

Approved: 03-11-08  
Date

MINUTES OF THE SELECT COMMITTEE ON ENERGY & ENVIRONMENT FOR THE FUTURE

The meeting was called to order by Chairman Don Myers at 1:30 PM on March 5, 2008 in Room 784 of the Docking State Office Building.

All members were present except:  
Jason Watkins, Excused.

Committee staff present:  
Mike Corrigan, Revisor of Statutes Office  
Melissa Doeblin, Revisor of Statutes Office  
Raney Gilliland, Kansas Legislative Research Department  
Mary K. Galligan, Kansas Legislative Research Department  
Barbara Lewerenz, Committee Assistant

Conferees appearing before the committee:  
Chairman Don Myers  
Larry Holloway, Chief of Operations, Kansas Corporation Commission

Others attending:  
See attached list.

Moved by Representative Myers, seconded by Representative Whitham for approval of the Minutes of the House Select Committee on Energy and Environment for the Future held February 20, 2008. Motion Carried.

Chairman Myers presented a summary for **HB-2949**, An ACT concerning energy. A packet of energy related articles was given each committee member to study (Attachment 1). The purpose of this bill is to establish a groundwork piece of legislation that sets goals for the state and to establish a policy statement for future usage in the state of Kansas.

Chairman Myers introduced Larry Holloway, Chief of Operations, Kansas Corporation Commission, who explained the revisions in **HB-2949** and responded to questions regarding terminology used in the energy industry. Discussion followed regarding the future need to replace aging energy producing facilities and increased power demands.

Moved by Representative Olson and seconded by Representative Whitham to amend **HB-2949** per balloon. Motion Carried

Meeting adjourned at 2:30 p.m.



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TOPEKA

HOUSE OF  
REPRESENTATIVES

COMMITTEE ASSIGNMENTS  
CHAIRPERSON: VETERANS, MILITARY & HOMELAND  
SECURITY  
MEMBER: ECONOMIC DEVELOPMENT AND  
TOURISM  
ENERGY AND UTILITIES

### SUMMARY FOR HB-2949

- According to data published by the Energy Information Administration, the state total supply is nearly equal to the state's usage. This allows for no growth in consumption without increased capacity or out-of-state purchase of electric energy.
- Due to aging of much of the base-power supply generation, it will be necessary to replace much of that generation within the next 20 years (reference Kansas Corporation Commission).
- Sect. 1 • Titles Act as Kansas Energy Plan Act
- Sect. 2 • Definitions:
  - Base-load generation
  - Intermediate-load generation
  - Intermittent-load generation
  - Peak-load generation;
- Sect. 3 • Establishes the policies necessary as foundation for the state energy plan;
- Sect. 4 • Projects the increased demand in capacity for the next 20 years in incremental steps; and
- Sect. 5 • Establishes present fuel mix for base-power and projects/encourages the mix for the year 2020, 2025 and 2028.



Posted on Wed, Feb. 27, 2008

## Nuclear power regaining its luster

By DAVID KLEPPER

The Star's Topeka correspondent

TOPEKA | Kansas State University nuclear engineer Ken Shultis began studying nuclear power more than 40 years ago. Since then, he saw nuclear's once-bright promise dim.

Three Mile Island. "The China Syndrome." Chernobyl.

Now, with the nation concerned about coal and climate change and with renewable energy so far unable to meet America's thirst for energy, Shultis has reason to be optimistic.

"Presently, there's a resurgence," Shultis told Kansas lawmakers at a recent hearing.

China plans to build two new nuclear plants every year for 15 years, Shultis said. Nations like France continue to derive most of their energy from nuclear power, even recycling old nuclear fuel for future use.

Meanwhile, aging U.S. plants — like Kansas' own Wolf Creek — are seeking federal permission to operate into the middle of the century.

And for the first time in years, utility companies want to build new plants, or expand old ones.

In Missouri, AmerenUE is considering adding a second reactor to its Callaway Nuclear Generating Station, the state's only nuclear plant.

"Times change. Politics change. Right now, the trend is toward reducing carbon emissions, so that gives a big advantage to nuclear," said AmerenUE spokesman Mike Cleary.

Across the U.S., utility companies requested permits for four new or expanded plants last year; 15 additional applications are expected this year.

Cleary said the utility hasn't decided yet whether to build a second reactor but is completing an application with the federal Nuclear Regulatory Commission. Those applications, which require detailed feasibility reports, can cost tens of millions of dollars, Cleary said, an indication of just how seriously the utility is considering a new reactor.

"The reason for that is all the concern about carbon emissions," he said.

Many Kansas lawmakers say it's time the state begins encouraging construction of a second nuclear plant. They're pushing a bill this year to allow utility companies to recoup the cost of feasibility studies for a new plant.

Last year, lawmakers passed a 10-year property tax exemption for any power company that builds a second plant near the Wolf Creek Generating Station, near Burlington, Kan.

Nuclear plants aren't cheap. It takes as long as 15 years to conduct studies, get permits and build one. And they cost \$6 billion to \$9 billion.

But once they're built, nuclear plants come without the carbon emissions that make coal and natural gas unpalatable to many. And they're cheap to operate, producing electricity at almost half the price of the next most affordable and practical source, coal.

"We can't wait any longer," said Sen. Roger Reitz, a Manhattan Republican. "We've lost so much time

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already. Energy is going to cost us a fortune in the future, and nuclear must be on the table.”

But nuclear power’s opponents haven’t gone away. Critics like the Sierra Club note that while nuclear plants themselves emit very little pollution, there’s always the risk of a meltdown, a terrorist incident or the accidental radioactive leak.

And despite years of wrangling, there’s still no approved plan for the permanent storage of high-grade radioactive nuclear waste. Plants like Callaway and Wolf Creek store it on premises.

Federal authorities had hoped to bury waste at Nevada’s Yucca Mountain starting in 1998, but the proposal has been delayed repeatedly. It could be 2020 before the facility receives its first shipment, if ever.

Instead of passing incentives for nuclear power, Kansas Sierra Club lobbyist Tom Thompson said, lawmakers should do more to promote conservation and power from wind, solar and other renewable sources.

“The money would be better spent developing clean, renewable sources of energy,” he said.

Utility companies say they welcome incentives to make nuclear power more feasible. Kansas City Power & Light, Westar and other utilities say that they have no plans to build a second nuclear plant currently, but it’s an option they’ll be looking at.

KCP&L receives about 47 percent of the power generated at Wolf Creek, which is seeking a 20-year extension of its federal operating license. Wolf Creek began operations in 1985 after eight years of construction that cost \$3 billion.

A new license could extend the plant’s life to 2045. A decision from federal regulators could come by the end of the year. Wolf Creek is one of 35 plants seeking such extensions; an additional 23 are expected to apply for extensions soon.

Renewed interest in nuclear power in Kansas prompted the state’s Corporation Commission to call a roundtable discussion today on the future of nuclear power. The meeting brings together top state and government regulators and industry experts.

The enthusiasm echoes the “Atoms for Peace” initiative of President Dwight Eisenhower from 50 years ago, when the potential of nuclear power seemed limitless.

“There’s no doubt to me that nuclear power is the power of the future,” said Rep. Don Myers, a Derby Republican and chairman of a new committee that’s studying Kansas’ energy future. “It’s coming. It’s just a matter of time.”

## OUR ENERGY CHOICES

With concerns mounting about fossil fuels and climate change, leaders in Kansas and many other states are reviewing their options. Finding the right mix of sources is critical to figuring out how we’ll turn on the lights in 20 years.

### Wind

Uses one of Kansas’ most plentiful resources to turn turbines, which create electricity. New projects are planned; wind now generates about 3.6 percent of Kansas’ electricity and even less in Missouri.

**Pros:** Renewable and emission-free. Studies indicate widespread wind power could create thousands of jobs and give rural areas a boost.

**Cons:** An unreliable primary power source, requiring another source as backup. More turbines would require more transmission lines.

**Production cost per kilowatt hour:** 3-6 cents, varies by area.

### Coal

The U.S. has more than 200 years of coal supplies left. Right now, coal generates more than 70

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percent of Kansas' electricity and 83 percent in Missouri.

**Pros:** Cheap, efficient and (relatively) plentiful. New coal-burning plants are cleaner than older ones.

**Cons:** Coal plants are big sources of greenhouse gases, and there's no such thing as totally "clean" coal. Congress may consider new rules that could make coal much more expensive.

**Production cost per kilowatt hour:** 2.3 cents

### Natural gas

Used primarily for home heating, natural gas also backs up other sources of electricity. Gas supplies 4 percent of Kansas' electricity and 1.6 percent in Missouri.

**Pros:** It's a good fit for wind power, as gas plants can kick into service when the wind dies down. Gas plants are cleaner than coal.

**Cons:** Dwindling supplies and rising costs could force the U.S. to look overseas for a ready supply. It's a fossil fuel, so there's pollution.

**Production cost per kilowatt hour:** 6.5 cents.

### Nuclear

Uses radioactive fuel to produce a controlled reaction and create energy. Kansas gets 19 percent of its electricity from nuclear power; in Missouri, it's 13 percent.

**Pros:** Hardly any emissions. It's the cheapest power source once the plant is built.

**Cons:** Plant construction takes 15 years and up to \$9 billion. There's no approved plan for the permanent storage of high-grade nuclear waste. Threats of meltdowns, radioactive leaks or terrorism make some nervous, and decommissioning plants can be costly.

**Production cost per kilowatt hour:** 1.7 cents

### Other

Hydroelectric, geothermal, hydrogen, solar and some ideas the Jetsons never heard of. Missouri already gets 3 percent of its electricity from hydroelectric. Plans to expand a Kansas coal plant call for an experimental algae reactor that would use plant emissions to grow algae to create energy.

**Pros:** Research brings jobs, and could supply the state and the world with the next big thing.

**Cons:** Not all areas are suited to geothermal and hydroelectric; experimental sources are untested, expensive and small-scale. Anyone remember cold fusion?

**Sources:** Federal Energy Information Administration; Kansas Corporation Commission, Missouri Dept. of Natural Resources and legislative testimony.

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Print This Article

Saturday, Mar 1, 2008

Posted on Thu, Feb. 28, 2008

# Power grid narrowly averted rolling blackouts

By R.A. DYER

Star-Telegram Staff Writer

Operators of the state power grid scrambled Tuesday night to keep the lights on after a sudden drop in West Texas wind threatened to cause rolling blackouts, officials confirmed Wednesday.

At about 6:41 p.m. Tuesday, grid operators ordered a shutoff of power to so-called interruptible customers, which are industrial electric users who have agreed previously to forgo power in times of crisis. The move ensured continued stability of the grid after power dropped unexpectedly.

Dottie Roark, a spokeswoman for the power grid, said a sudden uptick in electricity use coupled with other factors and a sudden drop in wind power caused the unexpected dip. As a result, grid officials immediately went to the second stage of its emergency blackout prevention plan.

"This situation means that there is a heightened risk of ... regular customers being dropped through rotating outages, but that would occur only if further contingencies occur, and only as a last resort to avoid the risk of a complete blackout," the State Operations Center said in an e-mail notice to municipalities.

Known as the Electric Reliability Council of Texas, the quasi-governmental agency that manages the power grid must ensure that power generation and power use remain constantly in balance. Otherwise, the whole grid can go dark, and the result is a systemwide blackout.

According to ERCOT, those interruptible customers who lost power Tuesday night had it restored by 9:40 p.m.. The interruptible customers are generally industrial businesses that pay less for electricity in exchange for an agreement that they will let ERCOT cut their power during shortages.

Some wholesale energy prices also spiked Tuesday evening -- especially in West Texas. ERCOT also reported that the drop in wind power led to constraints on the system between the north part of the state and the west.

Kent Saathoff, vice president for system operations at ERCOT, said Tuesday's event illustrates the inherent challenges associated with using wind power. Because the wind sometimes stops blowing without a moment's notice, engineers at ERCOT must remain nimble enough to respond to resulting instability on the grid, he said.

"There is a major workshop going on at our office right now to discuss these very issues," Saathoff said.

Although he said the emergency event was rare, it is not unprecedented. On April 16, 2006, for instance, a much more serious shortage prompted rolling blackouts across much of Texas. ERCOT officials at that time also ordered power curtailments for the state's interruptible customers.

That 2006 event was prompted largely by scorching heat coupled with a shutdown of several generators for spring maintenance. This time the shortage was prompted largely by a near-total loss of wind generation, as well as a failure of several energy providers to reach scheduled production and the spike in electricity usage.

ERCOT reported that wind power production plummeted Tuesday evening from about 1,700 megawatts to about 300 megawatts. A single megawatt is enough electricity to power 500 to 700 homes under normal

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conditions.

The emergency procedures Tuesday night added about 1,100 megawatts to the grid over a 10-minute period, according to ERCOT.

Some critics have said that wind power, although providing a source of clean energy, also brings with it plenty of hidden costs and technical challenges. Besides requiring the construction of expensive transmission lines, the fickle nature of wind also means that the state cannot depend on the turbines to replace other sorts of generators.

"This is a warning to all those who think that renewable energy is the sole answer [to the state's power needs]," said Geoffrey Gay, an attorney representing Fort Worth and other North Texas municipalities in utility issues. "We can't put all our eggs in one basket when it comes to any form of generation. We need to consider the cost and the reliability issues, in addition to the environmental impact."

Susan Williams Sloan, a spokeswoman for the American Wind Energy Association, said those technical challenges are not insurmountable. She said part of the solution is to locate turbines in diverse areas of the state. "When the wind is not blowing somewhere, it's always blowing somewhere else," she said.

Sloan also said that technological advances will make it easier in the future to forecast wind energy.

About 4,356 megawatts of wind turbines are currently installed in Texas, she said.

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Table 10. Supply and Disposition of Electricity, 1990 Through 2006 (Million Kilowatthours)

Kansas

Category	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Supply</b>																	
<b>Generation</b>																	
Electric Utilities	33,869	32,315	31,764	36,433	37,284	38,230	39,875	37,844	41,481	42,003	44,765	44,643	46,692	46,156	46,409	45,421	44,621
Independent Power Producers	1	1	10	5	10	11	11	14	11	12	15	65	479	377	368	436	895
<b>Electric Power Sector Generation Subtotal</b>	<b>33,870</b>	<b>32,316</b>	<b>31,774</b>	<b>36,438</b>	<b>37,294</b>	<b>38,242</b>	<b>39,886</b>	<b>37,858</b>	<b>41,492</b>	<b>42,015</b>	<b>44,780</b>	<b>44,708</b>	<b>47,171</b>	<b>46,532</b>	<b>46,778</b>	<b>45,857</b>	<b>45,516</b>
Combined Heat and Power, Commercial	-	-	-	-	5	5	1	1	1	2	2	2	1	1	1	*	-
Combined Heat and Power, Industrial	315	314	305	305	321	174	55	59	92	53	34	38	16	34	4	5	7
<b>Industrial and Commercial Generation Subtotal</b>	<b>315</b>	<b>314</b>	<b>305</b>	<b>305</b>	<b>326</b>	<b>179</b>	<b>57</b>	<b>60</b>	<b>93</b>	<b>55</b>	<b>36</b>	<b>40</b>	<b>17</b>	<b>35</b>	<b>5</b>	<b>5</b>	<b>7</b>
<b>Total Net Generation</b>	<b>34,185</b>	<b>32,631</b>	<b>32,078</b>	<b>36,743</b>	<b>37,620</b>	<b>38,421</b>	<b>39,942</b>	<b>37,917</b>	<b>41,585</b>	<b>42,070</b>	<b>44,816</b>	<b>44,749</b>	<b>47,188</b>	<b>46,568</b>	<b>46,783</b>	<b>45,863</b>	<b>45,524</b>
Total International Imports	-	-	-	-	-	-	-	*	4	1	-	-	-	-	-	-	-
<b>Total Supply</b>	<b>34,185</b>	<b>32,631</b>	<b>32,078</b>	<b>36,743</b>	<b>37,620</b>	<b>38,421</b>	<b>39,942</b>	<b>37,918</b>	<b>41,589</b>	<b>42,071</b>	<b>44,816</b>	<b>44,749</b>	<b>47,188</b>	<b>46,568</b>	<b>46,783</b>	<b>45,863</b>	<b>45,524</b>
<b>Disposition</b>																	
<b>Retail Sales</b>																	
Full Service Providers	27,149	28,152	27,069	28,808	29,614	30,357	31,291	32,270	34,140	33,820	35,921	35,847	36,714	36,735	37,022	38,921	39,646
Facility Direct Retail Sales	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	103	105
<b>Total Electric Industry Retail Sales</b>	<b>27,149</b>	<b>28,152</b>	<b>27,069</b>	<b>28,808</b>	<b>29,614</b>	<b>30,357</b>	<b>31,291</b>	<b>32,270</b>	<b>34,140</b>	<b>33,820</b>	<b>35,921</b>	<b>35,847</b>	<b>36,714</b>	<b>36,735</b>	<b>37,127</b>	<b>39,024</b>	<b>39,751</b>
Direct Use	315	315	305	306	327	180	57	61	94	56	36	60	61	62	62	5	7
Total International Exports	-	-	-	-	-	-	-	-	-	8	-	-	-	-	*	*	-
Estimated Losses	2,036	2,114	2,087	2,258	2,134	2,305	2,327	2,302	2,312	2,452	2,557	2,882	3,285	3,085	3,456	4,278	3,459
<b>Total Disposition</b>	<b>29,499</b>	<b>30,581</b>	<b>29,461</b>	<b>31,372</b>	<b>32,075</b>	<b>32,841</b>	<b>33,675</b>	<b>34,633</b>	<b>36,546</b>	<b>36,335</b>	<b>38,515</b>	<b>38,789</b>	<b>40,060</b>	<b>39,883</b>	<b>40,645</b>	<b>43,308</b>	<b>43,218</b>
Net Interstate Trade	4,685	2,050	2,617	5,370	5,545	5,579	6,267	3,285	5,043	5,736	6,301	5,960	7,128	6,685	6,137	2,555	2,306
Net Trade Index (ratio)	1.16	1.07	1.09	1.17	1.17	1.17	1.19	1.09	1.14	1.16	1.16	1.15	1.18	1.17	1.15	1.06	1.05

**Direct use** is commercial or industrial use of electricity that (1) is self-generated (2) is produced by either the same entity that consumes the power or an affiliate, and (3) is used in direct support of a service or industrial process located within the same facility or group of facilities that houses the generating equipment. Direct use is exclusive of station use.

**Estimated Losses** are reported at the utility level, and then allocated to States based on the utility's retail sales by State. Reported losses may include electricity unaccounted for by the utility.

**Net Interstate Trade** represents the difference between the amount of electricity produced in the State and consumed in the State. Positive values indicate a State that is a net interstate exporter of electricity; negative values indicate a State that is a net interstate importer of electricity.

**The Net Trade Index** represents a State's electricity self-sufficiency. Values greater than 1 indicate that, on an annual net basis, the State supplied electricity consumed outside the State; values less than 1 indicate that, on an annual net basis, the State consumed electricity produced outside the State.