SSDA News

Service Station Dealers of America and Allied Trades

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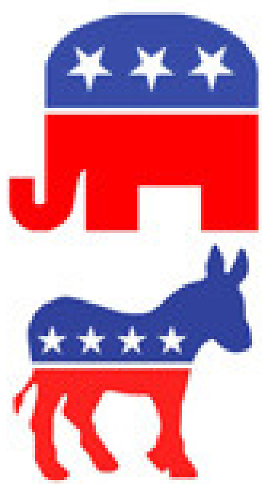
INSIDE THIS ISSUE:

The 2016 Elections

By Roy Littlefield

I'm not sure I could sit by without making a few comments on the 2016 election. I am the first to admit that everyone reading this probably has their own thoughts on where we have been and where we are going. Nobody had a crystal ball, and nobody has a crystal ball. But here goes!



A year ago I suggested that when the dust settled, I thought the nominees would be Marco Rubio and Hillary Clinton. I certainly underestimated Donald Trump and Bernie Sanders. Coming out of Iowa I thought Rubio was where he needed to be; but I don't know if he can now recover from his disappointing February 6 New Hampshire debate.

As the primaries begin to move South, I think the challenges may be greater for Sanders.

Election results will have a dramatic result on how many issues with which we are all concerned will be decided.

Let me give you one example: the estate tax. As an increasing number of service station dealers and repair facility operators purchase their properties, full repeal of the estate tax becomes a very important effort of WMDA and SSDA-AT.

In 2015 the US House of Representatives, for the first time in 10 years, voted for full repeal. We are seeking a Senate vote in 2016. While President Obama has pledged to veto the bill, we are working for full repeal if we have a Republican President. For the record, all of the Republican candidates for President have pledged to support full repeal. On the Democratic side, Secretary of State Clinton would like to raise the tax to 60% and US Senator Sanders has pledged to raise it to 80%.

While much of the attention and coverage of the 2016 elections has thus far been focused on the Presidential elections, particularly with the commencement of the party primaries, the Senate will be a critical ground for both parties in 2016.

Due to the present districting of the House of representatives, there is almost no chance of Democrats being

Continued on page 20

2016 Federal Outlook

By Roy Littlefield, IV

As the 2016 federal legislative cycle kick into full swing, let's look at some of the big issues SSDA-AT will be involved in this year.

- **Tire Recall Recovery Reform** (tire registration): Following the highway bill/tire registration language that passed, SSDA-AT will work with NHTSA to provided recommendations on developing a proper tire registration and recall system. We will push for the agency to compete a study to look at the implementation of technology in these areas. We believe this study is vitally important before any changes are made to the tire registration and recall recovery system. For example, electronic identification would enable retailers to scan tires and immediately assess the recall status at the time of service. It also creates the potential for a permanent link between the TIN for each individual tire and the vehicle. Thus, any changes of address or ownership would be much less problematic in notifying the driver of a vehicle with recalled tires. The benefits of electronic identification are seemingly endless.

- **LIFO Repeal**: As tax reform continues to be a topic of discussion, we oppose all efforts to repeal the LIFO (Last In, First Out) accounting system as a means of reform. Many in the automotive and gas industries still use the LIFO accounting method that has been accepted in American business for decades. Any proposed tax rate reductions would not compensate LIFO taxpayers for the damaging effects to their businesses. Taking LIFO reserves and turning them into taxable income, even spaced out over time, would wreak havoc on cash flows, capital reserves, expansion opportunities and job creation for American businesses using this method of accounting. It is estimated that if LIFO were repealed, it would raise about $86 billion for the federal government. SSDA-AT is an active member in the Save LIFO Coalition and we will continue working to save LIFO.

- **Estate Tax**: In 2015, SSDA-AT was pleased to report that for the first time in 10 years, a full Estate Tax repeal bill passed the House of Representatives. We are anticipating a vote in the Senate sometime this spring. Although President Obama has pledged that he will veto the bill, we are pleased that all current Republican candidates for president support full repeal. We will continue to bring this issue to light as for some it is the biggest issue for keeping a business in the family. SSDA-AT believes that repealing the estate tax would spur job creation and grow the economy. We believe it is unfair to require grieving families to pay a confiscatory tax on their loved one's nest egg. Often this tax is paid by selling family assets like the businesses. Other times, employees of the family business must be laid off and payrolls slashed. For many family-owned businesses to keep operation after the death of the owner, they must plan for the estate tax. Planning costs associated with the estate tax are a drain on business resources, taking money away from the day to day operations and business investment. These additional costs make it more difficult for the business owner to expand and create new jobs. Protecting family business from the estate tax is important in order to keep these businesses operating for future generations.

- **Marketplace Fairness**: As internet sales become increasingly popular, more people are avoiding sales tax on these items. This harms businesses who are forced to charge a sales tax on the same items in their stores. SSDA-AT supports the Marketplace Fairness Act because it would level the playing field for businesses who have to compete with online competitors. We support this legislation because it removes

Continued on page 3

2016 Federal Outlook

Continued from page 2

what has been an unfair advantage for over a decade and holds online retailers accountable for their sales and the taxes they should be paying.

- **Obamacare**: As more Obamacare regulations begin to take effect on businesses and individuals we continue to support legislation that aims to lessen some of the requirements and penalties in the law. SSDA-AT has supported a variety of legislation in the past year that altered Obamacare for the advantage of our industry. Although we continue to support full repeal, the reality is, the law is most likely here to stay so we will do all we can to improve it. We will continue to support legislation that delays burdensome requirements that will be mandated to businesses as the law takes effect. Healthcare coverage and concerns remains a top priority for SSDA-AT members and we will be sure to keep this topic in the forefront.

- **Proposed Overtime Changes**: Last year, the Wage and Hour Division of the United States Labor Department delivered a Notice of Proposed Rulemaking to raise the salary threshold for overtime pay from $23,660 to $50,440; and workers covered by the Fair Labor Standards Act must be paid at least time-and-a-half (or 1.5 times their regular pay) for each hour of work per week beyond 40 hours; and this proposal is specifically targeting managers and assistant managers; and overtime regulations do not provide an exemption for small businesses. SSDA-AT submitted comments opposing the proposal and we will actively oppose the Department of Labor proposed rulemaking going forward. We will reach out to members of Congress to rally support so that we can publicly oppose the proposed rulemaking as we stand united with other industries, associations, and representatives.

- **Working Families Social Legislation**: Social legislation is being introduced on all levels of government; and the President is calling on Congress, the cities and the states to pass legislation giving all workers up to 7 days of paid sick time per year; and the Department of Labor is proposing Congress to pay billions of dollars to encourage states to conduct feasibility studies to develop paid family and medical leave programs; and a Presidential Memorandum calls for Congress to pass legislation giving workers up to 12 weeks of sick pay for parents with a new child; and legislation is continually being considered on the city, county, state and Federal levels to raise the minimum wage; and the unintended result of these proposals could be serious job loss because of staff reduction, the stifling of current business growth and limited expansion of new business. SSDA-AT urges lawmakers to carefully consider the financial impact of social legislation ranging from minimum wage, to equal pay, to workplace flexibility, to child care to paid leave on the economic well-being of small businesses; and that the Association will oppose legislation that will cause economic hardships on its members.

We thank all those who took part in SSDA-AT's 2015 lobby day and other grassroots efforts and events we held over the course of last year. We will need your continued support in 2016 as many more issue could arise. We will need your expertise, voice, and experience to make a difference in Washington. Please stay alert for the issues that could harm or help your businesses this year! We will plan to hold another lobby day in early 2017 for the 115th Congress.

Obama 'Cautiously Optimistic' on TPP Trade Deal

President Obama said he is "cautiously optimistic" that Congress will pass his signature Pacific Rim trade deal, but he acknowledged opposition in both parties and election-year politics could stall the pact.

"I am cautiously optimistic that we can still get it done," Obama told a gathering of the National Governors Association at the White House.

Facing opposition from labor unions and Democratic leaders in Congress, the president said he would rely on a coalition of pro-trade Democrats and Republicans in Congress to advance the 12-nation Trans-Pacific Partnership trade deal.

"Labor unions — and I am a big labor guy — they are not happy with me on this," Obama said.

The president said that Senate Majority Leader Mitch McConnell (R-Ky.) and Speaker Paul Ryan (R-Wis.) "have been supportive of this trade deal" though they have "concerns along the margins."

Obama said he would send the agreement to Congress for a vote "at some point this year," but did not indicate a specific date.
If Congress does ratify the agreement, it would be a major legacy-defining accomplishment for Obama.

The massive trade deal comprises 40 percent of the world economy and it would be a significant step toward achieving his administration's pivot toward Asia.

But the agreement faces staunch opposition both Republicans and Democrats in Congress.
McConnell has warned Obama not to send the agreement to Congress for a vote before November's election. He also has concerns about language in the deal pertaining to tobacco products, a major export from his home state.

Obama acknowledged those differences with McConnell, with whom he met earlier in February.

Ryan dealt a blow to the sweeping trade deal two weeks ago, saying it does not yet have enough votes to pass the House.

The 2016 presidential campaign has also scrambled the politics of trade. While Republicans are traditionally supportive of free trade, the party's presidential frontrunner, Donald Trump, has slammed Obama's trade agenda.

Both Democratic candidates, former secretary of State Hillary Clinton and Sen. Bernie Sanders (I-Vt.), oppose the deal.
"The presidential campaigns have created some noise and roiled things a little bit within the Republican Party and in the Democratic Party around this issue," Obama said.

The president offered a lengthy defense of the deal, saying "it is indisputable" American workers and businesses "will be better off than the existing trade regime" by cutting tariffs and boosting American exports in the rapidly expanding Asia-Pacific region.

"Our concern there was that China was the 800-pound gorilla and if we allowed them to set trade rules out there, American business and American workers were going to be cut out," Obama said.

Despite Low Oil, Gulf of Mexico Production Expected to Hit Record High

Even with the price of oil hovering near $30 a barrel, crude production from the Gulf of Mexico is expected to hit record levels in 2017, the U.S. Energy Information Administration projects.

Because deep-water projects are costly and take years to come online, many expensive projects were authorized before the price of oil began to plummet. In general, Gulf production is less sensitive to short-term crude pricing movement than onshore shale production.

The EIA projects Gulf production will average 1.63 million barrels per day this year and 1.79 million barrels a day in 2017, including hitting 1.91 million barrels in December 2017.

The previous high of more than 1.7 million barrels came in 2009 in advance of the 2010 drilling moratorium after the Deepwater Horizon tragedy.

Gulf oil is expected to represent 18 percent and 21 percent of total U.S. crude production in 2016 and 2017, respectively.

The low price of oil is keeping most energy companies from approving new Gulf projects, but several are already in the works. The market instability changes add an element of uncertainty because projects in the early stages of development could be delayed, the EIA noted.

The EIA is counting on additional oil coming from 14 new deep-water projects, including eight that came online last year. Four are expected to start this year, as well as two more in 2017.

Some of the projects already in operation include Royal Dutch Shell's Perdido and Mars B projects, Exxon Mobil's and Anadarko Petroleum's Lucius, and Noble Energy's Rio Grande. Some of the fields yet to come online are Shell's Stones and Noble's Gunflint. Anadarko's Heidelberg field just came online in January.

Shell's Stones field will use the first floating production, storage, and offload vessel, or FPSO, in the Gulf.

With the exception of Anadarko's Lucius field, each of the fields was developed as a subsea well that is tied back to nearby existing production facilities. The use of subsea tiebacks allows producers to reduce both project costs and start-up times. The Lucius field produces oil using a floating production platform that supports drilling, production, and storage operations, known as a truss spar.

OPEC Unsure How It Can 'Live Together' With Shale Oil

OPEC and U.S. shale may need a relationship counselor.

After first ignoring it, later worrying about it and ultimately launching a price war against it, OPEC has now concluded it doesn't know how to coexist with the U.S. shale oil industry.

"Shale oil in the United States, I don't know how we are going to live together," Abdalla Salem El-Badri, OPEC secretary-general, told a packed room of industry executives from Texas and North Dakota at the annual IHS CERAWeek meeting in Houston.

The Organization of Petroleum Exporting Countries, which controls about 40 percent of global oil production, has never had to deal with an oil supply source that can respond as rapidly to price changes as U.S. shale, El-Badri said. That complicates the cartel's ability to prop up prices by reducing output.

"Any increase in price, shale will come immediately and cover any reduction," he said.

Shale Output

The International Energy Agency earlier on Monday gave OPEC reason to worry about shale oil, saying that total U.S. crude output, most of it from shale basins, will increase by 1.3 million barrels a day from 2015 to 2021 despite low prices. While U.S. production from shale is projected to retreat by 600,000 barrels a day this year and a further 200,000 in 2017, it will grow again from 2018 onward, the IEA said.

"Anybody who believes that we have seen the last of rising" U.S. shale oil production "should think again," the IEA said in its medium-term report.

John Hess, chief executive officer of one of the largest lease-holders in North Dakota's Bakken shale region, said shale might not respond as quickly as OPEC fears. There are logistical hurdles involved with returning enough rigs and workers back to the oil patch to start growing production again, in addition to financial hurdles.

"The balance sheets of shale producers are in disrepair," said Hess, whose company recently reported its first annual loss in 13 years. "They've got to heal their balance sheets before they will start investing again.

OPEC launched a price war against U.S. shale and other high-cost producers, including Canadian oil sands

Continued on page 7

OPEC Unsure How It Can 'Live Together' With Shale Oil

Continued from page 6

and Brazilian deep-water oilfields, in November 2014 by not reducing output despite a global oversupply. Since then, oil prices have plunged by more than half, hitting a 12-year low of about $26 on Feb. 11.

In a rare admission that the policy hasn't worked out as planned, El-Badri said that OPEC didn't expect oil prices to drop this much when it decided to keep pumping near flat-out.

Strategy Shift

OPEC's strategy began to shift last week, when the oil ministers of Saudi Arabia and Russia agreed to freeze their output at the January level, provided other oil-rich countries joined. El-Badri said the new policy will be evaluated in three to four months before deciding whether to take other steps.

"This is the first step to see what we can achieve," he said. "If this is successful, we will take other steps in the future." He refused to explain what steps OPEC could take.

El-Badri said low oil prices have caused companies to cut too much spending on developing new output, which could plant the seed for "a very high price" in the future.

"The concern is no investment now, no supply in the future. It's as simple as that," he said. "If there's no supply coming to the market, prices will go up."

The Trickle of U.S. Oil Exports Is Already Shifting Global Power

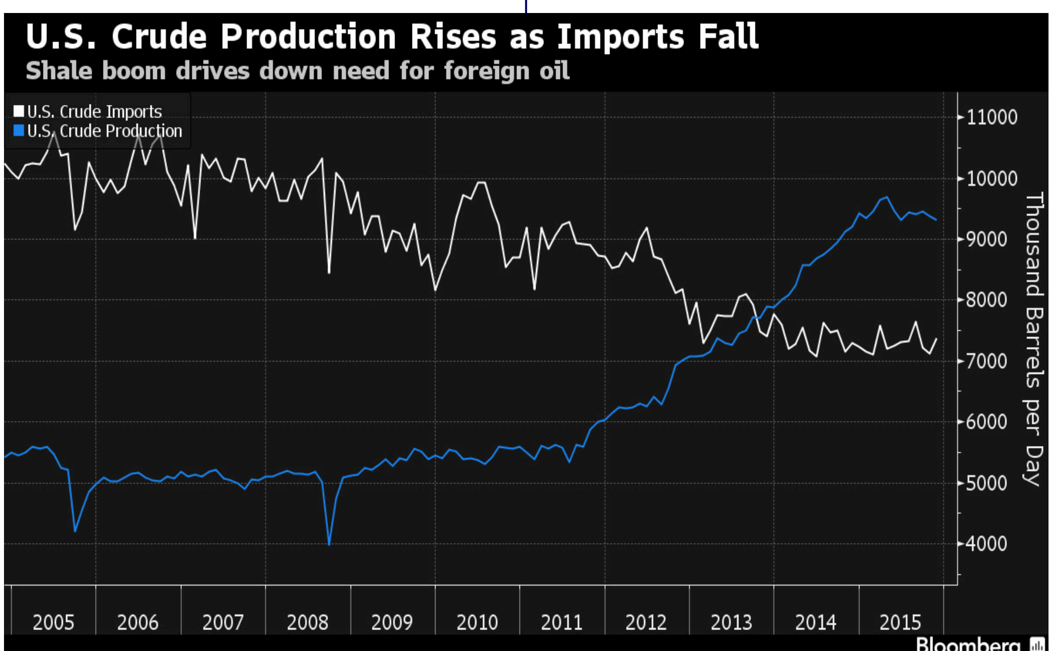
The sea stretched toward the horizon last New Year's Eve as the Theo T, a red-and-white tug at her side, slipped quietly beneath the Corpus Christi Harbor Bridge in Texas. Few Americans knew she was sailing into history.

Inside the Panamax oil tanker was a cargo that some on Capitol Hill had dubbed "Liquid American Freedom" -- the first U.S. crude bound for overseas markets after Congress lifted the 40-year export ban.

It was a landmark moment for the beleaguered energy industry and one heavy with both symbolism and economic implications. The Theo T was ushering in a new era as it left the U.S. Gulf Coast bound for France.

The implications -- both financial and political -- for energy behemoths such as Saudi Arabia and Russia are staggering, according to Mark Mills, a senior fellow at the Manhattan Institute think tank and a former venture capitalist. "It's a game changer," he said.

For the Saudis and their OPEC cohorts, who collectively control 40 percent of the globe's oil supply, the specter of U.S. crude landing at European and Asian refineries further weakens their grip on world petroleum prices at a time they are already suffering from lower prices and stiffened competition. With Russia also seeing its influence over European energy buyers lessened, the two crude superpowers last week tentatively agreed to



Continued on page 9

The Trickle of U.S. Oil Exports Is Already Shifting Global Power

Continued from page 8

freeze oil output at near-record levels, the first such coordination in a decade and a half.

Geopolitical Fallout

The political effects need not wait until U.S. shipments become more plentiful, Mills said. "In geopolitics, psychology matters as much as actual transactions," he said.

Meanwhile, the U.S. is also poised to make its first shipments of liquefied natural gas, or LNG, from shale onto world markets within weeks, about two months later than scheduled. Cheniere Energy Inc. expects to have about 9 million metric tons a year of LNG available for its own portfolio from nine liquefaction trains being developed at two complexes in Texas. That's enough to power Norway and Denmark combined for a year.

The immediate beneficiaries of this renewed era of U.S. exports are gas and oil companies such as Continental Resources Inc., Chevron Corp. and Exxon Mobil Corp. that have lobbied vigorously in recent years against the 1975 ban, which blocked all but a fraction of oil movements. It was imposed in the aftermath of a 1973-74 OPEC oil embargo, which crippled the U.S. economy and brought home the heavy dependence the country had developed on foreign suppliers.

U.S. Gains

Beyond corporations, the Dec. 18 lifting of the export ban by Congress and President Barack Obama created geopolitical winners and losers, too. The U.S., awash in shale oil, has gained while powerful exporters like Russia and Saudi Arabia, for whom oil represents not just profits but also power, find themselves on the downswing.

The U.S. remains a net importer, but its demand for foreign oil has fallen by 32 percent since peaking in 2005. West Texas Intermediate crude traded at $33.34 a barrel at 8:51 a.m. on the New York Mercantile Exchange Tuesday, down 33 percent from a year earlier.

Meanwhile, plummeting oil and gas prices, driven in part by the U.S. shale revolution, have already eroded OPEC and Russia's abilities to use natural resources as foreign policy cudgels. They are also squeezing petroleum-rich economies from Venezuela to Nigeria that rely heavily on crude receipts to fund everything from military budgets to fuel subsidies.

"A prolonged period of low gas and oil prices will put heavy pressure on Russia in its relations with the West and of course low energy prices put tremendous strain on all exporters of hydrocarbons worldwide, on their government budgets," said Ted Michael, an analyst at Genscape Inc., an energy-market data and intelligence firm.

Second Vessel

The Theo T was joined shortly after its trailblazing journey by a second ship out of Houston destined for the Netherlands. How many tankers have sailed since won't be known until comprehensive data on January's shipments is released by the

Continued on page 19

John Hess: Producers Can't Lose Sight of Long Term

Shale oil producers, currently slicing their budgets, shouldn't focus too much the current, $30 a barrel oil environment, Hess Corp. CEO John Hess warned.

"We're in a long-term business, but everyone is thinking short term," Hess said Monday at this week's IHS Energy CERAWeek conference in downtown Houston.

New York-based Hess cuts its capital budget by 40 percent in January, and it is only operating two drilling rigs — down from 14 in 2014. But he's resisting temptations not to mothball every rig because it is critical to maintain some core operations to keep cash flowing and to secure top employees long term.

John Hess, CEO, Hess Corporation

"We've been disproportionately hurt in the U.S.," Hess said. "Our activity level is bare minimum."

"Very few things make sense at $30. They barely made sense at $50," Hess added. "It's better to leave the oil in the ground."

However, he resisted the argument that the U.S. is the new swing oil producer. He urged Saudi Arabia to retake its past role as the swing state.

"I think the only swing producer . . . is Saudi Arabia," Hess said, noting that the Saudi oil minister is speaking Tuesday at the conference. "I wish they'd use it now."

He said U.S. shale can only operate as the "short-cycle producer" because there's almost a two-year lag. Shale certainly cannot operate like an on-and-off switch, he said.

"Shale is such a capital intensive investment," Hess said. "Once you're in, you have to keep putting more money in."

Hess predicted shale production would hold flat in the $50-$6o a barrel range, and grow above $60.

"Once you get the visibility of $50 or $60, shale will play a component," Hess said.

Long term, global development and population growth will require about 10 million more barrels of oil equivalent a day, Hess said. About 4 million barrels will come from shale, he said, and the rest will come from a combination of deep water, conventional production and Mexico. More shale oil and gas will come from Argentina as well, he said.

"Just to get the deep water going, I think you need a price closer to $70 (oil)," Hess said.

HESS CORPORATION

Exxon Fails to Replace Production for First Time in 22 Years

Exxon Mobil Corp. failed to replace all of the oil and natural gas it pumped last year with new discoveries and acquisitions for the first time in more than two decades.

Exxon's so-called reserve-replacement ratio fell to 67 percent in 2015, the Irving, Texas-based company said in a statement on Friday. Prior to that, the world's largest oil explorer by market value had achieved ratios of 100 percent or higher for 21 consecutive years.

Exxon held reserves equivalent to 24.8 billion barrels of crude as of Dec. 31, enough to continue current rates of production for 16 years, according to the statement. That is down from 17.4 years or reserves life at the end of 2014, according to data compiled by Bloomberg.

The company added reserves last year in Abu Dhabi, Canada, Kazakhstan and Angola. In the U.S., gas reserves declined by the equivalent of 834 million barrels as tumbling prices for the furnace and power-plant fuel made some fields unprofitable to drill.

The gas reserves removed from Exxon's books probably will be drilled at some point in the future when prices are higher, according to the statement.

The reserve-replacement ratio is a key measure for oil producers and the investors and analysts who follow them: it's one indicator of a company's long-term ability to maintain or expand crude and gas output. The calculation involves adding together all the new reserves acquired, discovered or achieved through technological innovations and dividing that by the amount of oil and gas pumped that year.

Fracking Pioneer to Advise Rubio on Energy

One of the early pioneers in the recent boom in hydraulic fracturing is now advising Sen. Marco Rubio on his presidential campaign.

Larry Nichols, the co-founder and former chief of Oklahoma-based oil and natural gas driller Devon Energy Corp., will head a campaign steering committee on energy and be Rubio's top adviser on the subject, his campaign said.

Nichols worked closely with Texas businessman George Mitchell to make fracking and horizontal drilling economically viable. It led to the oil and gas boom of recent years, which has centered on shale drilling, a kind of drilling that usually includes fracking.

Nichols told Bloomberg News that "the path to our energy future is not through regulation but through innovation."

He explained that "innovation is what is driving this country; it is revolutionizing our society and what we can do and accomplish, in ways that are unthinkable."

Nichols will also host a fundraiser for Rubio this week.

In Rubio's energy platform, he advocates for federal policies that increase access to fossil fuels like oil and gas, and accuses Democrats such as President Obama and Hillary Clinton of trying to help some energy sources while putting new regulations on fossil fuels.

"The Clinton-Obama approach has never worked, and never will," he says in the plan. "Government must focus on the kind of basic research it does well, and let innovators take care of the rest."

Why Protecting Critical Infrastructure From Cyberattacks is a Global Emergency

On Dec. 23, the entire Ivano-Frankivsk region in Ukraine suffered a major power outage. According to security experts and the Ukrainian Government the attackers used a destructive variant of the popular BlackEnergy malware.

According to a Ukrainian media, the power outage was caused by a destructive malware that disconnected electrical substations. Experts speculate that the hackers targeted Ukrainian power authorities with a spear phishing campaign to spread the malware, leveraging Microsoft Office documents. The incident in Ukraine has refocused attention on the security of critical infrastructure worldwide.

Western infrastructure is a target for several kinds of "threat actors," including nation-state hackers, cybercriminals, cyber terrorists and hacktivists. The Stuxnet case demonstrated the efficiency of modern cyber weapons - a malicious code spread in a virtual environment like cyberspace could put the lives of entire populations in danger.

Protection of critical infrastructure is a pillar of any government's cyber strategy. The cyberspace is recognized as the fifth domain of warfare, and militaries across the globe are improving their capabilities in order to protect national assets from cyberattacks.

According to the former chief of the National Security Agency, General Keith Alexander, electric grids, oil refineries and power plants are the biggest targets for cyberattack.

"The greatest risk is a catastrophic attack on the energy infrastructure. We are not prepared for that," he reportedly said, during a private dinner held by IHS CERAWeek last year.

According to The Telegraph, the former NSA Chief listed five countries that have significant cyber-warfare capabilities - the U.S., U.K., Israel, Russia and Iran. China and North Korea are two other countries two countries significantly investing to improve their cyber capabilities.

NSA chief Admiral Michael Rogers told Congress last year that China is capable of cyberattacks that could cause 'catastrophic failures' of an electricity grid, water systems or energy plant.

When dealing with threat actors, we cannot ignore the menace represented by terrorist organizations. The recent dramatic escalation of terrorist attacks is an alarm bell. Security experts believe that too many countries are not prepared to handle cyberattacks, according to a recent report issued by the Nuclear Threat Initiative (NTI), a nonprofit, nonpartisan organization with a mission to strengthen global security by reducing the risk of use and preventing the spread of nuclear, biological, and chemical weapons.

The third Nuclear Security Index published by the NTI evaluates the readiness of nations with regard to securing their atomic programs against targets and digital assaults. According to the 2016 NTI Index, while a few nations have found ways to secure atomic facilities against cyber assaults, many still don't have the necessary laws and regulations in place.

Threat actors could be interested in targeting an atomic facility for a number of reasons, including sabotage and the burglary of atomic materials.

"For example, access control systems could be compromised, thus allowing the entry of unauthorized persons seeking to obtain nuclear material or to damage the facility," says the NTI report . "Accounting systems could be manipulated so that the theft of material goes unnoticed. Reactor cooling systems could be deliberately disabled, resulting

Continued on page 13

Why Protecting Critical Infrastructure From Cyberattacks is a Global Emergency

Continued from page 12

in a Fukushima-like disaster."

The Nuclear Threat Initiative found that, of the 24 states with weapons-usable nuclear materials and the 23 states that have nuclear facilities but no weapons-usable nuclear materials, 13 receive a maximum score for cybersecurity: Australia, Belarus, Bulgaria, Canada, Finland, France, Hungary, the Netherlands, Russia, Switzerland, Taiwan, the U.K. and the U.S.

However, the report found that 20 states score 0 and lack even basic requirements to protect nuclear facilities from cyberattack. Worryingly, a number of the states that scored 0 have been extending their use of atomic energy.

Recently a number of countries have passed new laws and regulations to improve and upgrade cybersecurity requirements when dealing with the protection of critical infrastructures. The NTI Index took into account efforts by a number of governments, including the U.K., South Africa, Russia, France and Pakistan.

"Given the potential consequences, all states must work aggressively to ensure that their nuclear facilities are protected from cyber attacks," the report said. "Governments should include the cyber threat within the national threat assessment for their nuclear facilities, and they should put in place a clear set of laws, regulations, standards, and licensing requirements for all nuclear facilities that require protection of digital systems from cyber attacks".

"At the facility level, leadership must prioritize cybersecurity, determine potential consequences, and implement a program that ensures that digital assets and networks are characterized and secured and that the security is routinely tested," the report added.

The same opinion is expressed in a survey conducted by the Chatham House think tank that analyzed cybersecurity at civil nuclear facilities. The study interviewed 30 industry practitioners, academics and policymakers from the U.K., Canada, the U.S., Ukraine, Russia, France, Germany and Japan.

The report found that the nuclear industry is falling behind other industries when facing cyber security despite rapidly evolving threats.

"The nuclear industry is beginning – but struggling – to come to grips with this new, insidious threat," said Patricia Lewis, research director of Chatham House's international security program.

Nuclear facilities worldwide have reached a high level of physical security and safety, but they are still open to cyberattacks despite steps taken recently by the International Atomic Energy Agency (IAEA).

Hackers target the core of civil nuclear facilities and other critical infrastructure - the SCADA systems and industrial control systems (ICS). Both SCADA and ICS are affected by numerous vulnerabilities that could be exploited at any moment by hackers.

Another myth worth dispelling is the safety of networks totally isolated from the Internet, so called "air-gapped networks."

"Not only can air gaps be breached with nothing more than a flash drive but a number

of nuclear facilities have virtual private networks (VPN) or undocumented or forgotten connections, some installed by contractors," the Chatham

Continued on page 18

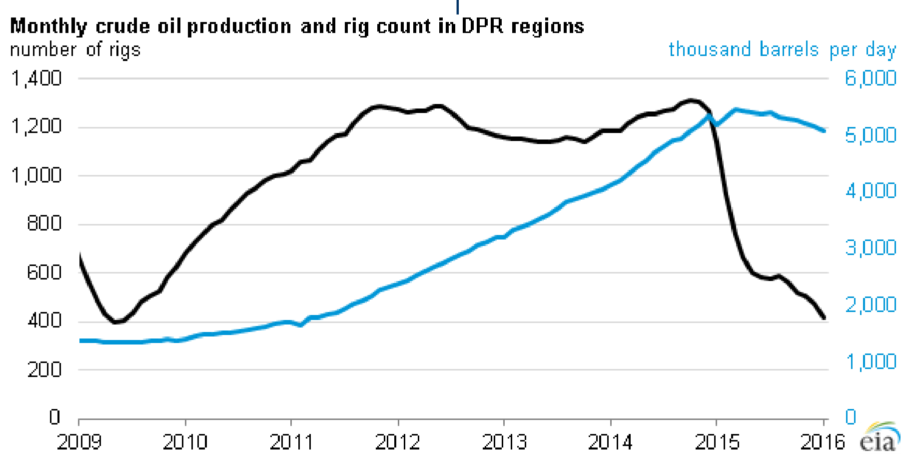
US Rig Count Down 27; Firms Plan to Shed More Units

Over the past 3 weeks alone, the count has plunged 105 units. Compared with the recent peak during Sept. 12-26, 2014, the count is down 1,417 units.

Exploration and production firms have entered 2016 with slashed budgets and improved efficiencies, reflected in the double-digit drop-off in rigs in each of the first 7 weeks of the year.

As such, financial services firm Raymond James & Associates Inc. last week further reduced its forecast US rig counts for 2016-18, now projecting an average 2016 count of 500, down nearly half compared with the 2015 average (OGJ Online, Feb. 12, 2016).

The new bottom is expected occur in April at 400 units. The nadir of the 1998-99 downturn was 488 units on Apr. 23, 1999, which also represents the low point in BHI data dating back to July 1987. During the 2008-09 downturn, the lowest point was 876 on June 12, 2009.



RJA doesn't see a drilling rebound until late 2016, as many E&P firms are likely to first focus on drawing down their uncompleted well inventories and improving their balance sheets, while waiting for consistently higher crude oil prices and a labor force recovery.

Oil rigs resume plunge

US oil-directed rigs, down 26 during the week, now total 413, down 1,196 units since their peak in BHI data on Oct. 10, 2014. Dropping units in 9 straight weeks now, the oil-directed count is at its lowest level since Dec. 18, 2009.

Gas-directed rigs edged down a unit to 101, their new lowest total in BHI data dating back to July 1987.
An IHS study released this week estimates that 1.4 quadrillion cu ft of natural gas in the US Lower 48 and Canada can be produced at a current, break-even Henry Hub gas price of $4/MMbtu or below (OGJ Online, Feb. 18, 2016).

All 27 units to go offline this week were on land. Rigs engaged in horizontal drilling continued their dive, shedding 17 units to 416, down 956 units since a peak in BHI data on Nov. 21, 2014, and their lowest point since July 31, 2009.

In its 2016 guidance released this week, Noble Energy Inc. said it expects its total onshore US rig count to fluctuate between 3 and 4 horizontal rigs throughout the year.

Last week, Pioneer Natural Resources Co. (PNR) said that it's reducing horizontal drilling activity to 12 rigs by mid-2016 from 24 at yearend 2015, while still increasing 2016 production by 10% (OGJ Online, Feb. 11, 2016).

Directional drilling rigs edged down a unit this week to 48.

Offshore and rigs drilling in inland waters were unchanged from a week ago at 25 and 2, respectively.
Canada's rig count, meanwhile, fell 17 units to 206, down 476 units from a recent peak on Jan. 27, 2012. Oil-directed rigs dropped 9 units to 109, down 75 units year-over-year; and gas-directed rigs dropped 7

Continued on page 16

LETTER TO THE EDITOR

Dear SSDA-AT,

The Environmental Protection Agency (EPA) pledges to start 2016 "hitting the ground running" to build on a "monumental" 2015. In a blog post last week, EPA Administrator Gina McCarthy signaled her agency will continue its focus on methane and carbon regulations.

Absent from EPA's plans was any acknowledgement that methane and carbon emissions are already down. Recognizing progress we've already made – and the market factors contributing to that success – is critical to avoiding costly, duplicative regulations that could undermine that progress, as well as economic growth.

Carbon emissions from the power sector have fallen to near 20-year lows, according to data from the Energy Information Administration (EIA). We've reduced carbon emissions more than any nation in the world. And we didn't need the administration's new Clean Power Plan to do it. America's energy resurgence has produced an abundance of affordable natural gas, and power plants have steadily switched to this cleaner-burning power source.

Consumers are reaping the benefits in the form of lower prices. According to new EIA data, wholesale electricity prices at major trading hubs dropped 27 percent – 37 percent between 2014 and 2015, driven "largely by lower natural gas prices." Rather than build on that proven, market-driven success, the Clean Power Plan encourages the power sector to rely on more intermittent sources like wind and solar, which could significantly increase energy costs for families and businesses.

Since 2005, methane emissions are down 11 percent from natural gas systems and 79 percent from hydraulically fractured natural gas wells. Emissions have plunged while natural gas production has soared thanks to voluntary efforts and technological investments from the oil and natural gas industry. As the primary component of natural gas, methane is used to heat homes and generate clean-burning electricity; producers have every incentive to find new ways to capture and sell it to consumers. Imposing new regulations on top of the successful, voluntary system threatens to undermine progress and make it more costly to produce the very natural gas that has been instrumental in cutting carbon emissions.

While the EPA is making New Year's resolutions, here's a suggestion: Don't overlook the success of market-driven solutions. Our progress in reducing emissions has been achieved not through government-directed, one-size-fits-all regulations but through market forces and innovation from a skilled American workforce. Regulations that ignore market conditions and economic reality run the risk of undercutting an energy renaissance that is saving consumers billions.

Sincerely,

Jack Gerard
President and CEO
API

US Rig Count Down 27; Firms Plan to Shed More Units

Continued from page 14

units to 97, down 79 units year-over-year.

Another double-digit decline in Texas

The state with the highest concentration of US oil and gas drilling activity took its usual largest share of losses this week. Texas posted double-digit losses for the fourth consecutive week, shedding 12 units to 236, down 722 units since a peak in BHI data on Aug. 29, 2008, and the state's lowest count since the 1990s.

The Permian fell 7 units to 165, down 503 units since a recent peak on Dec. 5, 2014; the Eagle Ford lost 4 units to 54, down 205 units since a peak on May 25, 2012; the Barnett edged down a unit to 3. The Granite Wash gained 2 units to 10.

Oklahoma and North Dakota each decreased 3 units to respective totals of 73 and 36. Oklahoma's count is at its lowest point since Sept. 18, 2009, and down 146 units since its high-point in BHI data on Sept. 6, 2008. North Dakota's count is at its lowest point since June 19, 2009, and down 167 units since its peak during June 1-8, 2012.

The Williston also declined 3 units to 36, down 188 units since the basin's peak on June 1, 2012. The Cana Woodford and Mississippian each edged down a unit to 33 and 8, respectively.

In its study, IHS estimates the gas resource associated with Bakken, Eagle Ford, Permian basin, and other shale oil plays at 250 tcf.

Louisiana lost 2 units to 45, the state's new lowest level since the 1990s. New Mexico, Colorado, Wyoming, and Kansas each edged down a unit to respective totals of 21, 19, 10, and 7. The DJ-Niobrara dropped 2 units to 16.

Firms to continue rig reductions

Buried in reports of 2016 capital spending reductions, E&P firms over the past few weeks have outlined their planned drilling activity for the year.

Of the 3-4 units Noble intends to operate this year, an average of 2 are planned for the DJ basin, while 1-2 combined will target the Eagle Ford and Delaware basin.

The company anticipates drilling to total depth 115 wells, of which 80% are planned in the DJ basin, where activity will be focused on maximizing lateral lengths and enhancing completion techniques. Remaining drilling activity is split between the Eagle Ford and Delaware.

Noble expects 210 wells to begin production in its US unconventional business during the year.
Marathon Oil Corp. this week said it plans to operate an average of 5 rigs in the Eagle Ford this year, bringing online 124-132 gross company-operated wells (OGJ Online, Feb. 17, 2016). That's down from the 2015 average of 11 rigs with 276 gross company-operated wells.

The firm's 2016 drilling program will continue focusing on co-development of the Lower and Upper Eagle Ford horizons as well as the Austin Chalk in the core of the play.

In Oklahoma, Marathon expects to average 2 units that will focus primarily on lease retention in the STACK and delineation of the Meramec. About 20-22 gross company-operated SCOOP and STACK wells are expected to come online this year.

In the Bakken, Marathon expects to average 1 unit for half a year and bring online 13-15 gross company-operated wells.

Antero Resources Corp. entered 2016 running 10 rigs, but for the year plans to average 7, of which 5 will be in the Marcellus and 2 in the Utica (OGJ Online, Feb. 19, 2016).

With 6 drilling contracts expiring over the course of the year, the firm notes that it has the flexibility to reduce its capital budget further should market conditions deteriorate. Antero plans exit the year with 70 drilled but uncompleted (DUC) wells in the Marcellus and Utica.

Cimarex Energy Co. said it increased activity in

Continued on page 17

US Rig Count Down 27; Firms Plan to Shed More Units

Continued from page 16

fourth-quarter 2015 to the 11 rigs currently operated from 7. The company plans to reduce that number to 4 during the second quarter.

The firm intends to invest 65% of its 2016 capital in the Permian region and 35% in the Midcontinent. Permian activities will be focused on holding acreage through drilling long lateral Wolfcamp wells in Culberson and Reeves counties in Texas.

In the Midcontinent, the majority of the investment will be made on a six-section joint infill development program in the Cana Woodford and holding Meramec acreage.

Previously reported cuts for 2016

PNR added that all 12 of its units operating midyear 2016 onward will be in the northern Spraberry-Wolfcamp, where 14 were running at yearend 2015 and 1 has already been released. Its southern Wolfcamp joint venture area count is being reduced to 0 by the middle of the year from 4 at yearend 2015.

The firm's Eagle Ford rig count is being reduced to 0 during the first quarter from 6 at yearend 2015, with 2 released in January.

PNR explained that the 12-rig program will allow the firm to continue to progress its completion optimization program in the northern Spraberry-Wolfcamp at favorable returns.

Hess Corp. said it plans to operate 2 rigs and bring online 80 new wells in the Bakken; and drill 5 new wells and bring 14 new wells online in the Utica during the first quarter of 2016, after which the rig will be released (OGJ Online, Jan. 26, 2016).

Continental Resources Inc. said it anticipates an average of 19 operated rigs for the year, with 4 in the Bakken, 5-6 in the SCOOP, 5 in the Northwest Cana joint-development area, and 4-5 in the STACK (OGJ Online, Jan. 26, 2016).

The company expects to complete 71 net operated and nonoperated wells in 2016, with 26 in the Bakken, 25 in the SCOOP, 11 in the Northwest Cana JDA, and 9 in STACK.

Continental plans to defer completing most Bakken wells in 2016, which will increase its DUC inventory to 195 gross at yearend 2016 from 135 gross at yearend 2015. The firm says this is a high-graded inventory of DUCs, with an average estimated ultimate recovery (EUR)/well of 850,000 boe.

In Oklahoma, the company ended 2015 with 35 gross DUCs in Oklahoma, and expects to end 2016 with 50 gross, with an average EUR/well of 1.8 million boe.

"This high quality DUC inventory represents a significant asset for the company as prices recover," said Jack Stark, Continental president and chief operating officer.

Efficiency abates output declines

Two reports released last week by the US Energy Information Administration showed a continued drop in US crude oil production (OGJ Online, Feb. 12, 2016). However, in an energy update published that week, the agency noted that those rates of decline are relatively small compared with the large reduction in working rigs.

Explaining that most active rigs today are concentrated in high-producing areas, EIA said that, while the total number of units in [EIA's Drilling Productivity Report] regions fell 64% from October 2014 to December 2015, production levels in those months declined just 8% from their peak in March 2015.

The output drop is attributed to the lack of new wells—which, in tight oil plays, feature high initial production rates—needed to offset declines from legacy wells. In the Permian, meanwhile, production continues to increase despite a 70% plunge in its rig count since December 2014.

"This outcome is because most of the rigs that left the region were vertical rigs, whereas the remaining

Continued on page 18

Why Protecting Critical Infrastructure From Cyberattacks is a Global Emergency

Continued from page 13

House report said, citing the example of Stuxnet. "The worm most likely spread initially when infected USB flash drives were introduced into these facilities."

When dealing with technical challenges, "insecurity by design" is a major problem, according to the report, with patch management of industrial control systems an extremely complex activity. A patch, for example, could cause serious compatibility issues and, in the worst case scenario, deployment could result in downtime and compromise the operation of the entire facility.

"The nuclear industry as a whole needs to develop a more robust ambition to take the initiative in cyberspace and to fund the promotion and fostering of a culture of cyber security, determining investment priorities and ensuring that sufficient and sustained funding is allocated to effective responses to the challenge. It also needs to establish an international cyber security risk management strategy and encourage the free flow of information between all stakeholders," Chatham House said in its report. "This will require the industry to develop appropriate mechanisms and coordinated plans of action to address the technical shortfalls identified, as well as to find the right balance between regulation and personal responsibility."

Risk assessment is the most important challenge for operators of critical infrastructure - it is vital to accurately assess and measure the risks in order to have a clear idea of the security measure that must be adopted.

Underlining the importance of this issue, the World Economic Forum recently identified the very real threat posed by cyberattacks. Clearly, there's no time to waste when it comes to protecting critical infrastructure.

US Rig Count Down 27; Firms Plan to Shed More Units

Continued from page 17

active horizontal rigs continue to target low-permeability formations similar to those in the Bakken and Eagle Ford," EIA said.

Also helping the Permian sustain output levels is a large quantity of conventional wells, which other major basins lack.

"Although these wells do not produce as much as horizontal wells, they have slower production decline rates and thus do not need as many new wells each month to compensate for legacy declines," the agency explained.

"However, the most recent DPR shows the total rig count in the Permian falling below 200 rigs for the first time since 2010, and production declines are likely to occur in the near future."

The Trickle of U.S. Oil Exports Is Already Shifting Global Power

Continued from page 9

U.S. Census Bureau in the coming weeks.

Trafigura Group Pte Ltd. also sold West Texas Intermediate oil to a refinery in Israel, Ben Luckock, global head of crude oil at the commodity trader, said on Monday by e-mail. The 700,000-barrel cargo of U.S. benchmark crude will be delivered in March.

What's already clear is that even with crude losing about 70 percent of its value since the middle of 2014 amid a worldwide production glut and a slowdown in Chinese demand growth, buyers are happy for the chance to diversify their sources of supply.

The U.S.

"If you're a buyer in, say, South Korea, and you're offered the same price from Saudi Arabia, Russia and the U.S., you're going to make the obvious choice: the U.S.," Mills said. "It's the one supplier you know is never going to threaten you or cut off supplies, which is certainly not the case with Saudi Arabia, Russia or Iran."

A similar story is beginning to unfold in natural gas, where U.S. production also has multiplied in recent years as a result of advances in shale extraction.

U.S. companies, led by Cheniere, have been spending billions of dollars on LNG export complexes where the fuel is cooled to minus 256 degrees Fahrenheit (minus 160 Celsius) to shrink it to 1/600th its volume so it can be shipped aboard ocean-going tankers. As a result, an international gas market is emerging akin to the long-established one for the more readily transportable crude oil.

LNG Exports

Houston-based Cheniere plans to begin LNG exports within weeks, after missing a January target because of faulty wiring. The first tanker that will carry LNG from Cheniere's Sabine Pass terminal in Louisiana has arrived. Asia Vision has moored at Sabine Pass, according to ship-tracking data compiled by Bloomberg.

U.S. LNG cargoes, in combination with a bevy of new gas projects in Australia, will probably add 15 billion cubic feet of daily supply to global markets in the next few years, Genscape's Michael said. That would be a 43 percent addition to the 35 billion currently bought and sold internationally.

"We will definitely replace Russia as the lowest-cost supplier," Fadel Gheit, an analyst at Oppenheimer & Co., said of the U.S. expansion. "All of these things will have geopolitical and economic consequences. It's a win-win for the U.S. and the West."

PHOTO: IRA BLOCK/NAT GEOGRAPHIC/GETTY

The 2016 Elections

Continued from page 1

able to pick up enough seats to become the majority in the House. However, in the Senate there is far less certainty. The outcome of a handful of Senate races will determine whether the Republicans will continue to control both chambers of Congress, or whether we will return to a time where control of the chambers is split. To add some further excitement, there is also the potential that the Senate will be split 50-50 and control will come down to the party of the Vice President (who is tasked with being the tie-breaker in the event of a split Senate).

While there are a number of contingencies and developments yet to come, including, in some cases, the selection of candidates, it is already becoming clear which will be the Senate races to watch. Just as the breakdown of which Senate seats were up for election in 2012 favored the Republicans, this year the breakdown favors the Democrats.

Here's the summary of what the 2016 Senate elections look like at this time:

- There are currently 54 Republicans in the Senate, 44 democrats and two Independents both of whom caucus with the Democrats. The Democrats therefore need to pick up five seats if the want to have a definitive majority in the Senate. If the Democrats are able to pick up four seats and the Democratic Presidential candidate wins, the Democrats will also take control of the Senate base on the tie breaking vote of the Vice President.

- There are thirty-four Senate seats up for election in 2016. Ten of these seats are currently held by Democrats while twenty-four are currently held by Republicans.

- Six of the thirty-four seats up for election are open while the remaining twenty-eight presently have incumbent candidates. of the six open seats, three are presently held by Democrats (CA, NV, MD) and three are held by Republicans (LA, FL, IN).

- Of the ten Democratic seats up for election in 2016, eight of them are (at this time) considered safe seats for the Democrats (CA, CT, MD, NY, HI, OR, VT, WA).

- Of the twenty-four Republican seats up for election in 2016, sixteen of them are (at this time) considered safe seats for Republicans (AL, AR, GA, IA, ID, IN, KS, KY, LA, MO, OK, ND, SC, SD, UT).

- There is a chance that the Democrats will have a fight on their hands in defending Senator Michael Bennet's seat in Colorado, a traditional swing state. However, no well-known or notable viable Republicans have announced their candidacies for the seat so the competitiveness of the race remains difficult to gauge.

- On the Republican side, in Arizona there is the chance that Senator John McCain will face interparty challenges to his reelection which could bruise or even take him out of the race. Representative Ann Kirkpatrick has already declared and is the consensus candidate on the Democratic side. Thus, the competitiveness of this seat remains to be seen and will hinge largely n what happens during the Republican primary contest.

As a bottom line - there are seven seats that are expected to be very competitive and on which the control of the Senate will most likely hinge.

Continued on page 21

The 2016 Elections

Continued from page 20

The only one of these seven most competitive seats currently held by Democrats is the seat in Nevada being vacated by retiring Minority Leader Harry Reid. At this time, the leading Democrat running for the seat is former Attorney General Catherine Masto and the leading Republican running for the seat is Representative Joe heck.

Of the six Republican seats expected to be highly competitive, all will have incumbents except for Florida. At this time, it is unclear who the candidates on either side will be to fill the seat presently held by Senator Marco Rubio, who declared last spring that he will not be seeking reelection.

The five incumbent Republicans who are presently expected to have serious races on their hands are as follows:

- In Illinois, Senator Mark Kirk, who won President Obama's former Senate seat in 2010, is expected to face a tough race. In 2010, a year that was very favorable overall for Republican candidates, Senator Kirk only beat his Democratic opponent by a close vote of 40% to 46.4%. Senator Kirk is expected to face Democratic Representative and Iraq war veteran, Tammy Duckworth, in the general elections this fall.

- In New Hampshire, Senator Kelly Ayotte, who was also elected during the 2010 Republican wave, is expected to face Democratic Governor Maggie Hassan in her bid for re-election. In 2010, Senator Ayotte won the seat previously held by Republican Senator Judd Gregg by solid margin of 60.1% to 36.8%. Governor Hassan was first elected in 2012 and won re-election in 2014 by a vote of 52.6% to 47/4%.

- In Ohio, Senator Rob Portman, also a product of the 2010 elections, is expected to face Democrat and former Ohio Governor Ted Strickland. In 2010, Senator Portman defeated his Democratic opponent by a solid margin of 56.9% to 39.4%. Prior to Senator Portman's election, this seat was held by Republican Senator George Voinovich.

- In the well known swing state of Pennsylvania, Senator Pat Toomey is expected to face a challenge to the seat he won in 2010, though it is yet unclear who the Democratic candidate will be. In 2010, Senator Toomey defeated his Democratic opponent by a vote of 51% to 49%. Senator Toomey's seat was previously held by Senator Arlen Specter who switched from a Republican to Democrat in 2009 while in office.

- In Wisconsin, Senator Ron Johnson is expected to face former Senator Russ Feingold, whose seat Senator Johnson won in 2010 by a vote of 52% to 47%. With 2010 having been a close race, and again, a good year for Republicans, this will certainly be an interesting rematch to watch.

As can be ascertained from the above, the biggest races will be faced largely by first-term Republican incumbents in traditionally swing states. In a Presidential election year, these types of races are often impacted by the top of the ticket.

We will continue to monitor and report on the upcoming elections as the landscape continues to develop.

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