

# ROSEMONT 138kV TRANSMISSION LINE PROJECT

Public Open House Meeting #2  
August 27, 2009

# 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
- Like any customer requesting service at the transmission voltage, Rosemont is paying for the transmission siting study
- Updated 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
- Planning process – includes environmental studies and public input conducted to assist in identification and comparison of alternative transmission line routes and environmental impacts
- 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



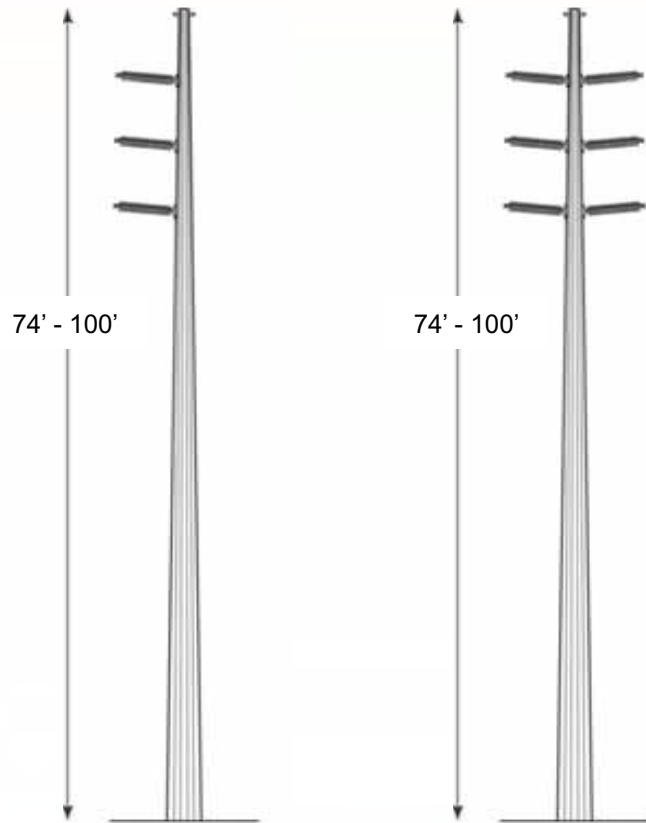
# Purpose and Need

- Electric utilities are required by the State of Arizona to provide electrical service to customers upon request
- Rosemont Copper Company has requested that TEP 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
- There are no existing transmission lines and substations in the vicinity of the proposed operation with the needed electrical capacity

# Project Description

- Up to approximately 20 miles of 138kV transmission line (line length depends upon final route)
- A 500-foot-wide corridor will be requested, and within that corridor a 100-foot-wide right-of-way would be obtained
- Approximately 2 acres of land for construction, operation, and maintenance of the proposed switchyard
- Approximately 1 acre of land for construction, operation, and maintenance of the proposed Rosemont Substation

# Proposed Structure Type(s)



# Proposed Switchyard

- Photograph is of a typical TEP switchyard that resembles the proposed switchyard
- Proposed facility for interconnection with the existing TEP transmission system
- Approximately 1 acre in size
- Located on private land



# Technical Engineering Studies

- Technical engineering studies completed by KR Saline and TEP to refine the project description
- Project description refined to identify a point at which the proposed transmission line will tap into TEP's electrical system at a proposed switchyard. This proposed switchyard will tap the existing South to Green Valley 138kV transmission line and become the point of origin for the proposed transmission line
- Current plan of service does not include direct connection to Vail or South substations
- Study concluded that two components are required for the transmission line project
  - Power for construction from a proposed 138kV transmission line extending from existing Greaterville Substation to proposed Rosemont Substation
  - Power for operations from a proposed 138kV transmission line extending from proposed switchyard to proposed Rosemont Substation

# Environmental Studies

## Resource Data Collected

- **Land use**
  - Existing and future land use
  - Jurisdictional planning guidelines
- **Visual and recreation**
  - Scenic quality
  - Sensitive viewers
  - Scenic management guidelines
  - Roads/trails and trailheads
- **Cultural**
  - Archaeological districts
  - National Register or State Historic Districts or Sites
- **Biological**
  - Wildlife and habitat
  - Vegetation
  - Special status species



# University of Arizona's Santa Rita Experimental Range

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

# Resource Sensitivity Levels Overview

- **Low:** potential resource constraints are minimal or absent, typically representing areas most desirable/compatible for construction/operation of transmission lines (e.g., industrial, vacant/undeveloped lands)
- **Low-moderate:** potential resource constraints are present, but conflicts or issues would likely be minimized with conventional design and construction methods (e.g., existing commercial, general planned residential areas)
- **Moderate:** potential resource constraints are present, but conflicts or issues would likely be reduced or minimized with conventional and non-conventional design and construction methods (e.g., agricultural [pecan groves], zone-approved residential areas)

# Resource Sensitivity Levels Overview (continued)

- **Moderate-high:** potential resource constraints are present, but conflicts or issues would likely be reduced with conventional and non-conventional design or mitigation measures (e.g., recreation areas, plat-approved residential areas)
- **High:** potential resource constraints are present where there are unique, highly valued, complex, or legally protected resources; or where conflicts or issues would be more difficult to avoid or reduce with the conventional and non-conventional design or mitigation measures (e.g., existing residential development)
- **Incompatible:** potential resource constraints are present where agencies have an adopted management plan or regulatory guidelines that identify transmission lines as incompatible or in conflict with existing or future resources (e.g., designated wilderness areas)

# Opportunities and Constraints

- Based upon resources within the project study area
- Sensitivity levels assigned based upon established criteria for each resource
- Sensitivity levels assist in identifying potential constraints for building a transmission line
- Opportunities are considered within the context of the areas in which they occur
  - A constraint may be underlying or adjacent to an opportunity area

# Siting Criteria

SENSITIVITY OF RESOURCES August 2009	
Resource Category	Sensitivity Level*
<b>Existing Land Use Resources</b>	
Residential	High
Schools/Educational Facilities	High
Commercial Retail	Low-Moderate
Hotel/Resort	Moderate
Agricultural Land (pecan groves)	Moderate
Vacant/Undeveloped Land	Low
Industrial	Low
Public/Quasi-Public	
- Church	High
- Cemetery	High
- Government Buildings	Low-Moderate
<b>Existing Recreation Resources</b>	
Parks	High
Wilderness Area	Incompatible
Inventoried Roadless Area	High
Developed National/Regional Trail	High
Local Trails (County or City designated)	Moderate-High
Trailheads, Picnic areas, and Campgrounds	High
Pima County Natural Areas	Moderate
<b>Existing Visual Resources</b>	
Scenic Roads	High
<b>Visual Classifications – BLM (VRM), Forest Service Concern Level Roads</b>	
- VRM Class II	Moderate-High
- VRM Class III	Low-Moderate
-Concern Level 1 (High concern roads and trails) – Immediate Foreground (0-300 feet)	High
-Concern Level 1 (High concern roads and trails) – Foreground (300 feet -1/2 mile)	High
-Concern Level 1 (High concern roads and trails) – Middleground (1/2 to 4 miles)	Moderate
-Concern Level 2 (Moderate concern roads and trails) – Immediate Foreground (0-300 feet)	Moderate
-Concern Level 2 (Moderate concern roads and trails) – Foreground (300 feet -1/2 mile)	Moderate
-Concern Level 2 (Moderate concern roads and trails) – Middleground (1/2 to 4 miles)	Low-Moderate
<b>Future Land Use Resources</b>	
Residential Planned – Plat Approved	Moderate-High
Residential Planned – Zoning Approved	Moderate
Residential Planned – Conceptual/General/Comprehensive Plan	Low-Moderate
Commercial Planned – Plat Approved	Low-Moderate
Commercial Planned – Conceptual/General/Comprehensive Plan	Low
Mixed Use – Conceptual/General/Comprehensive Plan	Low-Moderate
Military – Plat Approved	Moderate
Industrial Facilities – Plat Approved	Low
Industrial Facilities – Conceptual/General/Comprehensive Plan	Low
<b>Future Recreation Resources</b>	
Parks – Plat Approved	Moderate-High
Parks – Conceptual/General/Comprehensive Plan	Low-Moderate
National/Regional Trails – Plat Approved	Moderate-High

Local Trails (County or City designated) – Conceptual/General/Comprehensive Plan	Low
Pima County Natural Areas – Plat Approved	Low-Moderate
Pima County Natural Areas – Zoning Approved and Conceptual/General/Comprehensive Plan	Low
<b>Existing Cultural Resources</b>	
Listed or Eligible National or State Register Properties	Moderate-High
<b>Existing Biological Resources</b>	
Pima County Wildlife Corridors	Low-Moderate
Santa Cruz River	Moderate
Bar V Ranch (Pima County 2004 Conservation Bond Program)	Moderate-High
Las Cienegas National Conservation Area	Moderate-High
<b>Pima County Conservation Lands System</b>	
- Agricultural Inholdings within Conservation Area	Low
- Biological Core Management Areas	Low-Moderate
- Important Riparian Areas	Low-Moderate
- Multiple Use Management Areas	Low
- Designated Scientific Research Areas	Low-Moderate

Opportunities
<b>Existing Linear Facilities</b>
Roads/Major Arterial Roadways
Railroads
Utility Facilities (substations, etc.)
Section lines, half-section lines
46kV Overhead Transmission Line Corridors
115kV/138kV Overhead Transmission Line Corridors
230kV/345kV Overhead Transmission Line Corridors
<b>Future (Planned) Linear Facilities</b>
Roads/Major Arterial Roadways – Approved
Roads/Major Arterial Roadways – Conceptual/General/Comprehensive Plan
Pipelines (e.g., water, wastewater)
Utility Facilities (transmission lines, substations)

Notes: Sensitivity level modification may occur after evaluation of edge condition (e.g., residential areas adjacent to major arterial roads and 46kV and above power lines).

\*The agencies/public provided comments and suggestions to add or revise the resource category and/or sensitivity levels in February and March 2009 resulting in the final criteria

# 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

**Preliminary 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

# Preliminary Link Alternative Identification

- Defined sensitivity criteria for resources inventoried (e.g., general industrial – low sensitivity vs. existing residential – high sensitivity)
- Conducted opportunities and constraints analysis for resources inventoried (e.g., transmission lines, existing, and future land use)
- Prepared opportunities and constraints map
- Identified preliminary link alternatives
  - Agency/public comment
  - Environmental
  - Engineering

# Link Alternative Screening and Route Identification

- Links will be screened based on additional environmental and engineering analysis, as well as agency/public input
- Links will be combined to form complete transmission line route alternatives between the proposed switchyard and proposed Rosemont Substation



# TEP Decision Elements

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

# Public Participation Opportunities

- Public open house meetings
- Telephone information line: (866) 632-5944
- TEP website: [www.tep.com](http://www.tep.com)
- Arizona siting committee FAQs website: [www.cc.state.az.us/Divisions/Utilities/Electric/LineSiting-FAQs.asp](http://www.cc.state.az.us/Divisions/Utilities/Electric/LineSiting-FAQs.asp)
- Media briefings
- Project newsletters mailed to community, including residents, landowners, and other interested parties

# Next Steps

- Ongoing
  - Collect and document public and agency comments
  - Conduct detailed engineering and environmental studies on preliminary link alternatives
- Fall 2009
  - Conduct stakeholder meeting #3
  - Identify transmission line route alternatives from the preliminary links
- Fall/winter 2009
  - Conduct stakeholder meeting #4
  - Conduct public open house #3