

#### **SUMMER 2015** VOLUME 11 ISSUE 3

#### **Nuclear Industry Futures**

## **New Era for Nuclear Power?**



April, 14, 2015-. For decades the U.S. nuclear power industry has stood at a virtual standstill,

a victim of economics and fears over safety. But as President Barack Obama prepares to roll out new carbon emission regulations targeting the power industry, nuclear companies are hoping a new era is upon them.

With high-profile advocates like former Dallas Mayor Ron Kirk and former EPA administrator Christie Whitman on board, the industry is embarking on a very public campaign arguing nuclear must be part of any national energy plan. To accomplish that, it wants to examine amending power and licensing regulations to encourage nuclear and speed up construction. From the \$6 billion to \$8 billion price tag for a new reactor in this country to the 2011 meltdown at Japan's Fukushima nuclear power plant, nuclear faces an uphill climb domestically. Perhaps no hurdle is greater than wholesale power prices, which have fallen nationally as U.S. hydraulic fracturing operations have flooded the country with cheap natural gas. "Nuclear does

have a unique set of challenges we need to address," Kirk, co-chair of the Inside this issue: nuclear advocacy group CASEnergy Coalition, said in an interview Thursday. "But it's interesting how much the climate change debate has changed things. We believe there

isn't going to be any conversation about lowering carbon emissions in this country if nuclear isn't part of the picture."

The U.S. has five new reactors under construction in South Carolina. Georgia and Tennessee. But with power prices low, any plans for further construction have been put on hold. Also the future of the country's 61 nuclear plants, a large portion of which were built in the 1970s, is falling into doubt as facilities come up for relicensing and will probably require costly upgrades. The president's call for a 30 percent cut in emissions by the U.S. power industry is expected to force the closure of vast numbers of coalfired plants and cause a surge in wind and solar farm construction.

"Something like 65 percent of the existing coal fleet will not be operating. That's [a lot] of electricity that needs to be re-(Cont. on Pg. 3)

	New Era for Nuclear Power?	1, 3
	US Republicans Poised to Offer Funds for Ne- vada Repository	1,5
-	Yucca Mountain Li- cense Will Cost Anoth- er \$330 Million	2
	Leaner NRC prepares for future	3
),	Germany's Nuclear Cutback Is Darkening European Skies	4
	China Adding Nuclear Plants at Record Pace in Fight Against Smog	5
d	Nuclear Industry Push- ing for Changes to Obama's Climate Rule	6
)	US Nuclear Plants Cel- ebrate Performance	7
r	NWI Products & Ser- vices	8
	NWI News Board	9

US Republicans Poised to Offer Funds for **Nevada Repository** 

April 14, 2015 - House Republicans are hoping to attach a request for hundreds of millions of dollars to continue a federal review of the contentious Yucca Mountain nuclear waste repository when appropriators take up a spending bill. Whether such language would make it past Senate Minority Leader Harry Reid (D-Nev.) is another matter. Rep. Mike Simpson (R-Idaho), chairman

of the House Energy and Water Development and Related Agencies Appropriations Subcommittee, said during an interview on Capitol Hill that he plans to include money in the annual energy and water spending bill for Yucca Mountain. Simpson's subcommittee is scheduled tomorrow to mark up the spending bill, which funds the (Cont. on Pg. 5)



#### Yucca Mountain License Will Cost Another \$330 Million

March 5, 2015—Completing the Yucca Mountain used fuel repository construction licensing process would require an additional \$330 million from Congress, U.S. Nuclear Regulatory Commission Chairman Stephen Burns told a Senate panel this week. All four NRC commissioners participated in a rare appearance before the Senate Appropriations Subcommittee on Energy and Water Development. Subcommittee Chairman Lamar Alexander (R-Tenn.) promised more hearings before his committee because of the importance of nuclear in the nation's energy profile. Reiterating some points he made at a speech at NEI last month (see Nuclear Energy Overview, Feb. 5), Alexander said it would be "a shame to allow nuclear energy to decline in this country." He emphasized nuclear energy's ability to combat the threat of climate change because it does not emit greenhouse gases. Alexander and ranking member Dianne Feinstein (D-Calif.) discussed several issues, including used nuclear fuel disposition and the Yucca Mountain repository program, the cumulative impact of regulation on the industry, the second license renewal of operating reactors, and the anticipated opening of the Watts Bar 2 nuclear reactor. The NRC's fiscal 2016 budget proposal of \$1.03 billion is 1.7 percent higher than was approved for fiscal 2015. Approximately 90 percent of the NRC's budget is recovered through user fees, with Congress appropriating funds for NRC activities that do not directly benefit licensees, including homeland security activities and international programs. The NRC did not request any funds, which would be sourced from the Nuclear Waste Fund, to continue its review of the Yucca Mountain license application. Expressing her doubt that used fuel could

tinue its review of the Yucca Mountain license application. Expressing her doubt that used fuel could safely remain in used fuel pools or dry storage at reactors for as long as 300 years, Feinstein said that she and Alexander intend to pursue passage of the Nuclear Waste Administration Act. The measure would allow for the establishment of consolidated storage facilities such as the one being proposed by Waste Control Specialists in Texas. The Nuclear Waste Policy Act, which the new leg-islation would complement rather than supplant, only mandates the use of Yucca Mountain for used fuel disposition. Feinstein has posted an earlier version of the proposed legislation on her Senate website. Alexander said that the NRC is not primarily to blame for the state of used fuel policy. "The obstacles are the Congress and the president of the United States. We only have to look in the mirror," Alexander said.

May 7, 2015 **UPDATE:** House Approves \$936 Million for DOE Nuclear Energy Programs which provides \$175 million to continue Yucca Mountain licensing. Nuclear energy programs would receive \$936 million in fiscal 2016 under a \$35.4 billion energy and water spending bill approved May 1 by the House of Representatives. That is an increase of \$23 million from the current fiscal year and \$28.5 million more than the administration's request for the 2016 fiscal year that begins Oct. 1. The bill provides \$175 million for the U.S. Department of Energy and the Nuclear Regulatory Commission to continue the Yucca Mountain licensing process. "A comprehensive program to effectively manage used nuclear fuel must include completion of licensing activities for the Yucca Mountain repository. The appropriation for that project is most welcome," NEI Senior Vice President for Governmental Affairs Alex Flint said.

A Statement of Administration Policy released by the White House objected to many aspects of the bill. The statement's objections to nuclear energy program funding largely centered on the Yucca Mountain project. The administration said the Yucca Mountain funding represents a "rejection of the practical solutions proposed in the President's nuclear waste strategy."

The legislation will be reconciled with the Senate version before it is sent to the president.



## **New Era for Nuclear Power?**

placed. Natural gas is going to supply the vast majority of that, but nuclear is going to have a place too," said Dan Lipman, vice president of the trade group the Nuclear Energy Institute. But the industry will face opposition. Nuclear remains a divisive issue among environmentalists. Some support it as a proven means to cut carbon emissions out of the nation's power supply. But there are just as many who see its potential contamination risks as just too great to make it a sensible pathway. "On nuclear, the environmental community is not a monolith. There are some groups that grew up around anti-nuclear protests," said Jim Martson, Texas director of the nonprofit Environmental Defense Fund. Among an older generation of Americans, the partial meltdown of the Three Mile Island nuclear power plant in Pennsylvania in 1979 remains a vivid memory. Dale Klein, a professor at the University of Texas and former chair of the U.S. Nuclear Regulatory Commission, said new technology designed to keep reactors cool even when a plant loses power — as happened at Fukushima — has greatly reduced the risk of a meltdown. "One of the things people often forget about is any source of electrical generation has issues. The one that would kill the most people is hydroelectric. If a dam failed, you could take out 200,000 people very quickly," he said. "You have to look at a risk-benefit comparison." Getting that message out there is the job handed to Kirk, a former U.S. trade representative and wellknown golfing partner of Obama. He argued that younger Americans did not have the same fears about safety as their parents might have. For them, he said, global warming remains a far bigger threat. Still, he admitted, promoting nuclear energy has its own unique challenges. "Nuclear is the most mysterious of energy sources," he said. "You never had a James Bond movie where the final scene is filmed in a solar plant."

[THE DALLAS MORNING NEWS, By JAMES OSBORNE josborne@dallasnews.com, Staff Writer]

UMI

#### Leaner NRC prepares for future

May 1, 2015 - The US Nuclear Regulatory Commission (NRC) is in the final stages of a project to streamline its operations, chairman Stephen Burns said in an update on progress at the agency. Burns, who took up his position as chair of the NRC on 1 January, made the remarks about the agency's Project Aim 2020 in an address to the US Energy Association's annual meeting in Washington DC. Launched in mid-2014, Project Aim 2020 is tasked with identifying ways to improve efficiency, safety, security and safeguards missions while streamlining processes and limiting costs through the most responsible and effective use of NRC resources. Recommendations focusing on four primary areas were finalized and reported back to the Commission in January of this year, Burns said, and the Commission is now in the last stages of finalizing its direction to staff. The recommendations call for reducing the agency's workforce to around 3400 from a current level of around 3700. "My fellow commissioners and I are taking a hard look at how to ensure the agency maintains the ability to perform our safety and security mission while also being more efficient. We know that we need to retain the appropriate skill sets to accomplish our mission, but we recognize that we can improve on how we reprioritize activities based on emergent needs and can respond more quickly to changing conditions," Burns said. Substantial progress continues to be made in implementing safety enhancements identified following the 2011 Fukushima Daiichi accident. Burns said that the NRC expects that most US licensees will complete the implementation of the majority of the most safety-significant enhancements by 2016. Over half of the nation's nuclear power plants are scheduled to achieve full implementation of the NRC's 2012 Mitigation Strategies order by the end of this year, with the rest completing the necessary actions in 2016. An area where the NRC has experienced an unanticipated increase in workload recently is the oversight of reactor decommissioning. After 15 years in which no power reactor permanently closed down, the agency has been faced with the recent closure of five reactors before the end of their operating license, Burns noted. Although the agency has extensive experience with regulating plant decommissioning, it is not specifically addressed in NRC regulations. The agency is therefore in the process of drawing up a rulemaking on reactor decommissioning, which is expected to be completed by early 2019. The rule is ultimately expected to increase further the efficiency and predictability of the NRC's regulatory program. Burns concluded his presentation by paying tribute to the NRC's "dedicated, talented and knowledgeable" staff. "It is the strength of our staff and their commitment to maintaining the safe and secure use of nuclear materials and facilities that has established the agency's world-wide reputation as a strong, independent and competent regulator", he said. [Researched and written by World Nuclear News].



## Germany's Nuclear Cutback Is Darkening European Skies

May 6, 2015—Germany's influence in Europe is unquestionable, but it appears that some of its neighbors may be adversely affected by recent German decisions; and Greece is not the neighbor in question here. France has been reporting heavy levels of air pollution which authorities in the country are blaming on diesel cars there. But the real culprit may in fact be the renewed German penchant for coal power.

Up until a few years ago, Germany, along with France, was at the forefront of nuclear power use. But after the Fukushima disaster in Japan in 2011, the Germans were quick to begin phasing out nuclear power. In some countries, phasing out nuclear power would be easy, but in 2011, Germany obtained 25% of its power from nuclear sources. This nuclear power generated no carbon dioxide emissions of course, and little in the way of other forms of pollution. But after starting the phase out of nuclear power, Germany still needed to find a source of replacement power.

Renewables like wind and solar sound great in theory, but the sporadic nature of power generation from those sources makes them imperfect substitutes for the consistency of nuclear. In that sense then, battery solutions like that announced by Tesla last week, or the solutions from General Electric, may eventually provide a solution for Germany. But as of now, the grid battery industry is still too nascent to provide serious help to Germany. Germany aims to generate 80% of its power from renewable sources by 2050 with nuclear being fully phased out by 2021. But given the costs associated with renewables and the challenge of replacing nuclear power efficiently, it is not clear that Germany will succeed in either of these goals. With renewable energy sources facing generation consistency challenges, that has left the Germans with only a few alternatives for replacing nuclear power: oil, natural gas, and coal. Oil has been so expensive for so long that it never received serious consideration for new power plants. Natural gas on the other hand is cheaper per unit of power generated and it releases about half the level of carbon dioxide that coal does. These characteristics have helped to make natural gas the power plant feedstock of choice in the US especially given the falling per MCF over the last decade.

In Europe though, in part because of concerns about fracking, much of the natural gas comes from Russia. And relying on Russian natural gas as a primary power feedstock can be a dangerous proposition especially given the geopolitical concerns about Russian involvement in Ukraine. Thus, the Germans have increasingly turned to coal as their power generation source of choice, especially US coal. Today coal power plants are responsible for generating nearly half of Germany's power, and numerous new plants are scheduled to come online in the next few years.

Overall, the increase in coal is likely to create a significant increase in airborne pollution and potentially stoke tension between Germany and its neighbors. But at the same time, if Germany wants to phase out nuclear power, coal is the only realistic option; a fact which some German politicians are starting to admit.

German increased reliance on coal could throw a lifeline to US coal companies and manufacturers like Joy Global (JOY) and Caterpillar (CAT) that rely on coal miners as significant customers. While Germany is the eighth largest coal producer in the world, even with this production it still imports significant amounts of coal from the US. If the country continues its plan to phase out nuclear power, it is hard to see how it can avoid increasing its coal use dramatically which, in turn, should help to offset the decreasing coal use from the United States. [By Michael McDonald of Oilprice.com]



### **US Republicans Poised to Offer Funds for Nevada Repository**

Department of Energy, Bureau of Reclamation and Army Corps of Engineers, among other agencies. Simpson said the new language would provide money for the Nuclear Regulatory Commission to continue reviewing the Energy Department's application to build a repository under Yucca Mountain, about 100 miles northwest of Las Vegas. The congressman said the language could mirror prior House Republican requests for around \$205 million, including \$55 million for the NRC and \$150 million for the Energy Department. "It'll be somewhere in that neighborhood, part of it for Yucca Mountain, part of it for the NRC," he said.

But Simpson acknowledged that House Republicans' push to advance the repository continues to collide with efforts in the Senate and, ultimately, opposition from Reid, who has made killing the project a top priority. The congressman said there are Senate Democrats with waste in their state keen on finding a repository, but appropriators in the upper chamber have failed in moving through money for Yucca Mountain in the past. Simpson said he's not sure that dynamic has changed with Reid's announced retirement. "Whether we can now or not, I don't know," he said. What cannot happen, he said, is for Congress to only approve funds for an interim pilot storage program and not Yucca Mountain. In the upper chamber, discussions have focused on moving forward with such a pilot program alongside a bipartisan bill

to restart the nation's search for temporary and permanent storage sites.

"Our problem is our authorizers believe, and I think they're right, that if they did the interim storage and nothing for Yucca Mountain, Yucca Mountain would be forgotten and we'd move to interim storage," he said. "I think you need both." Simpson added that the reality is that the United States has generated enough waste to fill the Nevada repository if it opened tomorrow, and House authorizers are concerned that the Nevada site would be forgotten if the government funded only an interim storage site. "If we can get money in for both Yucca Mountain and the pilot program, for the borehole proposal that they're talking about ... I'm willing to do it," he said. "But we've got to have money for Yucca Mountain in there to get me past my authorizers. They're willing to go for both, but not one at the expense of the other."

Democrats with waste in their state keen on finding a repository, but appropriators in the upper chamber have failed in moving through money for Yucca Mountain in the past. Simpson said he's not sure that dynamic has changed with Reid's announced retirement. "Whether we can now or not, I don't know," he said. What cannot happen, he said, is for Congress to only approve funds for an interim pilot storage pro-

[Hannah Northey, E&E reporter, E&E Daily]

NWI

#### CHINA ADDING NUCLEAR PLANTS AT RECORD PACE IN FIGHT AGAINST SMOG

April 27, 2015—China is set to add nuclear reactors at a record pace this year as the nation seeks to cut pollution by reducing its dependence on coal. China may start operating 8 reactors this year, according to Zhao Chengkun, the vice chairman of the China Nuclear Energy Association, citing an estimate by the National Energy Administration. This puts the world's biggest energy consumer on track to install 58 gigawatts of atomic power capacity by 2020, said Zhao. That would exceed Japan's nuclear resources before the 2011 Fukushima disaster.

"This is quite a spree," Zhao said in an April 24 interview in Beijing. "I don't remember such a pace in history."

China is betting that nuclear energy will provide a source of power that's less polluting and cheaper than coal-fired generation, according to Zhao. President Xi Jinping has pledged an "iron hand" to protect the environment as the world's worst polluter aims to cap carbon emissions by 2030. Atomic energy now accounts for just 2 percent of the country's total power generation, according to the Paris-based International Energy Agency.

China installed a total of 20.3 gigawatts of atomic capacity at the end of 2014, and has 28.5 gigawatts in construction, the most in the world, according to the nation's nuclear association. The country started building commercial reactors in 1994. [Facebook Twitter Instagram Youtube]

#### **Nuclear Industry Pushing for Changes to Obama's Climate Rule**

April 27, 2015 – The Obama administration moves to finalize its climate rule for power plants this summer, the nuclear industry is pushing for major changes to the components of the plan. The proposed Clean Power Plan rule would allow states with nuclear power plants to take 6 percent of their nuclear output and credit it toward the emissions reduction goals regulators set for them. The industry says the 6 percent figure is arbitrary and creates a disincentive for states that might otherwise switch to nuclear sooner. The preliminary emissions reduction targets for some states also assume power is being generated today by nuclear plants that are still under construction, something the industry has argued contorts states' existing emissions and makes it much tougher for them to bring down their carbon intensity in the future. "The community doesn't necessarily want preferential treatment, we just want equal treatment," said Craig Piercy, the Washington representative of the American Nuclear Society. Environmental Protection Agency (EPA) Administrator Gina McCarthy acknowledged at a House hearing in February that "on the basis of the comments that came in," the agency would "take a very close look" at its use of nuclear energy in the plan. Final rules are due later this year, so an EPA spokeswoman couldn't say much, except that "nuclear power is part of an all-of-theabove, diverse energy mix and provides reliable base load power without contributing to carbon pollution. Nuclear power from current and future plants can help the U.S. meet its goals." Nuclear power is a zeroemission, high-output power source, and one of several "renewable or low-emission" options the administration says states can use to help meet the emissions reduction goals it will set in the final regulation. The overall goal of the plan is a 30 percent reduction in carbon emissions from U.S. power plants by 2030, and states have varying targets based on their current energy portfolios. States can use 6 percent of their nuclear generation as credit toward their goals. That number is based on a government calculation that nearly 6 percent of U.S. nuclear plants are in danger of closing, primarily due to market pressures. The credit is meant to encourage states to keep those plants open, or replace nuclear output with other forms of clean energy. "That was an attempt ... to indicate that we are building those into the standard-setting process because we believe that they may be at risk," McCarthy said in February. "But they should be staying in, all things being equal, because we are providing an incentive for a low-carbon future with this rule." The nuclear industry said the 6 percent plan could end up reversing climate gains, however: if a nuclear plant were to close, and a state only needed to replace 6 percent of its output with clean energy, the rest could come from higher-emission sources and the state would still be seen as achieving the goal. The industry's other major concern is related to the way the plan treats future nuclear plants. In states currently building new plants — Georgia, Tennessee and South Carolina — preliminary reduction targets are higher because the power from those nuclear plants is already assumed to be on the books. Utilities companies have opposed the move. Jack Bonnikson, a spokesman for Georgia-based utility Southern Co., said the rule "penalizes these states for taking early action and leading in the expansion of new, carbon-free nuclear energy for America. "If in the final rule EPA insists on setting binding statewide emission rate goals, then we believe under-construction nuclear units should be excluded from the calculation, with the full output available for compliance," he said in a statement. Pro-nuclear lawmakers have encouraged the EPA to look more closely at nuclear energy. At the February hearing, both Republicans and Democrats from Illinois pressed McCarthy to reconsider the plan's strategy. Illinois has 11 nuclear reactors, the most in the nation. "If the goal of the Clean Power Plan is to reduce carbon emissions while also ensuring that states can continue to provide reasonably-priced, safe, reliable electricity to its consumers, then nuclear power must play a central role in helping to achieve this objective," Rep. Bobby Rush (D-III.) said. Industry and lawmakers have different expectations for how the EPA's review of the nuclear rules will shake out. Piercy said "it's hard to imagine a scenario" where the EPA would finalize a rule with the nuclear concerns still on the books. But Rep. Adam Kinzinger (R-III.) said he worries McCarthy's comments amount to "Washington-speak for 'we're not going to do anything.' " McCarthy has said she is committed to incorporating nuclear into the final climate rule. "I will certainly agree that nuclear power is zerocarbon," she said earlier this year, "and it is an important part of the base load for many of the states, and it should be considered by those states carefully in the development of their plans."

[THE HILL, By Devin Henry sponsored by NEI, visit http://futureofenergy.nei.org]



## **U.S. Nuclear Plants Celebrate Performance**



April 17, 2015—Latest reliability and safety indicators for US nuclear power plants continue a pattern of consistently high results dating back more than ten years, according to the US Nuclear Energy Institute (NEI). Meanwhile, an NEI study has shown that Florida's nuclear plants contribute over \$1.4 billion per year to the state's economy. The NEI has used key performance indicators from the World Association of Nuclear Operators (WANO) and US organization the Institute of Nuclear Power Operators (INPO) to track the annual performance of the US nuclear industry.

Unit capability factors - a measure of the

amount of time a plant is online and producing electricity - stood at 91.7%, close to the 2015 target of 92% and remaining above 91% for the 15th consecutive year. The 59 unplanned automatic or manual reactor shutdowns, also known as scrams, experienced by US plants were the fewest recorded in the last 12 years. Indicators for 2014 show that US nuclear plants are approaching or already exceeding performance targets for 2015, the NEI notes. Targets are set on a five-yearly basis, so goals for 2015 were set in 2010.

The US plants' high performance levels were matched with exemplary safety performance indicators. According to the WANO and INPO indicators, the main standby safety systems providing defense-in-depth at nuclear power plants have not dropped below 93% in the past 15 years. The 96% availability recorded in 2014 was the highest level since 2008.

2014 was also a record-setting year for plant worker safety, recording 0.03 industrial safety accidents per 200,000 worker hours, well below the 2015 target of 0.1 accidents. "According to the US Bureau of Labor Statistics, it is safer to work at a nuclear power plant than in the manufacturing sector, leisure and hospitality industries, and even the financial sector," the NEI said.

Other indicators including fuel and water chemistry performance, collective radiation exposures, and generating time lost due to unplanned outages showed year-on-year improvements on the previous vear.

Nuclear Energy Institute senior vice president and chief nuclear officer Anthony Pietrangelo praised the 100,000-strong workforce in nuclear facilities and their suppliers for their achievements. "Having one great year of performance for an industry or an individual is noteworthy. Being able to sustain that performance over a decade or more is the true measure of excellence," he said.

The NEI has also released a new report highlighting the benefits brought by Florida Power & Light's (FPL) nuclear generating plants to the state's economy. The 25-page analysis of annual data concludes that the St Lucie and Turkey Point nuclear power plants bring over \$1.4 billion per year to the state's economy.

In addition to the 700 full-time workers employed at the plants, electricity production at plants stimulates an economic "ripple effect" of economic activity worth \$1.2 billion per year. More than 5800 direct and secondary jobs are supported by FPL's nuclear energy operations.

The report also notes that St Lucie and Turkey Point - each home to two pressurized water reactors - are responsible for generating 12% of the state's electricity and 98% of its low-

## **US NUCLEAR PLANTS CELEBRATE PERFORMANCE**

carbon power, making them an essential part of Florida's clean energy portfolio. NEI's analysis used a nationally recognized impact analysis model to process data from purchase order expenditures, employee compensation and tax payment data. An independent review of the analysis was carried out by Julie Harrington, head of Economic Research Enterprises. Harrington, who is also a director of the Florida State University Center for Economic Forecasting and Analysis, said NEI's economic impact analysis was a "realistic and credible estimate" of the plants' economic impacts.

[Researched and written by World Nuclear News]

NWI

# NWI Products and Services



#### **NWI** Consulting, LLC

PO Box 33117, Knoxville, TN 37930 Office: (865) 385-6166 Fax: (888) 817-8890 Website: www.nwi-llc.com

NWI Consulting, LLC is a professional consulting firm specializing in power generation performance improvement services, specialized learning interventions, computer-based training, organizational development, accreditation renewal/recovery, and professional staff augmentation. NWI has a broad portfolio of U.S. and international clients in the electric generation industry and is headquartered in Knoxville, TN. NWI's power plant services includes supporting such areas as Operations, Training, Outage Management, Nuclear Oversight, Maintenance, Radiation Protection, Chemistry, and Emergency Preparedness. NWI has assisted clients in other, more specialized efforts including Leadership/Management Development, Executive Coaching, Conflict Resolution, Multi-Discipline Assessments, Root Cause Analyses, Performance Improvement, NRC 95-002 & 95-003 and

Our program specialties include: Human Performance, Training and Accreditation, Simulator Instructor Training, Operations Training, Engineering Services, Corrective Actions Program Improvement, Root Cause Analysis and Self-Assessment, NRC Exam Writing, CBT for Dry Cask Storage/ RadWaste Training, and many Human Performance Trainers.



Editor: Frank S. Tsakeres NWI Director of Operations

Associate Editor: Kate Hendrickson NWI Director, Business Administration



NWI Consulting, LLC, PO Box 33117, Knoxville, TN 37930

NWI

The following key activities are being conducted by NWI professionals...

NWI

- Entergy Corp.—FLEX Performance Improvement/CAP
- Entergy's ANO Performance Improvement/CAP
- Entergy's Pilgrim CAP/PIR/PN14 Support
- EPRI SPVStudy
- FENOC Perry Plant's FLEX Mod Planning/Scheduling, Outage Support
- S&L ANO 95003 Support
- Xcel's Monticello EPU & FLEX Projects, Outage Support

We wish to express special thanks to the following clients for making NWI a preferred consulting company.

- Entergy's ANO & Pilgrim Stations
- PPL Susquehanna Steam Electric Station
- FENOC's Perry Nuclear Plant
- EPRI
- Sargent & Lundy, LLC
- Xcel Energy's Monticello

Our program specialties include: Human Performance, Training and Accreditation, Simulator Instructor Training, Operations Training, Engineering Services, Corrective Actions Program Improvement, Root Cause Analysis and Self-Assessment, NRC Exam Writing, CBT for Dry Cask Storage/ RadWaste Training, and many Human Performance Trainers.



Editor: Frank S. Tsakeres NWI Director of Operations

Associate Editor: Kate Hendrickson NWI Director, Business Administration



NWI Consulting, LLC, PO Box 33117, Knoxville, TN 37930