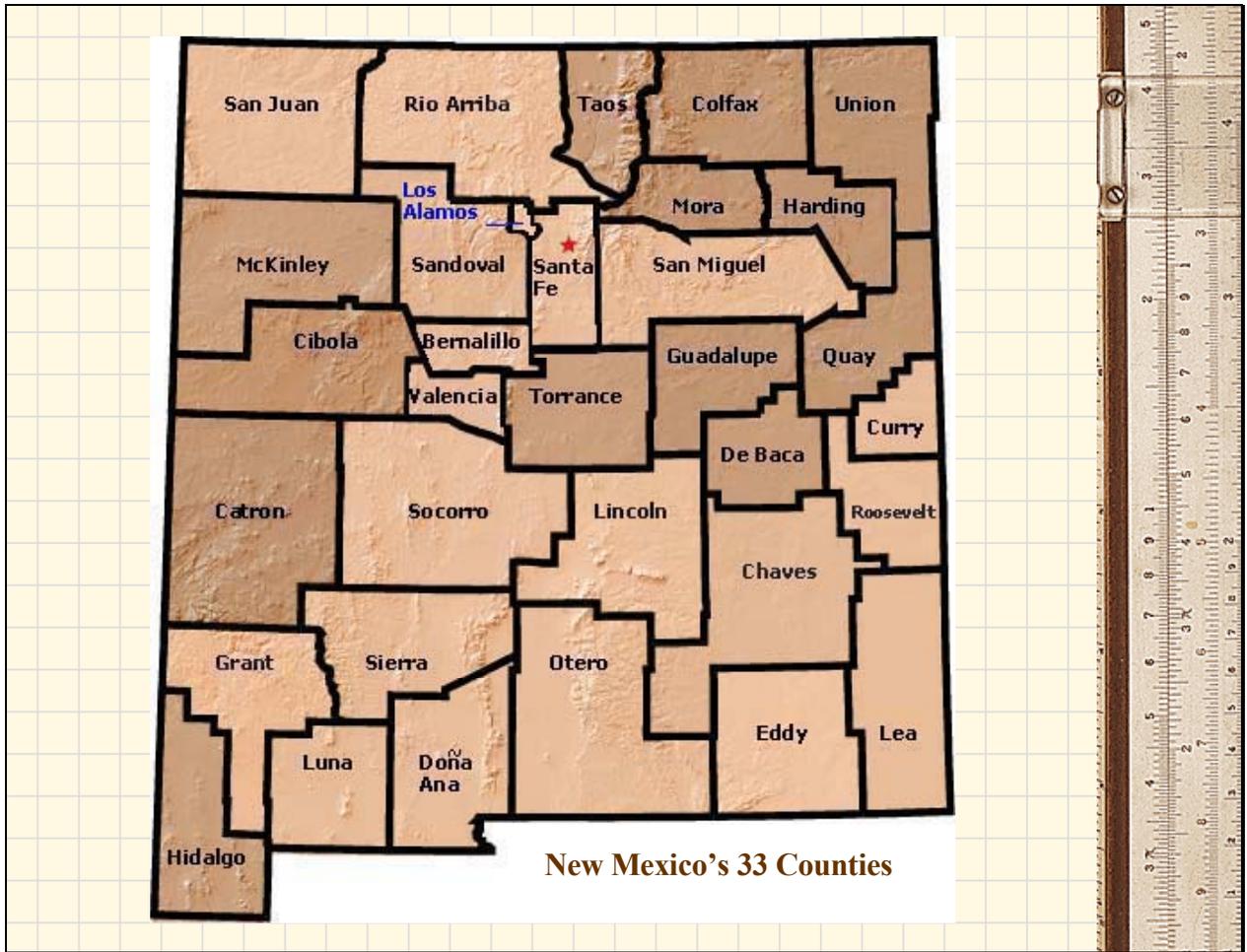




New Mexico Public Television covers 95% of incorporated places with a network of 3 full-power analog transmitters (KENW, KNME, & KRWG) and 50 low power transmitters broadcasting from mountain tops and high points all over the State.

25% of our viewers receive their public television service from a low power transmitter (or translator) serving a rural area.



A total of 6 public television field engineers travel throughout New Mexico's 33 counties maintaining the 50 translator public television network.



A translator is a low power television transmitter which picks up the television signal from one site and relays it to another. It is then re-broadcast on a different channel television channel, to avoid interference between input and output.

The translator network is designed to be 3 deep in the deepest part of the cascade, to keep signal quality as high as possible.

Slide 4



This photo was taken from the KNME-TV translator site near Cimarron. It picks up the KNME-TV broadcast signal from this mountaintop, directly on Channel-5 from KNME's main transmitter Sandia Crest. The KNME broadcast signal travels 116 air miles from Sandia Crest to the TV translator overlooking this beautiful mountain valley.

The Cimarron translator amplifies the Ch-5 KNME signal and retransmits it to the communities of Angle Fire, Cimarron, Eagle Nest and Springer.

The Cimarron site is important to KNME, because it is a primary pickup point which also relays the KNME signal to other translators located above the communities of Red River, Raton, Clayton, Roy and Wagon Mound.



This is KNME's translator site at Eureka Mesa. It serves Cuba and other important communities. It also acts as the relay for the KNME signal to travel to translators serving the Farmington area.

Here, at Eureka Mesa we are co-located in a State Radio communications building. All three New Mexico PBS stations have an excellent relationship with this important state agency.

The collaborative agreement allows us to share towers and buildings at strategic sites, to offer lower operating costs for both entities.



This photo shows the electronics associated with a typical television translator, located inside the communications shelter at the base of the tower.





Public Television for  
Central and Northern New Mexico

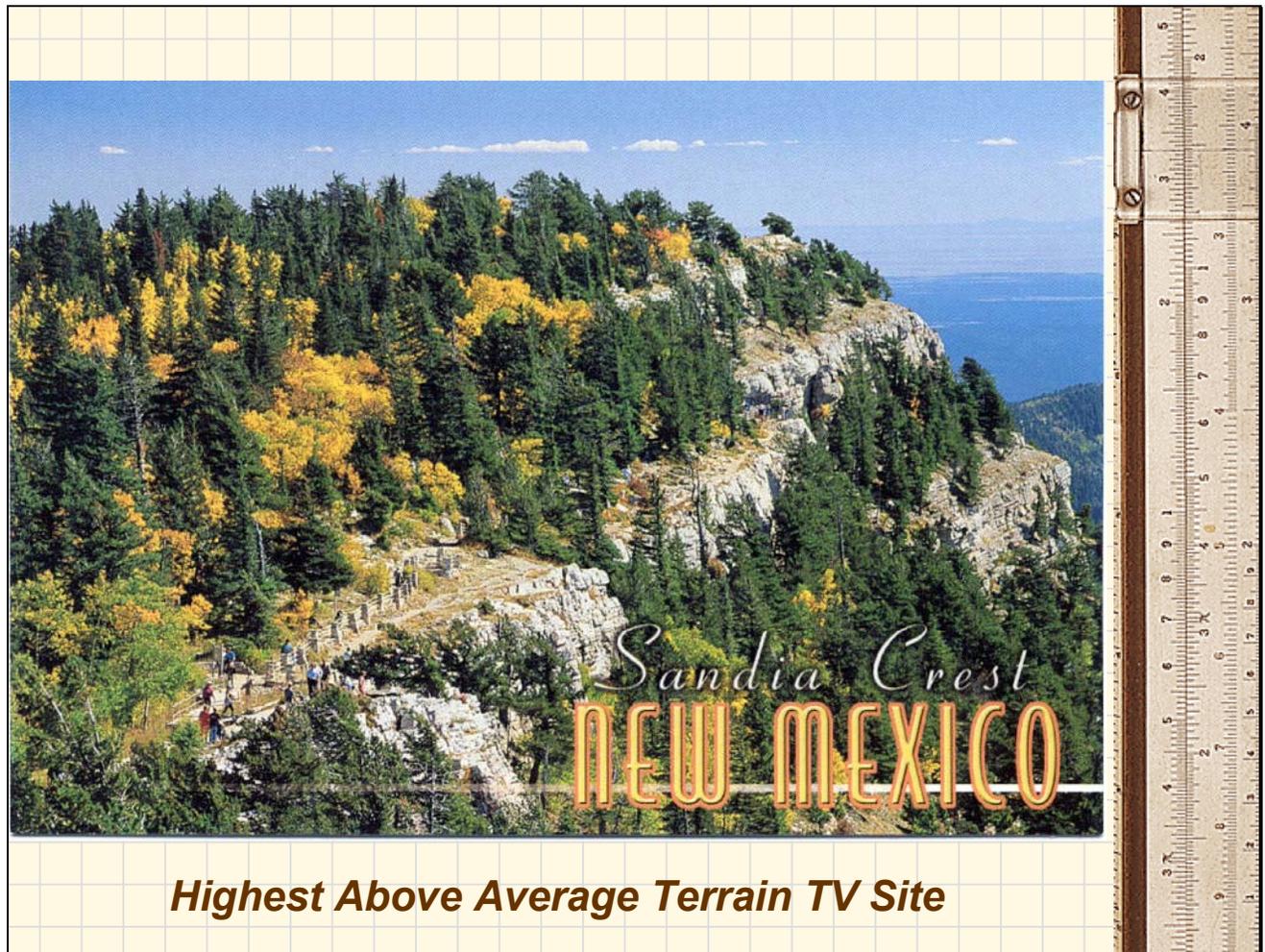
University of New Mexico

Ted A. Garcia

CEO & General Manager



Slide 9



***Highest Above Average Terrain TV Site***

Sandia Crest is where KNME and most other TV transmitters for the Albuquerque / Santa Fe broadcast DMA are located. It is the highest above average terrain site of its kind in the lower 48 states. With an elevation above sea level of 10,600 feet - the mountaintop soars more than 1 mile high above the city.

Now that's a tall TV tower !

\* DMA - A **DMA** (Designated **Market** Area) is a geographical region set up by the AC Nielsen Company (a publisher of television ratings my market, station and programs, over time).



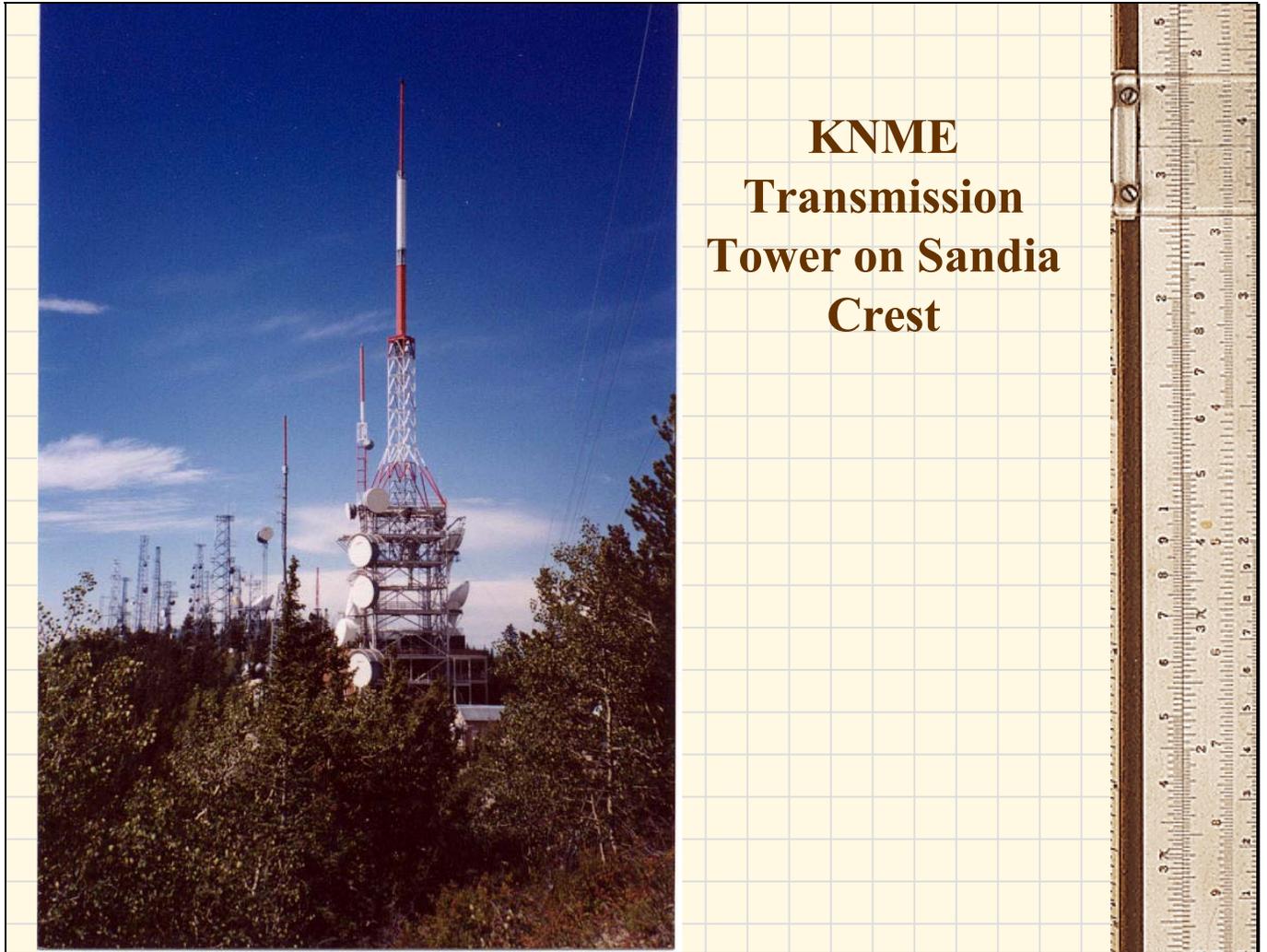
This is KNME's new digital transmitter. It is the largest solid-state Class A linear amplifier operating at the highest elevation in America. All 1,650 television stations operating in the U.S. have a Federal mandate to begin broadcasting on a new digital channel, assigned to them by the FCC. The mandate for all was to begin broadcasting digital by May 1, 2003. The FCC also requires the stations to ultimately replicate their analog coverage area.

KNME's digital 250,000 watt (ERP) signal reaches out a distance of 120 miles in most directions.

KNME's analog transmitter, operating on Channel-5 is similar and also reaches the same coverage area.

By Federal mandate, KNME must keep operating the analog service until 85% of viewers in our service area, can receive the new digital signal. This adds a great burden to the operating budgets of all three New Mexico Public Television stations. We must operate both services for an extended period of time.

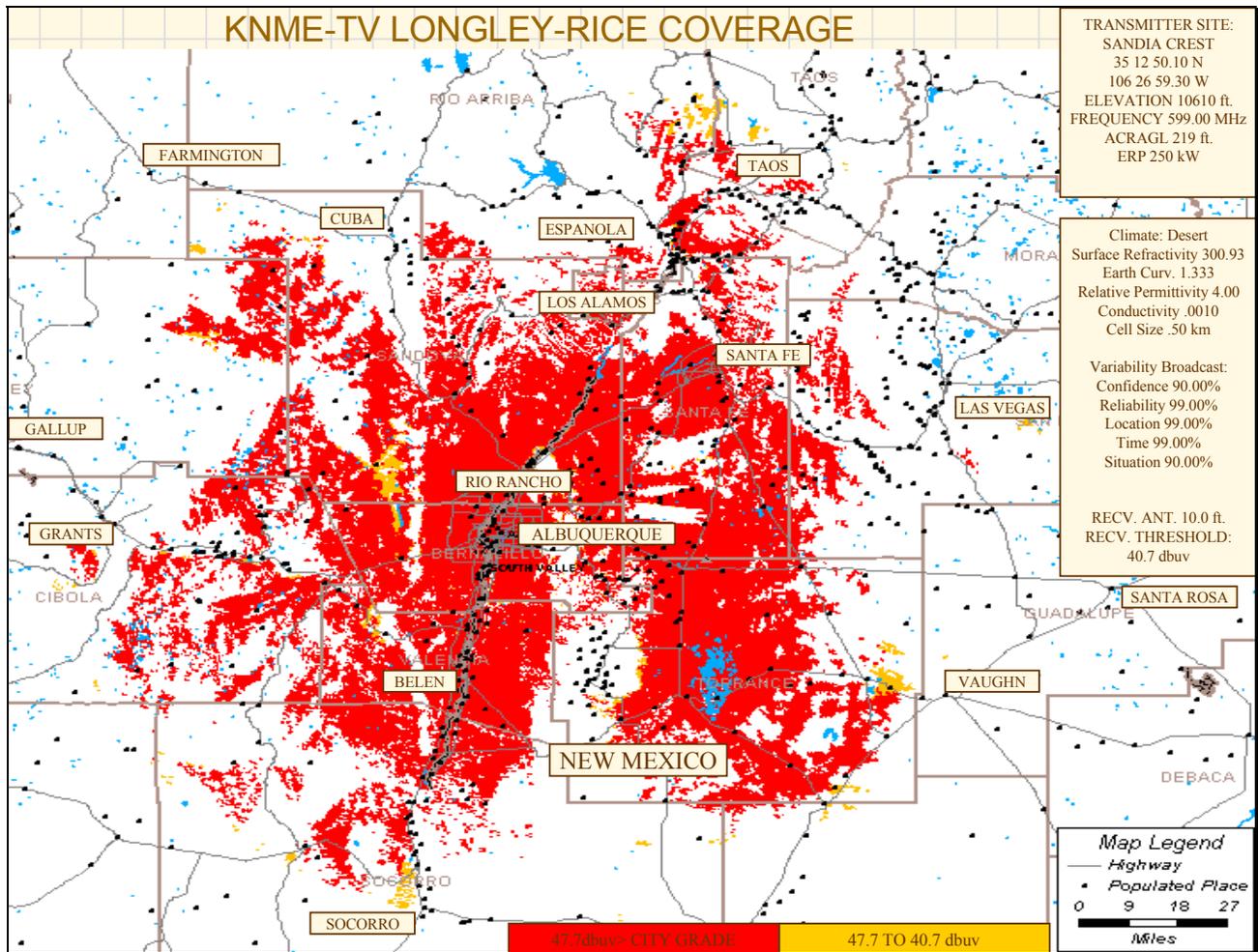
It costs \$6,000 per month, just to pay the power bill for this new digital transmitter.



**KNME  
Transmission  
Tower on Sandia  
Crest**

KNME's broadcast signal is radiated from the top of this tower on Sandia Crest.

The television antenna consists of a 40 panel array, located under the white radome on top.



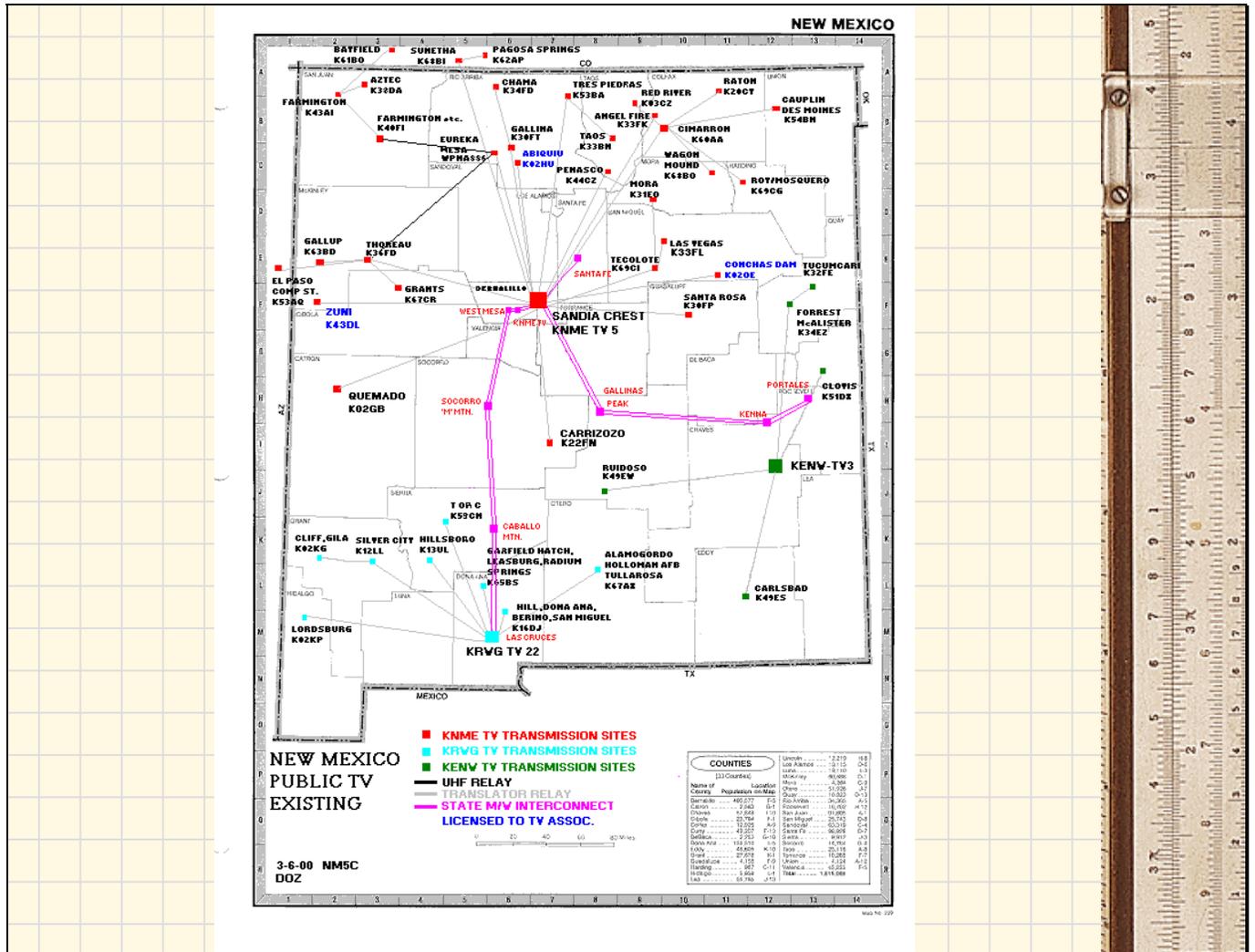
This map is a mathematical model, showing the coverage area of the KNME television signal.

If New Mexico were flat, this map would show a nice Red circle depicting the coverage area with a 120 mile radius.

Because New Mexico is 50% mountainous, many areas (shown in white) are blocked from receiving a television signal.

For example, the Manzano Mountains create the large white V pattern south of Sandia Crest and shadows communities like Mountainaire from receiving reliable television signals.

We must use a translator (low power television transmitter) operating on a mountain top, or a high point, to reach these shadowed areas that can not receive off-air television services directly.



For this reason, New Mexico Public Television operates 50 TV translators to serve viewers in isolated rural areas.

About 25% of New Mexico citizens, receive their over-the-air public television from one of these translator relays.

On this map, the KNME portion of the network is shown in Red; KENW’s portion is shown in Green and KRWG’s in light Turquoise.



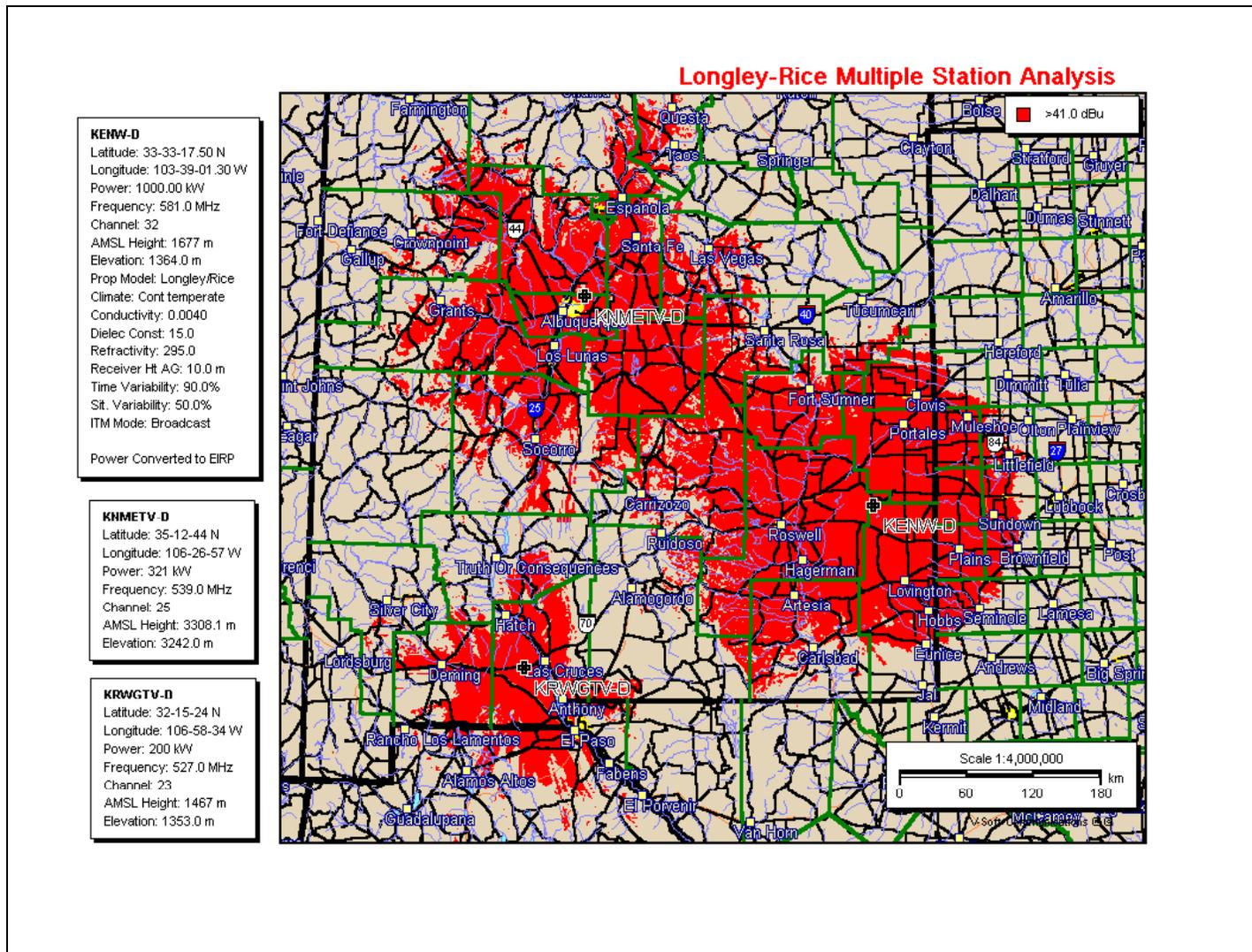
<b>Inc. Place</b>	<b>County</b>	<b>Call Sign</b>	<b>Channel</b>
<b>Angle Fire</b>	<b>Colfax</b>	<b>K33FK</b>	<b>33</b>
<b>Aztec</b>	<b>San Juan</b>	<b>K38DA</b>	<b>38</b>
<b>Bloomfield</b>	<b>San Juan</b>	<b>K43AI</b>	<b>43</b>
<b>Carrizozo</b>	<b>Lincoln</b>	<b>K22FN</b>	<b>22</b>
<b>Chama</b>	<b>Rio Arriba</b>	<b>K34FD</b>	<b>34</b>
<b>Cimarron</b>	<b>Colfax</b>	<b>K28GF</b>	<b>28</b>
<b>Clayton</b>	<b>Union</b>	<b>K33GC</b>	<b>33</b>
<b>Cuba</b>	<b>Sandoval</b>	<b>K34GB</b>	<b>34</b>
<b>Des Moines</b>	<b>Union</b>	<b>K33GC</b>	<b>33</b>
<b>Eagle Nest</b>	<b>Colfax</b>	<b>K33FK</b>	<b>33</b>
<b>Farmington</b>	<b>San Jaun</b>	<b>K43AI</b>	<b>43</b>

This index shows the communities which are incorporated places served by the KNME television translators.



<b>Inc. Place</b>	<b>County</b>	<b>Call Sign</b>	<b>Channel</b>
<b>Folsom</b>	<b>Union</b>	<b>K33GC</b>	<b>33</b>
<b>Gallup</b>	<b>McKinley</b>	<b>K23FE</b>	<b>23</b>
<b>Grants</b>	<b>Cibola</b>	<b>K33GA</b>	<b>33</b>
<b>Grenville</b>	<b>Union</b>	<b>K33GC</b>	<b>33</b>
<b>Las Vegas</b>	<b>San Miguel</b>	<b>K33FL</b>	<b>33</b>
<b>Maxwell</b>	<b>Colfax</b>	<b>K28GF</b>	<b>28</b>
<b>Milan</b>	<b>Cibola</b>	<b>K33GA</b>	<b>33</b>
<b>Mosquero</b>	<b>Harding</b>	<b>K34FQ</b>	<b>34</b>
<b>Raton</b>	<b>Colfax</b>	<b>K20CV</b>	<b>20</b>
<b>Red River</b>	<b>Taos</b>	<b>K15FV</b>	<b>15</b>
<b>Reserve</b>	<b>Catron</b>	<b>Planned 2004!</b>	
<b>Roy</b>	<b>Harding</b>	<b>K34FQ</b>	<b>34</b>
<b>Wagon Mound</b>	<b>Mora</b>	<b>K36FQ</b>	<b>36</b>

This index shows more communities which are incorporated places served by the KNME television translators.



This map was created with the Longley-Rice engineering predication model.

It shows the coverage area of all three New Mexico Public Television primary analog television transmitters:

- |         |                               |             |
|---------|-------------------------------|-------------|
| KENW-TV | Eastern New Mexico University | Portales    |
| KNME-TV | UNM/APS                       | Albuquerque |
| KRWG-TV | New Mexico State University   | Las Cruces  |

Areas not shown in red, must be reached by the translator network, or by some other means.



**KENW - TV**

**Public Television for  
Eastern New Mexico**

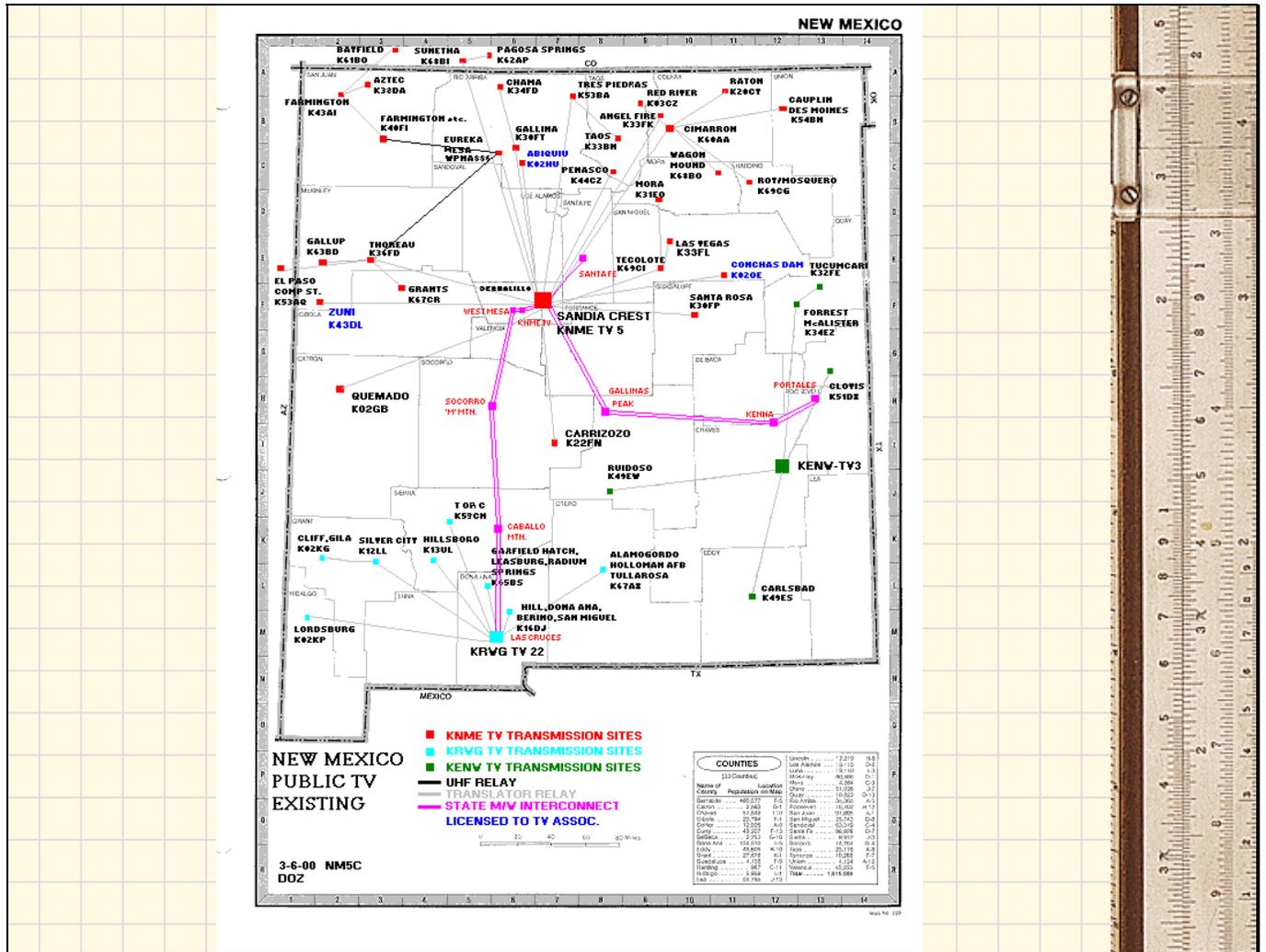
**Eastern New Mexico University**

**Serving the Eastern New Mexico Area**

**Duane W. Ryan**

**Director of Broadcasting**





On this map, the KENW portion of the network is shown in Green.  
 KENW broadcasts from the campus of Eastern New Mexico University in Portales, and serves an important population in a very large geographic area.

One county, Curry County, has a land mass larger than the State of Rhode Island!  
 Chaves County, has more land mass to broadcast a television signal to, than the entire State of Connecticut!

Curry County 1,406 sq. miles  
 45,044 population

Chaves County 6,071 sq. miles  
 61,382 population

Rhode Island 1,045 sq. miles  
 1,069,725 population

Connecticut 4,845 sq. miles  
 3,460,503 population



## KENW-TV Translator Network



<b>Inc. Place</b>	<b>County</b>	<b>Call Sign</b>	<b>Channel</b>
<b>Carlsbad</b>	<b>Eddy</b>	<b>K49ES</b>	<b>49</b>
<b>Clovis</b>	<b>Curry</b>	<b>K51DX</b>	<b>51</b>
<b>Forrest</b>	<b>Quay</b>	<b>K34EZ</b>	<b>34</b>
<b>Logan</b>	<b>Quay</b>	<b>K32FE</b>	<b>32</b>
<b>Melrose</b>	<b>Curry</b>	<b>K51DX</b>	<b>51</b>
<b>Ruidoso</b>	<b>Lincoln</b>	<b>K49EW</b>	<b>49</b>
<b>San Jon</b>	<b>Quay</b>	<b>K32FE</b>	<b>32</b>
<b>Tucumcari</b>	<b>Quay</b>	<b>K32FE</b>	<b>32</b>



This index shows the communities which are incorporated places served by the television translators in the KENW portion of the network.



# Public Television for Southern New Mexico

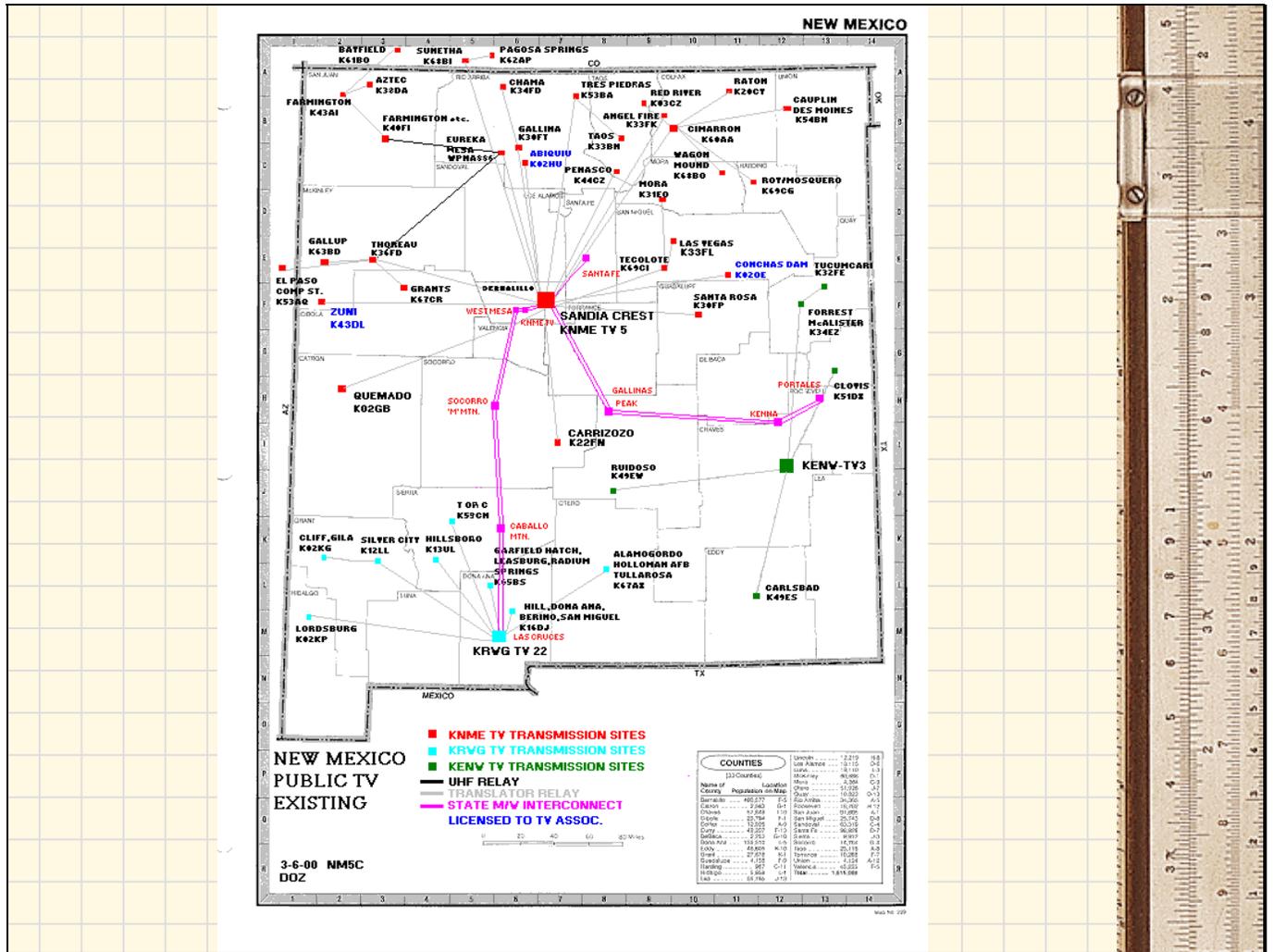
**New Mexico State University**

**Serving the Southern New Mexico Area**

Ronald Salak

General Manager





On this map, the KRWG portion of the network is shown in light Turquoise. KRWG broadcasts from the campus of New Mexico State University in Las Cruces.

KRWG serves a rapidly growing population in a large geographic area.



<b>Inc. Place</b>	<b>County</b>	<b>Call Sign</b>	<b>Channel</b>
<b>Alamogordo</b>	<b>Otero</b>	<b>K42ET</b>	<b>42</b>
<b>Bayard</b>	<b>Grant</b>	<b>K28LL</b>	<b>28</b>
<b>Cliff/ Gila</b>	<b>Grant</b>	<b>K02KG</b>	<b>02</b>
<b>Dona Ana/ Hill</b>	<b>Dona Ana</b>	<b>K16DJ</b>	<b>16</b>
<b>Elephant Butte</b>	<b>Sierra</b>	<b>K59CN</b>	<b>59</b>
<b>Hatch</b>	<b>Dona Ana</b>	<b>K65BS</b>	<b>65</b>
<b>Hillsboro</b>	<b>Sierra</b>	<b>K13UL</b>	<b>13</b>
<b>Lordsburg</b>	<b>Hidalgo</b>	<b>K02KP</b>	<b>02</b>
<b>T or C</b>	<b>Sierra</b>	<b>K59CN</b>	<b>59</b>
<b>Tularosa</b>	<b>Otero</b>	<b>K42ET</b>	<b>42</b>
<b>Virден</b>	<b>Hidalgo</b>	<b>K02KP</b>	<b>02</b>

This index shows the communities which are incorporated places served by the KRWG television translators.



The three stations work together, as a large collaborative network, sharing many resources, including television programming and technology.

# Capital Construction

Transmitter	Larcan MX-100	\$18,000
Antenna System	Andrew/ Scala	\$ 6,500
Tower	Rohn	\$ 46,500
Building	Contek	\$ 28,000
Power Line	Local Utility	\$ 12,000
Land + Access	Private/Public	\$ 14,000
	<b>Total Cost</b>	<b>\$125,000</b>

It costs about \$125,500 to construct a new electronics communications site for television translator use.

These systems are designed to be low cost to build, operate and maintain. Redundancy is not built into the model, in order to keep costs at a minimum.

# Depreciation

- A Typical TV Translator Site Costs \$125,000 to Construct
- 30 Year Expected Life
- \$347 / Month Depreciation

Over a 30 year expected life, it costs about \$350 per month for straight line depreciation.

# Capital Renewal

- Funding Sources

## Federal Grants

**Department of Commerce**

**Department of Agriculture**

**State & Local Bonds**

New Mexico Public Television relies primarily on federal grants and state and local bonds as a source funding for capital renewal.



**They Just Keep Escalating Every Year !**

But operating costs just keep escalating every year -- faster than the ability of the three PTV stations to grow their budgets and keep pace.

We need your help in offsetting operating costs, to keep maintaining reliable services to your communities, and to better afford to operate digital translators, which are slated to bring a wealth of new educational services to your area soon.

Digital television can deliver more than one program service simultaneously (MULTICASTING) and Internet like data services at the same time (DATACASTING).

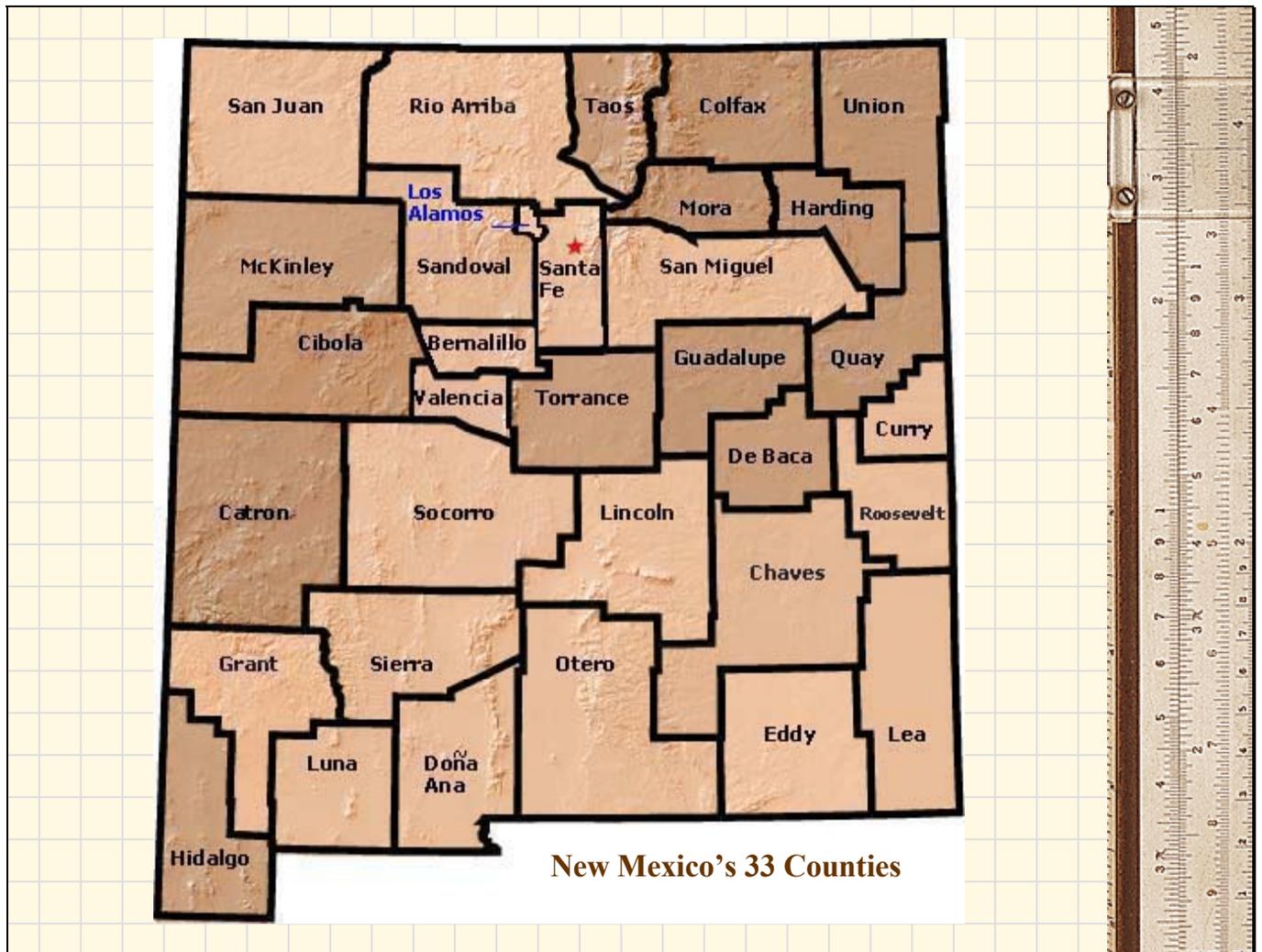
NMPTV plans to use the power of digital television (already broadcasting from the primary transmitter sites) to bring many more education and cultural services to your community through new digital TRANSLATORS which will be co-located at the existing analog translator sites. Our first Digital Translator will be commissioned to serve the Taos area this year!

We will be successful in raising the capital equipment costs, but need your help in offsetting rising operating costs.

## Television Analog Translator Site Monthly Operating Costs

<i>2004</i>	<b>Monthly</b>	<b>Yearly</b>
Electric Power	\$ 120	\$ 1,440
Routine Maintenance (Parts & Supplies)	\$ 70	\$ 840
Routine Maintenance (Labor)	\$ 235	\$ 2,820
<b>Total Cost</b>	<b>\$ 425</b>	<b>\$ 5,100</b>

It currently costs \$425 per month to operate a television translator site, or about \$5,000 per year.



We are excited to continue bringing you the highest quality Public Television services to all 33 New Mexico counties and look forward to collaborating with you on future projects which can help New Mexico grow and prosper in the 21st Century of progress!



***We are New Mexico Public Television!***

This *Power Point*® presentation about the New Mexico Public Television Service was designed by:

***James M. Gale***  
Director of Engineering & Operations  
KNME-TV  
1130 University Blvd. N.E.  
Albuquerque, NM 87102  
(505) 277-2049 Direct

**Note:** Presenters at all three New Mexico Public Television stations are available to bring this program about rural television service to your community upon request.



Thanks for inviting us to make this presentation today at the New Mexico Association of Counties annual meeting, here at the beautiful *El Dorado Hotel* in Santa Fe!

Presenters:

***Ted A. Garcia***

CEO and General Manager  
KNME-TV  
(505) 277-2121

***Jim Gale***

Director of Engineering & Operations, KNME-TV

***Joseph J. Kehr***

Director of Administration & Finance, KNME-TV

***Ronald Salak***

General Manager, KRWG-TV (505) 646-2222