

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**IN THE MATTER OF THE PETITION)
OF VERIZON NORTHWEST INC. FOR)
WAIVER OF WAC 480-120-071(2)(a))**

DOCKET NO. UT-011439

**DIRECT TESTIMONY OF
KAY RUOSCH
ON BEHALF OF
VERIZON NORTHWEST INC.**

MARCH 6, 2002

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Additional Exhibits:

- ____(KR-2) Map of Verizon's Wenatchee District
- ____(KR-3) Map of Taylor Location
- ____(KR-4) Map of Timm Ranch Location
- ____(KR-5) Photographs of Hayes Road
- ____(KR-6) Photographs of the Timm Ranch route

I. INTRODUCTION

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Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND PRESENT POSITION.

A. My name is Kay Ruosch. I am the Manager – Network Engineering – Washington State for Verizon Northwest Inc. (“Verizon”). My business address is 2312 West Casino Road, Everett, WA 98204.

Q. PLEASE DESCRIBE YOUR CAREER EXPERIENCE WITH VERIZON AND YOUR PRESENT DUTIES AND RESPONSIBILITIES.

A. I have been employed with Verizon (formerly GTE) for 29 years. During my career I have held the positions of Outside Plant Engineer, Engineering Supervisor, and, for the past three years, Manager – Network Engineering.

As Manager – Network Engineering for Washington State, I am responsible for engineering outside plant construction throughout the majority of Verizon’s Washington State operations. My area of responsibility includes the Wenatchee district, which covers approximately 4,500 square miles in north central Washington, extending from Wenatchee to the Canadian border. The District consists of twenty exchanges with a total of approximately 78,000 access lines. Exhibit ____ (KR-2) is a map showing the Wenatchee district.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

2 A. The purpose of my testimony is to describe the significant operational and cost
3 impacts of the line extension requests for which Verizon should be granted a
4 waiver in this proceeding, and to provide additional information about the
5 situation. I refer to these line extension requests as the Taylor location and the
6 Timm Ranch location.

7
8 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

9 A. I first describe the requested line extensions. Next I describe how they would be
10 provisioned and what the estimated construction costs are. Then I address
11 waiver factors from the Commission's line extension rule and provide additional
12 information the Commission should consider.

13

14 **II. LINE EXTENSION DESCRIPTIONS**

15

16 **Q. WHAT ARE THE LINE EXTENSION REQUESTS FOR THE TAYLOR**
17 **LOCATION?**

18 A. Verizon has received three service orders for this locale, which is off Hayes Road
19 approximately fourteen miles outside of Bridgeport. The requests are from Kay
20 Taylor at 1100 Road 18 N.E., Wendy Shomler at 1100 Road 18 N.E., and Ann
21 Nichols for 51 Hayes Road. The Shomler residence is next to the Taylor
22 residence, and Ms. Shomler rents it from Ms. Taylor. Ms. Nichols has not yet
23 constructed a residence at the Hayes Road location. She currently lives in

1 Arlington. Attached as Exhibit ____ (KR-3) is a map of the area, showing these
2 locations.

3

4 **Q. IS THE TAYLOR LOCATION PART OF ANY TOWN OR VILLAGE?**

5 A. No. The Taylor location is in a remote, sparsely populated area. It is not part of
6 any town, village or other community.

7

8 **Q. ARE YOU AWARE OF INDIVIDUALS ALONG HAYES ROAD WHO DO NOT
9 WANT A LINE EXTENSION FROM VERIZON?**

10 A. Yes. A Verizon Engineer spoke with Mrs. Margarete Weisburn, who lives on the
11 same road as Ms. Taylor. Mrs. Weisburn has met her communication needs by
12 purchasing and using two-way radiophone equipment, which gives her dial tone
13 from Verizon's Mansfield exchange. She does not want to be included in
14 Ms. Taylor's line extension effort.

15

16 **Q. DO ANY OF THE TAYLOR LOCATION APPLICANTS HAVE
17 TELECOMMUNICATIONS SERVICE AT THE LINE EXTENSION LOCATIONS?**

18 A. Yes. At least Ms. Taylor is receiving telecommunications service at her home.
19 They use two sources: Americell Communications (located in Wilbur, WA) and
20 AT&T Wireless. The Americell service comes via a tower located on Mt. Moses
21 and an antenna and signal booster device at Ms. Taylor's home. They leave it
22 on 24 hours a day. They also have an antenna installed on the house for the
23 AT&T signal. In addition, they receive DirecTV satellite service.

1 **Q. WHAT ARE THE LINE EXTENSION REQUESTS FOR THE TIMM RANCH**
2 **LOCATION?**

3 A. Verizon has received five service orders for this locale, which is just inside
4 Verizon's Bridgeport Exchange on the north side of the Columbia River. The
5 requesting persons and the proposed service addresses are as follows:

6 Einar ("Ike") Nelson 224 Timm Road

7 Brad Derting 285 Timm Road

8 Darrell Shannon 287 Timm Road

9 Billie Timm 397 Timm Road

10 Robert Timm 378 Timm Road

11 Attached as Exhibit ____ (KR-4) is a map of the area, showing these locations.

12

13 They are all Timm family members and/or work on the Timm Ranch full or part
14 time. According to the Commission Staff's memo of January 9, 2002, the Timm
15 Ranch is believed to be the largest cattle ranch in Okanogan County at just over
16 10,000 acres, or 15.625 square miles. The ranch maintains a herd of 2,000 to
17 3,000 beef cattle and has been in operation for over 50 years. According to the
18 Staff, there are no homes in the area other than those occupied by Timm Ranch
19 personnel. The ranch also raises corn and alfalfa to feed the cattle, which is
20 irrigated by water pumped from the river.

1 **Q. IS THE TIMM RANCH LOCATION PART OF ANY TOWN, VILLAGE OR**
2 **OTHER COMMUNITY?**

3 A. No.

4
5 **Q. DO ANY OF THE TIMM RANCH APPLICANTS HAVE**
6 **TELECOMMUNICATIONS SERVICES AT THE LINE EXTENSION**
7 **LOCATIONS?**

8 A. Yes. They have cellular service. They have reception at many locations on the
9 ranch, though apparently not right at their residences. I do not know if they have
10 investigated using signal boosters like Ms. Taylor has. At least Mr. Nelson has
11 radiophone service at his residence, which gives him dialtone across the river
12 from Qwest's Coulee Dam exchange.

13

14 **III. CONSTRUCTION COST ESTIMATES**

15

16 **Q. WHAT DOES VERIZON ESTIMATE IT WOULD COST TO CONSTRUCT LINE**
17 **EXTENSIONS TO THE TAYLOR AND TIMM RANCH LOCATIONS?**

18 A. Verizon estimates that the total construction cost would be \$1,211,336: \$329,839
19 for the three Taylor Location sites and \$881,497 for the five Timm Ranch sites.

20

21 **Q. PLEASE DESCRIBE THE CONSTRUCTION FOR THE TAYLOR LOCATION.**

22 A. Verizon would have to construct approximately 17 miles of facilities to serve the
23 Taylor location. We would do that with copper cable facilities, which would be

1 along the highway, with a few hundred feet in conduit for road and river
2 crossings, and along Hayes Road. Due to the long distances involved we would
3 also need to install 16 load coils. Most of the construction would be along state
4 Highway 17, with the last 2+ miles along Hayes Road, which is a dirt/gravel road.

5

6 **Q. WHAT IS THE TERRAIN ALONG THIS ROUTE, AND HOW MIGHT IT AFFECT**
7 **CONSTRUCTION AND THE COST?**

8 A. The Hayes Road portion of the route is through dirt, sand and basalt rock
9 common to the area. See Exhibit ____ (KR-5) for photographs of Hayes Road.
10 This indicates the possibility that backhoe and/or rocksaw equipment would have
11 to be used, which would result in construction costs higher than the estimate I
12 have given. When a backhoe is used, cable placement costs are about 4 times
13 the cost of the standard cable plowing on which our estimate is based. Rocksaw
14 placement costs are about 16 times the standard cost.

15

16 **Q. IS THE TAYLOR LOCATION CLOSER TO ANY OTHER LOCAL EXCHANGE**
17 **CARRIER'S FACILITIES?**

18 A. Yes. The Taylor location is closer to a Century Telephone exchange. Verizon
19 contacted Century Telephone about providing cross boundary service to the
20 Taylor location, but Century Telephone declined to do so.

21

22

1 **Q. PLEASE DESCRIBE THE CONSTRUCTION FOR THE TIMM RANCH**
2 **LOCATION.**

3 A. While the Timm Ranch Location is technically within Verizon's Bridgeport
4 exchange, there is no direct county road route between the Timm Ranch and
5 Bridgeport, and the Columbia River separates the Timm Ranch from Bridgeport.
6 Therefore, Verizon would serve the Timm Ranch location from its Brewster
7 Exchange. It would require construction of nearly 30 miles of facilities to reach
8 all the applicants.

9
10 Because of the long distance, fiber optic facilities would be the least costly, most
11 economical approach (with copper facilities being used for the final connections
12 to the premises). Inherent in copper cable over long distances is loss of
13 transmission strength. To compensate for this, several signal boosters would
14 need to be placed along this route. This electronic equipment is expensive, plus
15 it would have to be installed above ground for maintenance access, adding to the
16 potential for damage from cattle, vandalism and environmental exposure.
17 Additionally, because of the distance involved, to maximize transmission
18 capability 19 gauge copper cable would probably be used, which is by far the
19 most expensive type of copper cable used in our industry. Fiber optic cable, on
20 the other hand, is not nearly as susceptible to transmission loss as copper cable
21 and can go for much longer distances without the need for signal regeneration.

22

23

1 **Q. WHAT IS THE TERRAIN ALONG THIS ROUTE, AND HOW MIGHT IT AFFECT**
2 **CONSTRUCTION AND THE COST?**

3 A. Approximately 23 miles of the route would be along a dirt road. Exhibit ____ (KR-
4 6) includes pictures taken along this route. As the photographs demonstrate, this
5 region is extremely rocky. These rocks indicate that the geological ground
6 formation is primarily basalt, which raises the possibility that backhoe and/or rock
7 cutting equipment would have to be used at least in some areas. For the
8 reasons I discussed with regard to the Taylor location, this would increase the
9 costs significantly over the estimate I have given.

10

11 **Q. WOULD ANY OF THE FACILITIES THAT WOULD HAVE TO BE PLACED TO**
12 **REACH THE TIMM RANCH LOCATION HAVE TO TRAVERSE THE**
13 **TERRITORY OF ANOTHER LOCAL EXCHANGE PROVIDER?**

14 A. Yes. The majority of Verizon's facilities coming from the Brewster Exchange
15 would traverse Qwest territory before dropping back down into Verizon's
16 Bridgeport exchange to provide service to the Timm Ranch location.

17

18 **Q. HAS VERIZON APPROACHED QWEST ABOUT PROVIDING SERVICE TO**
19 **THE TIMM RANCH LOCATION?**

20 A. Yes. Verizon has asked Qwest whether it would assume the provisioning of
21 service to the Timm Ranch location. To date, Qwest has not responded formally
22 to our inquiry.

23

1 **Q. HOW DOES THE ESTIMATED COST OF THE TAYLOR AND TIMM RANCH**
2 **LINE EXTENSIONS COMPARE TO THE TOTAL CONSTRUCTION BUDGET**
3 **FOR THE WENATCHEE DISTRICT?**

4 A. The estimated costs to serve these 8 applicants would amount to about 40
5 percent of the 2002 construction budget for the entire District.

6

7 **Q. HOW DO THE TAYLOR AND TIMM RANCH LINE EXTENSIONS COMPARE**
8 **TO OTHER LINE EXTENSIONS VERIZON HAS BEEN CONSTRUCTING?**

9 A. The Taylor and Timm Ranch line extensions would be by far the most costly and
10 burdensome line extension projects in the Wenatchee District, both before or
11 after the Commission's new line extension rule went into effect.

12 Under Verizon's line extension tariff before the new rule went into effect, the
13 company provided the first half-mile of line extension at no cost and the applicant
14 paid \$440 for each additional tenth of a mile or fraction thereof. Because
15 customers bore a greater share of the actual costs of line extensions, few line
16 extensions were requested and even fewer were actually constructed -- and
17 those were usually less than a mile in length.

18 Since the new line extension rule went into effect in 2001, Verizon has received
19 over 100 requests for service that require line extensions, because applicants
20 have to pay only a fraction of the cost -- at most about \$500 -- for line extensions
21 of unlimited length (unless the Commission grants a waiver). Excluding the
22 Taylor and Timm Ranch requests, these new line extension projects have

1 averaged approximately 10,245 feet (or about 1.9 mile) in length, about \$43,600
2 in average construction costs, and under \$10,000 in cost per customer.

3
4 In contrast, the Taylor line extension would require nearly 90,000 feet of
5 construction (17 miles) and cost an estimated \$329,839, or approximately
6 \$110,000 per customer. The Timm Ranch extension would be about 30 miles in
7 length and cost an estimated \$881,497, or over \$176,000 per customer. Each of
8 these situations represents a line extension that is many times more costly than
9 previous line extensions. In addition, the Timm Ranch line extension would
10 create the only local loop of its kind in the Verizon network in Washington,
11 because it would have no customers for a 23-mile stretch between Mr. Nelson
12 and the next Brewster customer.

13

14 **Q. WHAT EQUIPMENT AND MANPOWER RESOURCES WOULD THE**
15 **COMPANY HAVE TO DEVOTE TO CONSTRUCTING FACILITIES FOR THE**
16 **TAYLOR AND TIMM RANCH LOCATIONS?**

17 A. Both jobs would likely require use of the following:

18 1 D8 Caterpillar bulldozer or equivalent

19 2 industrial size backhoes

20 1 boring machine

21 1 rocksaw cutter

22 4-5 medium to large trucks

1 1 fire protection water truck.

2 The Taylor job would require nearly 1500 man-hours of work, including the
3 following:

4 five-person cable placement crew for at least one month

5 two additional persons for rocksaw operations

6 engineering

7 cable splicing

8 The Timm Ranch job would require the same type of personnel, for a total of
9 about 2800 man-hours.

10

11 **IV. WAIVER FACTORS¹ AND OTHER INFORMATION**

12

13 **Q. ARE RADIO COMMUNICATION SERVICES AND OTHER ALTERNATIVES**
14 **AVAILABLE TO CUSTOMERS AT THE TAYLOR LOCATION?**

15 A. Yes. As I have described, Ms. Taylor currently has services from AT&T Wireless
16 and Americell, and Mrs. Weisburn also has radiophone service. Similar services
17 are also available from at least Day Wireless in Wenatchee.

18

19 **Q. ARE ANY SATELLITE SERVICES AVAILABLE?**

20 A. Yes. We investigated the availability of satellite services by doing research on
21 the Internet and speaking with some service providers. There are two main

¹ The testimony above already addresses the first two factors set forth in WAC 480-120-071(7)(b)(ii), cost and number of customers served.

1 types of satellite communications services available that are likely alternatives for
2 the line extension applicants: satellite phone and satellite broadband.

3
4 There are several satellite phone systems, such as Iridium, Globalstar and
5 Motient. Iridium seems to be the most attractive. One of the service providers
6 we contacted said it has customers in Washington already. The basic service
7 can be used for voice communications and (with a \$185 "data kit") Internet
8 access. The providers we contacted sell (and rent) two basic satellite
9 telephones, which list for \$895 and \$1495. Special promotional prices are
10 sometimes offered, and used equipment may be purchased for hundreds of
11 dollars less than the new cost. There are several price plans. All include no cost
12 text messaging of up to 120 characters per message. The most economical
13 seem to be prepaid plans. They have up-front charges from \$15 to \$25 rather
14 than the usual \$50, the usual \$20 monthly access charge, per minute rates as
15 low as \$1.19 (compared to the usual rate of \$1.50), and voicemail (usually \$10 a
16 month). Special promotions may include a waiver of the set-up charges.

17
18 The applicants could also investigate satellite-based Internet access services,
19 such as DirecPC (also known as DiRECTWAY). It is sold by, among others,
20 DBS Satellite TV Systems and the Office Depot store in Wenatchee. For the
21 two-way 400 kilobit per second service, DBS quotes an up-front cost of \$599.99
22 and a monthly charge of \$59.99; there is no usage limit or per minute charge.

23 Internet service providers such as AOL and EarthLink also have offerings using

1 this service. Besides using the service to access the Internet and email,
2 customers can use “voice-over-IP” services to replicate telephone service. At
3 least some of the applicants already have the DirecTV satellite television service.
4 That service can also be obtained in combination with the DirecPC service using
5 a single dish. It is called DirecDuo service.

6
7 **Q. ARE RADIO COMMUNICATIONS AND OTHER ALTERNATIVES AVAILABLE**
8 **TO CUSTOMERS AT THE TIMM RANCH LOCATION?**

9 A. Yes. As I noted, the applicants have cellular service and at least Mr. Nelson also
10 has service via a radiophone. In addition, the same satellite services that I
11 described previously are available.

12
13 **Q. ARE THERE TECHNOLOGICAL DIFFICULTIES AND PHYSICAL BARRIERS**
14 **PRESENTED BY THE TAYLOR AND TIMM RANCH EXTENSIONS IN**
15 **ADDITION TO THOSE YOU HAVE ALREADY DESCRIBED WITH REGARD**
16 **TO THE CONSTRUCTION EFFORT?**

17 A. Yes. In addition to the significant difficulties and physical barriers that would
18 affect the initial construction, Verizon would face significant problems and incur
19 substantial costs for on-going maintenance activities.

20
21 In the winter there would be a problem with access to the Timm Ranch location in
22 particular. Approximately 18 miles of the dirt county road that our facilities would
23 follow are not maintained in the winter by the county and would likely be

1 inaccessible during the snowy season and subsequent spring thaw. If vehicles
2 could get through, finding and repairing damaged facilities in those conditions
3 would be very difficult and time-consuming. Even as to the rest of the route and
4 as to the Taylor location, the county's winter maintenance is limited, which would
5 likely impede trouble shooting and maintenance efforts. Also, the ground often
6 freezes in these areas in the winter, which makes our work much more difficult.

7
8 In addition, the nature of the area combined with the great length of the facilities
9 serving these locations would make maintenance more difficult. Obviously, the
10 longer a loop serving a customer, the higher the chance that a portion of it will be
11 damaged by natural occurrences (such as weather, earthquake or fire), by
12 animal activity (such as gophers gnawing on facilities and cattle knocking over
13 above-ground equipment), and by human actions (such as collisions with
14 facilities, dig-ups, and vandalism).

15
16 When problems would occur on the line, the sheer lengths of the facilities serving
17 the Taylor and the Timm Ranch locations could make it very time consuming,
18 labor intensive and difficult to find the source of the trouble and then repair it. For
19 example, since the test and isolation access points would be nearly three miles
20 apart on the Timm Ranch route, we would have to dispatch two technicians for
21 troubleshooting – one for each end of the segment being tested. And, of course,
22 the longer the circuit, the longer it usually takes to complete the troubleshooting
23 and find the problem.

1 **Q. WHAT WOULD BE THE EFFECT OF THESE LINE EXTENSIONS ON THE**
2 **PUBLIC SWITCHED NETWORK AND ON THE COMPANY?**

3 A. Like all telecommunications companies in today's challenging economic
4 environment, Verizon has to do more with less. Verizon's financial and human
5 resources are limited. As I have described, these line extensions would create a
6 significant drain on the company's resources for constructing and maintaining the
7 rest of the network.

8
9 I am aware that the Commission's line extension rule provides a mechanism for
10 recovering at least some of the construction costs, but there is a significant lag in
11 that recovery, and it is not coordinated with the company's capital budgeting: the
12 company sets its construction budget in advance and cost recovery under the
13 rule comes after the fact. The magnitude of the Taylor and Timm Ranch
14 construction costs would negatively impact our construction budget and plans - -
15 at best forcing a delay in other projects. Of course, any costs that are not
16 recovered under the rule simply come out of our budget and displace other work
17 we would do for other parts of the network and for other customers.

18
19 Even if the construction budget were made whole for the costs of these projects,
20 the company would incur increased ongoing maintenance costs, as I have
21 described. In addition, when trouble would be reported on the Taylor or Timm
22 Ranch extensions, it would divert resources from maintaining the rest of the
23 network. Currently, the company has been able to provide good service with

1 three technicians covering the Bridgeport, Brewster and two other exchanges.
2 As I described, two of those technicians would need to be diverted to
3 maintenance activities on the Taylor and Timm Ranch extensions, and that work
4 would likely take significantly longer than typical jobs on the rest of our network.

5

6 **Q. HOW ARE THE APPLICANTS OBTAINING OTHER UTILITY SERVICES?**

7 A. Their water comes from wells and they have septic systems, which they or prior
8 owners installed or paid for. At least Mr. Nelson has installed a propane tank for
9 his new house. Residents in these areas also burn firewood to heat their homes.

10

11 The Nespelem Valley Electric Co-op installed power lines for the Timm Ranch
12 decades ago, which go all the way down to the water pumps by the river. We do
13 not know what the cost was or how it was covered, but the Co-op's current line
14 extension charges to applicants for residential service are \$7 per foot (or \$36,960
15 per mile), with a \$1500 allowance.

16

17 Similarly, Douglas County Public Utility District lines have been in the Taylor
18 location vicinity for some time. The PUD's current line extension policy has
19 various formulae but requires that applicants must always pay at least half the
20 District's costs.

21

22 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

23 A. Yes, it does.