

Who is the California ISO?

The California Independent System Operator (California ISO) is a not-for-profit, public benefit corporation.

The California ISO is like the air-traffic controller for electricity.

What does the California ISO do?

- Operates the high voltage grid for most of the state
- Ensures power can flow as intended without overloads or "congestion"
- Provides a level playing field so all qualified companies get fair access to the grid.
- As part of maintaining grid reliability, operates wholesale spot markets for less than five percent of the state's power needs to keep supply in balance with demand on a second by second basis
- Coordinates the planning process for proposed expansions of the grid and provides an independent determination of project(s) need.

More about the California ISO

Various laws and regulations prohibit the California ISO from owning generators, power lines, or the power itself.

California's transmission grid was formerly operated in three separate areas by Southern California Edison, San Diego Gas and Electric, and Pacific Gas and Electric.

Merging the three areas under an Independent System Operator provides economies of scale and allows all qualified energy companies to use the grid to deliver electricity.

Competition among generators has reduced costs (when normalized for fuel prices). Open access to the grid has assisted development of new generation, including renewable "green" energy sources like wind, solar, and geothermal.

Visit www.aiso.com for information about:

- Daily energy conditions in California
- Energy conservation tips and resources
 - How the grid works

Environmental Justice

The California ISO adopted the following Environmental Justice policy in January of 2005:

“The California Independent System Operator fully endorses a policy of fair treatment of all people and rejects discrimination with regard to the race, color, income, religion, national origin, gender or sexual orientation of any potentially affected party or parties in the conduct of its business affairs.

The ISO's primary mission is to operate and plan a safe and reliable electric system, to provide open and nondiscriminatory electric transmission services, and to facilitate appropriate investment in electric infrastructure.

While having no direct authority or responsibility for development, implementation or enforcement of environmental laws or policies, the ISO is committed to providing responsible policymakers with the best information available to it, based on its best technical judgments and free from any discriminatory motive. In addition, the ISO makes decisions through an open process that facilitates meaningful involvement by potentially affected parties.”

What is the California ISO's Role in Transmission Projects?

The California ISO is responsible for operating the State's high voltage electric grid and for meeting standards for electric reliability.

The California ISO is also accountable for planning grid upgrades, and for conducting technical and economic studies on proposed transmission projects.

The California ISO also determines if a proposed project will reduce the overall cost of electricity by increasing access to less-expensive power plants.

The California ISO's studies are inputs to the California Public Utilities Commission, local regulatory authorities, and the Federal Energy Regulatory Commission processes for evaluating, siting, and cost recovery issues for new transmission lines.

Computer Modeling Predicts Reliability and Cost Improvements

Using computer models, California ISO engineers perform detailed analyses that show how the grid would react if a proposed project was put into service.

With these models, California ISO engineers can tell if the project will maintain or improve reliable electric service in a given area or improve economic conditions when the cost of a project is less than the benefits it brings.

Where does the California ISO's role start and stop?

The California ISO's role is limited to the electrical and economic studies related to new transmission lines.

Engineers look at the need to provide power to regions, and evaluate connection points at various electrical substations.

The California ISO does not participate in routing assessments for transmission lines; the agency with permitting authority (the California Public Utilities Commission, a local regulatory authority, or the Federal Energy Regulatory Commission) has that function.

What do you mean when you say Reliability?

California is electrically connected to the entire Western United States. What we do can greatly affect the electric reliability in other states.

Due to this, all of the Western States have come together and made a set of standards that we all agree to follow. These rules are set by the Western Electricity Coordinating Council (WECC), of which the California ISO is a member.

The California Legislature required the ISO to follow WECC reliability standards in the interest of maintaining the integrity of the Grid on a region wide basis. The legislation also required that the California ISO must adhere to the national reliability standards.

The ISO also looks at the electrical system it controls and works with stakeholders to identify additional standards that make sense due to the unique characteristics of California.

When does the California ISO get involved in transmission projects?

Every day, the California ISO works with the Investor Owned Utilities such as Southern California Edison, Pacific Gas and Electric, and San Diego Gas and Electric for the safe and reliable operation of the grid.

Each year, the California ISO develops a report enumerating the transmission projects that should be built to address reliability issues or provide an economic benefit to California.

The California ISO meets many times throughout the year with utilities and stakeholders to report the study work performed and explore transmission alternatives. At the end of the process, a preferred transmission solution is identified. If it will cost more than \$20 million, then the solution must be approved by the California ISO Board of Governors.

When the California ISO approves a project, it is based on a determination of need to help reliability problems or provide economic benefit.

The project sponsor then goes to the regulatory permitting authority for final approval.

How can I get involved in the California ISO's need determination?

The California ISO is making a concerted effort to increase the transparency of the transmission development process in California. This Open House educational forum is one effort in this direction.

If you would like to receive email notification about transmission planning stakeholder meetings you can:

1. Sign up for the California ISO Market Participant email distribution list. You will then receive all correspondence that the California ISO sends out.
2. Fill out the contact information sheet for the specific transmission planning stakeholder study group meetings in which you would like to be included and place it in the box provided.

Why is Conservation Important?

The demand for electricity fluctuates throughout the day

As demand climbs, more power plants are needed on line

Conservation, especially at the "peak" can reduce the need to bring on additional power plants

Fewer power plants = less environmental impact + lower cost

During the summer of 2001, conservation efforts added up to more than 2,000 megawatts

Conservation Tips

Use big appliances (washer, dryer, dishwasher etc) before or after the peak

Turn off unneeded lights and appliances

Set your thermostat to 78 or higher in the summer

Turn the A/C off if you're gone more than a few hours

Discard unused second refrigerator in the garage (or fill it with gallon water jugs)

Long Term Energy Efficiency Tips

Install energy efficient windows, appliances, refrigerator, etc.

Replace incandescent light bulbs with compact fluorescent

Look for "Energy Star" products certified more efficient

Check/replace weather stripping around doors and windows

Plant trees to shade the south and west side of your house.

What are the Biggest Power Users in the Typical Home?

Air Conditioner

Water Heater (if electric)

Heater (if electric)

Pool Pump

Refrigerator

Appliances (Stove, Oven, Washer, Dryer,
Dishwasher)

For More Information: www.fypower.org

Can conservation meet our future energy needs and replace development of new transmission lines and generators?

Conservation can make a significant difference in day-to-day operation of the grid. During the severe shortages, Californians have reduced their demand on the system by more than 2,000 megawatts. On some days, conservation has prevented the possibility of rotating power outages. However, conservation habits are not constant. Last summer the ISO estimates that conservation reduced energy use by fewer than 1,000 megawatts.

So while the California ISO strongly encourages conservation, it may not be prudent to plan on having a certain amount on any given day.

Energy efficiency measures, sponsored by the U.S. Department of Energy, the California Energy Commission and many local utilities also help slow the growth in demand for electricity. Even with a variety of these programs in place, California's demand for energy is growing by more than a thousand megawatts a year.

Electromagnetic Fields (EMF)

- High-Voltage transmission lines produce electromagnetic fields (EMF)
- Virtually every electric device also causes EMF, including common household electrical appliances and the wiring in homes.
- Many people fear that EMF causes adverse health effects. Others argue that home electrical devices cause as much or more exposure to EMF than electric transmission lines.
- Your local utility may have a program to lend you a device that measures EMF in and around your home, or to arrange a visit from a utility employee to do the measurements.

For more information:

World Health Organization:

<http://www.who.int/peh-emf/en/>

National Library of Medicine/National Institute of Health

<http://www.nlm.nih.gov/medlineplus/electromagneticfields.html>

Excerpts from the World Health Organization Web Site

"Based on a recent in-depth review of the scientific literature, the World Health Organization concluded that current evidence does not confirm the existence of any health consequences from exposure to low level electromagnetic fields. However, some gaps in knowledge about biological effects exist and need further research."

"Despite many studies, the evidence for any effect remains highly controversial. However, it is clear that if electromagnetic fields do have an effect on cancer, then any increase in risk will be extremely small. The results to date contain many inconsistencies, but no large increases in risk have been found for any cancer in children or adults"

"Electric field levels underneath power lines can be as high as 10 kilo Volts per meter. However, the fields (both electric and magnetic) drop off with distance from the lines. At 50 m to 100 m distance the fields are normally at levels that are found in areas away from high voltage power lines. In addition, house walls substantially reduce the electric field levels from those found at similar locations outside the house."

Who decides Transmission Line Routes?

Line routing decisions are made by state, local, or federal regulatory agencies, depending upon the project sponsor.

The California ISO has no authority or involvement in line routing decisions.

The California ISO's role in transmission planning is limited to determining the need for a project. If the project sponsor proposes a new transmission line, the California ISO determines if there is a need for a connection between substations, not actually the path over which a line should travel.

The California ISO does not decide whether a line should go underground or overhead. Decisions about that are made by the state, local, or federal regulatory agency.

How can I get involved in Transmission Line Routing?

The line routing decisions of the recently proposed projects have not yet been made. If you would like an opportunity to voice your opinion on line routing, here is where you can get involved:

Sunrise /GreenPath: California Public Utilities Commission and Imperial Irrigation District (local regulatory authority)

Tehachapi Project: California Public Utilities Commission

LEAPS Project: Federal Energy Regulatory Commission

We have provided a handout for your convenience with the proposed project and the contact information for the appropriate regulatory agency.