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Nixon: Reactor project could help define Missouri

Associated Press

The technology is unproven, the financing undetermined and the market prospects unclear. But those uncertainties aren't preventing a phalanx of Missouri business and political heavyweights from lining up behind a next-generation nuclear energy project that Gov. Jay Nixon hopes will help define the Show-Me State much like the American auto industry helped elevate Detroit.

Flanked at a Monday afternoon news conference by more than 20 statewide business leaders, utility executives and fellow politicians on the University of Missouri campus, Nixon hailed a plan to build small modular nuclear reactors. The effort is the potential "spark (of) a new global industry" that would not only benefit the state's power supply but also create portable power units that could be shipped overseas or elsewhere in the United States, he said.

Westinghouse Electric Co. and Ameren Missouri are competing with at least three other applicants for a share of \$452 million the U.S. Department of Energy has set aside to help design and develop the new technology. Top executives from those two companies joined Nixon and spoke later in the day to an overflow crowd of more than 300 people at the university's Life Sciences Center at an event billed as the "Missouri Economic Development Summit."

Other speakers included University of Missouri system President Tim Wolfe and Columbia campus Chancellor Brady Deaton. The school, along with Missouri University of Science & Technology in Rolla, will aid in the project's research and development.

"We have an opportunity to create a new industry from the ground up, and this new industry means unlimited potential for sustainable jobs and economic growth," said Kate Jackson, a senior vice president and chief technology officer at Westinghouse.

The federal department plans to announce its grant recipients as soon as September. The federal support, which involves a 50-50 cost-sharing arrangement, is necessary for the project to proceed, participants said. Two recipients are expected to share the money.

"Designing and licensing a nuclear power plant requires large investments, and long development time," Jackson said. "A new market really needs a public-private partnership."

St. Louis-based Ameren wants to build and operate up to five smaller reactors at its central Missouri plant near Fulton. The Callaway County plant is the state's only nuclear reactor.

Several speakers said the combined firepower of the two companies, along with the strong support from state and local officials and the business community, could give Missouri the necessary edge to prevail. Getting licensing approval from the federal Nuclear Regulatory Commission _ or being first to market _ is vital, Jackson said.

Project backers cited several advantages to the modular design. The smaller reactors generate about 225 megawatts of power, or less than one-fourth the energy generated by a traditional nuclear reactor. The smaller size makes the reactors more affordable, easier to build _ two years compared with the five- or 10-year construction cycle _ and more likely to pass regulatory muster. The smaller reactors would appeal to smaller utilities that don't have the space or the power grid capacity for a traditional reactor, speakers said.

Other utility companies expected to compete for the federal support include NuScale Power of Corvallis, Ore., which would build the reactors at the Savannah River nuclear site in South Carolina. Gen4 Energy of Denver, which has developed a 25 megawatt reactor, said in late April that it wouldn't pursue the federal project after initially expressing interest.

Opponents of the Missouri project include the Missouri Coalition for the Environment. Edward Smith, the group's safe energy director, said the proposal relies heavily on taxpayer support because the private sector has already made up its mind about nuclear energy.

"The nuclear industry needs ratepayers and taxpayers because Wall Street lost billions decades ago financing new nuclear reactors and has since given up," he said. "And the insurance industry sees nuclear reactors as too risky to insure, leaving taxpayers on the hook in the case of Fukushima or Chernobyl-like disaster."

In addition, a recent federal appeals court ruling that chided the Nuclear Regulatory Commission over its plans to store radioactive, spent fuel muddies future decisions, he said.

"A lot of question marks on the whole small modular reactor proposal have not really been addressed," he said.

The effort comes after Ameren's plans to build a second nuclear power plant in Missouri were stymied in part because state lawmakers couldn't agree on a proposal that would have allowed the utility to charge consumers for the costs of obtaining an early site permit before construction begins.

"It's politically a more viable strategy," said state Sen. Kurt Schaefer, R-Columbia.



Plan progresses for small nuclear reactors

A proposal for federal dollars that would bring small modular nuclear reactors to Callaway County would be "transformational" for Missouri, state and local leaders said Monday.

To give the project an edge, Gov. Jay Nixon has created a new task force led by Boone County Presiding Commissioner Dan Atwill. The group, made up of five commissioners who represent affected counties, will ensure that communities are on the same page and ready to assist with infrastructure and other needs if the time comes, he said.

At stake is up to \$452 million being offered by the Department of Energy for proposals to design, build and operate SMRs, considered the next generation of nuclear reactors. Westinghouse Electric has teamed up with Ameren Missouri to compete for those dollars, which would add up to five small modular reactors at Ameren's current Callaway County location.

If Missouri succeeds, the funding would not only meet growing energy demands in Missouri but also would allow small modular nuclear reactors to be designed, built and exported to other states and countries from Missouri, Nixon told state and local leaders during a summit on the University of Missouri campus Monday.

More than 500 letters supporting Missouri's proposal have been submitted to the DOE, not only from those directly affected but also from Missouri business and development leaders who see the potential, Nixon said. All of Missouri's other electric power providers have expressed support as well.

The university system and its Columbia and Rolla campuses have provided research papers and are willing and able to provide additional research expertise and training to continue to make a work force available, UM System President Tim Wolfe said.

"This is huge," he said. "Think about the number of jobs coming to Central Missouri — it's unbelievable."

Warner Baxter, president and chief executive officer at Ameren Missouri, estimates that one SMR would provide more than 9,500 direct jobs and more than 9,000 indirect jobs and would have a \$3 million economic impact.

The DOE funding requires a 50 percent match, making a partnership between private entities and local and state governments vital, said Kate Jackson, senior vice president and chief technology officer at Westinghouse.

At the same time, both sides benefit. "It's about jobs," Jackson said. "It's about jobs in America and jobs in Missouri."

Missouri is competing against at least three other proposals, but Rep. Jeanie Riddle, R-Mokane, said Ameren Missouri already has a reputation for safety, a knowledgeable work force and generation capabilities.

"I think that puts us ahead of the game," she said.



Reactor has history of cancer drug success

MU discoveries move to market.

University of Missouri researchers last week announced findings that radioactive gold particles coated with a chemical found in tea have the power to significantly shrink cancerous tumors.

It was a headline-grabbing discovery that might lead to a human treatment in five years. If so, it wouldn't be the first cancer-fighting medication to come out of work being done at MU's Research Reactor.

"MU has been a leader in this, and we are extraordinarily fortunate to have the reactor here," said Carl Freter, director of hematology and oncology at the MU School of Medicine. "It's an incredible resource for biomedical research and developing new kinds of therapies, and it has been an incredible resource in the past."

Freter has the vantage point of not only seeing treatments being developed on the research side but also using those treatments in his practice, including one of the earliest cancer drugs to come out of the reactor.

Quadramet was developed at the reactor in the 1980s and 1990s and has been on the market since the Food and Drug Administration approved it in 1997. The medication isn't a cure but rather a pain reliever for those with bone cancer. It contains a radioisotope that targets cancer cells growing inside of and eating away at bone — a painful condition that puts patients at risk for bone fractures.

The condition turns a functioning person "into somebody who's bedridden," Freter said. "There's an awful change in the quality of life."

Quadramet is used when cancer cells no longer respond to traditional therapies.

"It's really given with the intention of killing bone cancer or at least beating it back enough so that the symptoms it causes aren't there," Freter said. "It's an important drug that fulfills that particular niche."

Quadramet has grossed \$4.25 million in university royalties since 1998, UM spokeswoman Jennifer Hollingshead said.

Another treatment developed at the reactor, TheraSphere, isn't used locally but is available as a treatment to patients with inoperable liver cancer. The treatment, which injects glass beads filled with a radioisotope into an artery that sends it to the tumor, has been available for about a decade.

A week ago, Kattesh Katti, a curators' professor of radiology and physics, announced findings that a solution of radioactive gold nanoparticles coated with a chemical found in tea shrinks aggressive prostate cancers in tumors.

Radiation has been used to fight cancer for decades, but researchers are now coming up with more advanced treatments that target tumors and cancerous cells without damaging healthy cells.

Freter is working on a treatment for lymphoma. His research involves attaching a man-made "Trojan horse" of sorts to get cancer-fighting agents to kill cancer from inside cells.

"We hope with this research we'll develop a molecular approach, a highly targeted therapy for lymphoma patients," he said, "so we won't have to use old chemotherapy with all of its terrible side effects."

Boone County commissioner Dan Atwill named chair of energy task force

MU Mention Pg. 2

By Matthew Patane

July 23, 2012 | 7:43 p.m. CDT

COLUMBIA — Boone County Presiding Commissioner Dan Atwill will chair a task force aimed at readying five Missouri counties for new nuclear technology.

Gov. Jay Nixon announced the creation of this Local Government Task Force Monday at a gathering of local and state legislators, business officials and the leaders of Westinghouse Electric Co. and Ameren Missouri.

The task force is a part of Missouri's ongoing attempt to win a share of a \$452 million grant from the U.S. Department of Energy, which is set to be used for investment in small nuclear reactors, or small modular reactors, Nixon said.

The group is made up of five presiding commissioners from counties that are most likely to be affected by the installation of new reactors: Boone, Callaway, Cole, Osage and Phelps.

While large nuclear reactors tend to produce about 1,200 megawatts of energy, small modular reactors are typically designed to produce a maximum of 300 megawatts. Unlike the larger reactors, modular reactors are cheaper and faster to construct and can be built off-site in factories and then shipped to their destination.

Warner Baxter, the president of Ameren, said the construction of one modular reactor could directly create 9,500 jobs and indirectly create 9,100 jobs.

Atwill said that until the recipients of the grant are announced, the new task force will focus on meeting with Westinghouse and Ameren officials to find out what would be required to support new reactor construction.

Westinghouse and Ameren created a partnership in April and are currently competing against at least three other partnerships for a share of the grant.

Due to its nuclear research capacity, the UM System will also play a role in planning for new reactors if Westinghouse is granted money, Baxter and Nixon said.

"We're providing the playing field for the university, Westinghouse and Ameren from which they can hit home runs," Atwill said, adding that the five counties would be providing a large part of the work force and support that would be needed for plant construction.

Atwill said one of the first steps the group is taking is going on a "fact-finding mission" by touring Ameren's nuclear plant in Callaway County.

Ameren, the state's main utility provider, hopes to use the grant money to build and operate five small modular reactors in Missouri. If awarded the money, Ameren would use designs provided by Westinghouse for the modular reactors. The new plants would most likely be built near the Callaway plant, the state's only operating nuclear reactor.

Nixon also announced the appointment of Jason Hall, the deputy director of Missouri Department of Economic Development, to a Westinghouse readiness committee. The governor said the local task force, in conjunction with the committee, would allow Missouri to "make sure it is engaged at all levels" so the state could "hit the ground running" if it is awarded the grant.

Local, state and university leaders sounded confident of Missouri's chances in its bid for the grant, calling the opportunity "transformational" for the state:

- **UM System President Tim Wolfe called the grant a "wonderful opportunity for the state" and said it offered good future employment opportunities for the system's engineering students.**
- Nixon said the rivers running through the state made Missouri a "convenient location" because of shipping possibilities. The governor also said more than 500 letters had been sent to the Department of Energy in support of the Westinghouse application and that all of the state's electric providers supported the application as well.
- Sen. Kurt Schaefer, R-Columbia, said the timing of the project was "perfect" and that Missouri had the resources necessary to go through with building the plants if the state is awarded the grant.

Missourinet

Nixon appoints task force to make Missouri hub for next-generation nuclear reactors

July 23, 2012 By Jessica Machetta

Gov. Jay Nixon headed a summit at the University of Missouri in Columbia to further discussions about creating small modular nuclear reactors in Missouri.

Nixon has been working with Ameren Missouri and Westinghouse leaders, as well as legislators, business and education leaders since April to compete for grant money from the Department of Energy. Nixon said today others competing for the grant money don't have near the resources or leadership Missouri does.

“Creating this new generation of nuclear reactors will require extensive research, advanced engineering and outstanding works,” he says. “We offer all three right here in Missouri.”

He's appointed members of the legislature, Department of Economic Development, Missouri Chamber of Commerce, business and education leaders to a task force to push the project forward.

“I am forming our Local Government Task Force, which will include the presiding commissioners of Boone, Callaway, Cole, Osage, and Phelps counties,” he says. “Those counties include the project area, and two of our world-class research institutions.”

He says the University of Missouri-Columbia, Missouri University of Science and Technology at Rolla, and Linn State Technical College all offer the education needed to put the right minds into this newest of nuclear energy production.

He says Missouri is uniquely positioned to be a global marketer of the new generation nuclear reactors, both geographically and from an innovation, manufacturing and marketing perspective. He quotes CNN Money as telling Detroit to “move over,” that business and manufacturing are “sweet on Missouri” for its affordability and business-friendly environment. Nixon calls this project a “historic endeavor.”

Ameren Missouri CEO Warner Baxter agrees, saying this is the jobs package Missouri needs.

The U.S. Department of Energy is expected to announce grant recipients this fall, which would provide about half the funding needed. Ameren and Missouri's other utility companies as well as Westinghouse would contribute funding for the project as well.

Missouri struggles to find funding for higher education

By Jordan Shapiro

July 23, 2012 | 6:35 p.m. CDT

COLUMBIA — Many local candidates for state office have listed increased funding for higher education among their top priorities if elected.

In the past three years, Missouri's public universities have born the brunt of state budget cuts as lawmakers have struggled with declining revenue.

The last time public universities received an increase in state funding was in the 2009 fiscal year. Since then, universities have seen their budgets slashed as state revenue dipped after the 2008 financial crisis and economic recession.

Candidates all want higher education funding to be a priority, but they differ on how to make that happen.

University of Missouri System's budget

In January, Democratic Gov. Jay Nixon called for a 15 percent cut for all public universities for fiscal 2013. The colleges were spared, however, when Nixon directed \$40 million from a settlement with five of the largest mortgage companies toward higher education, and legislative leaders found other programs to cut.

When the fiscal 2013 budget was passed in May, the General Assembly had the UM System funded at the same level as last year.

The UM System was slated to receive just less than \$400 million, but on June 22, Nixon announced he was withholding 1 percent of its funds out of concern the state's \$24 billion budget was not balanced. That move brought the system's budget down to \$396 million.

Of the money the UM System receives from the state, roughly half goes to MU, but that amount varies year to year.

Although the UM System dodged the 15 percent cut this year, its funding remains far below what it received in previous years.

In fiscal 2011, the UM System received \$415 million from the state. In fiscal 2010, the General Assembly appropriated \$475 million to the UM System. The 2010 budget numbers were aided by \$50 million from the federal stimulus package given to the UM System.

Despite level funding for fiscal 2013, the UM Board of Curators approved a 3 percent tuition increase for Missouri residents for the next academic year. In-state tuition based on 12 credit hours will increase from \$3,129 to \$3,282.

The ability to raise tuition means public universities don't have to rely solely on state aid. Missouri law, however, prohibits public universities from raising tuition at rates that exceed the annual Consumer Price Index. For fiscal 2013, the price index was 3 percent. In the past, the state Department of Higher Education has waived the tuition ceiling to allow universities to shore up their budgets.

Revenue

The past few years, the legislature has struggled to pass measures boosting state revenue that could provide funding for higher education.

A \$70 million tax amnesty program for the past two years has passed the House but languished in the Senate. The program would allow delinquent taxpayers a grace period to pay taxes without penalties. A group of Republican fiscal conservatives in the Senate held up the measure, saying it would reward people for failing to pay taxes on time. Supporters of the bill argued the choice was between people paying up without penalty or not paying at all.

Lawmakers also failed to pass legislation that would allow the state to collect taxes on Internet sales. Current law allows Missouri to impose such a tax, but it does not allow the Department of Revenue to collect it. That legislation would have given the state an additional \$20-40 million annually.

Tax credits

One of the most explosive legislative issues in recent years has been the debate over whether to scale back Missouri's tax credit programs. In 2013, Missouri is expected to redeem \$685 million in tax credits. There are 61 different tax credit programs in the state, varying from historic preservation to a credit for Missouri grape growers.

In 2011, the Republican-controlled legislature failed twice to reach a deal on setting annual caps and mandatory expiration dates — known as "sunsets" — on tax credit programs.

In the 2011 fall special session, the House and Senate were deeply divided over tax credits. The House wanted to create new tax credit programs for attracting data storage facilities, sporting events and a cargo hub at Lambert Airport.

To fund the new tax credits, the Senate proposed placing annual caps on how much money per year could be redeemed from existing programs. The Senate also insisted on sunsets for existing programs and refused to authorize a key part of the cargo hub plan.

After two months in special session, lawmakers gave up without passing any tax credit legislation, which would have brought more revenue to the state.

Cigarette tax

Another contested source of revenue has been whether to raise Missouri's cigarette tax, which is the lowest in the nation. An initiative petition to increase the tax is scheduled to appear on the November ballot, pending a legal challenge in the Supreme Court.

The ballot measure would raise the tax rate to 90 cents per pack, up from the current 17 cents. The increase would generate an additional \$283 million to \$423 million annually.

Democrats wanted the legislature to pass the tax increase so they could determine where the additional money would be spent. The initiative petition strictly requires that 50 percent of additional tobacco tax revenue be spent on K-12 education, 30 percent being spent on higher education and 20 percent on tobacco cessation programs.

Legislation to increase the cigarette tax never reached the Senate or House floor, as Republicans said the tax would negatively affect the poor.

What candidates are saying

Local candidates said they view higher education funding as a priority and a means to create jobs and grow the economy. Here's what they had to say about higher education spending and revenue opportunities:

State Senate District 19

- **Incumbent Sen. Kurt Schaefer (R):** As Senate Appropriations Chairman, Schaefer helped keep university budgets level for fiscal 2013. He said the state could boost funding for higher education by finding other areas in the budget to cut. He supports raising the cigarette tax because he wants people to quit smoking.
- **Rep. Mary Still (D):** She said higher education is the most important funding priority in Missouri. She has sponsored measures to raise the cigarette tax the past few years in the Missouri House and supports the ballot measure. She said we need a "better balance" on tax credit reform but does not see the current situation changing.

House District 44

- **Ken Jacob (D):** He said one of the main reasons he is running for office is to promote awareness of the need for more higher education funding. Jacob said revenue from the cigarette tax would be only a "marginal increase and unlikely to make a significant change in the quality of education."
- **Caleb Rowden (R):** He said education produces a highly skilled work force. Rowden said he would "probably not" support the cigarette tax, but he was still "open to discussion." He said he agrees with placing annual caps and sunsets on tax credit programs.
- **Mike Becker (R):** He said the state needs to shift gears on education and sponsor classes to provide technical training for the long-term unemployed. On the revenue front, Becker said tax credit programs should be reviewed every two years. Becker also supports raising the cigarette tax but said the revenue should be set aside as a medical trust fund to pay for smokers' future health care.
- **Dennis Smith (R):** He said funding higher education is an "extraordinarily high priority." On boosting state revenue, Smith said the state's tax base should be broadened to include more people. He said tax credits have been economically beneficial but have become a "slippery slope" and "larger than expected." Smith also supports raising the cigarette tax.
- **Chris Dwyer (R):** He said that if the state asks for certain things from a university, then it needs to provide proper funding, otherwise the "university can solve its own (financial) problems." He opposes the cigarette tax increase because he said it would hurt the poor. He said he opposes tax credits.

House District 45

- **Rep. Chris Kelly (D):** He could not be reached for comment. He has no primary or general election opponent.

House District 46

- **Fred Berry (R):** He said he "does not want to just throw money at the problem." He wants to look at the private sector for ways to save money and train workers. He does not support the cigarette tax increase and wants "comprehensive tax credit reform," eliminating the programs altogether.
- **Rep. Stephen Webber (D):** He could not be reached for comment. He has no primary opponent.

House District 47

- **Mitch Richards (R):** He could not be reached for comment. He has no primary opponent.
- **Nancy Copenhaver (D):** She said higher education and K-12 funding are a "package." She supports the idea of reevaluating tax credits on a regular basis and said "we need to quit giving money away." She also supports raising the cigarette tax.
- **John Wright (D):** He said it's important that the state keep its commitment to higher education funding. He said there should be sunsets on certain tax credit programs and called for reducing annual caps on those programs. He supports raising the cigarette tax.

Missourian reporter Matthew Patane contributed to this report.

Supervising editor is Scott Swafford.

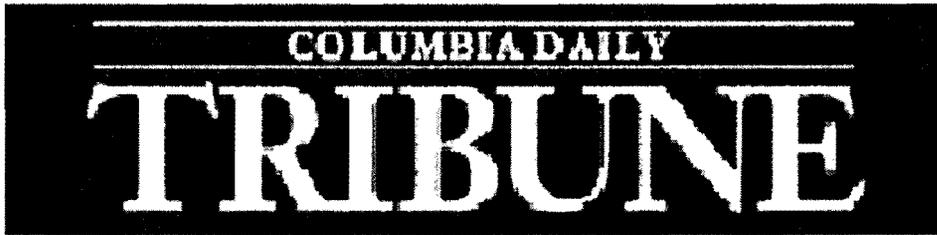
ST. LOUIS POST-DISPATCH

Academic press supporters to meet with University of Missouri leader

COLUMBIA -- Opponents of the University of Missouri's decision to revamp its academic publishing business plan to meet to discuss their next steps.

Organizers of today's meeting say the school's plans to replace the press with a digital publishing operation that will rely largely on student workers will provide a poor substitute for the traditional university press model. Some members of the Columbia campus chapter of the American Association of University Professors are scheduled to meet with university system president Tim Wolfe later Tuesday.

Wolfe decided in May to shut down the 54-year-old academic press in part to put the business' \$400,000 annual university subsidy to better use. The decision has generated significant nationwide criticism in the publishing industry, and several authors want the school to return their publishing rights.



Makeover on Eighth gets going

Project has been in works for years.

Beautification efforts for the Historic Avenue of the Columns on Eighth Street in downtown Columbia are under way after years of planning.

Improvements planned for the street include the installation of red-brick surfaces and limestone veneer walls, rounded sidewalks and the planting of new trees.

Mary Wilkerson, a senior vice president of marketing at Boone County National Bank who chairs a committee that oversees the beautification efforts, said organizers had never had a deadline in mind for improvements but wanted to see collaboration among partners including the University of Missouri and property owners along the street.

"We really want to take advantage of opportunities as they arise," Wilkerson said.

She said organizers also will coordinate with Boone County government in its efforts to renovate the courthouse plaza.

The Avenue of the Columns features the columns from the second Boone County Courthouse built in 1847 at its north end and the iconic columns at MU's Francis Quadrangle — the last remnants of the university's Academic Hall, which burned in the 1890s — to the south.

The total cost of the improvement project is about \$625,000, with funding coming from the city and also contributions from property owners. The area includes the portion of Eighth Street that will be used this fall for the Tiger Town fan-zone site before two Missouri home football games.

According to a city report, the city began laying out a vision for the project in 2003, and plans to transform the street into a historic walkway were completed in 2005. Three property owners along the street — Boone County National Bank, Landmark Bank and Tom Atkins — have made \$228,112 in contributions to the project through the Missouri Development Finance Board's Tax Credits for Contribution program, which provides donors with a tax credit equal to 50 percent of their contribution to an infrastructure project.

According to data provided by the Missouri Department of Economic Development, the city was approved for tax credits for the project in February 2008.

The project, as outlined in the city report, is intended to add focus to the "town and gown" relationship between the city and the university.

The city had planned to begin work on the project in conjunction with the construction of a new addition to City Hall, 701 E. Broadway, which was completed in 2010.

But when the Avenue of the Columns project designer solicited a bid from the general contractor for the City Hall project, the bid exceeded the designer's estimate by nearly 50 percent.

Columbia Public Works announced Thursday that work on the project will result in temporary lane restrictions on Broadway and on Seventh and Eighth streets. The streetscape improvements are expected to be completed by fall.