WISCONSIN LEGISLATIVE COUNCIL

NUCLEAR POWER

411 South, State Capitol
Madison, Wisconsin

December 14, 2006
9:00 a.m. – 3:45 p.m.

[The following is a summary of the December 14, 2006 meeting of the Special Committee on Nuclear Power. The file copy of this summary has appended to it a copy of each document prepared for or submitted to the committee during the meeting. A digital recording of the meeting is available on our Web site at **http://www.legis.state.wi.us/lc.**]

Call to Order and Roll Call

Chair Montgomery called the meeting to order. The roll was called and it was determined that a quorum was present.

COMMITTEE MEMBERS PRESENT:	Rep. Phil Montgomery, Chair; Reps. Chuck Benedict, Mark Honadel, and Robin Vos; and Public Members Forest Ceel, Michael Corradini, Charles Higley, Katie Nekola, John Orth, Brian Rude, Pat Schillinger, Richard Shaten, Susan Stratton, Bill Ward, and Jack Weissgerber.
COMMITTEE MEMBERS EXCUSED:	Sen. David Hanson; and Public Member Terry Pickens.
COUNCIL STAFF PRESENT:	David Lovell, Senior Analyst, and John Stolzenberg, Chief of Research Services.
APPEARANCES:	Jay Jones, Physical Scientist, Office of Logistics Management, Office of Civilian Radioactive Waste Management; Lisa Janairo, Council of State Governments Midwestern Office; Paul Schmidt, Chief, Radiation Protection Section, Wisconsin Department of Health and Family Services (DHFS); and Steve Gehl, Technical Executive, Energy Technology Assessment Center, Electric Power Research Institute.

Approval of the Minutes of the Special Committee's November 15, 2006 Meeting

Mr. Schillinger moved, and Representative Vos seconded, that the committee approve the minutes of its November 15, 2006 meeting; the motion was approved by unanimous consent.

Description of Staff Materials Distributed

Mr. Lovell summarized the materials distributed by staff to the committee. He noted that Memo No. 2 presented a representative summary of state laws that limit the construction of new nuclear power plants, but that it was not an exhaustive 50 state survey.

Invited Presentations: Transportation of Radioactive Wastes

Jay Jones, Physical Scientist, Office of Logistics Management, Office of Civilian Radioactive Waste Management, U.S. Department of Energy (DOE), summarized the DOE's planning for the shipment of spent nuclear fuel to the proposed Yucca Mountain Repository in Nevada. In his remarks, he observed that spent nuclear fuel shipments in the United States have an impressive safety record. He summarized representative transportation routes to Yucca Mountain from nuclear facilities throughout the United States, including routes in Wisconsin; the DOE's waste acceptance policy and standard contract with utilities producing spent nuclear fuel; and the "best achievable" schedule for the Yucca Mountain Repository to begin receiving wastes, based upon specified assumptions. He also described ongoing consultations between DOE and various stakeholder groups, including affected state governments and Native American tribes, and the DOE's planning efforts and approach to selecting these transportation routes.

In discussing transportation routes in Wisconsin, Mr. Jones noted that neither the Kewaunee nor the Point Beach nuclear generating facilities have railheads to their reactors. He anticipates that the DOE will be discussing with the utilities operating these facilities the best way to transport spent nuclear fuel from the sites and expects that these discussions will focus on transportation of the spent nuclear fuel by rail rather than barges on Lake Michigan.

Lisa R. Janairo, Senior Policy Analyst, The Council of State Governments (CSG), Midwestern Office, provided background information on the CSG Midwestern Radioactive Materials Transportation Project; the impact of spent nuclear fuel shipments in Wisconsin, including projected shipment numbers; and Midwestern states' expectations for how DOE will handle its shipments of spent nuclear fuel. These expectations relate to the following topics:

- States' opportunities for input into various decisions governing these shipments, including the use of dedicated trains, cask design selection, preparation of the DOE transportation plan, and routing preferences.

- State oversight of the shipments through their state, including security, tracking, and emergency preparedness.

- Adequate funding for states' expenses, given that federal funds will not be sufficient, based on the DOE's narrow interpretation of eligible expenses under federal law.

In her concluding remarks, Ms. Janairo stated that, while spent nuclear fuel shipments will occur in Wisconsin, the actual numbers and routes are unknown at this time; Wisconsin has opportunities to influence how those shipments will take place; state involvement in planning and executing shipments is reasonable and does not interfere with the shipments; and revenue for state activities could come from a variety of sources, including state fees, such as those in Minnesota and Illinois.

Paul Schmidt, Chief, Radiation Protection Section, Wisconsin Department of Health and Family Services (DHFS), provided an overview of the responsibilities of the Radiation Protection Section and of radiological emergency preparedness in Wisconsin. He described how the state responds to a radiological incident, such as a transportation accident, and the steps the state has taken to prepare for transportation radiological emergencies, including participation in the CSG Midwestern Radioactive Materials Transportation Committee described by Ms. Janairo.

These three speakers provided the following responses to questions from committee members:

- Ms. Janairo stated that most states do not feel that the planned federal escort for shipment of spent nuclear fuel will be sufficient and, thus, are planning to provide their own escort within their state.

- Ms. Janairo observed that it is legal for a state to have a fee on the shipment of spent nuclear fuel through the state that originated outside of the state.

- Mr. Jones indicated that while route information is made public for planning purposes, notice of actual shipments will only be given to appropriate state and local authorities on a "need to know" basis. He noted that, though the risk from a train carrying spent nuclear fuel passing through a city is very low, DOE will not be issuing a public notice on the day and routes of a particular shipment. He acknowledged, though, that amateur "train spotters" have been able to anticipate DOE rail activities by observing the movements of trains.

- Mr. Schmidt stated that as the risk from the handling and transportation of radioactive materials increases, the regulatory requirements on the transport and shipping containers increases accordingly, to limit risks to the public.

- Mr. Schmidt observed that, from an emergency response point of view, it is easy to detect with readily available equipment the magnitude of the risk associated with an incident involving radioactive materials, whereas that is not always the case with incidents involving other hazardous materials.

Invited Presentation: Cost Comparison of Electric Generation Technologies

Steve Gehl, Technical Executive, Energy Technology Assessment Center, Electric Power Research Institute (EPRI), described a framework for discussing generation technologies and investment decisions faced by electric power generators in a carbon-constrained world and the application of that framework to various generation technologies using different types of fuel.

Mr. Gehl indicated that the application of the framework involves computing the "levelized cost" of electricity for each generation technology being examined, expressed in constant 2006 dollars per megawatt hour (MWh) of electricity generation. Two of the key uncertainties addressed in the

framework are the effects of uncertain future "costs" of carbon dioxide emissions resulting from future regulations and uncertain future prices of natural gas.

Mr. Gehl stated that the future of nuclear power in the United States depends on the following factors: continued good performance of the existing fleet of nuclear plants, construction of a new generation of nuclear plants for electricity and hydrogen production, technology-driven control of nuclear construction costs, spent nuclear fuel storage and resolution of other waste issues, continuing role of nuclear power in addressing climate change issues, and exogenous factors, including the future cost of carbon dioxide emissions, the future price of natural gas, and the development of carbon dioxide capture and storage technology.

Mr. Gehl provided the following conclusions arising from the application of the framework to the 2010-2015 time period:

- Almost all new dispatchable baseload generation needed to meet United States electricity demand growth prior to 2015 will utilize fossil-fueled technologies (natural gas combined cycle, pulverized coal, and integrated gasification combined cycle) without carbon dioxide capture and storage.

- Wide-scale commercial operation of new advanced light water reactor nuclear plants and new advanced coal plants with carbon dioxide capture and storage in the United States is unlikely until after 2015.

- Energy efficiency may be the most effective means of addressing the growth in carbon dioxide emissions from the United States electricity sector prior to 2015.

In applying the framework in the 2020-2025 time period, using specified assumptions, Mr. Gehl reported that over the entire range of costs of carbon dioxide emissions, the levelized costs increased from lowest to highest for the following technologies: nuclear; biomass; similar costs for wind, and both pulverized coal and integrated gasification combined cycle with advanced carbon dioxide capture and storage technologies; followed by natural gas combined cycle generation. [Note: the results reported by Mr. Gehl are illustrated in the charts he provided to the committee.]

In responding to questions from committee members, Mr. Gehl made the following points:

- Energy efficiency provides the best opportunity for near-term reduction of carbon dioxide emissions. However, there is a finite capacity of generation that energy efficiency measures can replace and when their levelized costs exceed $45-$50 per MWh, new generation becomes more prominent.

- This version of the framework is very qualitative. It does not include the cost of carbon released in the nuclear fuel cycle, the cost of retrofitting existing coal plants with carbon capture and storage, or any external costs of nuclear power. Future versions will be sharpened to help utilities make investment decisions.

- Utility executives are starting to understand the magnitude of issues raised by climate change concerns and the effects of future high costs of carbon dioxide emissions.

- He will provide follow-up information that identifies where in the country wind power achieves a 48% capacity factor, as depicted in one of his charts, and a revised analysis that incorporates the sensitivity of levelized nuclear generation costs to varying capital costs of future nuclear plants.

[Note: PowerPoint presentations and other documents referred to by the speakers are posted on the committee's Web site.]

Discussion of Committee Assignment

Chair Montgomery started the discussion of the committee's assignment by stating that one approach to examining the future role of nuclear power in Wisconsin is to compare the present mix of fuels used to generate electricity in Wisconsin with a preferred mix 25 or so years from now, when the licenses for the two operating nuclear power plants in Wisconsin have expired and the plants are likely to no longer be part of the state's electric generating capacity. He illustrated this approach by sketching two conceptual pie charts showing the portion of various fuels used to generate electricity in Wisconsin for these two time periods. He noted that to evaluate the role of nuclear power, it is necessary to do this type of comparison, and, thus, the assignment to the committee is broader than focusing exclusively on the merits of nuclear power. He also indicated that the committee should focus on electricity generation and not consider other types of energy used in the state, such as fuels for transportation.

In the ensuing discussion, Mr. Rude cautioned that most of the speakers before the committee focused on nuclear power and, for the committee to address issues such as climate change, it would need to gather additional information and hear from more speakers. He also asked how the state could help resolve the spent nuclear fuel disposal issue. Ms. Stratton stated that such a comparative analysis should include an examination of various assumptions on future growth in demand for electricity and consideration of expected retirements of existing power plants.

Representative Benedict suggested that the committee look at the conditions in the state's moratorium law and indicated that he did not feel that the Yucca Mountain repository currently meets these conditions. He proposed that the committee recommend the creation of a follow-up committee to study the broader comparative analysis set forth by Chair Montgomery. Mr. Ward suggested that the committee review the state's energy priorities law. Mr. Ceel noted that on-site storage of spent nuclear fuel may be an option the committee should consider and that the economic condition in the moratorium law is already addressed in the state's certificate of public convenience and necessity approval process. Mr. Shaten stated that, regardless of the moratorium law, the PSC will not approve construction of a nuclear power plant if the waste problem remains unsolved or the proposed plant is not economically viable. Mr. Orth observed that setting policy on nuclear power is a long-term process and that the committee and the state are sending a message to utilities.

Mr. Higley stated that he did not see how the committee could reach consensus on its policy recommendations, except, perhaps on recommendations relating to energy efficiency. He asserted that nuclear power is not viable and that the conditions in the moratorium law make sense. Mr. Shaten expressed that there is a place for consensus in the committee, including a role for nuclear power. He suggested that a key consideration is to focus on the conditions in the moratorium and whether they should be modified.

Mr. Lovell summarized Memo No. 2, noting that Wisconsin is not the only state with a moratorium type law. He identified in the Memo at least 20 states that have impediments to the construction of new nuclear plants in state law, including 13 states that require one or more statutorily specified findings before a nuclear plant can be sited in the state, and nine states that require ratification of executive branch agency approval of a new nuclear plant by either the state Legislature or a statewide referendum.

The committee then discussed the suggested principles for policy changes on nuclear power in Wisconsin set forth by Mr. Corradini in an e-mail note to Chair Montgomery, dated November 19, 2006. In this discussion, the committee made the following changes to these principles:

- All principles, focus on electric energy policy.

- Principle 1, accept the need to act now, rephrase the principle to indicate that the Legislature should act in the next session on long-term electric energy concerns and to design the state's energy future.

- Principle 2, modify the clause in the first sentence on the role of nuclear power remaining into the future to "remain so in Wisconsin for as long as current plants continue to operate." Modify the second sentence to specify the need to address the benefits and costs of generating electricity in a rational and balanced manner.

- Principle 5, replace the last clause with the concept that the state needs to consider cost, safety, reliability, and environmental and siting concerns.

[Note: the principles, as discussed by the committee, were restated in a December 21, 2006 memo from the committee staff to the committee.]

Mr. Shaten stated that he would attempt to craft a sixth principle that addresses in general terms the economic risks associated with various electric generation technologies.

Chair Montgomery indicated that the committee should use the revised principles to guide the committee in evaluating policy options related to its charge. He then asked committee members to provide to Legislative Council staff, prior to the next committee meeting, policy options based on these principles that they would like the committee to consider.

Plans for Future Meetings

The next meeting of the committee is scheduled for ***Friday, January 26, 2007, at 9:00 a.m., in Room 411 South, State Capitol***. [Note: subsequently the meeting date was changed to ***January 29, 2007***.]

Adjournment

The meeting was adjourned at 3:45 p.m.

JES:ksm