

1 **BEFORE THE PUBLIC UTILITIES COMMISSION OF THE**
2 **STATE OF SOUTH DAKOTA**

3
4 IN THE MATTER OF THE PETITION FOR LOCAL NUMBER)
5 PORTABILITY SUSPENSION OR MODIFICATION)
6 ON BEHALF OF WEST RIVER COOPERATIVE) Docket No. TC08-025
7 TELEPHONE COMPANY)

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11 **PRE-FILED DIRECT TESTIMONY OF**
12 **JOHN DE WITTE**

13
14 **Q: What is your name and address?**

15 A: My name is John M. De Witte. My business address is 2211 N. Minnesota Street,
16 Mitchell, South Dakota 57301.

17 **Q: By whom are you employed and in what capacity?**

18 A: I am the Vice President of Engineering of Vantage Point Solutions, Inc. (VPS).
19 VPS is a telecommunications engineering and consulting firm in Mitchell, South
20 Dakota with a full-time staff of over 80 employees. Our client base of VPS is made
21 up of rural independent Local Exchange Carriers (LECs). I focus on assisting the
22 small LECs with nearly all technical and financial aspects of their operations. My
23 direct staff and I have provided engineering, financial, and regulatory services to
24 many of the South Dakota LECs, as well as LECs in several other states.

25 **Q: What is your educational and business background?**

26 A: I received a Bachelors of Science in Computer Engineering (1982) from Iowa State
27 University (Ames, IA) and a Masters of Business Administration (1992) from
28 Kennesaw State College (Kennesaw, GA). I am a Registered Professional Engineer
29 in South Dakota and 11 other states.

1 I have been active in the telecommunications industry since 1983. Previous to VPS,
2 I worked for Martin Group, Inc., based in Mitchell, South Dakota. At Martin
3 Group, I was Assistant Director of Engineering of the Telecom Consulting and
4 Engineering Business Unit, providing engineering and consulting services to rural
5 telecommunications providers throughout the nation. Prior to this, I worked in a
6 variety of engineering, marketing, and management positions at Nortel Networks,
7 Inc., a telecommunications equipment manufacturer in Raleigh, NC and Atlanta,
8 GA. I am a regular speaker at many state, regional, and national telephone
9 company organization events, including the National Telephone Cooperative
10 Association (NTCA) and the Organization for the Promotion and Advancement of
11 Small Telecommunications Companies (OPASTCO). In this capacity, I often
12 advise telephone company managers and board members regarding a variety of
13 technical and financial issues.

14 **Q: On whose behalf are you testifying in this proceeding?**

15 A: My direct pre-filed testimony is submitted on behalf of West River Cooperative
16 Telephone Company (WRCTC).

17 **Q: What is the purpose of your testimony?**

18 A: I will provide testimony on technical and cost issues relative to WRCTC of
19 implementing the transport for intermodal LNP that is pertinent to this hearing.

20 **Q: Are you familiar with current telephone network technologies, including**
21 **switching equipment, transmission equipment, and outside plant**
22 **architectures?**

1 A: I have provided engineering and consulting services to more than 100 rural LECs
2 across the United States. I am familiar with nearly all of the technologies and
3 architectures of a rural LEC network, including transport equipment, switching
4 equipment, digital loop carrier equipment, broadband networks, along with copper
5 and fiber outside plant cable. I have engineered both landline networks and
6 wireless networks for my clients. In addition, I've provided engineering and
7 consulting services to WRCTC for several projects over the past decade.

8 **Q: Do you understand the various methods and requirements that are required to**
9 **support Intramodal (wireline to wireline or wireless to wireless) and**
10 **Intermodal (wireline to wireless) Local Number Portability?**

11 A: Yes I do.

12 **Q: With the number of variants for LNP, which implementation of LNP is the**
13 **focus of your testimony?**

14 A: In general, the methodologies, rules, and implementation processes for wireline
15 Intramodal (wireline to wireline or wireless to wireless) LNP are clearly defined. In
16 general, Intramodal LNP requires the competing carriers to establish well-defined
17 points of interconnection and the associated transport arrangements for the
18 exchange of LNP traffic as part of the Interconnection Agreement. The
19 methodologies, rules, and implementation processes for Intermodal (wireline to
20 wireless) LNP are less well defined. The costs of transport regarding Intermodal
21 LNP relating to wireline to wireless ports will be the focus of my direct testimony.

1 **Q: What unique challenges are presented to a rural Independent Local Exchange**
2 **Carrier (ILEC) with the implementation requirements of Intermodal LNP?**

3 A: There are several technical and economic issues facing rural ILECs as they evaluate
4 the implementation of Intermodal LNP. These challenges for the small rural ILECs
5 concern how calls to ported numbers can be rated as local given the current
6 interconnection of wireless and wireline networks. The Petitioner has several
7 existing direct connections with various CMRS carriers in their network. However,
8 the Petitioner currently does not have any existing direct points of connection to the
9 wireless carriers' networks in the rate centers it serves. Since there are no direct
10 points of connection with the wireless carriers, only conventional, switched toll
11 routes are available to transport calls to ported numbers. Other transport options
12 may be possible. However, the wireless carriers have not made any special
13 arrangements with the Petitioner concerning translating, routing, rating or cost
14 recovery rules for Intermodal LNP. To consider an option other than either a direct
15 connection or the use of toll routes for transport of calls to ported numbers, some of
16 the issues that need to be addressed include: (1) to what point should the calls be
17 routed, (2) how will the Petitioner be able to maintain the original rate center
18 designation and rating when the number is ported to a point of interconnection that
19 is located outside the original rate center, when the wireless service area and the
20 Petitioner's service area vary greatly, and (3) who will pay for the transport. These
21 issues are unique in rural areas, such as the Petitioner's service area, where few, if
22 any interconnection arrangements exist and there are fewer subscribers (in

1 comparison to metropolitan areas where there are thousands of subscribers) over
2 which to spread the costs of Intermodal LNP. The uncertainty surrounding these
3 and other questions is likely to cause significant customer confusion, complaints to
4 the Petitioner and the SDPUC, and the resulting perception of degraded customer
5 service on the part of the Petitioner's members.

6 **Q: Are there other costs to the Petitioner in connections with Intermodal LNP?**

7 A: Yes. In addition to transport costs that are anticipated in connection with
8 Intermodal LNP, the Petitioner will incur other costs for the implementation of LNP
9 such as switching software upgrades, monthly recurring LNP database dip fees,
10 Service Order Administration (SOA) fees, and other operational costs. These LNP
11 implementation costs, including the cost of transport will benefit only those few
12 subscribers that choose to leave WRCTC, while encumbering the entire remaining
13 number of WRCTC subscribers with the burden of funding the LNP porting benefit.
14 As shown on Confidential Exhibit JMD1, the cost to implement intermodal LNP
15 (excluding transport) is estimated ****BEGIN CONFIDENTIAL** **END**
16 **CONFIDENTIAL**** However, as we will see later, these costs represent a very
17 small portion of the total intermodal LNP implementation costs.

18 **Q: Didn't the wireless carriers incur costs to implement LNP?**

19 A: Yes. But there are three important differences. First, as stated before, the wireless
20 carriers have many more subscribers over which to spread the cost of LNP.
21 Second, the wireless carriers can benefit from intermodal LNP by porting numbers
22 (and customers) from the wireline carrier. However, WRCTC cannot benefit from

1 intermodal LNP because current intermodal LNP rules do not allow wireless
2 subscribers to port to WRCTC's wireline services. Beyond the small cost of the
3 incremental LNP database dips the CMRS carriers will incur in an intermodal LNP
4 environment, it is my understanding that the CMRS carriers will not incur
5 significant additional costs to require LNP from WRCTC.

6 **Q: Does the lack of Intermodal LNP have any correlation to the apparent**
7 **purchasing decisions by wireless subscribers in South Dakota?**

8 A: There does not appear to be any evidence that the lack of Intermodal LNP has had a
9 negative effect on the CMRS carrier's ability to compete in South Dakota. The
10 evidence is quite to the contrary according to the reports submitted for inclusion in
11 the Universal Service Administration Company (USAC) reports. Even though the
12 Commission granted a suspension of LNP in 2004 and many rural LECs in South
13 Dakota have not implemented LNP, the number of consumers subscribing to
14 wireless service has grown significantly and continues to increase. In the fourth
15 quarter of 2006, the number of wireless subscribers in South Dakota was estimated
16 at 270,210. Of this total, 176,502 wireless subscribers were estimated in current
17 Qwest service areas and 93,708 wireless subscribers were estimated within ILEC
18 services areas. For the first quarter of 2008, the number of wireless subscribers in
19 South Dakota is estimated at 287,122. Of this total, 182,283 wireless subscribers
20 were estimated in current Qwest service areas and 104,839 wireless subscribers
21 were estimated within ILEC services areas. This increase in wireless subscribers
22 represents approximately a three percent (3%) growth rate in wireless customers in

1 Qwest areas and a twelve percent (12%) growth rate in wireless customers in ILEC
2 service areas.¹ While the Petitioner does not have wireless subscriber estimates
3 specific to ITS service territory, it is likely that the wireless subscriber growth rates
4 in the Petitioner's service area mirror the South Dakota ILEC wireless subscriber
5 growth estimates derived from the USAC reports.

6 **Q: What are the anticipated transport-related costs of implementing Intermodal**
7 **LNP?**

8 A: The anticipated costs of implementing transport for Intermodal LNP can be
9 evaluated by the option as described in Confidential Exhibit 2 of the WRCTC
10 Petition. This Exhibit is attached as Confidential Exhibit JMD2. This Exhibit
11 explores the anticipated transport costs utilizing leased facilities to South Dakota
12 Network (SDN). The assumptions used to calculate the cost components in this
13 option will be identified in the following paragraphs.

14 **Option 1 – No CMRS Direct Connections**

15 In this option, it is assumed that facilities would be established by the Petitioner for
16 the Ported LNP traffic to SDN (from Bison, SD). It is assumed that the CMRS
17 carriers would utilize the facilities established by the Petitioner for Ported LNP
18 traffic. Non-Ported LNP traffic would continue to route via the existing
19 arrangements. ****BEGIN CONFIDENTIAL** **END CONFIDENTIAL**** In
20 addition, WRCTC estimated an Intracompany Transport Rate for each CMRS

¹ These wireless subscriber estimates were calculated using wireless loop data reported in USAC's High Cost Loop Projected by State Study Area (USAC Appendix HC05) and the USAC CETC Reported Lines by Incumbent Study Area – Interstate Access Support (USAC Appendix HC020) for the appropriate time periods.

1 carrier. The Intracompany Transport Rate was designed to recover the costs of
2 transporting the LNP calls to the CMRS transport connection. This Intracompany
3 Transport Rate was based on the existing Reciprocal Compensation rates for each
4 of these carriers (with the exception of Verizon and RCC). For this cost estimate
5 option, the Reciprocal Compensation Rate for Verizon and RCC was assumed to be
6 the same as the lowest of the existing Reciprocal Compensation rates provided. To
7 calculate the cost impact for the LNP Ported traffic, WRCTC assumed that 5
8 Intermodal ports would occur over the span of five (5) years. To estimate the
9 Ported Intermodal LNP traffic; it was assumed that each of the ported Directory
10 Numbers (DNs) would average five (5) calls a day averaging three (3) minutes each
11 in duration. Each carrier's transport cost impact was estimated by calculating their
12 proportional share of the Ported LNP traffic and the wireless traffic that would have
13 normally been routed on a Type 2B Direct Connection that was transited to the
14 applicable route to SDN and applying the Intracompany Transport Rate to those
15 minutes. When considering only the cost of transport related to Intermodal LNP
16 implementation for the existing CMRS carriers, WRCTC's Intermodal LNP
17 Transport costs were estimated at ****BEGIN CONFIDENTIAL** **END**
18 **CONFIDENTIAL****

19 **Q: Do the per Access Line Intermodal LNP Transport cost estimates identified**
20 **above include all of the potential CMRS or other carriers?**

21 **A:** No they do not. The Intermodal LNP implementation transport cost estimates
22 provided in the previous exhibits address only the primary carriers that are known

1 to be operating in WRCTC's service area. If other entities enter WRCTC's
2 geographical market including CMRS (PCS, 700 MHz, etc.) or other VoIP
3 providers that are not carriers, and require WRCTC to establish transport, the
4 overall LNP related transport costs will very likely increase.

5 **Q: Are there any other potential costs that could impact WRCTC with the**
6 **implementation of Intermodal LNP?**

7 A: With the implementation of Intermodal LNP, WRCTC will be required to perform a
8 LNP database dip on all calls destined for connecting carriers on EAS routes to
9 ensure that ported calls are being routed properly. This will result in additional
10 recurring LNP database dip charges for WRCTC. In addition, all other connecting
11 carriers with EAS arrangements with WRCTC and their customers will be impacted
12 because the other carrier will have to LNP dip all EAS calls as well. This would
13 increase the cost of EAS between WRCTC and the other carrier and could result in
14 a loss of EAS options to the customer or an increase in the cost of the EAS service.

15 **Q: Are there other options that could be considered concerning the transport of**
16 **wireless traffic (including Ported LNP traffic)?**

17 A: As I stated before, there may be other options. However, the Petitioner cannot
18 speculate on the feasibility or likelihood of implementation of options not in
19 existence. The Petitioner provided cost estimates to implement the Intermodal LNP
20 Transport based on the known transport methods that it could implement.

21 **Q: What would be the timeframe required for the Petitioner to fully implement,**
22 **test and place Intermodal LNP into commercial service, if required to do so?**

1 A: WRCTC estimates that it would require approximately four (4) months. This
2 projected timeframe is due to several regulatory requirements. As an example, the
3 Petitioner would be required to make Telcordia Local Exchange Routing Guide
4 (LERG) changes to the NPA-NXXs in its network that are not already marked as
5 “portable” with the applicable Local Routing Number (LRN). The standard interval
6 for this type change is typically 66 days². After the NPA-NXX is assigned as
7 “portable”, the Petitioner will need time to coordinate implementation and testing of
8 Intermodal LNP porting in its network. As with any planning horizon, this timeline
9 does not take into account holidays or other unforeseen delays. In addition, it
10 should be noted that if several South Dakota ILECs implement Intermodal LNP in their
11 networks simultaneously, the implementation time horizon will likely need to be
12 expanded to six (6) months to accommodate the scheduling of vendor and technical
13 resources.

14 **Q: Does this conclude your direct testimony?**

15 A: Yes. I also reserve the opportunity to revise or modify this pre-filed direct
16 testimony at or before the hearing if I receive additional information pertaining to
17 the issues I presented herein.

² Per Section 6.1.2 of ATIS-0300051 – Central Office Code (NXX) Assignment Guidelines (COCAG)
Final Document issued January 18, 2008. Pages 21-22.