

Second in a series of informative articles for an Update of the LWVC Energy Position

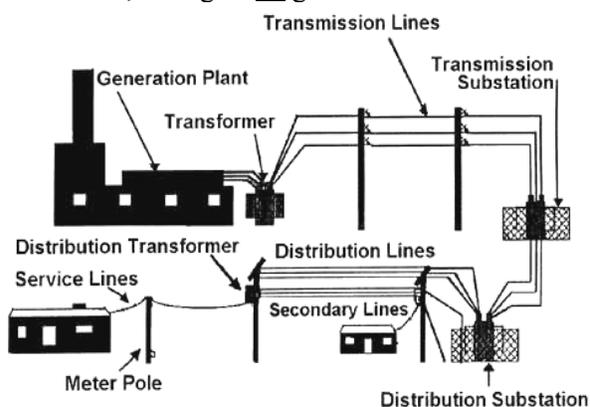
FLIPPING THE SWITCH The League and Energy

When we flip the light switch, we expect the lights to go on.



We expect **reliability**. To understand this, we must understand the three key elements of our electricity system; it is the operation of these elements that creates our expectation that the lights will come on when we flip the switch.

The three key elements are generation, transmission and distribution, as pictured below. Generation is the creation of electricity. Transmission is the movement of the electricity from generation to a delivery system. The distribution system delivers the electricity to your home so that when you flip the switch, the lights do go on.



Prior to 1996, all these elements were owned and operated by a utility – a vertically integrated monopoly. When you flipped the switch, you sent a signal to the utility to provide you with electricity. The utility had planned ahead for that demand for electricity based on historical trends, and economic and sociological forecasts. It built generating plants, transmission lines, and distribution lines, and operated the whole system. The utility had an **obligation to serve** you, the consumer, with **reliable, reasonably priced** electricity whenever you flipped the switch.

As a major element of its planning the utility had to learn about the usage patterns of all its customers – when households are likely to turn on their air-conditioners, when merchants will switch on their outdoor lights, when major industries will power up their major equipment. From this understanding, the utility developed a 20- year Load Forecast (how much electricity will be used on an hourly basis every day for the next 20 years!) Using this forecast, the utility judged what resources it would need to supply the demands of all its customers, including the resources needed to meet the peak demands – generally on hot summer afternoons when business and industry are in full swing and air-conditioners are humming in nearly every home.

These peak demands are met by peaking plants, or “peakers.” They run only at peak demand times because they are usually less efficient, thus more expensive to operate. Average demand is provided by what is called base-load generation – big, generally more efficient generators that hum along most of the time.

Californians are served by three investor-owned utilities (IOUs), 21 municipal Utilities (muni’s), three rural electric cooperatives (RECs), two federal agencies and 13 irrigation districts in California, all in the electric utility business and all engaged in one, two or all three aspects of the industry. As a consumer, it is good to know that the average retail price per kilowatt hour in 2002 was 13.4 cents, and it is forecasted to be 12.6 cents in 2005.

The format of our state’s electric industry changed radically in 1996. Seeking to foster competition, the state legislature passed AB 1890, which proved to be a deeply flawed attempt at “deregulation” by separating the pricing of wholesale and retail generation. Through this bill the Legislature “unbundled” the vertical utility, separating generation from transmission and from the delivery of

power. The hope was to make room for more players in the generation field. Each vertically integrated utility was knocked on its side, and was required to sell off its generation facilities (except for hydro and nuclear facilities).

Generation could now be provided by merchant generators, independent power producers, out-of-state utilities or aggregators (brokers of wholesale generation). Generation greater than 50 MW of capacity is still licensed by the California Energy Commission, but pricing of wholesale power is now monitored by the Federal Energy Regulatory Commission. **Reliability** is no longer the major criterion for the state's electric system, and even the jurisdiction of the CPUC with regard to pricing is limited.

Transmission became the responsibility of a new not-for-profit, quasi-governmental organization known as the California Independent System Operator (CAISO). CAISO has the competency and responsibility to measure congestion along the transmission lines, but there is some contention among the Energy Commission, CAISO and the Public Utilities Commission over the definition of need for new transmission lines, and whose responsibility it is to finance and build them.

The distribution system has remained the responsibility of the utility, and regulatory oversight has stayed with the California Public Utilities Commission. Part of the work of the distribution system is to reduce high-voltage electricity to a voltage safe for use in your home. This is usually done first at a distribution substation in your general area, then at a pole-mounted or perhaps underground transformer very near your home.

Today, generation is owned by a variety of providers but not typically by the distribution utility. Power flows over the transmission grid operated by CAISO. It is delivered to the distribution system operated by your local utility, which delivers it to your home.

With the passage of the deregulation legislation, **reliability** and the utility's **obligation to serve** gave way to power shortages and spiking prices. The "perfect storm" occurred

in 2001, as mentioned earlier. It certainly caused most of us to pay heed to a resource we thought to be **reliable**.

As the policy makers and regulators struggle to find a new model which will provide competition and choice and thus lower prices without sacrificing reliability, the League must understand these key elements, their interrelationships, and the policies and their impacts on the electric system. Local League members must **Flip the Switch** and turn the lights on our Energy Policy.

Resources for your use in learning more!

www.ferc.gov – The Federal Energy Regulatory Commission

www.cpuc.ca.gov – The Calif. Public Utilities Commission

www.energy.ca.gov – The Calif. Energy Commission

www.caiso.com/SystemStatus.html - The Calif. Independent System Operator's statewide status of the electric system

www.cmua.org – Calif. Municipal Utilities Association
– see Links for more informative sites