

Exhibit No.:
Issue: Application for Designation as an Eligible
Telecommunications Carrier
Witness: Jonathon D. Reeves
Sponsoring Party: Northwest Missouri Cellular Limited
Partnership
Type of Exhibit: Direct Testimony
Case No.: TO-2005-0466
Date Testimony Prepared: February 13, 2006

**NORTHWEST MISSOURI CELLULAR
LIMITED PARTNERSHIP**

DIRECT TESTIMONY

OF

JONATHAN D. REEVES

CASE NO. TO-2005-0466

February 13, 2006

FILED
JUL 10 2006
Missouri Public
Service Commission

NP Exhibit No. 5
Case No(s) TO-2005-0466
Date 5-31-06 Rptr JK

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DIRECT TESTIMONY
OF
JONATHAN D. REEVES
APPLICATION OF NORTHWEST MISSOURI CELLULAR
LIMITED PARTNERSHIP
CASE NO. TO-2005-0466

Q. Please state your name and business address.

A. Jonathan D. Reeves, 3835 North Ninth Street, #409W, Arlington, Virginia 22203.

Q. By whom are you employed and in what capacity?

A. I am the President of JDR Telecom Solutions, LLC, a telecommunications consulting firm.

Q. Please describe your educational background.

A. I received my baccalaureate degree in electrical engineering (1996) from Grove City College, Grove City, Pennsylvania.

Q. Please describe your work experience.

A. From graduation until its merger with Bennet & Bennet, PLLC, in January of 2004, I was employed as a technical consultant with Kurtis & Associates, P.C. working on the design of two-way radio systems (cellular and conventional), point-to-point radio systems, propagation studies, field-testing, network design, system deployment and network optimization. From January of 2004 through March of 2005, I was employed in the same capacity by Bennet & Bennet, PLLC.

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1 In March of 2005, I founded JDR Telecom Solutions, LLC. ("JDR"), which
2 provides technical representation to telephone companies, personal communications,
3 cellular, paging, microwave and other wireless communication carriers and
4 entrepreneurs.

5 **Q. To what professional associations do you or your firm belong?**

6 A. The firms that I have worked with have been Associate Members of the Rural
7 Cellular Association, the Rural Telecommunications Group ("RTG"), the
8 Organization for the Promotion and Advancement of Small Telecommunications
9 Companies ("OPASTCO"), the National Telephone Cooperative Association
10 ("NTCA") and various states Telecommunications Association.

11 **Q. What professional services have you provided to Northwest Missouri Cellular
12 Limited Partnership ("NWMC")?**

13 A. I have performed a network analysis of the NWMC existing cellular network and
14 provide ongoing network optimization services. I have analyzed existing network
15 coverage and, under the direction of Mr. Roger Bundridge and Ms. Kathryn G.
16 Zentgraf, I have performed analysis of areas where the existing CDMA network
17 would benefit from enhancement and the coverage that would result from the
18 deployment of proposed additional cell sites using proprietary propagation and
19 system analysis software. I have analyzed NWMC's coverage and advised NWMC
20 concerning infrastructure modifications that would improve and expand reliable
21 coverage provided to its subscribers.

22 **Q. What is the purpose of your testimony in this proceeding?**

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1 A. My testimony will support and expand upon certain statements and factual
2 representations in NWMC's Application For Designation As An Eligible
3 Telecommunications Carrier for Purposes of Receiving Federal Universal Service
4 Support Pursuant to Section 214(e)(2) Of The Telecommunications Act Of 1996
5 ("Application") in this docket.

6 **Q. Please provide some background information concerning NWMC's cellular**
7 **service in Missouri RSA No. 1.**

8 A. Pursuant to its FCC cellular license (Call Sign KNKN816), NWMC provides analog
9 and digital cellular service in Missouri RSA No. 1, Market No. 504B, which is
10 comprised of Atchison, Gentry, Holt, Nodaway and Worth Counties in Missouri.
11 Appendix A to the Application, which is also appended hereto as Appendix A,
12 depicts the NWMC FCC-licensed CGSA. While the Application Appendix A was
13 prepared by Bennet & Bennet, PLLC, I have reviewed the appendix and verified its
14 accuracy in all material respects.

15 **Q. Are you familiar with the pre-filed Direct Testimony of Ms. Kathryn G.**
16 **Zentgraf in this case as it relates to the Local Exchange Carrier ("LEC") wire**
17 **centers that would be encompassed by the proposed NWMC ETC service area?**

18 A. Yes, I have reviewed that testimony and I personally prepared Application
19 Appendix C, also appended hereto as Appendix C, which graphically depicts the
20 proposed NWMC ETC service area overlaid on a map depicting the underlying LEC
21 wirecenters. I also prepared Application Appendix D, which is also appended hereto
22 as Appendix D, which lists the rural LECs that are encompassed in the proposed
23 NWMC ETC service area and the wirecenters included in their respective study areas.

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1 Appendix D also shows which of those rural LEC wirecenters are proposed to be
2 included in the NWMC ETC service area. Where the underlying LEC has
3 disaggregated its study area, I have broken down the study area for that LEC by the
4 LEC zones. For each wirecenter, I have determined the population and square miles
5 served. Dividing the population in the wirecenter by the number of square miles
6 results in population density (persons per square mile) for each wirecenter, which is
7 also listed in Appendix D. In addition to this wirecenter-by-wirecenter analysis,
8 Appendix D also compares the population density for the overall LEC study area (or
9 individual disaggregated zone) and compared that population density with the
10 population density for the portion of the LEC study area or disaggregated zone that is
11 proposed to be included within the NWMC ETC service area. Those numbers are also
12 set forth in Appendix D. While both Appendix C and Appendix D were prepared by
13 Bennet & Bennet, PLLC, I have reviewed these appendices and verified the accuracy
14 and/or conclusions set forth therein and find them to be correct in all material
15 respects. I used the MapInfo Exchange Plus software and Missouri population and
16 wire center datasets to perform this analysis.

17 **Q. Would you please compare the population densities for each rural LEC study**
18 **area with the population densities for the portion of the study area included in**
19 **the proposed NWMC ETC service area?**

20 A. Alltel has disaggregated its study area into three discrete zones for purposes of
21 determining its level of high cost support. Of the Alltel wire centers included in the
22 proposed NWMC ETC service area, the Albany and Grant City wire centers lie
23 within Alltel's Zone 1 while the Allendale wire centers lie within Alltel's Zone 3. In

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1 the case of the proposed redefinition of the Alltel service area in Zone 1, the
2 population density, as set forth in Appendix D, in the proposed NWMC service area
3 is 21.54 people per mile as compared to Alltel's Zone 1 study-wide average
4 population density of 32.61 people per square mile. Accordingly, any level of
5 support based upon the entire Alltel Zone 1 study area would have been determined
6 on the average cost of providing service to a population density of 32.61. Since the
7 population density within the portion of the Alltel Zone 1 study area that lies within
8 NWMC's proposed ETC service area is below the population density of the entire
9 Alltel Zone 1 study area, the portion of the Alltel Zone 1 study area which NWMC
10 seeks to include in its ETC designated service area would be expected to have a
11 higher cost of service than the average upon which Alltel's level of USF support is
12 based. Accordingly, since the proposed redefined service area represents a
13 population density well below the average population density upon which the level of
14 USF support for the ILEC was based, under established FCC precedent cited by
15 Ms. Zentgraf in her testimony, there would be no cream skimming issue presented by
16 the proposed redefinition of the Alltel Zone 1 service area.

17 Similarly, the single Allendale wire center proposed for inclusion in NWMC's
18 ETC service area from Alltel's Zone 3 study area is the most rural wire center in that
19 entire study area, having a population density of 4.64 persons per square mile as
20 compared to the population density of 12.90 persons per square mile for the entire
21 Zone 3 study area.

22 Grand River has also disaggregated its study area into two Zones. All of the
23 proposed Grand River wire centers included in the proposed NWMC ETC service

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1 area are located within Grand River's Zone 2. The average population density for the
2 wire centers proposed for inclusion within the NWMC service area, as set forth in
3 Appendix D, is 8.35 persons per square mile, slightly below the overall population
4 density of the Grand River's Zone 2 which is 8.48 persons per square mile.
5 Accordingly, the proposed NWMC redefined service area would be based upon a
6 population density comparable to that upon which Grand Mutual's level of support is
7 based.

8 With respect to the Sprint wire centers, as set forth in Appendix D, those
9 included within the proposed NWMC ETC service area have an average population
10 density of 27.39 persons per square mile as compared to an overall study area
11 population density of 54.00 persons per square mile. Accordingly, in each and every
12 instance where NWMC seeks redefinition of the ILEC service area, the population
13 densities within the portions of those study areas sought to be included in the NWMC
14 ETC service area fall below the overall population densities upon which the ILEC
15 level of support has been based.

16 **Q. Ms. Zentgraf has testified to the need to migrate the NWMC network to the**
17 **CDMA digital technology so the questions I am about to ask with respect to**
18 **coverage relate to coverage associated with CDMA service. Mr. Bundridge has**
19 **testified as what network enhancements would be made if ETC designation is**
20 **granted to NWMC. Where would CDMA coverage be enhanced by deployment**
21 **of the NWMC 5-year network expansion plan in the NWMC FCC-licensed**
22 **service area?**

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1 A. Application Appendix F is a map which graphically identifies the areas where CDMA
2 coverage would benefit from enhancement. Please note that attached hereto is a
3 revised Appendix F. This Appendix F (Revised), which corrects some errors in the
4 coverage depicted in the original Appendix F, is intended to replace the original
5 Appendix F in the Application. No substantive or technical changes have been made
6 to the NWMC network enhancement plan included in the original Application and to
7 which Mr. Bundridge has testified in his Direct Testimony. As shown on Appendix F
8 (Revised), the areas where coverage would be enhanced include some of the rural-
9 most portions of NWMC's market. Application Appendix G showed the same
10 information overlaid on the ILEC wire center map. Appended hereto is a revised
11 Appendix G incorporating the information contained in Application F (Revised).
12 This Appendix G (Revised) is intended to replace the original Appendix G in the
13 Application.

14 Appendix G (Revised) also graphically depicts the approximate location of
15 each of the cell sites proposed in the NWMC five-year network enhancement plan.

16 **Q. If this design is intended to provide specific areas with CDMA service, why are**
17 **the proposed cell site locations listed as "approximate?"**

18 A. Highly Confidential Application Appendix E identified the construction timeline for
19 each cell site as specified by NWMC. Appended hereto is a revised Appendix E
20 which has been revised to correspond to Application F (Revised), and which contains
21 information deemed to be Highly Confidential by NWMC. This Appendix E
22 (Revised) is intended to replace the original Appendix E in the Application. Since the
23 majority of these deployments will not occur unless and until NWMC has been

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1 designated as an ETC and, thereafter, as testified to by Mr. Bundridge, timed to
2 receipt of USF support, NWMC has not yet gone through the site acquisition process
3 to identify and secure specific parcels of property. Accordingly, I have identified
4 approximate cell site locations to provide the coverage desired by NWMC. While the
5 actual cell site location may shift once formal site acquisition has been undertaken,
6 each actual cell site would be secured to provide coverage to the identified coverage
7 areas.

8 **Q. What portions of Highly Confidential Appendix E (Revised) are you introducing**
9 **into evidence?**

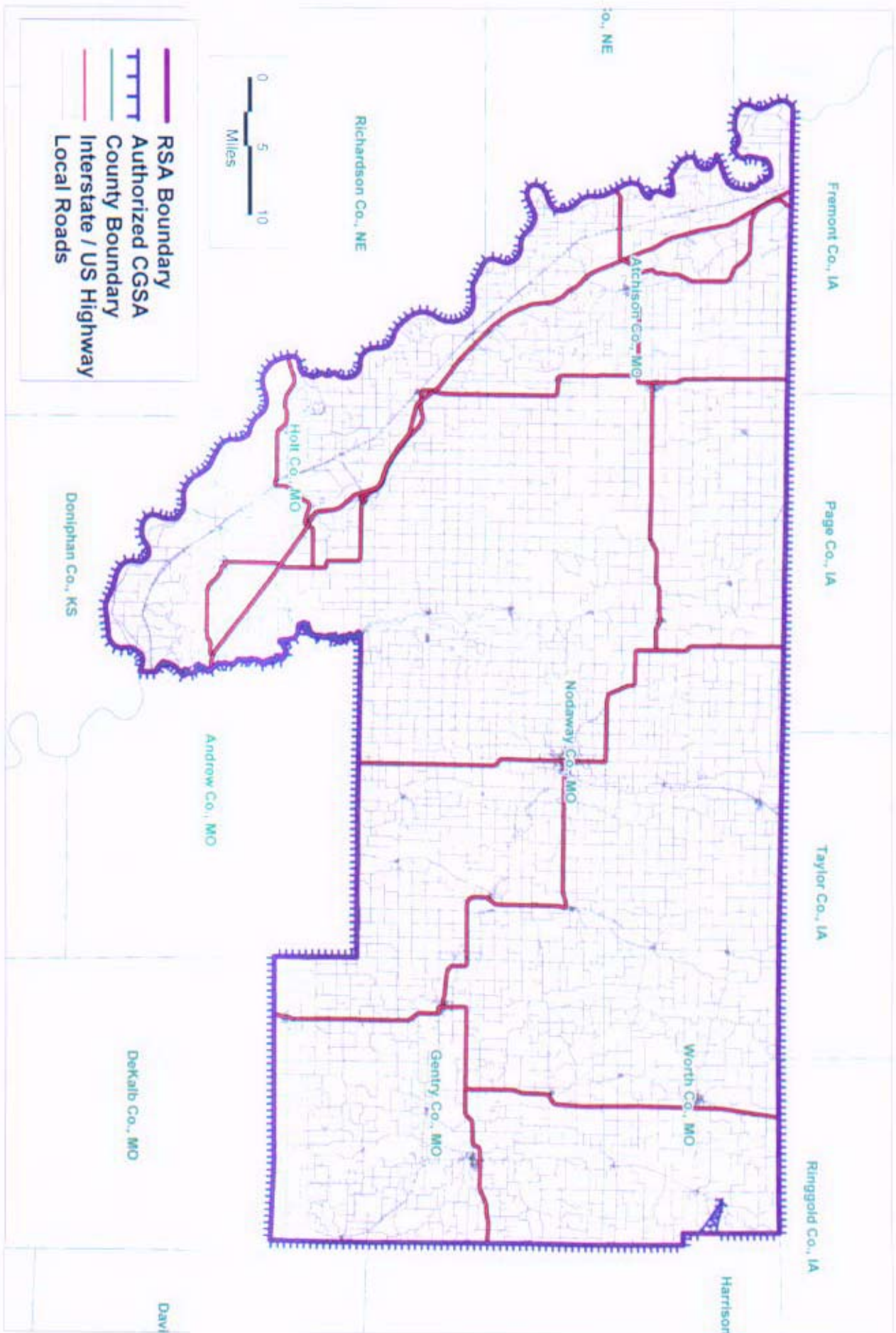
10 A. The population that would be included within the coverage area for each proposed
11 cell site and the LEC wire centers where coverage would be enhanced by the addition
12 of each such cell site.

13 **Q. Assuming the deployment of all cells identified in Highly Confidential**
14 **Appendices F (Revised) and G (Revised), what would be the resulting CDMA**
15 **coverage available in the proposed NWMC ETC service area when the coverage**
16 **from the proposed new cells is added to the existing CDMA cell site coverage?**

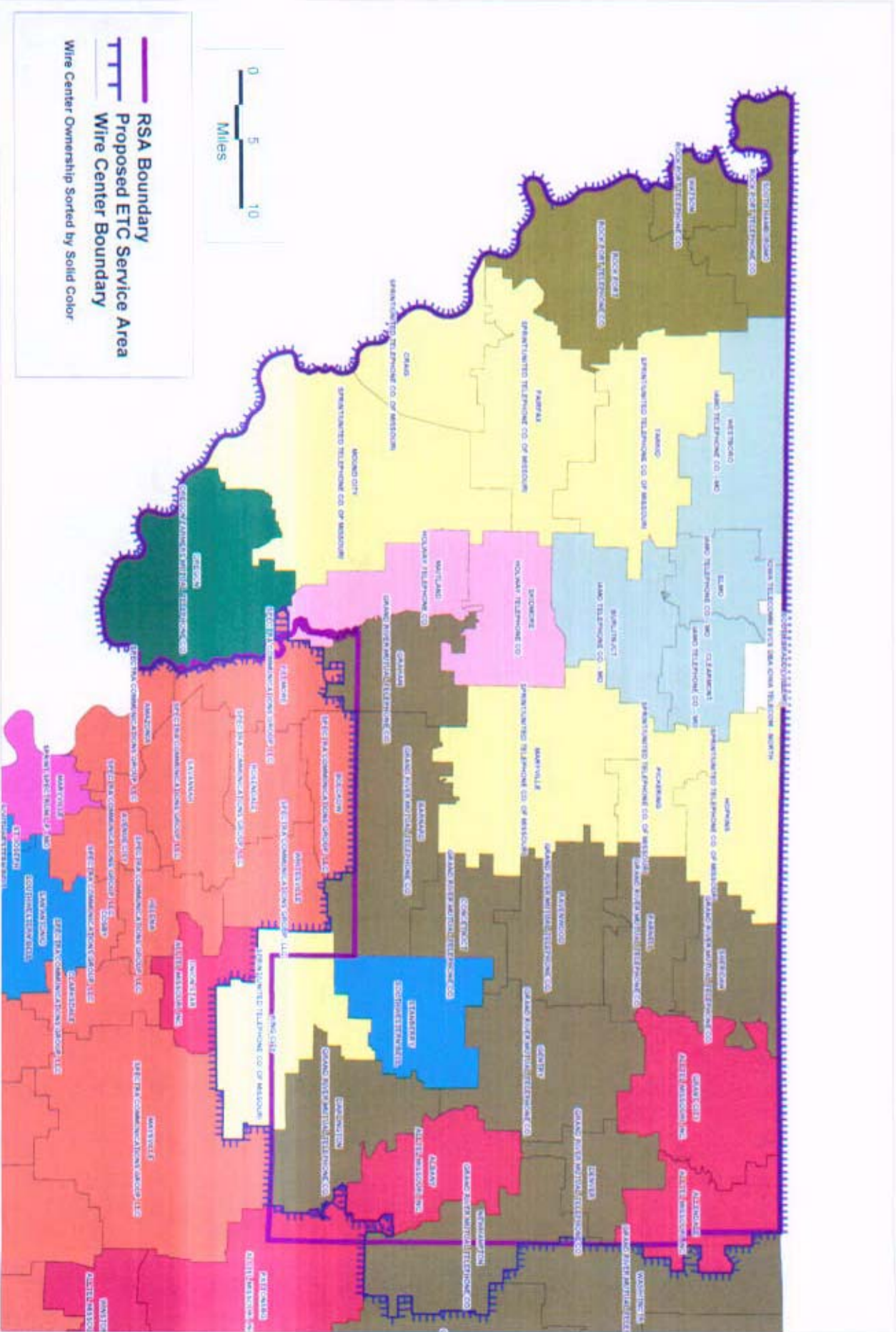
17 A. Highly Confidential Appendix H hereto shows the composite coverage that would
18 result from implementation of those cell sites when added to the existing NWMC
19 CDMA cell sites. Appendix H was prepared by me.

20 **Q. Does that conclude your testimony?**

21 A. Yes it does.



May 4, 2005



Northwest Missouri Cellular Limited Partnership

	Population	Square Miles	Density
ALLTEL MISSOURI, INC. *			
Zone 1			
ALBANY	2,322	72.72	31.93
BELLFLOWER	850	48.96	17.36
BOLIVAR	13,986	147.50	94.82
CROCKER	2,882	86.17	33.44
DIXON	7,266	189.48	38.35
DONIPHAN	7,261	336.88	21.55
EOLIA	2,633	74.06	35.55
FAIRDEALING	9,755	101.96	95.68
GALLATIN	3,844	86.33	44.53
GRANT CITY	1,505	104.98	14.34
LACLEDE	605	45.06	13.43
LIBERAL	1,865	121.99	15.29
MADISON	1,805	120.74	14.95
MILAN	3,817	203.61	18.75
MORRISVILLE	2,097	60.85	34.46
OLNEY	1,058	59.98	17.64
PIEDMONT	4,680	138.30	33.84
PLEASANT HOPE	2,828	62.35	45.35
PURDY	3,249	66.97	48.51
SILEX	1,909	74.33	25.68
SUMMER	512	71.81	7.13
STOTTS CITY	681	35.74	19.05
UNION STAR	583	42.34	13.77
WINSTON	628	57.67	10.89

Total Population Coverage by MO1 (2000 Census Blocks):	3,827		
Total Coverage Area by MO1 (square mile):		177.70	
MO1 Total Density:			21.54
Full Zone:	78,621	2,410.78	32.61
MO1 % Coverage:	4.87%	7.37%	

Zone 3			
ALLENDALE	297	64.06	4.64
CLUBB	1,413	173.47	8.15
FAIRPLAY	1,116	46.51	24.00
FLORENCE	817	55.65	14.68
GRANDIN	2,055	186.65	11.01
MARTINSBURG	996	58.09	17.15
MYRTLE	741	77.06	9.62
PATERSON	1,774	132.48	13.39
PATTONSBURG	1,716	162.22	10.58
PONDER	1,084	114.17	9.49
WAPPAPELLO	2,268	131.62	17.23
WILLIAMSVILLE	3,530	178.87	19.74

Total Population Coverage by MO1 (2000 Census Blocks):	297		
Total Coverage Area by MO1 (square mile):		64.06	
MO1 Total Density:			4.64
Full Zone:	17,807	1,380.86	12.90
MO1 % Coverage:	1.67%	4.64%	

Northwest Missouri Cellular Limited Partnership

	Population	Square Miles	Density
GRAND RIVER MUTUAL TELEPHONE CO. *			
Zone 2			
ANDOVER	156	16.86	9.26
BARNARD	1,220	107.60	11.34
BRIMSON	494	48.46	10.19
BROWNING	744	93.68	7.94
CAINSVILLE	1,008	92.62	10.88
CHULA	616	63.40	9.72
CONCETNJCT	587	47.95	12.24
DENVER	226	45.93	4.92
DARLINGTON	519	89.30	5.81
EAGLEVILLE	972	128.26	7.58
GALT	1,149	158.12	7.27
GENTRY	608	110.35	5.51
GILMANCITY	726	87.59	8.29
GRAHAM	504	63.02	8.00
JAMESPORT	1,845	108.74	15.13
LAREDO	745	79.70	9.35
LINNEUS	531	74.12	7.16
LUCERNE	301	66.93	4.50
MEADVILLE	939	74.04	12.68
MERCER	896	130.15	6.88
MT MORIAH	394	57.90	6.80
NEWHAMPTON	642	93.86	6.84
NEWTOWN	565	97.16	5.82
PARNELL	701	64.72	10.83
POWERSVL	192	42.53	4.51
PRINCETON	2,061	221.84	9.29
PURDIN	651	82.76	7.87
RAVENWOOD	883	77.79	11.35
RIDGEWAY	585	66.33	8.82
SHERIDAN	478	62.37	7.66
SPICKARD	1,345	146.74	9.17
SODAVIS CY	89	8.85	10.05
SO LINEVL	136	17.33	7.85
WASHITNCTR	683	102.70	6.65
Total Population Coverage by MO1 (2000 Census Blocks):	6,368		
Total Coverage Area by MO1 (square mile):		763	
MO1 Total Density:			8.35
Full Zone:	23,991	2,829.69	8.48
MO1 % Coverage:	26.54%	26.96%	

HOLWAY TELEPHONE CO.

SKIDMORE	Full Study Area
MAITLAND	Full Study Area

IAMO TELEPHONE CO. - MO

CLEARMONT	Full Study Area
ELMO	Full Study Area
WESTBORO	Full Study Area
BURLITNJCT	Full Study Area

Northwest Missouri Cellular Limited Partnership

	Population	Square Miles	Density
<u>IOWA TELECOMM SVCS DBA IOWA TELECOM - NORTH</u>			
SOUTH BRADYVILLEMO		Full Study Area	
<u>OREGON FARMERS MUTUAL TELEPHONE CO.</u>			
OREGON		Full Study Area	
<u>ROCK PORT TELEPHONE CO.</u>			
SOUTH HAMBURGMO		Full Study Area	
WATSON		Full Study Area	
ROCK PORT		Full Study Area	
<u>SOUTHWESTERN BELL [Non-Rural]</u>			
STANBERRY			
<u>SPRINT/UNITED TELEPHONE CO. OF MISSOURI *</u>			
APPLETONCY	2,187	131.12	16.68
BLACKBURN	596	51.89	11.49
BLAIRSTOWN	471	43.27	10.89
BRAZITO	2,964	62.40	47.50
BUCKNER	7,708	74.80	103.05
BUTLER	7,180	286.56	25.06
CALHOUN	818	57.39	14.25
CALIFORNIA	6,646	120.15	55.31
CAMDEN PT	793	21.56	36.79
CENTERTOWN	3,857	68.71	56.13
CENTERVIEW	890	41.27	21.56
CHILHOWEE	871	58.88	14.79
CLARKSBURG	568	34.72	16.36
CLINTON	12,048	225.02	53.54
COAL	1,003	59.26	16.92
COLE CAMP	4,388	221.16	19.84
CRAIG	434	66.71	6.51
DEARBORN	1,272	43.31	29.37
DEEPWATER	485	37.70	12.86
EDGERTON	1,417	33.29	42.56
EUGENE	2,782	104.78	26.55
FAIRFAX	1,132	114.60	9.88
FERRELVIEW	2,044	27.50	74.32
FTLENARDWD	13,919	111.94	124.34
GREENRIDGE	1,668	84.96	19.63
HARDIN	1,099	63.54	17.30
HARRISONVL	12,892	95.96	134.35
HENRIETTA	1,612	33.82	47.67
HOLDEN	6,101	163.20	37.38
HOLT	2,568	34.96	73.45
HOPKINS	942	82.58	11.41
HOUSTONIA	608	39.62	15.34
IONIA	555	28.97	19.16
JEFFERSNCY	5,372	39.30	136.69
KEARNEY	10,271	67.62	151.90
KING CITY	2,141	100.00	21.41
KINGSVILLE	1,276	43.12	29.60
LEBANON	24,834	387.06	64.16
LEETON	1,549	73.39	21.11

Northwest Missouri Cellular Limited Partnership

	Population	Square Miles	Density
LEXINGTON	4,518	70.65	63.95
LINCOLN	3,216	115.63	27.81
LKLOTAWANA	1,583	7.61	207.90
LONEJACK	4,997	82.77	60.37
MALTA BEND	425	59.33	7.16
MARYVILLE	13,903	159.50	87.17
MISSOURICY	1,886	15.13	124.64
MONTROSE	918	89.82	10.22
MOUND CITY	2,564	201.70	12.71
NEWBLOMFLD	1,906	52.35	36.41
NEWBURG	3,250	123.16	26.39
NORBORNE	823	50.72	16.22
OAK GROVE	10,890	77.45	140.61
ODESSA	10,083	140.97	71.53
ORRICK	3,247	75.74	42.87
OTTERVILLE	1,106	63.07	17.54
PICKERING	648	46.13	14.05
PLATTECITY	6,496	53.68	121.02
PLEASANTHL	9,457	83.40	113.40
RICHLAND	6,531	219.49	29.76
RUSSELLVL	4,455	87.64	50.83
SALEM	11,415	467.76	24.40
SMITHTON	2,033	50.98	39.88
ST ROBERT	5,748	44.39	129.49
ST THOMAS	793	21.17	37.47
STRASBURG	1,005	29.33	34.27
SWEET SPG	3,017	131.09	23.02
SYRACUSE	593	39.53	15.00
TAOS	2,475	28.70	86.24
TARKIO	2,713	122.40	22.17
TIPTON	3,631	52.72	68.88
URICH	1,328	95.19	13.95
WARSAW	7,437	218.03	34.11
WAVERLY	990	67.66	14.63
WAYNESVL	7,321	71.09	102.98
WELLINGTON	2,147	62.46	34.37
WESTON	2,659	75.45	35.24
WINDSOR	5,166	155.53	33.21
WARRENSBG	25,289	232.80	108.63
ROLLA	25,864	207.60	124.59
JEFFERSNCY	57,301	140.40	408.13
Total Population Coverage by MO1 (2000 Census Blocks):			
	24,477		
Total Coverage Area by MO1 (square mile):			
		893.62	
MO1 Total Density:			
			27.39
Full State			
	411,788	7,626.30	54.00
MO1 % Coverage:			
	5.94%	11.72%	

* Only the highlighted wire centers are included in the proposed ETC service area.

APPENDIX E

Revised

**CONTAINS
HIGHLY
CONFIDENTIAL
INFORMATION**

APPENDIX F

Revised

**CONTAINS
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APPENDIX G

Revised

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