

George Backus runs his hands through his thin, clingy hair before raising his head to look at himself in the mirror. The bathrooms on this floor of the Capitol Building have seen better days and rather reflect Backus' current state of mind. His skin, always on the grey side, has taken on a sickly bluish tinge. A sleepless night in the cheapest hotel he could find, across the river in Arlington, has left him with a knot of anxiety in his solar plexus. The tension in his stomach rises all the way to his throat, filling his mouth with a stressful, rancid taste. George had refused to go to the first hearing in California, arguing that he could not afford the plane ticket from Boulder. That decision had led to derision in the press and more unfounded suspicions on the part of the Senators. Paul Gribik, former Perot Systems employee with whom he had been professionally involved, actually told reporters that Backus was "something of a blowhard who frequently overstated things". This was enough to motivate George, determined to clear his name of any wrongdoing, to appear in person at the hearing in Washington.

Honestly, he does not see what he was called here for in the first place. He is, frankly, in disbelief. Dr. George Backus, nuclear design safety engineer, system dynamics expert with decades of experience, has spent the past years giving countless presentations and conducting workshops on the dynamics of energy deregulation. His model, Fossil2, originally developed for the U.S. Department of Energy, has been used by numerous countries to simulate the impact of policy decisions on the energy markets and on the economy. It has proven itself to be uncannily accurate in all instances.

In the lead-up to the liberalization of the wholesale electricity market in California, Backus had given presentations to all the major Western energy commissions, as well as to several of the large investor-owned utilities. He might as well have stayed at home for all the good his insight seemed to have done them. He had tried to help a bunch of stuffy engineers, resting on their laurels in the coziness of tight regulation that ensured them a service monopoly, to wake up and deal with what had essentially been turned into a commodities market. But if there is one thing that George has learned over the years, it's that people hate change. The utilities, bogged down by outdated, conservative decision-making, were simply overwhelmed by the aggressive strategies of their competitors. And when they did try to adapt, they were hung out to dry by the CPUC.

Mind you, it was also their miscalculations that had helped bring about this mess. Now that everything has gone to shit, the utilities liked to cast themselves as the perfect victims. Yet they had also sat at the negotiating table in Sacramento, along with legislators, consumer interest groups and independent energy providers. They seemed to have conveniently forgotten that they had actively lobbied for deregulation at the time, thinking it would unburden them of the massive debts they had incurred and bring in the kind of profits they had been denied under State regulation. Though he had a hard time stomaching their sob stories, George had to admit that the new market structure, highly complex and full of loopholes, was particularly unfavorable to the IOUs.

Throughout his career, Backus had witnessed many misguided deregulation efforts. The California approach was simply the worst he had ever seen. The whole thing was a mixture of no holds barred liberalization combined with stifling rules, a setup that would obviously make the utilities go bankrupt. In order to stimulate competition in the wholesale market, the IOUs were forced to divest of their generating power, selling their fossil fuel plants off to independent companies. The electricity they sold their customers would be acquired through the newly created PX, the power exchange, which was basically an energy auction. Long-term contracts, a standard economic tool for lowering

risk, were scrapped. Under the new system, 90% of all electricity, by design, was to be purchased on the day-ahead market. This particular feature, decried by analysts all across the country, was in itself enough to make George question the sanity of the State legislature and the Public Utilities Commission.

Another questionable move was the complete separation of the supply and demand sides. In attempting to appease both the utilities and their customers, the CPUC put retail price caps in place until 2002. Consumers, wary of deregulation, would not see their rates match fluctuating wholesale prices. The utilities, on the other hand, were ensured that retail rates would stay artificially inflated even as wholesale costs went down. What the CPUC did not foresee, dumbly enough, was that wholesale prices would rise far above retail rates, and for an extended period of time. Forced to buy power at market value, and under the extremely volatile conditions of the PX, the utilities could not pass any extra costs on to their customers. Consumers, protected from rising rates by the price caps, had no idea how much their electricity actually cost, and therefore had no incentive to conserve it.

The Catch-22 scenario the utilities were placed in could have been alleviated, had the Governor been willing to raise retail rates. As it turned out, the Governor would rather drive the State Treasury to a budgetary deficit in excess of 8 billion dollars than impose any price hikes on consumers in an electoral year. Caught between rising wholesale costs and retail price caps, the utilities started to default on payments to their suppliers. Generators, uncertain whether they would be paid at all, raised prices even further or simply stopped selling to California utilities. The ensuing electricity shortages and blackouts caused all hell to break loose and the various guilty parties to play dumb and point fingers.

And that is when the State stepped in. The Governor decided, in a fatally shortsighted move, to start purchasing electricity on behalf of the utilities, who would then distribute power to the end users. Wanting to ensure supply for the coming years, the Department of Water Resources, under the Governor's orders, entered into long-term contracts with energy producers at the height of the crisis, when prices were naturally at their most inflated. Armed with recent revelations about market manipulation and supposed price gouging, the State is now attempting to renegotiate these contracts, or rather to bully its way out of them, arguing that generators and wholesale brokers were actively restricting supply in order to drive the price of electricity up.

These suspicions of unethical, and possibly illegal market practices are the reason why George is now being subjected to questioning by the House Subcommittee on Energy Policy. In 1997, one year before the market system went live, Backus made the mistake of entering into a consulting partnership with Perot Systems. Perot had been contracted by the ISO, along with two other IT companies, to create the computer system for the new electrical grid and the power markets. As project manager, they were charged with integrating the various parts and making sure everything ran smoothly. At the time, Backus was consulting for Southern California Edison, who had seen his presentation for the WSCC and realized that they needed help. It was at Edison that he was introduced to Hemant Lall, a software developer for Perot Systems. He and Lall quickly realized that the combination of Perot's IT expertise and Backus' experience in system dynamics would make for the perfect joint venture: helping participants in the new ISO markets develop strategies to maximize their profits. Their consulting services could be offered to system operators, commissions and private companies throughout the Western States. Between '97 and '98, they made several pitches, yet did not manage to get a single contract. This ultimately turned out to be a blessing in disguise, considering that

Perot is now being accused of attempting to market insider information about the ISO's computer systems. Congress, pushed to act by the California government and by the definite inaction of the FERC, is desperately casting nets wherever it can. Backus cannot fault them for this, but he has his doubts about the effectiveness of congressional hearings when both the FERC and the SEC have been resoundingly absent from any investigations into the California crisis. He for one is certainly cynical enough to believe in collusion at the highest levels.

He can at least rejoice that today's hearing is not degenerating into partisan bickering. Nonetheless, this morning has made it clear that the afternoon will continue to be a waste of time. Charles Cicchetti, a USC chair in economics who actually served on Governor Davis' market advisory group, has unequivocally stated that there is nothing improper in providing training on how to survive within a competitive market. Even Terry Winter, head of the ISO, has grudgingly testified that Perot did not have access to confidential information while they were part of the ISO alliance. He might have found their efforts to profit from their position distasteful, but there is no proof they did anything illegal or in breach of contract. Despite these testimonies, the members of the subcommittee are doggedly pushing forward. Backus, as a perceived co-conspirator, is seeing all of his consulting activity of the past few years being picked apart.

Ironically, the questions are focused not on his multiple interactions with the utilities and with the Western commissions, in which he tried to warn them of the questionable market design and teach them how to best protect themselves from aggressive trading strategies, but on a single presentation he gave to an energy supplier in 1998. One of the congressmen was arguing, with the logic of a five year old, that he had coached sellers on how to manipulate the market. Backus had not taught anyone how to do anything. He had provided absolutely zero proprietary information. He had simply stated the possible problems that could occur within the market design. These same problems had occurred in other instances, and were a matter of the public record. Did the subcommittee really believe that energy traders would need him to go in and explain to them how to make a profit? The stupidity of some of the questioning was beyond belief. Upon many occasions, he had to restrain himself from rolling his eyes.

The hearings held so far also seemed to perpetuate the notion that gaming was somehow illegal. Gaming is a perfectly legitimate decision-making process; you examine the risks and benefits of each decision based on the options that are also available to your competitors. Obviously, gaming strategies need to take place within the framework of market rules, and these were not made up by energy traders, but by the CPUC. Any dubious activity that had gone on was made possible by a severely flawed market design and absence of regulatory oversight. The structure of the auction system made it relatively easy to bid strategically in order to give the impression that supply was down. Transmission lines were purposely overbooked, causing wholesale prices to spike because of artificially created congestion. The origin of energy imports, which could be sold at higher rates than electricity generated in State, was obscured. Perfectly functioning plants were made idle for maintenance in order to lower supply, which not only made prices soar, but also played a part in massive electrical outages across all of the Western States.

George Backus had predicted all of these dynamics to a T. His energy model laid bare the kind of strategies one could put in place to take advantage of loopholes in the system. It detailed the chaos that would ensue from partial deregulation, lack of price signals, and excessive reliance on the spot market. Everything he had

laid out in his initial report had unfolded, in exactly the order that he had foreseen. He can't help but feel a bit smug about this, and is quite irked that he did not keep better records of his presentations. He can tell that the members of Congress, while aware of his professional achievements, are rather skeptical about his role as soothsayer. He also finds it hard to believe that no one listened to him at the time. He had told Edison in 1997, before the markets even opened, that they were toast. They had taken their concerns to the CPUC, who still blindly moved forward with their plans. It was not Backus' fault that these idiots turned over a huge chunk of the state's economy to a market design that was essentially untested. It only worked in theory. And quite frankly, he had his doubts about the competency of the ISO in the first place, if they failed to notice such gaping flaws in the system before the thing went live. It was simply ineptitude and bad faith at unheard-of levels.

George feels slightly better after this little rant. Anxious to maintain a logical outlook even in the most dire of situations, he takes heart in the fact that the Chairman, Doug Ose, seems to be on his side. As the other witnesses testify, he observes the present members of Congress, amusing himself to think of the conflicting opinions they must have on the issues at hand. He even thinks he saw Ose appear slightly annoyed at Congressman Kucinich's broad insinuation that Backus had provided the necessary tools for manipulating the market simply because he had foreseen them. The acid burn in his throat, activated by his seething disgust at the situation, has died down. His armpits feel cold and damp. He unbuttons the top of his shirt, then carefully folds several hand tissues and pats his pits dry as best he can. The rough grey paper does not exactly do an optimal job of sopping up moisture. He thinks about washing them in the sink but is afraid someone will come in unexpectedly and see him. George runs the tap as hot as it will go and washes his hands dutifully, bracing himself for more of their inane line of questioning. His strategy is to appear aloof, slightly arrogant even. He certainly wants to come across as the expert he is, in the hopes that this whole charade could bring in some new clients. Backus is widely considered "the" authority in system dynamics modeling for the energy industry, and he'll be damned if he lets these clueless public servants change that. He waves his arms up and down, attempting to dry his shirt off. Somehow he is not surprised that there are no hand dryers—energy efficiency is clearly not the Government's strong point, as his years of experience have taught him. Backus buttons his shirt back up and puts on his blue jacket, which unfortunately always looks dirtier than it is in strong light. He brushes some dandruff off his shoulders and swings open the bathroom door, carefully avoiding touching the long steel handle by edging it open with his forearm.