



# UPDATE OF RIVERSIDE TRANSMISSION AND RELIABILITY PROJECT

## Public Utilities Department

City Council  
May 14, 2024

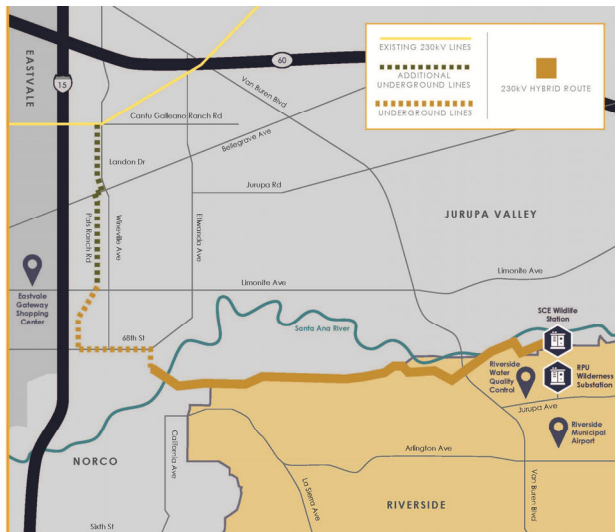
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230 kV HYBRID ROUTE

The Riverside Transmission Reliability Project (RTRP) provides Riverside with a critical second connection to the California grid. Riverside needs additional power capacity to serve existing and projected electrical demand and avoid blackouts.



The City Council has engaged in a robust discussion of the RTRP over the last 14-months.

The time spent was instructive and all options to change the project were exhausted.

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# SCE'S PORTION OF RTP



Approximately **5.9 miles** of new **overhead 230-kV** transmission line



Approximately **4.1 miles** of new **underground 230-kV** transmission line



**Telecommunication facilities** between the existing Mira Loma and Vista Substations, and the proposed Wildlife Switchyard



**Modifications** of existing overhead distribution lines



**Modifications** at existing substations



**New 230-kV Wildlife Switchyard**



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# DECISION POINT

1. The RTP Project Design has been underway for over 20 years
2. California Independent System Operator (CAISO) ordered RTP be built in 2009 for the benefit of Riverside and the City approved the project in 2013
3. CPUC granted CPCN March 20, 2020 and on March 12, 2024 denied the City of Norco's PFM
4. RTP is an approved project to support capacity and reliability of the electric system in the City



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## WHY WAS RTRP PLANNED

### **Increase electricity capacity and improve electricity reliability in the City of Riverside**

1. RPU is the only utility of our size with one point of interconnection to the regional grid
  - a. RTRP provides a second connection to the State's grid
2. City experienced complete blackout in 2007
3. California Independent System Operator (CAISO) ordered RTRP be built in 2009 for the benefit of Riverside



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## NEED FOR THE RTRP HAS NOT CHANGED

1. The Riverside Transmission and Reliability Project (RTRP) was designed and proposed to support a safe and reliable electric distribution system that will serve the City's existing customers as well as to support additional growth within the City's limits.
2. Riverside's current distribution system capacity is supporting electricity demand that exceeds the prudent operating standards and practices of the electric utility industry to maintain a safe and reliable electric system.
3. The City's electric loads will exceed the safe operating capacity under expected conditions by 2029 and potentially earlier if development projects continue to be approved. <sup>6</sup>




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## PRUDENT SYSTEM PLANNING

	N-1 Condition	Total Remaining Capacity
<p><b>Operating Standards</b></p> <p>Plan for Systems to Support an expected weather event with loss of one critical piece of infrastructure</p>	<b>Loss of Transmission (already surpassed)</b>	
	Loss of one of two transformers at Vista (loss of 280 MW capacity)	754 MW – 280 MW = 474 MW RPU Summer Peak exceeds this capacity
	<b>Loss of a Generation Asset</b>	
	Loss of 1 RERC unit (loss of 48.5 MW capacity)	754 MW – 48.5 MW = 705.5 MW
	<b>Loss of a Critical Infrastructure Transformer</b>	
	Transformer loss in equipment connecting RERC units to the distribution system would result in the loss of generation from two RERC units (loss of 97 MW capacity)	754 MW – 97 MW = 657 MW RPU Summer Peak almost exceeded this capacity
<b>Note: The loss of both transformers at the Vista substation (loss of 560 MW capacity) would be what is considered an N-2 condition. RPU would only be able to serve 194 MW of load.</b>		


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## CONTINUING WITHOUT RTP IS A RISK

1. Summer loads are expected to exceed more than one safe operating capacity standard between 2024 and 2029
2. **When capacity is exceeded there will be rolling blackouts**
3. It is not prudent to continue to approve growth in loads until a capacity solution is in place

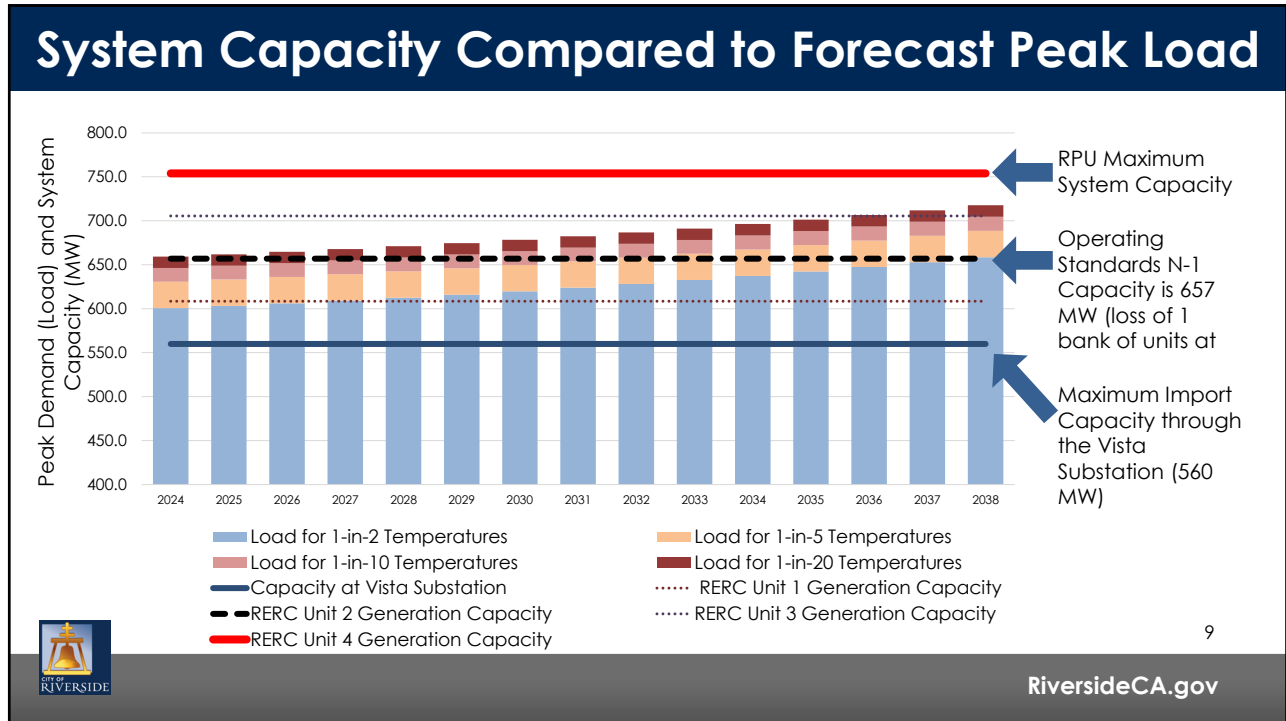
RPU Actual and Forecast Peak Loads (2021 through 2030)

Year	Temperature Scenarios				
	Actual	1-in-2	1-in-5	1-in-10	1-in-20
2021	560.0				
<b>2022</b>	<b>648.0</b>				
2023	589.8				
<b>2024</b>		601.4	631.4	647.4	<b>660.4</b>
<b>2025</b>		611.3	641.3	<b>657.3</b>	<b>670.3</b>
<b>2026</b>		623.1	653.1	<b>669.1</b>	<b>682.1</b>
<b>2027</b>		634.4	<b>664.4</b>	<b>680.4</b>	<b>693.4</b>
<b>2028</b>		645.8	<b>675.8</b>	<b>691.8</b>	<b>704.8</b>
<b>2029</b>		<b>661.1</b>	<b>691.1</b>	<b>707.1</b>	<b>720.1</b>
<b>2030</b>		<b>667.6</b>	<b>697.6</b>	<b>713.6</b>	<b>726.6</b>

Red indicates conditions that have the potential to exceed RPU's total safe operating capacity for an Expected N-1 condition (657 MW for loss of transformer at RERC).  
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- ## AGREEMENTS BETWEEN THE CITY AND SCE
1. The City and SCE entered an Interconnection Facilities Agreement (IFA)
    - a. Original agreement dated March 9, 2009 was amended on August 10, 2010 and March 23, 2018. The current agreement is dated January 15, 2019.
    - b. Sets forth various rights and obligations of SCE and Riverside in connection with the development, ownership, and operation of the RTRP
  2. IFA contains the RTRP development Obligations and Terms
    - a. Facilities and cost allocation
    - b. Development responsibilities
    - c. Payment structure
  3. FERC granted SCE an incentive ratemaking in the event the RTRP was abandoned
  4. FERC would determine the allocation of costs for the RTRP in the event the IFA is terminated; SCE also has an avenue to recover costs through the IFA
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# DISCUSSION

1. **Electric Utilities have an obligation to serve the community**
2. **If any options other than the immediate support to move the RTP forward are to be further considered, RPU must act urgently to take steps to reduce and manage peak loads**
3. Need to ensure safe operating standards are met to provide for safe and reliable electricity for RPU's existing customers and to support future growth
4. Delays in taking action will increase the risk faced by the City of Riverside for future power outages and rolling outages during summer heat waves as well as financial risk to the City and customers



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# LARGE INFRASTRUCTURE PROJECTS TAKE TIME

**Majority of time to complete transmission and generation projects is planning, design, environmental review and approval with multiple stakeholders and agencies**

1. California Public Advocates Office study showed that transmission projects in California take an average 11.5 years
2. Majority of the time is planning, design, permitting and intergovernmental agency reviews
3. Construction takes a few years
  - a. A new transmission project will require years of negotiation, design, environmental review and approvals before it can begin construction



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# TIME IS OF THE ESSENCE

## Riverside is growing and its electric demands are increasing

1. **Projects already approved and those in review could add as much as 78 MW to RPU's peak by 2030**
  - a. Affordable and market rate housing for residents
  - b. Industrial, commercial and office spaces providing new jobs
  - c. Expansions at universities and local schools are expanding opportunities for our community
  - d. Hospitals and medical centers are expanding to provide world class medical support for the entire region
2. **Future growth and development will be planned over the next several years in the 2050 General Plan**
3. **2023 legislation will not provide shorter timelines for project design, approval, and development**



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# RIVERSIDE INTERNAL GENERATION

**Existing power plants will not be able to be replaced with similar technologies, will take more land and be costly to location in Riverside**

1. **RPU's generation in the City of Riverside is aging**
  - a. Springs end-of-life expected 2028
  - b. RERC end-of-life expected 2039
2. **Will need to be replaced by renewable and zero-emissions generation**
3. **Utility scale renewable generation is either not possible in Riverside (geothermal) or will take large land areas**
  1. Utility solar takes 5-10 acres of land to produce 1 MW of power when the sun is shining
  2. To replace RERC's 194 MW of power generation during the day would take between 1.5 and 3 square miles of land area
  3. Large scale solar takes 4-5 years to design, permit and build
4. **Riverside customers will solely bear the cost of building infrastructure within the City – electricity rates will increase**



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# OTHER CONSIDERATIONS

## 1. Letter from SCE Chief Executive Officer, Steven Powell

SCE has requested that the City take action to “firm[ly] and unconditional[ly] support the [RTRP]” including written confirmation that:

1. Riverside does not intend to challenge the CPUC’s denial of the Norco PFM or file a separate PFM or any other legal or regulatory challenge that would call for further reevaluation of the Project or D.20-03-001;
2. the “Working Group” Riverside previously convened to explore funding opportunities to support additional undergrounding of the Project will be disbanded and its actions terminated;
3. Riverside supports construction of Alternative 1 of RTRP as approved by the CPUC; and
4. Riverside will direct its staff, including Riverside Public Utilities, to resume activities in support of development of Alternative 1 (including coordination with SCE) without further delay.

## 2. Assembly Bill 3076 (Essayli)



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# OTHER CONSIDERATIONS

## 3. Wildfire Hazard and Risk

- a. CPUC noted in its denial of the Norco PFM that fire hazard and risk were evaluated during its and the City’s evaluations and approvals of the RTRP
  - CPUC noted that Norco had not provided new information that would justify a PFM
- b. Fire hazard and risk maps have been updated but the hazard and risk designation in the path of the RTRP have not changed over the years
- c. Transmission lines like RTRP present a lower fire risk than distribution lines



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# STRATEGIC PLAN ALIGNMENT



## Priority 6 – Infrastructure, Mobility, & Connectivity

**Goal 6.2:** Maintain, protect and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability and facilitate connectivity.

### Cross-Cutting Threads



Community Trust



Equity



Fiscal Responsibility



Innovation



Sustainability & Resiliency



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# RECOMMENDATIONS

That the City Council:

1. Receive an update regarding RTRP.
2. Direct staff to continue implementation of the City portion of the Riverside Transmission Reliability Project;
3. Direct Public Utilities Department staff to initiate a system capacity analysis and present findings and recommendations to the Board of Public Utilities to address short-term system capacity limitations in order to maintain safe, reliable and prudent operating standards; and
4. Direct the City Manager and City Attorney to request that Southern California Edison reinstate, without delay, the complete construction and operation of their portion of the Riverside Transmission Reliability Project.



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