



0000147742

ORIGINAL

Marshall Magruder

Before the Arizona Corporation Commission

Transmission Line Siting Case No. 144 and ACC Case No. L-000007-09-0190-00144

Arizona Corporation Commission

RECEIVED

2013 AUG 29 AZ 35

AZ CORP COMMISSION DOCKET CONTROL

DOCKETED

Arizona Corporation Commission Staff Meeting in Phoenix

29 August 2013

AUG 29 2013

Speaking Notes

DOCKETED BY NR

I would like to thank the Commission for allowing this issue to be heard today. This appears to have been re-scheduled due to my input on 11 August; however, the original short notice would have prevented my appearance today as a party in this case. Again, thank you.

My 11 August comments are primarily to set the stage for today, for six modifications requested by the company to a Certification of Environmental Compatibility (CEC), or the "permit" granted by the Arizona Power Plant and Transmission Line Siting Committee and then approved by this Commission on 7 October 2009, nearly four years ago.

Now, why are we here today?

Specifically to change and modify this permit because of poor analysis and engineering by the company in its application for this CEC and before the Siting Committee. As discussed on 11 August, each issue has ramifications that should, or could have been anticipated in 2009, if the company had properly done its job right, the first time.

I was an "intervening" party to this case and did not oppose this line but offered several important modifications during these proceedings, mostly denied by the Committee and, on one important issue involving six poles, the Commission over-ruled the Siting Committee and approved my proposed Exception to the CEC.

**Modifications 1 and 2** involve Segment 1, a new approximately 5.15 mile long 138 kV line between the TEP Vail Substation and the present UNS Electric "Nogales Tap" on the Western Area Power Administration's or WAPA's 115 kV transmission line. This line is constrained to no more 65MW, mostly about 60.5MW of power for our one transmission line to Nogales. This constrain has required local electric generation from the Nogales gas turbines. This is not cost effective. I asked during the hearings, based on Section 1222 of the Energy Policy Act of 2005, that \$500 million has been authorized by Congress for WAPA to upgrade its transmission lines in this region. TEP/ UNSE denied that any progress towards this solution had made in the hearings. Segment 1 also permanently disconnects our Nogales line from the Nogales TAP where, in 2000, we spent \$2.3 million in a three-ring bus switch to improve reliability by automatically selecting to a second power source if one was lost. This switch will be abandoned with Segment 1. The cost of Segment 1 is about \$5.1 million plus another \$3.1M for a 345 to 138 kV Transformer at TEP's Vail Substation,

By November of 2012 it became obvious that this new Segment 1 was **unnecessary** and I filed to "stay" Segment 1 in order to make a decision to save at least \$5M from UNSE ratepayers. Why? WAPA is funding the ongoing NEPA studies for the Southline Transmission line to upgrade the present 115 kV with a twin-circuit 230 kV and also connect it to Vail, this

eliminating the need for Segment 1. This provided UNS Electric with additional power sources. If the Commission had responded, we would not be concerned with Modifications 1 and 2.

**For Mod 1**, the Staff correctly requested TEP make arrangements with UNS Electric since each is an independent public service company regulated by the Commission.

**Mod 2** involves discussions between BLM and the company. The company testified there were NO BLM impacts with this line, contrary to evidence submitted at the hearing by Intervenor Webb of known BLM concerns being raised 4 years later. Her comments were ignored at the Siting hearing but now involve a change of some new 1,300 feet of ROW, outside the corridor.

**Mod 3** involves extending by 80-feet the ROW to the East of the Cañez substation in Rio Rico in Segment 3. In the few hours between reading the initial staff report and my response I made an error thinking this was to the North and not the East. Still, anyone who sees the layout of this substation with a very tall concrete pole to East of the transformer, with lines coming in and out from the West, it makes no sense to add to this substation additional 80-feet to the East. I just don't understand this from their filing; however, there are other issues that this substation raises.

First, we were told during the hearings that the three substations north of Nogales were already capable of both 115 and 138 kV, and not major impacts were necessary. This was not true, as the Canez transformer was removed, the substation bypassed (with higher than normal probability of failure risk) while it was removed and then returned. Even now, when running on 115 kV, it has a new and loud "hum" that many can now hear for the first time. As I have extensive acoustics engineering experiences, I know ALL noises can be greatly reduced, for example our submarines and surface ships, use many measures to reduce radiated noise.

Second, the line runs both north and south of the Cañez substation in an old-mesquite cottonwood bosque where the Commissioners approved my Exception to the north to move six poles, about 200-feet west, over the UPRR tracks from 25 property owners to a cow pasture with one owner that is required to ranch in order that Rio Rico can retain its agriculture water allotments. These cows don't mind and the loss of several miles of old growth was avoided, especially, since before the hearings the company had "clear cut" at 100-foot wide ROW where the existing 115 kV lines run. Two 100-foot wide "clear cuts" on one's property were too much.

Third, the company testified that it would use a **five-year trim** instead of clear cutting in this bosque citing the NERC requirements for vegetation management. A review of the NERC Standard FAC-003-02B, shows that "clear cut" is not the objective of vegetation management but that falling tree limbs on bulk transmission lines is its only objective. In fact, smaller lines than 200 kW required special listing to even be required to use vegetation management. It appears obvious that the company has over-reacted to the sensible requirements of this standard. This standard requires each utility have an annual Vegetation Management Plan with details of how to avoid tree damage to their lines from a "Minimum Vegetation Clearance Distance", in his case, at **2.28 feet** at 3,000 foot altitude; and **not 3-inches above ground**.

**Mod 4** involves another 1,300-foot extension outside the 500-ft corridor along Old Nogales Highway. Since this is just an "upgrade" from 115 to 138, with poles being replaced, and the company was authorized a 500-foot corridor in which to place its 100-ft ROW, then how could

this happen? Only by poor engineering, by poor planning and with incomplete analysis before the Siting Committee could this happen.

**Mods 5 and 6** involve two large Nogales produce companies in Segment 4. During about 8 months of the year about 800 to 1,200 18-wheel produce trucks come and go to Mexico with produce that is washed, packaged and shipped from these companies, the largest business in the county, over \$1B per year. These 25-50 bay produce houses, with steel roofs, and EMF "induced" electricity concerns, and the potential for very serious safety events including explosions and death. The company's EMF plots in its application were amateurish and I told them so. Further, I tried to have Segment 4 routed either between the Rail Road and Grand Avenue (unbuildable strip of land) or to the East behind these produce building, at the lower edge of a hill (which has less pole visibility and not susceptible to trucking accidents.). It also is noted that for Modification 6, that UNS Electric's re-hearing application did not have signatures of many of the parties involved.

I testified that having the line going over a trailer park, over three different shopping centers, and running in front of the County Building Complex, and entering the Nogales Substation from the West instead of from the East as approved. One Alternative showed entering from the East, I pleaded for any such Alternative until a 92-year old Nogalian, the late Mr. Bafford, made public comments against idea. He also didn't like Alternative routes on the ridgeline or halfway down the hill. I couldn't compete against Mr. Bafford, who son trains Kentucky Derby winners.

I've mentioned **EMF** that the companies all seem to gloss over. The Bonneville Power Administration brochure, here is a copy, discussed how transmission lines "induce" current along fences, rail lines, water and natural gas pipes and anything ferromagnetic. This, now almost standard line siting condition that I helped originate in Case 111, was to avoid the corrosive impacts of EMF being induced on nearby natural gaslines. Unfortunately, the wrong standard, the Canadian Gas Association Standard 105, was selected by the Staff. VM's single objective is to prevent a gas line fire from melting a transmission line. This is a complex issue that I discussed at a Commission hearing many years ago on pipeline safety with the head of the Federal Office of Pipeline Safety who said I was correct in bring this to the attention of the Commission. Her office was working for a solution to this important safety issue.

Mr. Dave Wessendorf, a professional safety engineer, from Rio Rico has (or will) discuss this from an individual residential customer's view.

The Siting Committee required the company to permit those impacted to participate in the determination of the "**pole finish**". In particular, many objections to transmission lines involved visual impacts. This party, using assistance of a professional artist's advice and his knowledge of military camouflage, recommended that the intensity of the background equal that of the foreground so that poles and lines will blend and be less visible. There were two choices, a light dulled galvanized steel or black "core10" finish options. I expected this plan, issued after CEC approval, to allow reasonable choices, but it only allowed replacements poles to match what was there before or all Core10 except for Segment 1 that was "new" thus was galvanized steel. Thus, in Santa Cruz County, we had NO "choice" and thus their biased "finish plan" now has ugly rusty black/brown poles outlined along ridges and visible for many miles farther than the existing wood H-frames. This dirty trick was improper.

I could also discuss providing the public, in their mailers, that the new poles would be between 70 and 85-feet but in their application had up to 120-feet. One handout has both the present H-frame and a monopole, with the monopole slightly higher. It seems most are near that 120-foot height, anticipated to rarely be used if crossing other lines. As Mr. Wessendorf photos show, these poles are significantly higher than those being replaced. This was VERY deceptive and this party missed this embarrassing "bait and switch" trick during the hearings.

### **Conclusions.**

1. The company's CEC pre-application and preparation was deficient and inadequate, in particular, with the location (or "siting") of the proposed ROW. It is inexcusable for the company NOT to know where they want to "site" each element of any project BEFORE going to the Siting Committee. We see SIX instances of this today.
2. The word "site" in this instance means "location", a specific place, not a general area, such as the "corridor" concept used by the company.
3. Comments, interpreted as promises, during the Siting Hearings, the company failed to meet. In particular, the use on needlessly "clear cutting", pole placements, and pole finishes.
4. The Annual Vegetation Management Plans should be reviewed.
5. Important material in public mailings and handouts was deceptive, in particular pole heights.
6. The induced electrical impacts of transmission lines on above and below ground ferromagnetic pipes, fences, and tracks be re-examined by the Commission.

### **Recommendations.**

1. That the Commission staff takes an active role in all Siting proceedings, to add continuity of lessons learned from one project to another. It is unfair to the Commission to have to "re-hear" any issue four years afterward, issues that involved poor planning by the company, when they weren't participants. This would help ensure that "promises" made to the public during the Siting Hearings could be enforced later and not ignored. My word is my bond.
2. That the Commission staff, in its preliminary review of line siting applications, ensure that details as to specific "locations" or siting for a project be included in an application to avoid the many surprised found in this case.
3. That the Commission periodically reviews the annual Vegetation Management Plans to ensure reliability standards are being met and that overly excessive tree trimming is not routine.
4. That the Siting Committee should review VM Plans for transmission lines.
5. That the Commission staff provides a correct and complete condition statement involving EMF to correct the erroneous one now being used.
6. That when material in public handouts and mailings significantly differs from the Application, that these differences be clearly noted when before the Siting Committee and Commission.
7. When all the attachments to the company's re-opened hearing application have been signed, then this party would recommend approval of the Staff's Recommended Opinion and Order.