals of the IWDN is to simplify the wireless E911 network design and to avoid unnecessary and duplicate selective routing. He testified that it is not efficient or desirable to have multiple networks connected in a series or to rely on the ANI/ALI services of multiple service providers, and INdigital's IN911 network provides a selective routing function before calls are handed off to AT&T. He testified that AT&T insists on providing, for a fee paid by INdigital, a wholly unnecessary secondary selective routing service and that this is a prime example of AT&T's mischaracterization of the 911 network in Indiana.

Mr. Grady explained that once the selective router determines the 911 call is delivered to a special purpose end-user telephone system known as the ANI/ALI controller, the primary function of the ANI/ALI controller is to query and display the location of the caller. He testified the ANI/ALI controller is a specialized type of customer premise network equipment that displays the location of the 911 caller, typically on a map display or an information field, and that in some cases the ANI/ALI controller may display the closest civil address to the caller's location and prompt the caller to verify the caller's location. He stated the ANI/ALI screen shows the location of the caller and the appropriate public safety first responders' agencies – police, fire, EMS – that can be dispatched to the incident. Mr. Grady testified that the ANI/ALI controller is dedicated to the purpose of providing this voice and data integration to the call-taking 911 authority or PSAP. He testified AT&T operates three selective routers that serve the entire state, as well as providing 97 ANI/ALI controllers, each one dedicated to a single PSAP. He testified the output voice trunks of the AT&T selective routers connect directly to the inputs of the AT&T ANI/ALI controllers, which are owned by AT&T and operated as an integral part of the AT&T network using a direct connection arrangement. He testified that the functional equivalent in regular phone service to an ANI/ALI controller is the customer's key system or PBX, and all but three of the ANI/ALI controllers AT&T owns and provides use a conventional key telephone system or PBX as the underlying platform and then have additional special purpose ANI/ALI controller equipment associated with this conventional system.

Mr. Grady testified that AT&T owns and provides two ANI/ALI controllers that are based on IP architecture and that these systems do not have a conventional telephone system, but rely on IP technologies for the call-taking positions. He testified that both of these newer devices have legacy connections used by AT&T to connect to its legacy selective router network, and INdigital is only seeking the same type and method of direct electrical connection arrangement to the ANI/ALI controllers that AT&T provides to itself. Mr. Grady testified that the dispute in this case is INdigital's access to ANI/ALI controllers serving Indiana PSAPs that are owned or controlled by AT&T as part of its 911 system, and INdigital is seeking to establish a direct connection arrangement to this device in the AT&T-owned network.

Mr. Grady testified that the Wireless Board issued an RFI in 2003 seeking to modernize and improve wireless enhanced 911 service for the entire state. While AT&T was a Respondent to the RFI, INdigital was chosen as the vendor rather than AT&T.

Mr. Grady testified that as a result of AT&T not being selected as the vendor, AT&T withheld its cooperation, contrary to its public statements promising cooperation. He testified that after three years of failed private negotiations with AT&T on many matters, in many forums, covering many different alternatives for the direct connection arrangement, INdigital and the other Complainants filed the Complaint in this Cause. Mr. Grady testified that AT&T provided cost, pricing and installation terms, conditions and methods for the exact connection arrangement INdigital and the IWB are seeking in this complaint, but AT&T withdrew the offering that would have allowed establishment of the connection arrangement. He testified AT&T is only willing to allow the inferior type of connection that forces the use of AT&T's selective routing and its ANI/ALI network bundled together as a bottleneck facility, and that type of network connection does not meet INdigital's needs, the needs of the PSAPs connected to the AT&T network, or the IWB's goals in the IWDN project.

Mr. Grady testified that contrary to Mr. McPhee's testimony which purports that AT&T provides primary selective routing for wireless calls in Indiana, INdigital alone provides primary selective routing determining which PSAP serves the geospatial area of the wireless 911 caller. INdigital then hands off the call to the AT&T network, which duplicates the function of the selective routing. He testified INdigital is forced to pay AT&T for a selective routing service it does not wish to purchase, and the proper functioning of the network requires that the INdigital network and the AT&T network be perfectly synchronized to ensure that the Phase II ALI location data is available with the voice portion of the call.

Mr. Grady testified that the unnecessary costs charged by AT&T accrue to both the project and the IWB, and as wireless carriers add to and reconfigure their networks it could also become more difficult to keep the ANI/ALI databases of INdigital and AT&T synchronized; any lack of synchronization of the underlying data in the ALI database network will result in calls not having the location information presented to the 911 call-taker. Mr. Grady testified that a simple direct connection to the 911 call-taking equipment, the ANI/ALI controller, eliminates all of these potential problems, creates a more efficient network design, and facilitates full interagency transfers between all the PSAPs in the state.

With respect to the "federal" interconnection agreement between AT&T and INdigital, Mr. Grady testified that the ICA addresses INdigital's interconnection to AT&T's selective routers but that the connections are no longer required by INdigital because these facilities are unnecessary, duplicative and no longer meet the wireless 911 needs of Indiana. He testified that they are inconsistent with the type and function of connection arrangements INdigital has established with all non-AT&T PSAPs. He testified the ICA does not deal with this type of direct connection arrangement to the ANI/ALI controller located at the PSAP.

Mr. Grady noted that Mr. McPhee acknowledged that the appendix to the ICA governs only wireless E911 connectivity from INdigital intermediary selective routers to AT&T Indiana selective routers, and this appendix specifically governs the selective router connection arrangement and not the requested direct connection arrangement. Mr. Grady stated that at the

time the IWDN project began, it was necessary for INdigital to rely on AT&T's full network, including the temporary use of the AT&T selective routers, for the delivery of wireless 911 calls. This was because the entire statewide IN911 wireless network could not be built overnight, but Mr. Grady stated that this initial and temporary process which made up "Generation 1" was not the final objective of the IWDN project and that it is time to move forward.

Mr. Grady testified that one goal of the IWDN project is to eliminate a number of deficiencies in the routing and delivery of wireless calls throughout the state. Mr. Grady testified that because of the timing and logistics of the project, INdigital quickly entered into 911 ICAs with all the other LECs in Indiana, and completed 80% of the physical network and implementation of the Generation 1 and Project Crossroads before AT&T even responded to INdigital's request for interconnection. Mr. Grady testified that although INdigital's selective routers are labeled as intermediary in the appendix to the ICA, INdigital is providing all primary selective routing for all wireless 911 calls in Indiana. Mr. Grady testified that when 911 calls are selectively routed by INdigital they are handed off to AT&T over dedicated facilities to central office switches which function as intermediary or secondary selective routers. He testified AT&T selective routers exist but do not perform any primary selective routing function.

Mr. Grady described two interruptions in E911 service that occurred at AT&T-served PSAPs in 2008. He stated that if INdigital were able to use the connection arrangement requested in this Complaint, these types of outages would diminish, the number of PSAPs affected would be smaller, and the implementation of alternate call routing that provides immediate response would benefit public safety. He testified the current network architecture is like a large chain, which is serial in its design, and that the output of the INdigital selective routers is connected to the input of the AT&T network. Mr. Grady compared this to a string of old-fashioned Christmas tree lights: everything has to be working for the 911 call to go through both networks from the first to the second. He testified this does not comply with the NENA objective of upgrading to the most reliable 911 service. Mr. Grady testified that the wireless direct network concept as proposed by the IWB's consultant and adopted by the IWB represents the preferred industry architecture for the new E911 networks and is consistent with NENA's recommended standards.

Mr. Grady testified that NENA publishes only recommended standards, not "enforceable rules", and that many of the NENA-recommended standards provide for more than one way to implement public safety systems. Mr. Grady testified that Mr. McPhee has applied a very narrow view of NENA publication 03-003, Generic Requirements for Selective Routing Switch, dated January 2004. Mr. Grady stated that although the selective router connection arrangement in the ICA between INdigital and AT&T is consistent with the standards set forth in NENA Document 03-005, it is not true, as Mr. McPhee implied, that 03-005 only allows or recommends a selective router connection arrangement. Mr. Grady testified that 03-005 acknowledges that a network operator may either use existing standards or may develop new methods, as it states "[i]t is also understood that the manufacturer of the selective routing switch could either use recognized standards and methodology to perform the functions or could develop and document new methods or interfaces between the router and other network components needed to perform the outlined selective routing features". Mr. Grady testified that this document acknowledges that cost is an issue in the development of 911 networks:

> Although cost factors are generally excluded from consideration in the E911 standards development process, they need to be considered in the product development process. Each requirement or factor within the document has inherent development costs associated with it. Furthermore, the development, installation, operation and use of an enhanced 911 system is subject to standard business factors and selection of vendors and/or customers.

Mr. Grady testified that NENA acknowledges that the design of an E911 system is partly dictated by users' requirements.

He contested the statements of Mr. McPhee and Mr. Neinast that direct connection to the ANI/ALI controller does not follow industry standards, and stated that Mr. McPhee does not cite any industry standard that the direct connection arrangement allegedly violates. He said that the connectivity requested is consistent with the manner by which INdigital provides E911 services to the Wireless Board and PSAPs in the majority of Indiana counties, and is a type of connection that is consistent with all applicable industry guidelines, recommended standards and practices. Mr. Grady characterized Mr. McPhee's claim that AT&T follows the industry practice of interconnecting all carriers at the selective router as misleading at best. Mr. Grady believes there is no NENA standard that requires interconnection at the selective router and that it is not even the most common industry practice where there are competing 911 service providers. He testified that INdigital has successfully connected to the ANI/ALI controller serving the PSAP in areas served by Verizon and CenturyLink in Indiana as well as in nearby states.

Mr. Grady stated that Mr. McPhee's statement that direct connection does not deliver a wireless call in a different manner or enhance the accuracy of call routing or location information is incorrect; the current selective router connection arrangement does not allow the caller's location information to be transferred into or from an AT&T PSAP to a non-AT&T-served PSAP, which does not serve the public need. Mr. Grady testified that INdigital has put in place some type of a direct connection arrangement with all other PSAPs in Indiana not currently served by AT&T, and these PSAPs have full compliance, and full and complete interagency transfer capabilities that are widely and frequently used. He testified that there were more than 20,000 911 call transfers statewide in 2008 between non-AT&T-served PSAPs.

Mr. Grady disagreed with Mr. McPhee's testimony that the direct connections sought by INdigital would require a material upgrade, enhancement or improvement in AT&T's 911 service. Mr. Grady testified that the language in the ICA does not apply to this connection request, but even if it did, INdigital does not seek an improvement or enhancement in AT&T's E911 service. He asserted that the direct connection arrangement is a recommended industry standard. He stated that NENA technical information document 03-002 sets out the recommended standard for selective routing to CPE, which is commonly called the ANI/ALI controller. He testified AT&T terminates its own 911 selective router network to the ANI/ALI controller located at the PSAP. Mr. Grady testified that INdigital is requesting the same type, format and level of service that AT&T provides to itself and that INdigital is willing to pay AT&T for these plug-in components and the labor to install them. He testified that in 2006, AT&T provided samples of the costs for these services to INdigital and the Board, and AT&T then unilaterally withdrew the offer.

Concerning Indiana's connection statute I.C. § 8-1-2-5, Mr. Grady noted that in implementing deregulation legislation, the Indiana legislature has retained the statute intact for resolution of connection disputes in telecommunications. He stated that this recognizes that the nature of connections between telecommunications companies may require dispute resolutions by the Commission, which is what the Complainants request in this Cause.

Mr. Grady further disagreed with Mr. McPhee's assertion that because AT&T has entered into contracts with 41 counties, it can usurp the Commission's ability to require reasonable interconnection as required by I.C. § 8-1-2-5. Mr. Grady testified that by entering into contracts with PSAPs, AT&T sought to bootstrap itself into a circumstance where it can defy the intent of I.C. § 8-1-2-5 and preclude wireless E911 service improvement by the Wireless Board and its vendors, such as INdigital. He testified that if a PSAP does not want INdigital on its premises, it is up to the PSAP, not AT&T, to say. He stated that AT&T's current contracts with the PSAPs do not prohibit the PSAPs from connecting to the networks of other providers, nor do those contracts provide the PSAPs with all services relating to 911 that the PSAPs may need.

He testified, for example, the IN911 network provides a number of related public safety services that support wireless 911 calls that AT&T does not provide, including license plate inquiries, arrest warrants, "be on the lookout" advisories, mapping and GIS services, as well as language-line translation services. He testified that although some AT&T PSAPs have been able to gain access to some of the IN911 services, they are still waiting for AT&T to allow them to connect their 911 CPE, i.e., the ANI/ALI controller, to the IN911 network to allow them to transfer and receive wireless 911 calls with ANI/ALI data to and from all other Indiana PSAPs. Mr. Grady testified there is no detriment in allowing direct connection to AT&T's PSAP customers, but there is, however, a benefit for those customers and the traveling public.

Contrary to Mr. McPhee's assertion that the technology INdigital expects to employ for the direct connection arrangement is obsolete, Mr. Grady testified that INdigital's contract with the Board requires INdigital to insure, at its own expense, that IN911 network is fully compliant with recommended industry E911 standards when they are finalized and published by NENA. He testified that INdigital operates a statewide internet protocol-based 911 network using the latest technology from Cisco Systems, which incorporates significant research and design accomplishments of INdigital. He further testified that the next generation 911 service referenced by AT&T is not relevant to this Complaint, and the Board has authority in Indiana in matters involving wireless 911.

Mr. Grady testified that the connection requested by Complainants does not disrupt the efforts of the industry to establish standard guidelines for the provisioning of next generation-911 ("NG-911"). He testified that each of the four stated goals of NG-911 would be accomplished with the interconnection requested by Complainants, including:

(1) Enable E911 calls from any network communication device;
(2) Enable geographic, independent call access transfer and backup among PSAPs and between PSAPs and other authorized emergency organizations;
(3) Encourage an open architecture operable inter network of all emergency organizations; and

(4) Reduce emergency services capital operating and maintenance cost.

With respect to all of these goals, Mr. Grady testified that wireless 911 calls now represent 55-75% of all 911 calls, and the connection arrangement INdigital is seeking in its Complaint serves the public interest by providing greater inter-agency operability, which will also allow the Board to focus its energy and resources on further improvements to advance public safety for all of Indiana.

Mr. Grady testified that INdigital is willing to pay reasonable compensation for any AT&T labor and materials reasonably required for AT&T to facilitate the requested connections. He testified these connections require no upgrade, only an expansion of the ANI/ALI controller through simple plug-in cards, which is regular and routine capacity growth of the ANI/ALI controller. Mr. Grady further testified that INdigital does not hide the fact that it provides other types of 911 services to certain PSAPs, and INdigital reports these activities to the IWB on a regular basis. He testified that generally INdigital has overlaid additional network facilities (IP circuits) in these instances, and the PSAP customer pays directly for these additional facilities. He stated the Board does not pay for those additional services. Mr. Grady testified that INdigital submits detailed circuit information and supporting network details to the IWB and the IWB's consultant quarterly and that these are thoroughly and completely reviewed by both parties and are available for review by AT&T if it so chooses upon the implementation of a suitable non-disclosure agreement.

With respect to Mr. McPhee's concern about the language line service that INdigital provides to the IWB, Mr. Grady stated that this concern is simply a red herring. He testified that the Board has provided a necessary and essential language translation service to those PSAPs in 52 counties that are connected to the IN911 network by directly integrating the third party with the INdigital IN911 network. He testified the language line is accessed and used by non-AT&T PSAPs through ANI/ALI controller equipment and that AT&T PSAPs cannot access language line in this way because their ANI/ALI controllers are not connected to the IN911 network. Mr. Grady testified that INdigital has created a way for AT&T PSAPs that are not on the IN911 network to access the service through a toll free number that is paid for by the IWB; while this adds a cost to the IWB, the IWB has a goal of uniform service throughout the state. This arrangement was put into place to accommodate AT&T's connection restrictions until this Complaint can be resolved.

He testified that INdigital provided these access codes to the AT&T- served PSAPs to enable them to have access to language line services, but to date AT&T has refused to provide the necessary programming for the PSAPs' ANI/ALI controllers to allow them to access the off-network language line translation service. He testified that far from being an anti-competitive coercion tactic, INdigital and the Board look forward to providing network based language line services for all PSAPs in the state that use the IN911 network. Mr. Grady testified that INdigital is now developing integrated dual party relay service 711 for the speaking- and hearing-impaired community to insure they have the same access to 911 as all other callers. Mr. Grady stated that without the ability to establish a direct connection to the AT&T PSAPs, the same issue will undoubtedly be raised again by AT&T, further hampering the development of a wireless E911 network.

Mr. Grady testified that Exhibit MN-1 Diagram 1 to Mr. Neinast's testimony and the accompanying description does not accurately describe the current transfer of calls with ANI/ALI data from one AT&T PSAP to another. Mr. Grady provided an explanation of the call transfer process, and testified that AT&T's testimony and its network diagram could lead to the erroneous conclusion that the existing network architecture between the two companies is as simple as Mr. Neinast's block diagrams. He testified AT&T's wireless E911 network is unnecessarily complex because it is a work-around to the original design of the AT&T network that was created for a wireline hardwired world. He testified that it is a feat of engineering and provisioning for a wireless E911 call to transit the two networks, requiring 100% duplication between the INdigital primary selective router and ANI/ALI database and the AT&T network that sub-tends INdigital. Mr. Grady is concerned that over time, it will be difficult to maintain this high degree of coordination between the two different providers. He testified that the solution lies in the direct connection arrangement where the PSAPs are directly connected to the wireless 911 network via the ANI/ALI controllers.

Mr. Grady testified that Mr. Neinast's Exhibit MN-1 diagram 2 and accompanying description do not accurately describe the transfer of a call with ANI/ALI data from an AT&T PSAP to a non-AT&T PSAP today, and Mr. Grady explained the call transfer process. Mr. Grady further testified that Mr. Neinast's testimony implies that the interagency transfers between PSAPs served by AT&T and PSAPs served by CenturyLink or Verizon have always been capable of interagency transfers, which is not a true statement. Mr. Grady stated that based on INdigital's observations, AT&T PSAPs cannot do tandem-to-tandem transfers to non-AT&T PSAPs as suggested by Mr. Neinast because the tandem-to-tandem transfers require the SS7 call features (CP-CAT), and the current selected routers operated by CenturyLink and Verizon do not have SS7 capability. Mr. Grady testified that because they lack this method of network signaling, they would not be capable of the tandem-to-tandem transfer as envisioned by AT&T. Mr. Grady testified that today all non-AT&T PSAPs in 52 counties can transfer wireless 911 calls with ANI/ALI data to all other non-AT&T PSAPs that are connected to the IN911 network, and that, contrary to Mr. Neinast's assumption that interagency transfer is provided by Verizon and CenturyLink, INdigital provides the transfer capability as required by the Board.

With respect to NENA, Mr. Grady testified that he agrees with Mr. Neinast that NENA is a not-for-profit organization dedicated to fostering technological advancement, universal availability and implementation of 911 systems. However, he stated that Mr. Neinast omitted the fact that AT&T contributes significant amounts of NENA's funding and that many of NENA's technical committees are comprised of and chaired by AT&T employees and 911 executives. He testified that while INdigital follows existing NENA recommended standards, INdigital has implemented an IP-based 911 call routing and delivery network for which NENA has not yet issued full and recommended standards. He testified that INdigital is contractually obligated to retrofit or redesign the IN911 network to be compliant with NENA's recommended standards whenever they are published. He testified that in a competitive environment there can be many different solutions.

With respect to Mr. Neinast and Mr. McPhee's claim that INdigital is unwilling to make an upgrade to the INdigital selective routers to facilitate call transfer, Mr. Grady opined that AT&T characterizes INdigital's network as archaic or in need of an upgrade only because INdigital does not wish to use AT&T selective router service. He testified that INdigital has sent

millions of 911 calls to the AT&T selective routers without the CP-CAT parameter, and that CP-CAT is only an alternative NENA recommended standard. Mr. Grady testified that the purpose of the CP-CAT parameter is to mark a 911 call in a special way, i.e. to set the Calling Party-CATegory indicating it is an emergency. Mr. Grady testified that this NENA standard applies when there are common use trunk groups, i.e. where both non-emergency calls and 911 calls are provisioned on the same trunk. He testified NENA's primary recommended standard is to have a dedicated trunk group for 911 calls. Mr. Grady testified that INdigital uses only dedicated trunk groups with AT&T for 911 calls, and CP-CAT is unnecessary. He also testified that implementing CP-CAT would most certainly not be an upgrade to INdigital's selective routers. He testified that whether or not INdigital can facilitate this CP-CAT parameter is not relevant to this Complaint.

Mr. Grady testified that this optional call set-up parameter had become the cornerstone of AT&T's response to this Complaint, even though it is not related to the Complaint. Mr. Grady explained that INdigital does not dispute that its network cannot set the value of CP-CAT on calls that would be tandem-to-tandem transfers.

He stated that INdigital could not get CP-CAT enabling software from Nokia Siemens Communications because the software is no longer being sold. Nevertheless, AT&T proposes that INdigital purchase a discontinued software feature which AT&T has continued to use.

Mr. Grady testified that INdigital prefers to instead establish a simple electrical connection to the ANI/ALI controller that is located at the PSAP because it is the most direct solution to these matters, provides the greatest flexibility to the PSAP and wireless 911 callers, and provides the most reliability for Indiana's 911 network. Mr. Grady testified that after AT&T withdrew its offer to sell the plug-in assemblies for the ANI/ALI controllers to the Wireless Board in 2006, INdigital took the initiative to propose tandem-to-tandem transfer capability to AT&T so that it could at least solve the issue of interagency PSAP transfers on a temporary basis. He testified that AT&T never responded. He testified that it was clear that AT&T did not have any interest of pursuing this last choice alternative.

As a result of PSAP demand and projects in the area of the Indiana toll road, Mr. Grady stated that INdigital approached AT&T again in late 2007 about the possibility of developing tandem-to-tandem transfer capability, but AT&T was unresponsive. Mr. Grady stated that in early 2008, AT&T agreed to a data test program for tandem-to-tandem transfers between Lake County, Indiana and the surrounding counties, including the Indiana toll road area, to allow the AT&T PSAPs to transfer calls to other public safety agencies or interagency transfers with the voice and ANI/ALI data for 911 calls. Mr. Grady testified that INdigital implemented tandem-to-tandem trunks in accordance with NENA standard 03-003.

Mr. Grady noted that the NENA recommended standard 03-003 (which is referenced by Mr. Neinast and Mr. McPhee in their testimony) provides two methods for the implementation: a dedicated direct ISUP[6] trunk route and NENA's alternative method, CP-CAT parameter, and that

[6] "ISUP" is defined as an Integrated Services Digital Network User Part, which is the call control part of SS7. ISUP governs setting up, coordinating and taking down trunk calls on the SS7 network, and provides, among other things, calling party number information. *Newton's Telecom, infra,* p. 437.

INdigital provisioned a new, dedicated ISUP trunk route for this test. Mr. Grady testified that in the data test, AT&T chose to require both the recommended standard and the alternate CP-CAT standard. He testified that in addition to having a dedicated trunk group solely and exclusively for 911 calls, AT&T required INdigital to comply with the CP-CAT parameter on every transferred 911 call. Because the software required to implement CP-CAT is discontinued, the tandem-to-tandem transfer arrangement did not work successfully. Mr. Grady testified that AT&T was still unwilling to disable the requirement for CP-CAT on 911 calls over the dedicated trunk group and that the outcome of the data test was that the AT&T PSAP in Lake County could transfer calls to all other PSAPs on the IN911 network, such as the Indiana State Police post at the Indiana toll road or nearby LaPorte County, but that other non-AT&T PSAPs were unable to transfer 911 calls with associated location information to Lake County.

Mr. Grady rebutted Mr. Neinast's implication that AT&T's selective router is the point of demarcation for allocating costs between wireless carriers and the PSAPs, and said that INdigital is the point of demarcation because it is the primary selective router. He testified that contrary to Mr. Neinast's testimony, the FCC's Order on Reconsideration in *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems,* CC Docket 94-102, FCC 02-146 (July 24, 2002) established that the demarcation point is the primary selective router. He testified the IWB established INdigital as the point of demarcation when it contracted to have the wireless 911 network built by INdigital and that INdigital is not changing the point of demarcation in this complaint. He further testified that the FCC order was primarily related to cost allocation, which is not an issue in this Complaint.

With respect to the Section 251 ICA between INdigital and AT&T, Mr. Grady stated that the direct connection arrangement sought by the Complainants is not inconsistent with the ICA, as the ICA is silent with respect to that type of connection. He testified that the ICA deals only with the wholesale provision of the selective routing service which INdigital is purchasing from AT&T. He testified that AT&T crafted the ICA to state exclusively what INdigital could and could not use the wholesale selective routing service for, but that AT&T did not specifically exclude the type of direct connection the Complainants now seek. He testified INdigital is not prohibited from establishing a direct connection to the PSAP's equipment; this is common in other states where AT&T operates and has been accomplished in 52 Indiana counties where AT&T is not the 911 provider. With respect to Mr. Neinast's testimony that the next generation IP technology for 911 will require all carriers to interconnect using industry standards that INdigital's network lacks, Mr. Grady stated that he is unaware of any publication, meeting or discussion that supports this statement. He testified INdigital hosted one of the test sites for the U.S. Department of Transportation next generation 911 USMG911 project, and that INdigital embedded the USMG911 data test network within the IN911 IP network.

With respect to Mr. Neinast's claim that INdigital and the Board are forcing PSAPs to connect to an unwanted network, Mr. Grady testified that INdigital is not forcing any PSAP onto the network and that each PSAP can choose whether to allow the connection. Mr. Grady further testified that every PSAP that is served by a provider other than AT&T has elected to join the IN911 network and has signed an authorization form for their wireless 911 calls to be delivered by the new IP network. He testified two PSAPs served by AT&T, Complainants Carroll County and Benton County, requested that the proposed connection arrangement be established, and have both been rebuffed or ignored by AT&T. He testified the AT&T PSAPs also signed

authorization forms before INdigital converted the wireless 911 calls they received in the first generation of the project. He testified that there is no reason to think the AT&T PSAPs will not choose to allow the direct connection to the ANI/ALI controller if AT&T is ordered to make that connection as requested.

With respect to Mr. Neinast's characterization of the impact to PSAPs if the Commission orders the connections requested by the Complaint, Mr. Grady testified that with regard to costs, AT&T's concerns are misplaced. He explained the IN911 project planned from the beginning to pay for the plug-in components that were needed to establish the direct connection to the ANI/ALI controllers. He testified that the IWB, through INdigital, has paid for the connections in all of the counties not served by AT&T. Mr. Grady observed that AT&T is not currently the exclusive provider of 911-related services to the AT&T-served PSAPs, and that PSAPs served by AT&T rely on various third-party providers for certain of AT&T's ALI database services today. Mr. Grady further testified that AT&T PSAPs in 23 counties have connected to the IN911 network, and that many of these PSAPs have allowed the connection of the IN911 network through and to the equipment of a third party. He testified those PSAPs authorized the installation of the IN911 network in the onsite equipment, which confirms that there are already other circumstances where another provider's equipment does not hamper or effect AT&T's service provisioning to its customers. He further testified that many of AT&T's PSAP customers use software and systems that are integrated with the AT&T-owned ANI/ALI controller, such as mapping, computer-aided dispatch (CAD), and voice and data recording systems. He testified that if the PSAP customer and AT&T are able to sort out these connections, INdigital's connection should not present a problem.

With respect to Mr. Neinast's discussion of PSAP call rerouting, Mr. Grady testified that INdigital has efficiently, successfully and swiftly taken action to reroute wireless 911 calls for AT&T PSAPs during network outages. Mr. Grady stated that there is no unnecessary complexity, although AT&T views its role of intermediary selective routing in a grandiose fashion and there have been some questionable disaster recovery efforts by AT&T involving wireless 911 calls. Mr. Grady testified that Mr. Neinast appears to underestimate the technical capabilities of AT&T's PSAP customers, as there have been two network outages that have impacted PSAPs served by AT&T, and those PSAPs found that their AT&T-provided "make busy" or emergency reroute switches were connected to a 911 network that had stopped working at a higher level. He testified these PSAPs used their cell phones to call INdigital to have their 911 calls rerouted quickly and efficiently to nearby Verizon and CenturyLink PSAPs, and in some cases to emergency cell phones within their PSAP. He further testified that INdigital has a secure PIN-code-based network administratable call-routing system, and INdigital plans to add a secure website in 2009 to accommodate these types of call route requests via web browser with the appropriate security precautions.

With respect to the responsive testimony offered by Mr. Sorensen on behalf of Intrado, Mr. Grady testified that he does not agree that an ICA is required by federal law for the transfer of wireless calls between PSAPs with ANI/ALI data. He testified that INdigital has expressed an interest in establishing a business agreement with Intrado in Ohio, but INdigital does not seek or require a Section 251 ICA with Intrado to effectuate the transfer of 911 wireless calls with ANI/ALI data from PSAPs served by Intrado to PSAPs served by other LECs and vice versa. Mr. Grady testified that only a business agreement is needed with Intrado to allow INdigital and

Intrado to have a fully interoperable emergency services IP-based network, much like a business agreement that two telephone companies would execute if one wished to hang wires on the second company's poles or, in the parallel and more modern setting, of the secure exchange of IP traffic related to all types of emergency services.

4. Commission Findings and Conclusions. Complainants have requested the Commission to order AT&T to allow INdigital to physically connect its IN 911 network to AT&T's ANI/ALI controllers located at the PSAPs that receive 911 service from AT&T. Complainants seek relief under I.C. § 8-1-2-5, the statute which empowers the Commission to order such connections and to determine the rates and terms for interconnections between INdigital and AT&T. The Complainants have asserted that the interconnection rights and responsibilities under the Telecommunications Act of 1996 do *not* apply to this cause of action. As in another case with similar facts, we find that 47 U.S.C. § 251 does apply, as set forth more fully below.

A. Applicable Law. Complainants filed their Complaint against AT&T pursuant to I.C. § 8-1-2-5, which states in relevant part:

> (a) . . . Every public utility for the conveyance of telephone messages shall permit a physical connection or connections to be made, and telephone service to be furnished . . . between its telephone system and the telephone system of another such public utility, whenever public convenience and necessity require such physical connection or connections and such physical connection or connections will not result in irreparable injury to the owner or other users of the facilities of such public utilities, nor in any substantial detriment to the service to be rendered by such public utilities. . . . The term "physical connection", as used in this section, shall mean such number of trunk lines or complete wire circuits and connections as may be required to furnish reasonably adequate telephone service between such public utilities.
>
> (b) . . . in case of failure to agree upon such physical connection or connections, or the terms and conditions upon which the same shall be made, any public utility . . . may apply to the commission and if after investigation the commission shall ascertain that public convenience and necessity require such use or such physical connections, and that such use or such physical connection or connections would not result in irreparable injury to the owner or other users of such equipment or the facilities of such public utilities, nor in any substantial detriment to the service to be rendered by such owner or other public utilities or other users of such equipment or facilities, it shall by order direct . . . that such physical connection or connections be made and determine how and within what time such connection or connections shall be made, and by whom the expense of making and maintaining such connection or connections shall be paid.

We have exercised our jurisdiction under I.C. § 8-1-2-5 in a variety of matters, including matters in which the Commission concurrently exercised jurisdiction granted to it by the Telecommunications Act of 1996.[7] In this Cause, for the Commission to order the requested connections, Complainants must show that INdigital and AT&T are public utilities and that INdigital requests a physical connection: (1) of two telephone systems for the conveyance of telephone messages; (2) required to furnish reasonably adequate telephone service between such public utilities; and (3) that will not result in irreparable injury to the owner or other users of the facilities of such public utilities or in any substantial detriment to the service to be rendered by such public utilities. The Commission must also determine that the public convenience and necessity requires the requested connections.

B. Analysis and Discussion. We have already found that AT&T and INdigital are public utilities as defined by I.C. §§ 8-1-2-1 and 8-1-2.9-0.5, that INdigital provides telecommunications services to the IWB, and that AT&T provides telecommunications service to various PSAPs in Indiana using AT&T's existing E911 dedicated network and database. Complainants seek a physical connection at AT&T's ANI/ALI controller for the purpose of transmitting E911 messages to PSAPs in the State of Indiana. Complainants assert that such connection is necessary to ensure that vital location and name information is properly routed to the PSAP in question to allow for efficient and timely delivery of emergency services, including the transfer as necessary between PSAPs when an E911 call is delivered when the caller is in transit.

AT&T asserts that the federal Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56 (1996) (the "Act") preempts any effort by the Commission and forecloses us from ordering the requested direct connection pursuant to I.C. § 8-1-2-5. We disagree.

The Act expressly preserves states' authority to regulate telecommunications carriers to further certain goals so long as the regulation is not inconsistent with the Act.[8] In explicit terms, 47 U.S.C. § 253(b) authorizes a state to impose:

> on a competitively neutral basis and consistent with section 254 of this title, requirements necessary to preserve and advance universal service, *protect the public safety and welfare*, ensure the continued quality of telecommunications services, and safeguard the rights of consumers.

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[7] *See e.g. Sprint Communication Co. L.P. v. Ind. Bell Tel. Co. d/b/a AT&T Indiana*, Cause No. 43408, Order at 7 (Ind. Util. Regulatory Comm'n Mar. 25, 2009); *In re The City of Greendale's Discontinuation of Water Service to Valley Rural Utility Co.*, Cause 42837 Order at 3 (Ind. Util. Regulatory Comm'n Apr. 20, 2005); *In re The Commission Investigation and Generic Proceeding of Rates for Unbundled Network Elements and Collocation for Ind. Bell Tel. Co.*, Cause 42393, Order at 2 (Ind. Util. Regulatory Comm'n Mar. 12, 2003); *In re Petition of Smithville Tel. Co., Inc. under I.C. 8-1-2-5(b) for an Investigation*, Cause 40895, Order at 21 (Ind. Util. Regulatory Comm'n Feb. 9, 2000); *Golden Harbor of Indiana, Inc. Petitioning Commission Action Regarding Adoption of Interconnection Agreement Pursuant to Section 252(e) and 252(i) of the Telecommunication Act of 1996*, Cause 41268-INT 05, Order at 2-3(Ind. Util. Regulatory Comm'n Jan. 19, 2000).

[8] *See Ind. Bell Tel. Co., Inc. v. McCarty*, 362 F.3d 378, 392 (7th Cir. 2004); *In re Qwest's Wholesale Serv. Quality Standards*, 702 N.W.2d 246, 251-52 (Minn. 2005).

47 U.S.C. § 253(b) (emphasis added).

In addition, the Act also preserves our ability to impose:

> requirements on a telecommunications carrier for intrastate services that are necessary to further competition in the provision of telephone exchange service or exchange access, as long as the State's requirements are not inconsistent with this part or the Commission's regulations to implement this part.

47 U.S.C. § 261(c).

Thus, the Act preserves our authority to regulate if the regulation is competitively neutral, necessary to protect the public safety and welfare, necessary to further competition, and not inconsistent with the Act or the FCC's regulations pursuant to the Act. Because we find that the requested direct connection is competitively neutral, necessary to protect the public safety and welfare, necessary to further competition, and not inconsistent with the Act, we conclude that the Act does not preempt us from ordering the direct connection pursuant to our authority under state law.

In a previous case involving INdigital, we construed a request for interconnection under I.C. § 8-1-2-5 to also fall under the rubric of 47 U.S.C. §§ 251 and 252. See, *In the Matter of the Complaint of Communications Venture Corp. d/b/a INdigital Telecom Against Verizon North, Inc.,* 2008 Ind. PUC LEXIS 458, Cause No. 43277 (Ind. Util. Regulatory Comm'n Nov. 20, 2008). As in this case, the dispute was about physical connection, and the claim was asserted by INdigital under I.C. § 8-1-2-5. We agreed that I.C. § 8-1-2-5 applied, but we also noted that

> there is concurrent controlling authority – namely, 47 U.S.C. §§ 251 and 252. While I.C. § 8-1-2-5 provides general terms regarding the necessity of interconnection, Sections §§ 251 and 252 provide details regarding interconnection between communications providers. Indeed, the term interconnection is one of art when used in the telecom world, as opposed to a more prosaic indication of the simple act of joining in I.C. 8-1-2-5. And by rules of statutory construction, the general rule gives way to the specific....
>
> Interconnection has been defined not as the exchange of traffic, but rather "a physical link[] between the equipment of the carrier seeking interconnection and the LEC's network." *AT&T Corp. v. FCC,* 354 U.S. App. D.C. 325, 317 F.3d 227, 235 (D.C. Cir. 2003), *citing Competitive Telecomm. Ass'n v. FCC,* 117 F.3d 1068, 1072 (8th Cir. 1997). In addition, INdigital asked the Commission to, as necessary, determine the appropriate compensation and terms and conditions for the requested interconnection. Thus, while the parties have argued that this case does not invoke an interconnection as defined by 251 and 252, the relief sought appears to indicate otherwise.

Id., 2008 Ind. PUC LEXIS 458 at 22-23.

We find that the relief sought by Complainants in this Cause is subject to the same treatment as that in Cause No. 43277. The federal Act does establish methods and procedures that a carrier seeking interconnection under §251(c) must follow. But telecommunications carriers may agree upon physical connections between their telephone systems that are not required by §251(c) and enter into commercial contracts to implement those physical connections without going through the §251(c) process. We now examine the issues.

i. Competitive Neutrality. As set forth in the evidence, one of the stated goals of the IWDN project is to coordinate open, competitively neutral access to the PSAPs at a statewide level.[9] Currently only AT&T has direct access to its ANI/ALI controllers, but has refused to allow any other service provider in this jurisdiction to make a direct connection to the controllers.[10]

We find that the requested direct connection will provide other service providers with the same access to ANI/ALI controllers located at PSAPs as AT&T currently has. Allowing INdigital to connect directly to AT&T's ANI/ALI controller satisfies both the obligation to allow direct connection and to do so at any technically feasible point, which ultimately fulfills the mandate of competitive neutrality.[11] In other words, refusal to allow INdigital to directly connect to AT&T's ANI/ALI controller would be to create a distinction based on INdigital's status as a competitive E911 provider, in effect discriminating against a carrier based on how it delivers its services. The consequence of an order to allow the requested direct connection gives each PSAP the right to decide whether to allow INdigital to connect the IWDN to the ANI/ALI controller. We therefore find that the requested direct connection is competitively neutral.

ii. Necessary to Protect the Public Safety and Welfare. E911 services are vitally important to Indiana citizens and guests passing through Indiana, and the evidence is undisputed that a significant and growing percentage of 911 calls are wireless calls. As noted above, we find that direct connection increases the efficiency and reliability of wireless 911 call delivery. Currently, PSAPs served by AT&T cannot transfer calls with both voice and location data to PSAPs served by other providers. The requested direct connection will allow such call transfers. In addition, once the direct connection is in place, the IWDN will provide an even more flexible and reliable backbone over which service providers can offer new and sophisticated emergency response technologies as they come online. We therefore find that the requested direct connection is necessary to protect the public safety and welfare, and that failure to timely execute such direct connection would be detrimental to the public safety and welfare.

iii. Necessary to Further Competition. We have already recognized that AT&T's bundling of its ANI/ALI controller equipment with its 911 service and refusal to allow the direct connection reduces competition and hampers new entry into the E911 service market. Currently

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[9] Grady Direct, A.9; Hearing Transcript, D-37-38.

[10] Sorensen Direct, p.8.

[11] While we permit this connection under the strictures of I.C. § 8-1-2-5, this also conforms with the requirement under 47 U.S.C. § 251(c)(2)(B) that "imposes upon an incumbent carrier a duty to permit a requesting carrier to interconnect directly with the incumbent's local exchange network 'at any technically feasible point within the carrier's network.'" *WWC License, L.L.C. v. Pub. Svc. Comm'n,* 459 F.3d 880, 893 (8th Cir. 2005).

the PSAPs have no control over which service providers have access to the ANI/ALI controllers owned and operated by AT&T as part of its E911 network. The requested direct connection will increase the ability of competitive service providers to offer innovative services to PSAPs, and will allow PSAPs to obtain new and emerging competitive emergency response services that will no doubt continue to develop in the future. We therefore find that the direct connection is necessary to further competition.

iv. Not Inconsistent with the Act. As we noted above, 47 U.S.C. §251(a) requires each telecommunications carrier to "interconnect directly or indirectly with the facilities and equipment of other telecommunications carriers"; 47 U.S.C. §251(c) requires an ILEC to provide interconnection "at any technically feasible point within the carrier's network."

We first note that the ANI/ALI controllers owned and operated by AT&T as part of its E911 network are AT&T's "facilities and equipment" as the term is used in §251(a). While INdigital has not requested interconnection under § 251(c), we have found that 47 U.S.C. §251 applies. The next question is whether we must address whether the ANI/ALI controllers owned and operated by AT&T constitute "any technically feasible point within [AT&T's] network".

As noted above, we find that in this case, the ANI/ALI controllers owned and operated by AT&T are part of AT&T's telephone system as that term is used in I.C. § 8-1-2-5. ANI/ALI controllers are not "customer premises equipment" ("CPE") in the traditional sense because AT&T bundles the provision of ANI/ALI controllers with its 911 service and does not allow the PSAPs to have or determine access to the ANI/ALI controllers or allow other service providers access to the controllers.[12] The FCC has discussed ANI/ALI controllers as a required add-on to a carrier's network in order to accomplish the full functionality of E911 services. *In the Matter of Implementation of the NET 911 Improvement Act of 2008,* 23 F.C.C.R. 15884 ¶9 (Oct. 21, 2008). Therefore, ANI/ALI controllers are necessary extensions of the existing network; AT&T's ownership of them as 'facilities and equipment' under § 251(a) means that AT&T must allow direct connection by INdigital. AT&T must also permit such an interconnection between two telephone systems where the public convenience and necessity requires it pursuant I.C. § 8-1-2-5. Because AT&T affords itself such a direct connection to the ANI and ALI controllers, it must also make that same direct connection available to INdigital

AT&T asks us to define terms such as "telephone system" found in Indiana's statute by referencing definitions in FCC regulations adopted pursuant to the Act, such as the non-exclusive list of "points" within an ILEC's network identified in 47 C.F.R. §51.305(a)(2). However, the term "telephone system" is explicitly defined by neither Indiana law nor the federal Act. Therefore, AT&T's suggestion that we interpret state law, based on federal law that does not even define the same term, is inapposite.

As a consequence, federal regulations require AT&T to allow INdigital to connect to the ANI/ALI controller "in the same manner, and via the same signaling links," as AT&T itself, and such a connection would of necessity be a direct connection. We note that this is consistent with

[12] CPE is defined as "telephone equipment – key systems, PBXs, answering machines, etc. – which reside on the customer's premises. 'Premises' might be anything from an office to a factory to a home." Harry Newton, *Newton's Telecom Dictionary* 207 (19th ed. 2003).

47 C.F.R § 51.5, which defines a network element as "a facility or equipment used in the provision of a telecommunications service... [including] but...not limited to, features, functions, and capabilities that are provided by means of such facility or equipment, including but not limited to, subscriber numbers, databases, signaling systems, and information sufficient...the transmission, routing, or other provision of a telecommunications service." The ANI/ALI controller is equipment that allows access to the databases necessary to provide necessary E911 emergency information.

Finally, we note that the spirit and purpose of the Telecommunications Act of 1996 was to promote competition in the provision of local telecommunications service. *See Ind. Bell Tel. Co., Inc. v. McCarty*, 362 F.3d 378, 392 (7th Cir. 2004) (citing *Verizon Communications, Inc. v. FCC*, 535 U.S. 367, 475-76 (2002)). Our decision to order the requested direct connection is supported by both state and federal law and is consistent with the pro-competitive goals of the Act. Because we find that the requested direct connection is competitively neutral, necessary to protect the public safety and welfare, necessary to further competition, and consistent with the Act, we conclude that we are not preempted from ordering the requested direct connection.

v. Physical connection required to furnish reasonably adequate telephone service. The Complainants request the Commission to order AT&T to allow INdigital to physically connect the IWDN to the ANI/ALI controllers owned and operated by AT&T as part of its E911 network. The IWDN is an IP-based network that unifies the delivery of all wireless 911 calls to the various PSAPs in Indiana.[13] The evidence shows that Complainants are open to various connection protocols, as long as the connection functions properly as a direct delivery mechanism for wireless calls over the IWDN to the PSAPs. The evidence reflects that both voice and data connections are required for this delivery,[14] and Complainants' evidence asserted that the simplest voice connection would be an industry standard reverse battery "CAMA" trunking arrangement, with a two-wire twisted copper pair connection to the AT&T owned-and-operated ANI/ALI controllers that are part of AT&T's E911 network. For the data connection, the Complainants requested an RS-232 serial interface at the ANI/ALI controllers owned and operated by AT&T as part of its E911 network.[15]

We find that the connections requested by Complainants meet the "physical" connection requirement of the statute. I.C. § 8-1-2-5(a) defines the term physical connection as "such number of trunk lines or complete wire circuits and connections as may be required to furnish reasonably adequate telephone service between such public utilities." Under 47 C.F.R. 51.5, interconnection means "the linking of two networks for the mutual exchange of traffic."

We must determine whether the connections requested by Complainants are required to furnish reasonably adequate telephone service as required by I.C. § 8-1-2-5(a). The evidence shows that PSAPs served by AT&T do not currently receive wireless 911 calls directly from the IWDN solely because AT&T has refused to allow INdigital to connect to the ANI/ALI controllers owned and operated by AT&T as part of its E911 network and, instead, has insisted

[13] IWB Exhibit JM, A. 5 ("McCamley Direct").
[14] Grady Direct, A. 16.
[15] *Id.*

that INdigital continue to connect the IWDN network to AT&T's selective routers to indirectly deliver wireless calls to the PSAPs through AT&T's network.[16]

Complainants have asserted that the direct connection to the AT&T owned and operated ANI/ALI controllers, rather than an indirect delivery of wireless calls through AT&T's selective routers, is necessary for several reasons. We concur. Without the direct connection arrangement, the PSAPs served by AT&T are not fully benefiting from the IWDN because wireless calls and data are carried over the IWDN, but must travel the "last mile" over AT&T's legacy system.[17]As a result, the PSAPs served by AT&T cannot transfer a call with both the voice and location (ALI) data to a PSAP served by another provider such as CenturyLink or Verizon, and non-AT&T PSAPs cannot transfer a call with both the voice and location data to a PSAP served by AT&T.[18] Currently, all PSAPs served by CenturyLink and Verizon are directly connected to the IWDN; the direct connection arrangement requested would allow any PSAP in Indiana to transfer a call with both voice and location data to any other PSAP in Indiana.[19]

It has been established that one purpose of the IWDN is to create a fiber ring-based network that is redundant and physically diverse around the State that will be able to adapt to new features and requirements as new 911 services emerge.[20] For example, those PSAPs that are connected to the IWDN are already able to directly access Language Line translation service through the ANI/ALI controller.[21] In contrast, because the PSAPs served by AT&T are not directly connected to the IWDN, they cannot access this Language Line service directly, but rather, must dial a toll-free number paid for by the Wireless Board.[22] [23]

The evidence also demonstrates that the current connection to AT&T's selective routers is not as efficient as the direct connection arrangement. The "serial" method of call processing - the IWDN routes the call to the proper PSAP and delivers it to AT&T's selective routers, then AT&T "routes" the call again to the proper PSAP - results in extra cost to the IWB because INdigital must pay AT&T for a "routing" service it does not need.[24] There is also evidence that the serial nature of the connection to AT&T's selective routers is less reliable than a direct connection arrangement because if AT&T's network fails, the call routing function will fail.[25] In addition, connection to the selective router reduces reliability; lack in synchronization between the ALI databases of INdigital and AT&T could result in calls not having the location information presented to the 911 call taker.[26]

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[16] INdigital Exhibit 2, A. 4, ("Smith Direct").
[17] Smith Direct, A. 5.
[18] McCamley Direct, A.16; Grady Direct, A. 7; Hearing Transcript at D-39.
[19] Grady Rebuttal, A. 63.
[20] McCamley Direct, A. 6.
[21] Hearing Transcript at A-56; Grady Rebuttal, A. 40.
[22] Grady Rebuttal, A. 40.
[23] There was evidence that the same problem will arise for the AT&T-served PSAPs as other new services come online such as integrated dual party relay service (711) for the speaking and hearing impaired. Grady Rebuttal, A. 40.

[24] Grady Direct, A. 17
[25] Grady Rebuttal, A. 22.
[26] Grady Direct, A. 17.

AT&T argues that the requested connection would not be necessary if INdigital would "upgrade" its network to accommodate "tandem-to-tandem" transfers. AT&T states that PSAPs served by AT&T can transfer calls with both voice and location data to other PSAPs served by AT&T via a "tandem-to-tandem" transfer procedure whereby AT&T's selective routers are linked together with tandem-tandem trunk groups.[27] AT&T argues that if INdigital's selective router supported the proper tandem-to-tandem functionality, then PSAPs served by AT&T could transfer calls with both voice and location data to PSAPs that are directly connected to the IWDN and vice versa.[28]

However, the evidence indicates that Complainants have not asked AT&T to establish tandem-to-tandem transfer capability.[29] In an effort to try to complete Phase II of the Wireless Board's project, INdigital agreed to try to implement tandem-to-tandem transfer capability during a beta test. INdigital implemented tandem-to-tandem trunks in accordance with NENA standard 03-003, which states:

> This technical reference will allow for two types of interfaces between E911 Tandems. First, a dedicated, direct ISUP trunk interface may be used between E911 Tandems. On this type of trunk interface, all calls processed on the trunks are assumed to be 911 calls. *As an alternative, this reference will prescribe the necessary signaling for non-dedicated, non-direct trunks to be used for processing 911 calls.* On these types of trunks, it cannot be assumed that calls originating or terminating on the trunks are 911 calls.

NENA 03-003, January, 2000, page 4, section 1.2 (emphasis added).

The evidence reflects that in the beta test, AT&T chose to require both the recommended standard and the alternate standard referred to as "CP-CAT", which applies when there are common use trunk groups, i.e. where both non-emergency calls and 911 calls are provisioned on the same trunk group.[30] The record reflects that in addition to having a dedicated trunk group solely and exclusively for 911 calls, AT&T required INdigital to comply with NENA 03-003 using the CP-CAT parameter on all transferred 911 calls. INdigital does not dispute that its network cannot set the value of CP-CAT - because the software feature is old and has such limited implementation that it is no longer sold by its developer, Nokia Siemens Communications.[31] Because the CP-CAT software is discontinued, the tandem-to-tandem transfer arrangement did not work successfully. Thus, the outcome of the beta test was that the AT&T PSAP in Lake County could transfer calls to all other PSAPs on the IN911 network, but other non-AT&T PSAPs were unable to transfer 911 calls with location information to Lake County. This outcome was effectively preordained by the parameters of the beta test activated by AT&T.

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[27] Neinast Direct, p. 7.
[28] Neinast Direct, p. 8.
[29] Grady Rebuttal, A. 8.
[30] INdigital Exhibit 3, A. 48-49, ("Grady Rebuttal").
[31] *Id.*

The use of outdated software to engage in a tandem-to-tandem transfer procedure is not a viable alternative to accomplish full call transfer capability, and the direct connection arrangement requested by Complainants is a reasonable procedure. We therefore find that the requested direct connection arrangement is reasonably required because it increases the efficiency and reliability of wireless 911 call delivery (i.e., "reasonably adequate telephone service"), and without that connection arrangement, PSAPs served by AT&T cannot transfer calls with both voice and location data to PSAPs served by other providers.

vi. The connection requested is between INdigital's telephone system and AT&T's telephone system. Complainants seek a direct physical connection of the IWDN to the ANI/ALI controllers owned and operated by AT&T, as part of AT&T's E911 network and located on the premises of PSAPs that receive 911 service from AT&T. AT&T claims that the ANI/ALI controller is CPE and is not part of AT&T's network or telephone system. Complainants demonstrated, however that by bundling or "tying" its 911 service with the provision of the ANI/ALI controller and only offering such "comprehensive" service to PSAPs, AT&T has incorporated that particular equipment on the customers' premises into its telephone system.

The ANI/ALI controller is a specialized type of customer premise network equipment that displays the location of the 911 caller, typically on a map display, or in information fields. Generally, PSAPs have mapping systems that are associated with the ANI/ALI controller, and the ANI/ALI controller is dedicated to the purpose of providing this voice and data integration to the PSAP.[32] The record evidence also indicates that the ANI/ALI controller is one of three integrated components necessary for the routing and transmission of an E911 call.[33]

The evidence establishes that an ANI/ALI controller is similar to a key system or a PBX system.[34] There also appears to be no dispute that AT&T owns the ANI/ALI controllers and provides them to PSAPs as part of its comprehensive bundled 911 service.[35] In response to a question from the bench, AT&T's witness McPhee testified:

> [I]n Indiana, the E911 services that AT&T provides is an all-encompassing managed service, a package, if you will, and so that ANI/ALI controller is a piece of that service that's provided, so within the context of that being a CPE at the PSAP location, it is AT&T Indiana information that's forwarded to that device.

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[32] Grady Rebuttal, A. 11-12.The selective router, on the other hand, is a specialized telephone switch that determines the destination of a 911 call based on the location of the caller. Grady Rebuttal, A. 9.

[33] Intrado Exhibit 1, p. 7.

[34] Grady Direct, A. 15; McCamley Direct, A. 7; Hearing Transcript, D-25-27

[35] Hearing Transcript, B-97, 98; Grady Direct, A. 10; Carroll County Exhibit 1, A. 5, ("Cree Direct"); Benton County Exhibit 1, A. 5, ("Steele Direct"). The record evidence refers to the arrangement by which AT&T furnishes ANI/ALI controllers to PSAPs as both a "lease" or some other form of service agreement. The only such agreement that was offered into evidence was the agreement offered as INdigital's Exhibit CX-1, which is in the form of a contract for services rather than a lease of equipment. The record evidence shows that AT&T both owns and controls these ANI/ALI controllers. Therefore, whether the ANI/ALI controllers owned by AT&T are furnished pursuant to a lease or other form of agreement, it does not matter for purposes of these proceedings and our determinations herein concerning whether the ANI/ALI controllers are components of AT&T's telecommunications system.

Hearing Transcript, B-97, 98.

AT&T elicited cross-examination testimony from IWB's witness McCamley that an ANI/ALI controller is a piece of equipment available from a number of manufacturers and that it typically resides on the PSAP's premises.[36] As a consequence, AT&T argues that an ANI/ALI controller is not part of the AT&T network.[37] Complainants argue that while the ANI/ALI controller is theoretically severable from AT&T's telephone system, the fact that AT&T owns or controls the ANI/ALI controller and provides it to the PSAP as part of a comprehensive 911 service package demonstrates that the ANI/ALI controller *is* part of AT&T's network. Mr. Grady testified that AT&T's refusal to allow INdigital to connect the IWDN to the ANI/ALI controllers indicates that AT&T categorizes them as an integral part of its telecommunications system.[38]

This evidence shows that PSAPs served by AT&T do not control the ANI/ALI controllers. IWB's witness Professor Hatfield is compelling on the question of whether the ANI/ALI controllers operated by AT&T are part of AT&T's "telephone system." Prof. Hatfield contrasted the hypothetical situation in which a customer, in his analogy IBM, owns a PBX from the situation in this Cause stating:

> IBM has a choice because IBM controls or leases the PBX. It has control of the PBX. It can choose whether it says, long-distance carrier, I want my traffic delivered directly or I want it delivered through the public switch or the local network. That's not the situation that we're dealing with here.[39]
>
> [The ANI/ALI service is] provided by AT&T as a bundle, and, therefore, the customer does not have the choice that IBM would have since they control the PBX.[40]

Prof. Hatfield also directly testified that in his opinion, "the ANI/ALI equipment would be considered part of the network.[41]

Based on our analysis of the record evidence, we conclude that the ANI/ALI controllers owned or operated by AT&T as part of its E911 network and located on the premises of PSAPs that receive 911 service from AT&T are part of AT&T's telephone system. We base this conclusion on several findings. AT&T-served PSAPs do not have control over who may connect to the ANI/ALI controller and, indeed, certain PSAPs including the Complainants in this Cause were denied the right to connect to the IWDN by AT&T. The ANI/ALI controller is without question one of several integrated components necessary for the routing and transmission of an E911 call. Finally, AT&T's bundling of its 911 service with the ANI/ALI database service and provision of the ANI/ALI controller effectively makes the controller part of AT&T's network or telephone system.

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[36] Hearing Transcript, A-59.
[37] Hearing Transcript, B-89, 90.
[38] Grady Direct, A. 10.
[39] Hearing Transcript, D-27.
[40] Hearing Transcript, D-33, 34
[41] Hearing Transcript, D-45.

The evidence shows that Complainants seek a connection between the IWDN to the ANI/ALI controllers owned and operated by AT&T as part of its E911 network for the purpose of delivering the voice component of wireless 911 calls directly to the PSAPs.[42] The function of the voice connection is to deliver the wireless 911 call to the 911 dispatcher at the intended PSAP site.[43] Therefore, we find that Complainants' direct connection arrangement requested involves the conveyance of telephone messages.

vii. No irreparable injury and no detriment to AT&T's service will result from the requested connection. AT&T argues that INdigital's requested connection creates a substantial detriment to AT&T's E911 service as a whole and to its PSAP customers.[44] AT&T asserts that directly connecting the IWDN to the ANI/ALI controllers owned and operated by AT&T as part of its E911 network adds complexity to PSAP management and impacts call re-routing.[45] However, the record evidence shows that the requested direct connection arrangement will not cause irreparable injury to AT&T or users of its services, or act as a detriment to service rendered by AT&T.

First, the connections requested are industry standard connections, and there is no technical reason why direct access to the ANI/ALI controller cannot be provided.[46] The record also reflects that the IWDN is a "closed" network that does not have any touch points with the public Internet, and that it has an extremely high level of network security.[47] In addition, AT&T provides the same direct connection arrangement to itself when it terminates its own 911 Selective Router network to the ANI/ALI controller located at the PSAP.[48] Finally, the evidence shows INdigital has already successfully implemented the direct connection arrangement with PSAPs served by CenturyLink and Verizon without injury to their systems.[49] As such, the evidence demonstrates that the requested direct connection arrangement by INdigital will not cause irreparable injury or detriment to the service provided by AT&T.

viii. The parties cannot agree. There is no dispute that the parties have not agreed upon the physical connections requested by Complainants. The evidence shows that INdigital, the IWB, and the Complainant PSAPs have requested that AT&T allow INdigital to connect the IWDN to the ANI/ALI controllers owned and operated by AT&T as part of its E911 network, and that AT&T has refused to allow the direct connection arrangement.

Based upon the foregoing analysis, we find that INdigital and AT&T are public utilities and that INdigital requests a physical connection: (1) of two telephone systems for the conveyance of telephone messages; (2) required to furnish reasonably adequate telephone service

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[42] Smith Direct, A. 5.
[43] *Id.*, A. 10.
[44] AT&T Exhibit SM-1, p. 15, ("McPhee Direct").
[45] Neinast Direct, p. 20.
[46] Smith Direct, A. 7; McCamley Direct, A. 14; Intrado Exhibit 1, p. 11.
[47] Smith Direct, A. 14; McCamley Direct, A. 15.
[48] Grady Rebuttal, A. 31. To make an analogy from the federal side of the issue, this shows that the connection is both "technically feasible" and that direct connection by INdigital at AT&T's ANI/ALI controller would be "at least equal in quality to that of the providing LEC [AT&T]." See generally, 47 C.F.R. § 51.305, 47 C.F.R. § 51.217 (federal standards for interconnection).
[49] Grady Rebuttal, A. 29.

between such public utilities; (3) and that will not result in irreparable injury to the owner or other users of the facilities of such public utilities or in any substantial detriment to the service to be rendered by such public utilities. Therefore, we conclude that the threshold requirements of I.C. § 8-1-2-5 have been met. We now turn to the question of whether the public convenience and necessity requires us to order the direct connection arrangement requested by Complainants.

C. Public Convenience and Necessity. Complainants have presented evidence that several factors indicate the direct connection arrangement is consistent with the public convenience and necessity, including: (1) the general benefits associated with the IWDN; (2) the efficiency and cost-effectiveness of the IWDN; and (3) the benefits of competition and the costs that occur when incumbent providers do not allow interconnection with their networks. AT&T asserts that the public convenience and necessity would not be served by ordering the direct connection arrangement because that arrangement is "non-standard" and does not comply with industry standards. In addition, AT&T states that the direct connection arrangement will cost more than the tandem-to-tandem procedure for transferring calls, and that direct connection will cause capacity problems with the ANI/ALI controllers. Finally, AT&T argues that its contracts with PSAPs and its Section 251 interconnection agreement with INdigital preclude the direct connection arrangement. For the following reasons, we find that the evidence shows the public convenience and necessity requires the requested direct connection arrangement between the IWDN and the ANI/ALI controllers owned and operated by AT&T as part of its E911 network.

The evidence shows the benefits associated with statewide implementation of the IWDN. All PSAPs that are directly connected to the IWDN will be able to seamlessly transfer calls with both voice and location data to any other PSAP that is connected to the IWDN.[50] Such a benefit cannot be understated, with the evidence that an increasing number of 911 calls are made from wireless phones, which have the capacity to cross PSAP boundaries. The IWDN has been designed in such a way as to coordinate open, competitively neutral access to the PSAPs at a statewide level so that the IWDN will be able to support new services as wireless providers begin to offer more services and benefits.[51] The evidence also shows that the IWDN is designed to be efficient and redundant (and therefore reliable) at a low cost.[52] Although the transition from the current 911 system to a fully functional Next Generation 911 network will take time, the evidence indicates that IWDN is a foundation upon which to evolve and gain the benefits of new and emerging technologies and services as they come online.[53]

We are persuaded that AT&T's refusal to allow INdigital to interconnect the IWDN to AT&T's network at the ANI/ALI controllers is contrary to the public interest.[54] The evidence shows that interconnection is a key factor in determining the structure, scope and performance of competition in the provision of E911 services.[55] We agree that refusing to interconnect and delays in providing interconnection under reasonable terms and conditions hampers new entry

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[50] Grady Direct, A. 8, McCamley Direct, A. 18.
[51] Grady Direct, A. 9; Hearing Transcript, D-37, 38. As examples, Complainants cited services such as Language Line translation service and data services such as OnStar and ATX as emerging technologies the IWDN can support. Grady Direct, A. 19.
[52] Grady Direct, A. 19, McCamley Direct, A. 18.
[53] Hearing Transcript, D-37-39.
[54] IWB Exhibit DH, A. 6, ("Hatfield Rebuttal"), Spence-Lenss, p. 12.
[55] Hatfield Rebuttal, A. 11.

and denies consumers the full benefits of competition. AT&T cannot both claim that the ANI/ALI controllers are nothing more than customer premises equipment which PSAPs may purchase from a variety of vendors, but then bundle that same equipment with its 911 network so that it dictates access.

AT&T argues that the public convenience and necessity does not require the direct connection arrangement, because the tandem-to-tandem call transfer procedure is the recommended NENA standard.[56] AT&T argues that all E911 system service providers should follow the NENA recommendations and that if INdigital were to do so, this proceeding would be unnecessary.[57] AT&T also argues that the direct connection arrangement will cost more than the tandem-to-tandem procedure for transferring calls[58], and that the direct connection arrangement will cause capacity problems with the ANI/ALI controllers.

As to whether the direct connection arrangement complies with "industry standards" for PSAP-to-PSAP call transfers, we have already concluded above that the direct connection arrangement requested by Complainants is an appropriate method of accomplishing call transfers, and that the tandem-to-tandem transfer procedure proposed by AT&T is not feasible because of its reliance on software no longer marketed by its developer/owner.

There are different ways to accomplish the goal of implementing public safety systems, as recognized by the fact that NENA's standards are not enforceable rules but are instead *recommended* standards that provide for more than one way of implementing public safety systems.[59] We recognize that it is important for different 911 service providers' systems to be able to "cooperate" technically, and that industry standards or NENA recommendations can help to assure that they do so. However, this is not a case in which the two telephone systems are incompatible; instead, the evidence reflects that the direct connection arrangement complies with industry standards and is a straightforward, secure electrical connection that AT&T does not wish to make.[60] Thus, with respect to PSAP-to-PSAP call transfers, the direct connection arrangement is consistent with the public convenience and necessity.

The parties do not agree as to whether the requested direct physical connection arrangement will result in the "lowest reasonable cost". AT&T argues that the direct connection arrangement will cost more than the current connection between the IWDN and AT&T's selective routers because it is a "duplicative" network.[61] In terms of accomplishing full call transfer capability, AT&T states that the direct connection arrangement will cost more than the tandem-to-tandem call transfer procedure it proposes.[62] However, AT&T's witness acknowledged that his estimate of the cost of the direct connection arrangement is a rough, "maximum" estimate.[63] Complainants argued in return that the cost of the direct connection arrangement does not outweigh its benefit and that AT&T's concerns about cost are misguided.

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[56] Neinast Direct, p. 8.
[57] Neinast Direct, p. 8.
[58] Neinast Direct, p. 14-15.
[59] Grady Rebuttal, A. 25; IWB Exhibit DB, A. 6, ("Boyce Rebuttal"); Hatfield Rebuttal, A. 18.
[60] Grady Direct, A. 16; Grady Rebuttal, A. 47; Boyce Rebuttal, A. 6, 7; Hearing Transcript, A-68, 69.
[61] Neinast Direct, P.14-15.
[62] AT&T Exhibit MN-2, p. 7.
[63] AT&T Exhibit MN-2, p. 7.

The evidence indicates that the direct connection arrangement could remove wireless 911 calls from AT&T's selective routers that are really designed for wireline traffic.[64] As such, this would support an allowable inference that AT&T's costs would be *reduced*.[65] The record reflects that IWB has conducted analyses of the optimal connection options and has determined that the direct connection is best. In making our own public convenience and necessity finding, we give the IWB's decision significant weight, as that public body is charged with overseeing the statewide wireless 911 call delivery network.[66] Therefore, we find that the evidence shows that the cost of implementing the direct connection arrangement does not outweigh its benefits and is consistent with the public interest.

With respect to whether the direct connection arrangement will cause capacity problems with the ANI/ALI controllers, the evidence shows that the IWB will cover the cost of adding capacity to the ANI/ALI controllers, and that the IWB has determined that this cost is an appropriate project expenditure.[67] Therefore, AT&T will bear no additional cost as a result of the direct connection arrangement because INdigital is willing to pay AT&T reasonable compensation for any labor and materials reasonably required for AT&T to enable the requested connections.[68] The records indicate that these connections require no "upgrade", rather an expansion of the ANI/ALI controller through simple plug-in cards, representing regular and routine capacity growth of the ANI/ALI controller.[69] We therefore find that the direct connection arrangement will not cause significant capacity problems with the ANI/ALI controllers.

AT&T also argues that its contracts with PSAPs preclude the direct connection arrangement, and that if the direct connection arrangement sought by Complainants is ordered by this Commission, AT&T will no longer be delivering wireless calls to those PSAPs and the contracts will have to be "renegotiated." Complainants responded with evidence that wireless service is a small part of the AT&T/PSAP contracts, and that this contract issue should not be a problem.[70] It is unlikely that a PSAP wanting interconnection with the IWDN would object to a resulting reduction in AT&T's charges, and there is also evidence that Complainants expect to work with AT&T and other PSAPs to facilitate any minor contract revisions necessary to implement the direct connection arrangement.[71] We therefore find that this issue should not act as an impediment to the requested direct connection.

Indeed, whether or not AT&T will need to modify its existing agreements with PSAPs because it will no longer deliver wireless 911 calls is not relevant to whether or not we may order AT&T to allow the direct connection arrangement. To find otherwise would effectively mean that the Commission could never order a connection under I.C. § 8-1-2-5 without the consent of the party that refused to allow the connection in the first place. Second, contracts for 911 service

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[64] Grady Rebuttal, A. 44.
[65] As to adding trunks at PSAPs to accommodate the direct connection arrangement, the evidence shows that new equipment comes standard with the required trunking capacity and that the upgrade to four trunks will not increase the cost more than any other upgrade of old and outdated trunk technology. Hearing Transcript, A-86.
[66] IWB Exhibit KL-1, A. 4, ("Lowden Direct").
[67] Hearing Transcript, A-21.
[68] Grady Rebuttal, A. 38.
[69] Grady Rebuttal, A. 38.
[70] Hearing Transcript, B-43-44.
[71] Hearing Transcript, A-80-81.

affect the public interest and parties should not be free to contract in such a way as to impair the IWB's authority to develop the IWDN. We also note that each PSAP will remain free to decide for itself whether to connect directly to the IWDN through the ANI/ALI controllers and whether that direct connection arrangement warrants a modification to its contract with AT&T. As we noted above, the modification could be minor or even unnecessary because the wireless component of the AT&T/PSAP contracts is such a small part of the overall contract.[72] We therefore conclude that AT&T's existing contracts to provide 911 service to PSAPs do not prevent the Commission from ordering the direct connection arrangement.

Finally, AT&T argues that the Section 251 Interconnection Agreement currently in place between INdigital and AT&T ("ICA") requires INdigital and AT&T to exchange E911 service traffic at AT&T's selective routers and prohibits the direct connection arrangement requested.[73] INdigital argues the ICA does not apply to or prohibit the direct connection arrangement sought by Complainants and that the ICA is clearly and solely to allow INdigital to access AT&T's "Selective Routers". The ICA speaks for itself in this regard. Section 1 of the Appendix to the ICA states:

> This Appendix sets forth the rates, terms and conditions for access to the SBC Indiana E911 *Selective Routers* for the limited purpose of routing wireless E911 calls from the below-listed INdigital intermediary 911 *Selective Routers* in Indiana to the below-listed SBC Indiana E911 *Selective Routers*, but only insofar as is required to carry out the Indiana E911 Wireless Board contract (the "Wireless Board Contract") for wireless E911 traffic delivery attached as Exhibit B.[74]

We find that the direct connection arrangement requested by Complainants is not precluded by the ICA because it is not the subject of the ICA. The evidence reflects that INdigital purchases different types of services from AT&T, and many of them are not covered by Appendix I of the ICA.[75] In addition, the evidence indicates that AT&T has not maintained a consistent position during the parties' negotiations. By AT&T's own earlier letter response to INdigital, AT&T stated that this request is not a matter for a "251" agreement:

> AT&T Indiana understands that INdigital may have been informed [by AT&T] that the contractual BFR process was the appropriate manner in which to submit its request. The terms of the CLEC Agreement, however, cannot be varied by oral representations but must be modified in writing. See CLEC Agreement at General Terms and Conditions Section 43. Accordingly, INdigital's request is being treated as a request for a new contractual relationship outside the CLEC Agreement.[76]

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[72] Hearing Transcript, B-44; INdigital Exhibit CX-1.
[73] McPhee Direct, p. 6.
[74] McPhee Direct, Exhibit JSM-1 (emphasis added).
[75] Grady Rebuttal, A. 7.
[76] Grady Direct, Exhibit MG-R1.

Based on the evidence in the record, we find that the ICA addresses the provision of E911 service only to the extent that it addressed INdigital's interconnection to AT&T's selective routers. We conclude that the ICA does not prohibit the direct connection arrangement with ANI/ALI controllers that Complainants seek in this Complaint.

Based on all the foregoing, we find that the threshold requirements of I.C. § 8-1-2-5 have been met and that the direct connection arrangement requested by Complainants is required by the public convenience and necessity.[77] We conclude that AT&T should be ordered to allow the direct connection arrangement.

D. Compensation. I.C. § 8-1-2-5 empowers this Commission to determine rates and terms for interconnections between telecommunications carriers if they cannot mutually agree. Complainants have provided recommended pricing for the requested direct connection arrangement based upon AT&T prices in various public files, product catalogs, and approved tariffs in other jurisdictions[78]:

Item / Description	**Non-recurring Charges**	**Maintenance Charges**
Plug-in (and installation) for a 2- wire reverse battery CAMA interface	$979 - $1,750 for each trunk position based upon the type and model of ANI/ALI controller	$125 per hour, plus materials
RS-232 serial interface (2 required)	No charge	$125 per hour plus materials
Programming changes/updates and related	N/A	$125 per hour plus materials

AT&T did not dispute these prices and did not provide guidance to the Commission to allow us to determine appropriate compensation terms. We therefore find that the compensation terms proposed by Complainants are reasonable. If at any time AT&T believes these prices have become insufficient to cover its costs and the parties are unable to reach agreement, AT&T may petition the Commission in another Cause, pursuant to I.C. § 8-1-2-5, for a change in these compensation terms.

IT IS THEREFORE ORDERED BY THE INDIANA UTILITY REGULATORY COMMISSION that:

1. AT&T shall be and is hereby ordered to allow INdigital to directly and physically connect the IWDN to the ANI/ALI controllers owned, operated, and controlled by AT&T and located on the premises of those PSAPs that receive 911 service from AT&T, as requested by Complainants in this Cause.

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[77] The arguments advanced by Respondent witnesses are reminiscent of those advanced in the pre-divestiture days. See, *In the Matter of Use of the Carterfone Device in Message Toll Tele. Svc.*, 13 F.F.C.2d 420, 423, 1968 FCC LEXIS 1269 (June 26, 1968) As the *Carterfone* decision aptly stated over 40 years ago, "[t]here has been no adequate showing that nonharmful interconnection must be prohibited in order to permit the telephone company to carry out its responsibilities." *Carterfone*, 13 F.C.C.2d at 424.

[78] Grady Direct, A. 22

2. AT&T is precluded from converting its contracts with PSAPs in such a way that they sell or lease ANI/ALI controllers to PSAPs in order to avoid or delay compliance.

3. INdigital shall be and is hereby ordered to compensate AT&T for the connections hereby ordered pursuant to finding paragraph 3.

4. This Order shall be effective on and after the date of its approval.

HARDY, ATTERHOLT, GOLC, LANDIS, AND ZIEGNER CONCUR:

APPROVED: FEB 1 0 2010

I hereby certify that the above is a true and correct copy of the Order as approved.

Brenda A. Howe

Brenda A. Howe,
Secretary to the Commission