

ROSEMONT 138KV TRANSMISSION LINE SITING STUDY PROJECT

Public Open House Meeting #3

April 13, 2010 - Corona de Tucson

April 14, 2010 - Quail Creek

5:30pm – 8:30pm

Presentation and Question and Answer:

6:30pm – 7:00pm

Project Overview

- Tucson Electric Power (TEP), as a part of its obligation to serve, is proposing to construct and operate a new 138kV transmission line for the proposed Rosemont Copper operations
- Planning process – includes environmental studies and public input conducted to assist in identification and comparison of alternative transmission line routes and environmental impacts. Similar to any customer requesting service at the transmission voltage, Rosemont is paying for the transmission line siting study
- Project area – south of I-10 and east of I-19, with lands managed by Arizona State Land Department in conjunction with University of Arizona, Forest Service, Bureau of Land Management, and privately-owned lands under the planning jurisdictions of the Town of Sahuarita and Pima County
- Project requires review by the Arizona Corporation Commission's (ACC) Power Plant and Transmission Line Siting Committee resulting in a recommendation to, and a final determination by, the ACC prior to construction



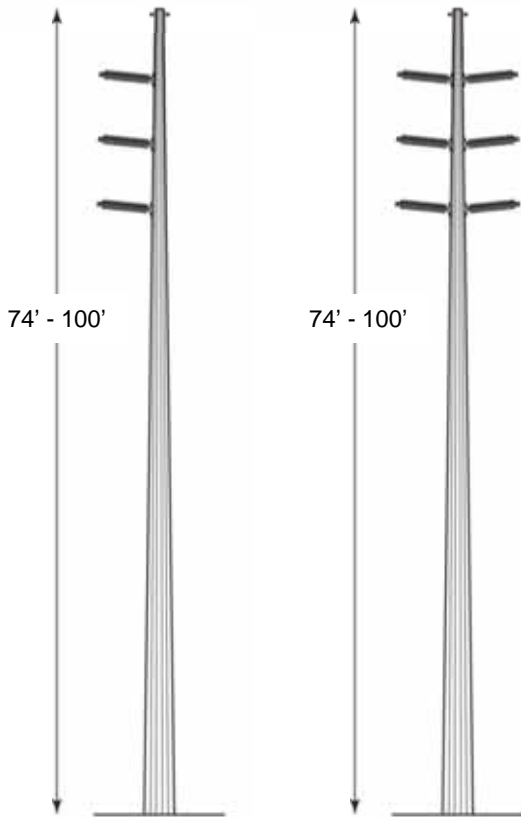
Purpose and Need

- Electric utilities are required by the State of Arizona to provide electrical service to customers upon request
- Rosemont Copper Company has requested TEP to provide electric power to the Rosemont Copper operations
- The primary purpose and need for the proposed transmission line is to provide adequate and reliable power for the proposed Rosemont Copper operations
- Currently, there are no existing transmission lines and substations to serve this proposed operation

Project Description

- Up to approximately 22 miles of 138kV transmission line
- A 500-foot-wide corridor will be requested, and within that corridor a 100-foot-wide right-of-way would be obtained
- Approximately 3+ acres of land for construction, operation, and maintenance for proposed Rosemont Substation, western-most switchyard/substation, Greaterville, Helvetia Road/46kV temporary interconnection
- Three connection points
 - New switchyard/substation for connection to TEP system
 - New Rosemont switchyard/substation at Rosemont operations
 - Greaterville Substation or temporary switchyard/substation interconnection (Helvetia Road & 46kV intersection) for construction power and possible long-term reliability purposes

Proposed Structure Type(s)



Proposed Switchyard/Substation

- Photograph is of a typical TEP switchyard that resembles the proposed switchyard/substation(s)
- Proposed facility for interconnection with the existing TEP transmission system
- Approximately 3+ acres in size
- Located on private land



Project jurisdiction/ownership/Rosemont claims map(s)

Project jurisdiction/ownership/Rosemont claims map(s)



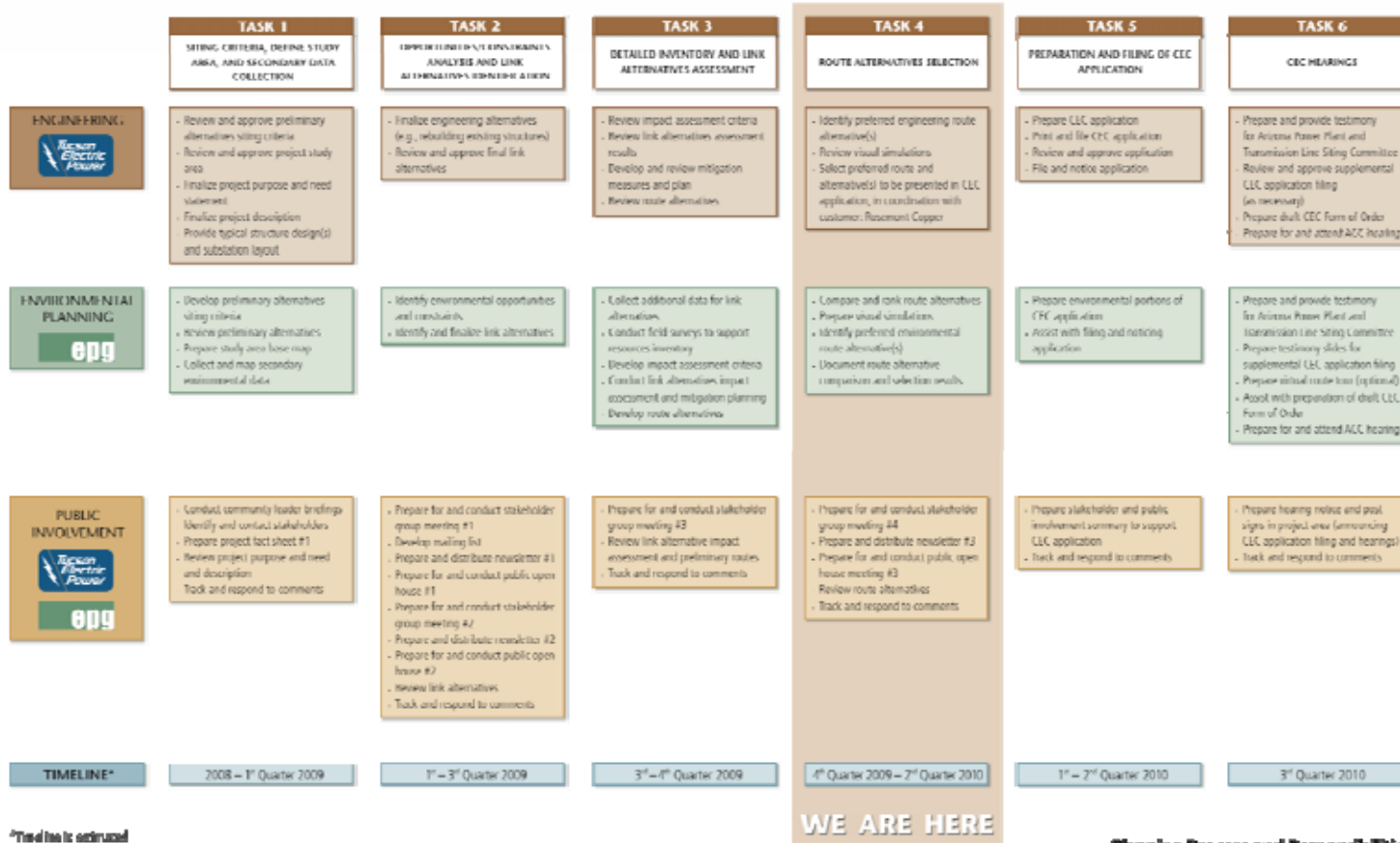
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Planning Process

- Comprehensive planning process consisting of six key tasks. Studies include environmental and engineering analysis, along with agency/public input
- Identification and evaluation of alternatives that meet project purpose and need
- TEP will identify a preferred route(s) for permitting and construction, as well as alternative routes
- TEP will prepare and file a Certificate of Environmental Compatibility (CEC) application to be reviewed by the Arizona Power Plant and Transmission Line Siting Committee
- The Arizona Corporation Commission (ACC) will make a final decision to approve or deny the CEC application (with any conditions)

Planning Process Chart

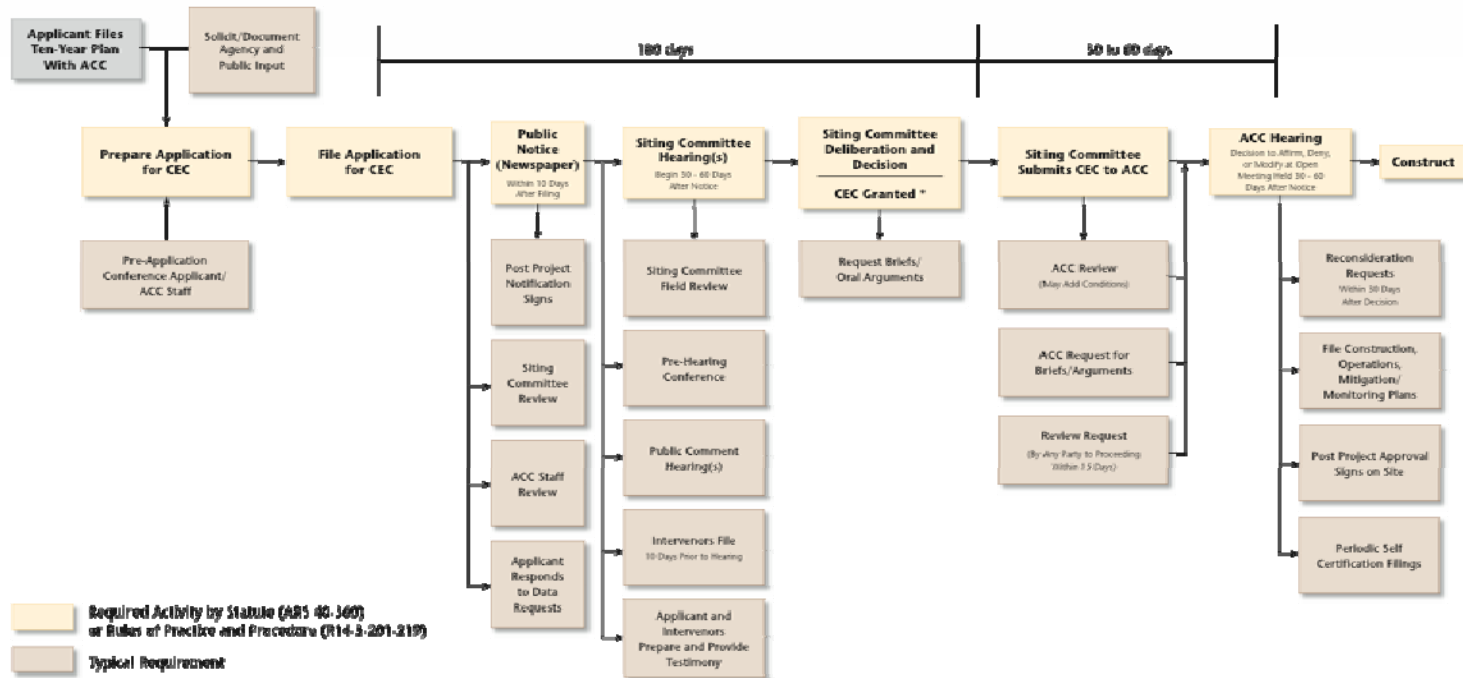


*Timeline is estimated
April 2010

WE ARE HERE

Planning Process and Responsibilities
Rosemont 138kV Transmission Line Project

Certificate of Environmental Compatibility Application Process



* Decision within 180 days after receipt of application (R14-3-213), subject to extension

ACC: Arizona Corporation Commission
 CEC: Certificate of Environmental Compatibility
 Siting Committee: Arizona Power Plant & Transmission Line Siting Committee



Arizona Power Plant and Transmission Line Siting Process
 Certificate of Environmental Compatibility
 Rosemont 138kV Transmission Line Project



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Key Considerations for Selection of Recommended Routes

- Project construction and operation power needs
- Minimizing environmental impacts
- Electrical system planning requirements and timeframes
- Engineering
 - Constructability
 - Cost
 - Right-of-way
- Public and agency input
- Regulatory permits
- One or more alternative routes may be carried forward in application for a CEC to be submitted to the Siting Committee and ACC

Key Terms Defined

Right-of-way: land authorized to be used or occupied for the construction, operation, and maintenance of a linear facility

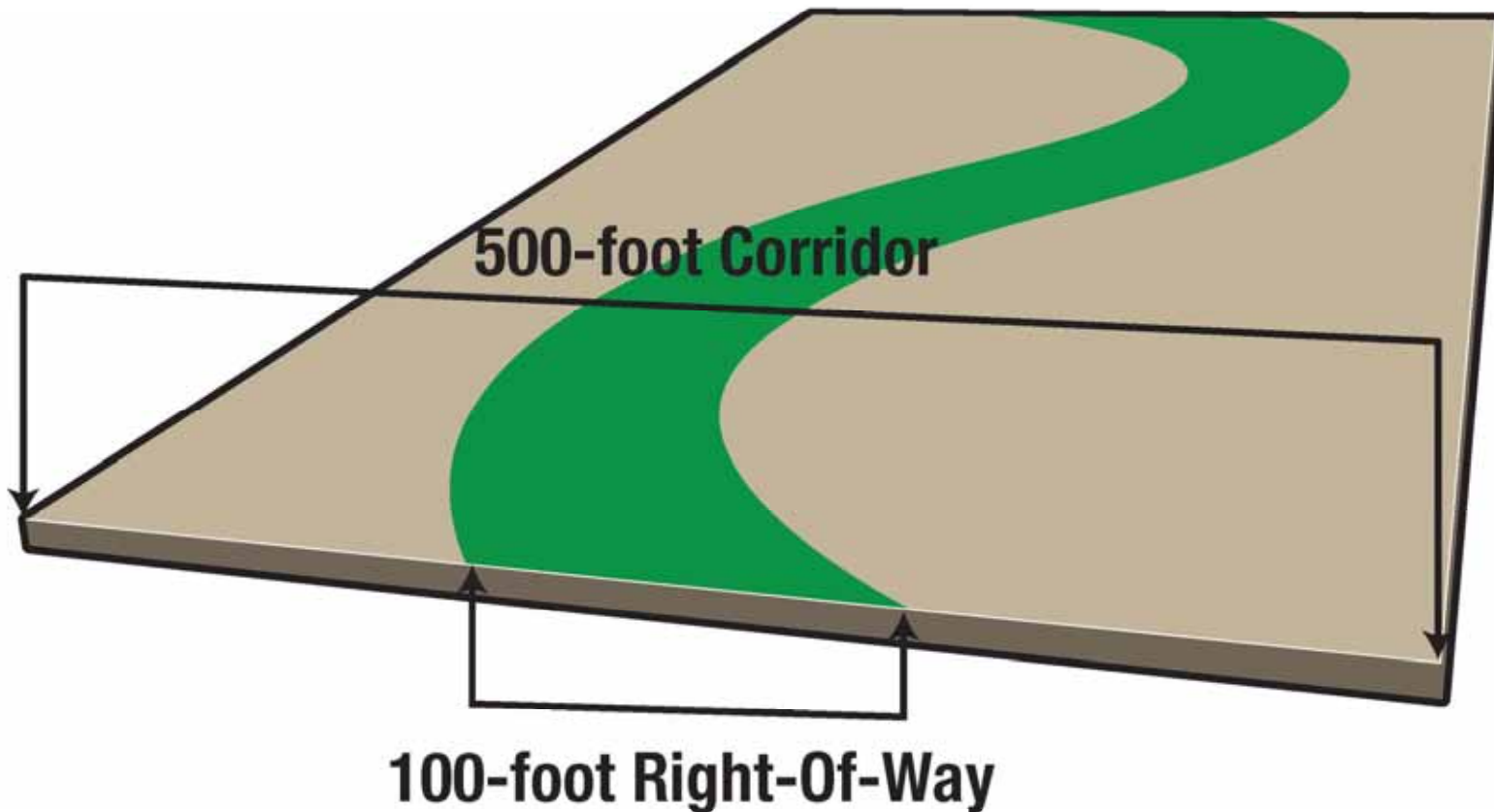
Corridor: a tract of land of varying width that allows the flexibility for a transmission line right-of-way to be located within to accommodate final engineering and environmental considerations

Link: short segment of a preliminary transmission line route between other intersecting segments

Link node: intersecting point where two links meet

Route or routes: series of links connecting the proposed switchyard and proposed Rosemont Substation and construction power source (e.g., Greaterville or Helvetia Rd./46kV)

Example Corridor and Right-of-Way Configuration



Environmental Analysis Summary

Land use

- Existing land use
- Future land use

Visual resource

- Landscape scenic quality
- Sensitive viewers
(residences, roads/trails,
trailheads)
- Scenic management
guidelines

Cultural resource

- Known historic properties
considered
 - Eligible
 - Not eligible
 - Not evaluated

Biological resource

- Biological conservation
areas
- Vegetation
- Wildlife

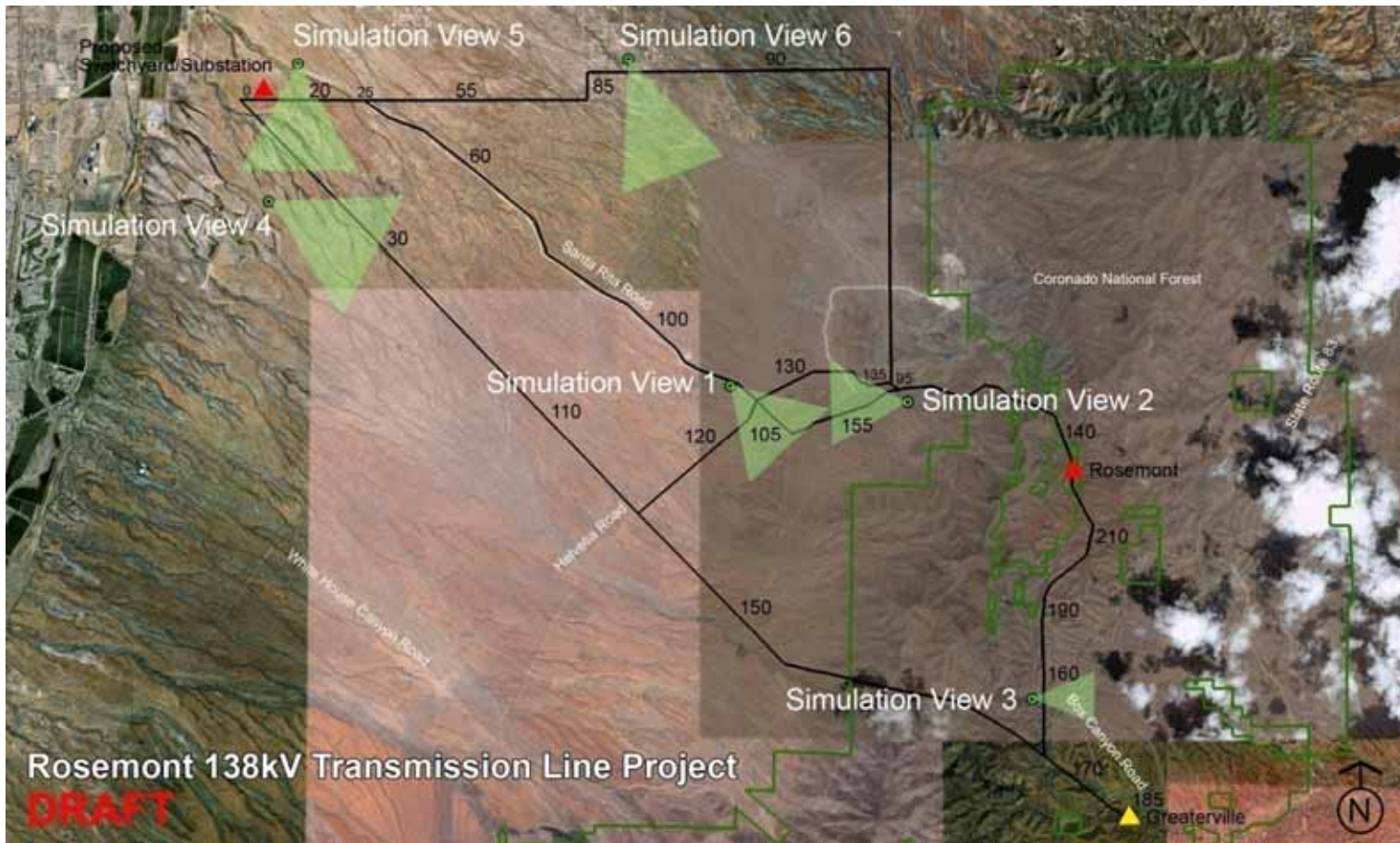
Resource Maps

- Existing land use map
- Future land use map
- Parks, Recreation, Open Space map
- Bio map
- Visual map

University of Arizona's Santa Rita Experimental Range

- Established in 1902 and is considered the oldest experimental range in the U.S.
- Provides a unique scientific resource with an archive of repeat photos
- Consists of more than 80 square miles of grazed and ungrazed rangeland leased from the Arizona State Land Department

Simulations



Simulations

Simulations



Alternative Links

All links map on jurisdiction and ownership



Alternative Route Families (Groups)

- Northern Route – generally follows northern boundary and a portion of eastern boundary of Santa Rita Experimental Range
- Santa Rita Road – generally follows Santa Rita Road alignment
- Adjacent 46kV line – generally follows existing 46kV power line alignment

Alternative Routes Comparison Table

- Table with 11 alternative routes

North Route Family Maps

- 3 alternative routes maps – Option 3, Option 8, and Option 10

Santa Rita Road Route Family Maps

- 4 alternative routes maps – option 1, 3, 7, and 9

Adjacent 46kV Route Family Maps

- 4 alternative routes maps – Option 1, 2, 4, and 6

Alternative Routes Recommended to be Carried Forward

- Santa Rita Road – options 1 and 3
 - Option 1 (uses links 130, 135, Greaterville for construction interconnection)
 - Option 3 (uses links 105, 155, Greaterville for construction interconnection)
- Adjacent 46kV Line – options 1, 2, and 4
 - Option 1 (uses links 105,155, Helvetia/46kV for construction interconnection)
 - Option 2 (uses links 120,130,135, Helvetia/46kV for construction interconnection)
 - Option 4 (uses link 150, Greaterville for construction interconnection)

Santa Rita Road – Options 1 & 3

MAP

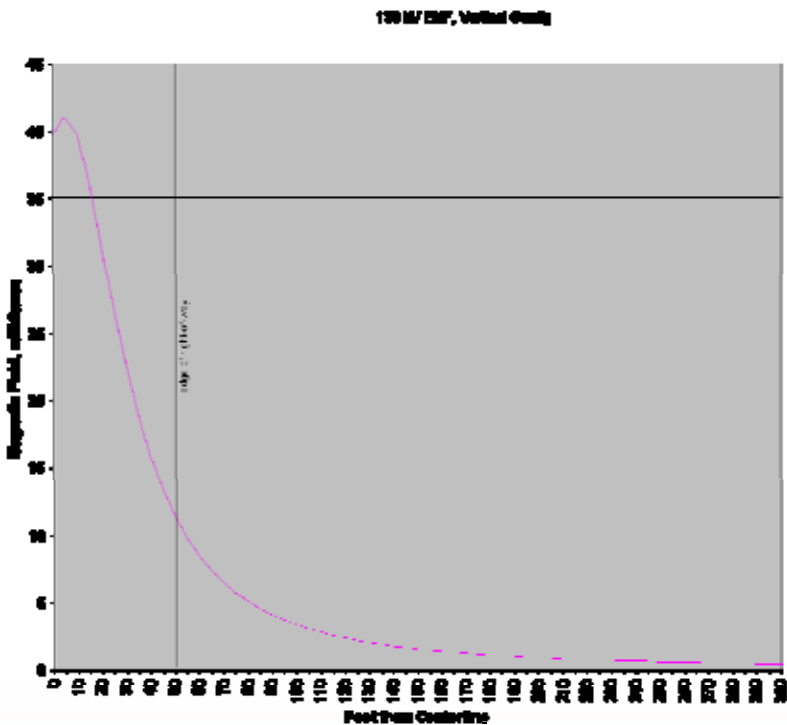


Adjacent 46kV Line – Options 1, 2, & 4 -

MAP

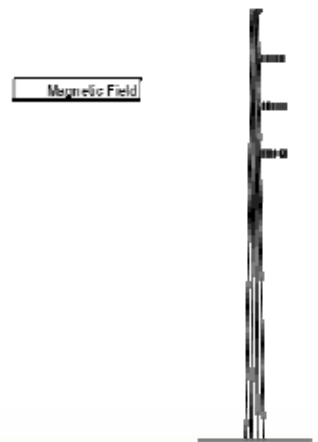


Electric and Magnetic Fields (EMF)



EMF STRENGTH OF VARIOUS ELECTRICAL SOURCES AT VARIOUS DISTANCES						
EMF Source ¹	Distance	Strength	Distance	Strength	Distance	Strength
Microwave Oven	0.5 feet	200 mG	1.0 feet	4 mG	4.0 feet	2 mG
Vacuum Cleaner	0.5 feet	300 mG	1.0 feet	60 mG	4.0 feet	1 mG
Hair Dryer	0.5 feet	300 mG	1.0 feet	1 mG	4.0 feet	0 mG
Electric Shaver	0.5 feet	100 mG	1.0 feet	20 mG	4.0 feet	0 mG
138 kV Transmission Line, vertical ²	0 feet	40 mG	50 feet	11 mG	300 feet	0.4 mG

¹ Appliance magnetic field strengths are median values in milliGauss (mG) for typical 60 Hz electric current (source: USNIEHS, DOE 1995)
² 138kV power-line right-of-way is 100 ft wide, 0 feet values represent directly below the lines at lowest point of sag.



Additional EMF information resources are available from:

Environmental Health Information Service:
<http://www.niehs.nih.gov/health/topics/agents/emf/>
 World Health Organization: www.who.int/emf



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Agency and Public Participation Activities

- Agency briefings
- Stakeholder group meetings
- Field trip
- Public open houses
- Community briefings
- Newsletters
- Telephone information line
- Website (TEP)

Public Participation Opportunities

- Public open house meetings
- Telephone information line (866) 632-5944
- TEP website: www.tep.com/company/news/rosemont
- Arizona siting committee FAQs website:
www.cc.state.az.us/Divisions/Utilities/Electric/LineSiting-FAQs.asp
- Media briefings
- Comment forms within newsletters mailed to community, including residents and landowners, and other interested parties, or submit electronically at website

Comments

- Your comments received will be reviewed and incorporated into the siting process
- A court reporter is available tonight to record in writing your verbal comments on the proposed project, if you desire
- Comments may also be submitted on the comment forms provided at the open house meetings and in Newsletter #3, or submitted electronically at the TEP website

TEP Decision Elements

- Purpose and need
- Environmental analysis
- Public/agency input
- Permits
- Engineering analysis
- Ability to obtain right-of-way
- Overall cost

Next Steps

- Finalize route analysis for CEC application
- File CEC application – timing depends upon publication of the Coronado National Forest's Rosemont Copper Project Draft Environmental Impact Statement



COURT REPORTER



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