California Water and Infrastructure Report

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by Patrick Ruckert

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A Note To Readers

This week's report is one that has only a single item. It is the more throughout report I have written on the California electricity and fire crisis.

I would appreciate any comments or questions you may have. They can be sent to my email or post on the face book page.

Here is the report:

Environmentalism and Electricity Deregulation Sets California on Fire as Near One-half of the State Goes Dark

By Patrick Ruckert
November 6, 2019

For three weeks now, millions of people in California have experienced what the pioneers of more than a century ago knew every day-- without electricity life becomes very primitive, very fast. Adding life-threatening danger to that, hundreds of thousands have had to evacuate their homes and flee for their

lives as fires, sometimes sparked by power company equipment and lines, swept into their neighborhoods.

Every October, the Diablo Winds in the north and the Santa Ana Winds in the south come out of the Sierra Madre Mountains, increasing their velocity and warming as they hit the hills, forests and farm land as they head to the Pacific Ocean. Winds of 60-70 mph are common, but this year they have reached more than 90 mph. The dry terrain of the San Fernando Valley and forests and hills of the coastal areas are a tinder box of dry vegetation, and it just takes a spark to ignite an inferno. And the infernos of California, especially the past few years, have been the largest and most destructive in the state's history.

While this year, thus far, has not seen either the number or acreage burned as in 2017 and 2018, nor the number of lives lost, what distinguishes this October/November in California from those previous years is the repeated shut-down of electricity for millions of people as the power companies attempt to prevent their equipment from starting fires in periods of high winds. Has that prevented fires? We will never know for sure, but despite the shut-downs, fires have started and some of them have begun from power company equipment and lines. Perhaps there would have been more fires had they not done so.

Shutting down electricity to millions of people for as long as five days is, of course, destructive in itself. Businesses close, schools do not open, manufacturing companies throw thousands out of their jobs, and refrigerated and frozen food spoils. Those on electrical powered medical equipment in their home are immediately at risk. While most hospitals have back-up generators, some water pumping and sewage treatment plants do not.

Imagine in your mind a satellite map of California at night during one of these power shut-downs. While the southern part of the state is alight and bright, much of the northern half is dark. Towns that would normally be a bright spot on that map are no longer visible, and the only lights you see would be those of automobile traffic, which would be much reduced since stores or other potential destinations are all closed.

So the reader has an idea of just how destructive these fires are, we will look at the Camp Fire from late last year. Early in the morning of November 8, 2018, a faulty electrical transmission line ignited a fire near the town of Paradise, in northern California's Butte County. Driven by the Diablo Winds, the fire spread rapidly, sending sparks and burning debris hundreds of yards in front of the main fire. A firestorm then engulfed the entire town of Paradise, destroying 18,000 homes and businesses and killing 85 people. The firestorm moved so fast it was burning a football-size area every second. Evacuation was impossible for many and thus the high casualty numbers. The fire burned about 153,000 acres before being contained, and was the most destructive and costly fire in California's history, with damage estimated at $16.5 billion.

The faulty equipment that started the Camp Fire belonged to Pacific Gas and Electric company (PG&E). That fire, and several other fires from 2017 and 2018, that the company's facilities had been determined to have started, drove the company to file bankruptcy in January, 2019, facing about $30 billion in damages.

California-- A Failed State?

How is it that California, sometimes seen as the powerhouse of technology, the most advanced arena of the “new economy” of the internet, social media and all the other gizmos and attributes celebrated by “everyone,” has become a failed state unable to maintain the electrical power system for nearly half of

its population? More importantly, California was once the home of the world's most impressive infrastructure-- like the Central Valley Project and the California State Water Project--, an education system second to none, and the world's most advanced aerospace industry, and still is the home of real science, represented by the California Institute of Technology, the Jet Propulsion Laboratory, and the Lawrence Livermore Laboratory.

That story, for now, has two elements to be explored here. First, the so-called cultural revolution beginning in the 1960s and its off-shoot, environmentalism. That cultural revolution, in contrast to a phenomenon by the same name that dragged China into Hell for a decade, never ended in the United States, or Europe. And is what has virtually destroyed the idea of human progress, properly defined as the uplifting of humanity through science, technology, classical culture and bringing the benefits of all that to more and more of the human species. That environmentalist religion was kicked off in 1968 with the publication of Paul Ehrlich's book “The Population Bomb,” echoing the Malthusian idea, today best represented by the British Monarchy and especially the Queen's Consort Prince Philip-- a man dedicated, as he said, of being reincarnated as a deadly virus to be able to do his part in reducing the human population. The publication last week of a “study” endorsed by 11,000 so-called scientists stating that only population reduction can stop climate change is, finally, a honest statement of what the environmentalist movement has been all along.

The second element, which took over the western nations at about the same time as the emergence of environmentalism, has been the destruction by the London and Wall Street financial oligarchy of an economy based on production, scientific progress and building continuously new infrastructure that uplifts the entire economy to a new, higher platform of productivity. That history has been a series of financial and economic deregulation, beginning with the destruction of the post-WWII Bretton Woods global financial system in 1971, and culminating with the repeal of the Glass-Steagall banking law in 1999, which led directly to the 2008 banking collapse. In the midst of this insane process, the deregulation of electricity, especially in California, led companies like PG&E into a process of destruction which created today's catastrophe.

Environmentalism

That these two elements were “tied together at the hip” is first seen in the 1970 National Environmental Policy Act, signed into law by President Richard Nixon, who also, in 1971, canceled the Bretton Woods monetary system. In 1973, Nixon signed into law the Endangered Species Act. This is not to argue that a clean environment and a diversity of life on our planet are not good things, but what these acts did is to open the door to the abuse they have been used in wrecking a productive economy, and brainwashing two generations into thinking that the human species must always be in conflict with “nature.”

More directly for our story, and again demonstrating the “tied at the hip” nature of both elements, is the 1978 law signed by President Jimmy Carter, the Public Utility Regulatory Policies Act (PURPA), which mandated that the utilities carry out the administration's agenda to force the introduction of small-scale "renewable" energy sources, such as solar, wind, and biomass, to "compete" with fossil-fuel-and nuclear-based electric utility generation. This was sold to the public as a necessary response to the purported "energy crisis," resulting from the 1973-74 Middle East "oil" war.

PURPA started the industry on the road to restructuring and is one of the first laws that began the deregulation of energy companies.

We will return to the electricity deregulation story a little later, but first we cover more of the environmentalist side. Of note, that while this article will not cover the issue of water resources and infrastructure, it should be mentioned that California's on-going water crisis has the same roots as the electricity disaster.

These Destructive Fires Are Environmentalist Caused

Let us first dismiss the often stated, but absolutely wrong idea that the increased size, intensity and destruction of recent years' fires is due to climate change. As Michael Shellenberger in a Forbes article on November 4, 2019, reported:

“I asked Dr. Jon Keeley, a US Geological Survey scientist who has researched the topic for 40 years, if he thought the 2018 Paradise fire could be attributed to climate change.

“'It’s almost certainly not climate change,' he said. 'We’ve looked at the history of climate and fire throughout the whole state, and through much of the state, particularly the western half of the state, we don’t see any relationship between past climates and the amount of area burned in any given year.'”

Later in his article, Shellenberger states:

“Keeley published a paper last year that found that *all* ignition sources of fires had declined except for powerlines.

“'Since the year 2000 there’ve been a half-million acres burned due to powerline-ignited fires, which is five times more than we saw in the previous 20 years,' he said.

“'Some people would say, ‘Well, that’s associated with climate change.’ But there’s no relationship between climate and these big fire events.'”

That leads us to the real story. The accumulation of wood--for a fire, that is called fuel-- in the forests of the United States has built up over the past 100 years, during which the policy of the U.S. Forest Service, and state forest resource institutions, has been to suppress all fires. In addition, the Environmental Protection Act and the Endangered Species Act have been applied to the affect of virtually shutting down the logging industry, especially in the West. Forests today have as much as ten times the number of trees per acre as they did 30 or more years ago, and thick underbrush to go with it. In addition, in California, more than 130 million dead trees were added to the potential fuel in the forests between 2011-2017 as a result of the five year drought and the accompanying infection by bark beetles. With the forests loaded with fuel, when fires breakout, especially those wind-driven fires in California, they burn hotter and more intensely.

Logging the forests, obviously removes that fuel. Yet, California logging regulations, for example, are subject to multiple layers of federal, state, county and local regulations, and are thus some of the most legally protected forests in the world. And, as of now, there is zero logging allowed on state owned land.

Those regulations were partially the result of the Spotted Owl rulings in the early 1990s by the federal government's application of the Endangered Species Act, making off-limits vast acreage of federal forest land in western states. California forests are about 60 percent U.S. national forests or national parks. It is estimated that every year about 3.8 billion board feet of new timber grows in California. Following the Spotted Owl restrictions, the annual harvest of timber from the state fell to about 1.5 billion board feet, about one-tenth of what it was in 1988.

Even restarting timber harvesting today will be difficult, since the infrastructure, facilities and personnel required to do so largely no longer exists.

Such restrictions may change now, as the Trump administration has proposed streamlining of the environmental review process as promised by the U.S. Forest Service in June of this year. As announced by Agriculture Secretary Sonny Perdue and then-Interior Secretary Ryan Zinke, the move is driven by the need to reduce the fuel-load in the forests.

Even former California Governor Jerry Brown in August, 2018, proposed changes in the logging rules

that would permit private land owners to cut larger trees and build temporary roads without obtaining a permit, to thin the forests. To log private land now, current rules and laws require that a professional forester prepare an environmental impact statement that can cost a land owner tens of thousands of dollars, and then he or she must get approval from the state Department of Fish and Wildlife and the State Water Resources Control Board before being able to log their own land.

Finally, most foresters, and even some politicians, recognize that controlled burns of excess fuel in the forests is urgently required. Yet, environmentalist lawsuits to stop such projects still get in the way.

Deregulation Wrecks the Power Companies

There are three large privately held power companies in California: Pacific Gas and Electric (PG&E) in the northern part of the state, San Diego Gas and Electric, and Southern California Edison in the Los Angeles area. I will focus on PG&E here, but much of what is said about that company applies to the other two.

PG&E is the largest U.S. privately owned utility with publicly traded stock. PG&E provides natural gas and electricity to most of the northern half of California, regulated by the California Public Utilities Commission. All power companies in the country are regulated by both the federal and state governments and have been since the passage by Congress and signing by President Franklin Roosevelt of the Public Utility Holding Company Act of 1935 (PUHCA).

PUHCA gave the federal government the power to eliminate holding companies that "served no demonstrable purpose," And it required the strict federal regulation of the remaining ones. Most important, ownership of controlling shares by Wall Street firms was prohibited. The act also gave the Federal Power Commission regulatory control over both the interstate shipments of electricity and the accounting procedures of the utilities. The framework of regulation established under FDR's guidance created the regulatory compact by which, in exchange for being granted an exclusive franchise to provide electric power for a certain geographic region, a utility had the legal obligation to provide reasonably priced, reliable electric power to every customer in the area they service.

PG&E with its roots in the 1852 founding of the San Francisco Gas and Electric Company, merged with the California Electric Light company in 1905-- and the new company became PG&E. For the next two decades the company merged with or bought out dozens of electric and gas companies, and by 1927 it had nearly one million customers in more than 300 northern California communities. Mergers and acquisitions continued through the 1930s and by the end of the decade PG&E dominated all of northern California.

Up until the late 1960s, PG&E was the pride of the state and its employees enjoyed not only high wages but an environment that made the company almost like their family.

That all began to change with the rise of the environmentalist movement in the late 1960s and the shift nationally from an economy based on production to one based on financier speculation. PG&E's nuclear power plants were the target of the environmentalists and began creating financial problems for the company as law suits delayed construction of the plants, sometimes for years, doubling or tripling the costs. In fact, it is environmentalist lawsuits that not only have driven up the costs of building nuclear power plants, but the never ending suits that delay, stop or increase the costs of virtually anything power companies seek to build, except solar and wind farms.

The anti-nuclear environment led to a 1976 state law prohibiting construction of new nuclear power plants in the state. Two nuclear power plants operated in the state until 2013, when the San Onofre plant shut down do to a steam generator problem resulting from faulting manufacturing by Mitsubishi and regulatory delay from the Nuclear Regulatory Commission. That left just PG&E's San Onofre plant

as the only nuclear generating facility in California. Not for long it appears.

It just kept getting more and more insane. In 2016 PG&E announced that it would shut down its nuclear power plants at Diablo Canyon in 2024-2025, rather than apply for its license renewal for another 20 years. Not only will the 2256 megawatts of power generation (carbon free, by the way) be replaced by natural gas, but it is the state mandated requirement that PG&E produce 50% of its electricity from "qualified renewable" sources by 2030. Since "qualified renewables" do not include nuclear, PG&E would have to lower the output of the plant to comply, virtually doubling the generating price per kilowatt hour. So the plant will be closed unless some sanity returns to California.

But, irony shall have the final word here. In 2018, then Governor Jerry Brown signed into law a bill that requires that 50 percent of California's electricity be powered by renewable resources by 2025 and 60 percent by 2030, while setting the goal of 100 percent zero-carbon electricity by 2045. And given that the state's population will rise from the present 40 million to about 50-55 million by 2050, the only way that goal can be met is by building nuclear power plants.

I reported above how the entire array of environmental law has always been integrated with the deregulation of the economy, and how the the 1978 Public Utility Regulatory Policies Act (PURPA) forced the electric utilities to purchase power from new, non-regulated plants, called "qualifying facilities," which used "renewable energy," whether they needed the electricity or not. Forced into long-term contracts with these "renewable energy" producers, for energy they did not need, they were paying then double or triple the cost of what it would cost them to generate it themselves.

The National Energy Policy Act of 1992 (NEPA) continued subsidizing "alternative energy" sources by providing a 10% investment tax credit for solar and geothermal power systems. Also, the 1992 Act created yet another class of non-regulated electricity producers, known as exempt wholesale generators, and broadened the authority of the Federal Energy Regulatory Commission (FERC) to order the utilities to provide transmission services to them. This meant that virtually any business could generate electricity and sell it wholesale, with guaranteed access to the highly complex transmission grid that companies like PG&E had built over almost a century.

The California power companies were being looted by this setup of hundreds of millions of dollars per year as they paid as much as five times the cost that they would have incurred by producing the electricity themselves.

As reported by Marsha Freeman in the October 6, 1995 *Executive Intelligence Review* article, "Deregulating U.S. electric utilities: the 'kill factor:"

"Generating capacity that is not spoken for through long-term contracts, was to be available through a spot market. Under some scenarios, the market price for electricity will be calculated on an hourly basis. A central, or "pool" dispatch organization would have to match customers to available capacity. In between, there would be brokers, merchants, and other middlemen, who would try to drum up business for utilities, and find available capacity for consumers, for a fee. Analysts expect to see price hedging, futures markets, and a place for electricity on the Mercantile Exchange. But it was to stop this kind of financial manipulation that the industry was regulated to begin with.

"When surveyed last year by Fitch Investors Service, Inc., 38% of the nation's state public utility commissioners believed that competition will lead to bankruptcies in their state. In the 60 years since the industry was regulated, there have been only two bankruptcies. One was due to the 17-year battle to obtain an operating license for the Seabrook nuclear plant, and the other from bad savings and loan and real estate investments made by the EI Paso Electric company."

How deregulation did-in PG&E

Then with further electricity market deregulation in the late 1990s, PG&E was forced to sell off most of its natural gas plants, while retaining its hydroelectric plants and its Diablo Canyon nuclear plant, thus stripping itself of much of its generating capacity. PG&E, and other electrical companies, were then forced to buy power from private companies generating power at fluctuating prices, while still forced to sell the power to its customers at a fixed cost-- fixed by state regulators.

The market which PG&E and others bought from was dominated by the Enron Corporation, which "gamed" the market, shutting down generating plants to create an artificial shortage, and thus raising prices that PG&E and the other power companies in the state had to pay by as much as thousands of percent.

Thus the California electricity crisis of 2000 began, with rolling blackouts in the state starting on January 17, 2001. The crisis intensified in the spring of that year, as Enron intensified its manipulation of the market, and PG&E began sinking financially. PG&E declared bankruptcy on April 6, 2001. The state then acted to ensure the electrical supply to PG&E's millions of customers, but was trapped in the same Enron-dominated market being "gamed." And until Enron was brought down with criminal indictments, between PG&E, the other companies, and the state, more that $50 billion was paid out in virtual blackmail to these criminals. From then on, the residents of California have been paying the highest electricity rates in the country, partially to pay off the $50 billion of "Enron debt."

Since that bankruptcy, which PG&E exited in 2004, we can say PG&E has been tamed by the environmentalist mandates coming from the state. Each year PG&E spends at least $2.2 billion on the state mandated buying of so-called renewables, and has already reached the mandate of 30 percent of the power it buys to be from renewables by 2020.

Not just tamed, but also made to kiss the asses of Sierra Club and others. Coming out of bankruptcy in 2004, PG&E was forced to turn over 140,000 acres of wilderness to government agencies and nonprofit groups, guaranteeing that the land (mostly mountain wilderness around PG&E's dams and reservoirs) will never be developed. Adding insult to injury, PG&E also had to pay $100 million for parks, recreation areas and restoration projects.

But, it is not only deregulation and environmentalism that has wrecked the company and created the California disaster.

Even before deregulation, PG&E, like most of the U.S. corporate sector, had been more and more focused on enhancing "share holder value," ie., paying out to stock holders as much as possible, while cutting its workforce, skimping on tree trimming and not maintaining and upgrading its equipment and facilities.

In 1997, PG&E was found guilty of 739 counts of negligence and fined $2 million. The company had been cutting its budget for tree trimming and lying about it.

Then came the San Bruno natural gas explosion in 2010, which killed eight people and for which PG&E was found guilty of multiple felonies, including falsifying inspection and repair records.

Continuing its neglect of maintenance, tree trimming and lies about it all, by 2017 and 2018, near forty of the 315 wildfires in the PG&E service area were probably caused by PG&E equipment. The largest and most deadly fire (85 people dead), the Camp Fire in 2018, was determined to have been caused by PG&E equipment.

In addition, after having been convicted and on probation after the San Bruno gas explosion of 2010, PG&E was charged again of having falsified gas pipeline records between 2012 and 2017. That case is still in progress.

The 2019 bankruptcy

Since California state law follows the principle of "inverse condemnation" for wildfire liability, utilities are responsible for damages from any fire caused by the company's equipment, even if tree trimming and maintenance of equipment has been done to standards.

Thus, the 2017 and 2018 fires found to be from PG&E equipment put a $30 billion liability on PG&E, driving it into bankruptcy, filed in January, 2019.

Being the largest private utility in the country, with tens of billions of assets in facilities, equipment and the power providing infrastructure that delivers natural gas and electricity to eight million customers, PG&E in bankruptcy began looking like an easy prey for the vulture funds like Elliott Management, run by the notorious predator Paul Singer. Singer and his hedge fund partners swoop in on debt plagued companies (and countries like Argentina), buy up the debt for pennies on the dollar then sell off assets or sue and sue until they receive full face value of the debt. Though, as of November 5, Elliott may not be in any shape for a take over of PG&E, as the hedge funds, Abrams Capital Management LP, Baupost Group LLC, and Elliott Management Corp., the main hedge funds in PG&E stocks and bonds, have lost many billions, including $4 billion just in the past two weeks.

Added to the list of vultures potentially circling the company, Governor Gavin Newsom on Sunday invited Warren Buffett's Berkshire Hathaway to make a takeover bid.

Fixing the problem

Not just PG&E, but the other major utility companies in the state also face the same set of conditions. San Diego Gas and Electric for ten years has been hardening and upgrading its equipment, has an aggressive tree trimming policy and even has a fleet of helicopters monitoring its thousands of miles of lines. It began that after having been held responsible for fires in its service area in 2007.

But that company and Southern California Edison in the Los Angeles and Orange County area are, like PG&E, shutting down electricity during high wind conditions.

There are no short-term fixes possible, since the problem has been the result of decades of neglect, wrong and even criminal policies. Only a national change, like that outlined in LaRouche's Four Laws can really begin what must be done.

One gets a sense of the enormous task that is required to make PG&E's system safe when you understand what that system includes. PG&E, has 107,000 miles of distribution lines, 81,000 miles of which are overhead. The cost to put PG&E's overhead distribution lines underground (at an estimated $3 million per mile) would be $240 billion. This does not include the higher voltage transmission lines. PG&E has spent $300 million since 2012 to bury lines, the company said, and has about 26,000 miles of its lines underground.

Among the firms' strategies: more aggressively clearing brush and trees away from transmission lines, swapping wooden power poles for metal and maintaining a network of remote cameras to keep an eye out for wind, smoke and other dangers.

But, as reported to me by a man who was a PG&E engineer responsible for "system protection and supervising the remote control of powerhouses," after deregulation, keeping the trees and brush away from the lines became much more difficult as more and more environmental restrictions were adopted. Previously, the workers would use exfoliates, herbicides, and soil sterilants under the power line right of way, but no more.

At the rate such work is being done, as the CEO of PG&E, Bill Johnson, said recently, there will be ten more years of cutting off electricity to customers during high winds. No one finds that acceptable, especially the governor and other elected officials. Thus, talk of the state or the larger cities taking over the company is becoming louder each day. Making PG&E a public utility is not only difficult, but

would take years to do so. Among the problems that would create is, would such a state or city owned company be able to service the far-flung network of customers that PG&E now provides electricity to?

As must be emphasized, just as President Franklin Roosevelt made clear in his 1933 inauguration speech, action and action now, is demanded. Emergency action can include, for example:

Since the governor declared a state of emergency on October 27 for all of California (fires are burning and new ones starting daily throughout the state), Governor Newsom could order an army of electricians and others to move in on PG&E and fix the equipment, hardening it and repairing potentially loose connections and other tasks. Newsom did say, “There are things that can be done immediately and will be done immediately.” We shall see.

Secondly, the state and/or the federal government can establish a CCC-type program to hire and train 5,000-10,000 youth as a “Tree Trimming Army.” An apprentice-type program, with both classroom and on the ground skill learning, would obviously have multiple benefits. It should be noted that tree trimming and logging are the second most dangerous profession in the U.S. today. At least a couple of years of training with experienced trimmers and loggers will be necessary for these youth to become professionals.

Of course, until we put the entire nation back on track as a production-driven culture and economy by helping President Trump to adopt Lyndon LaRouche's Four Laws of Economic Recovery, even relatively short-term fixes will not really solve any problems, and especially ones like the electricity system of California.