



# GTTSi

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## July 2018

### July 2018 Newsletter



**Global Technical Training Services, Inc.**  
807 Bypass 123 – Suite 31  
Seneca, South Carolina 29678

Telephone: 864-882-3111

Email: [ginfo@gttsi.com](mailto:ginfo@gttsi.com)



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📍 **Sid Crouch, Vice President, Technical Operations**

📍 **Kaye Browder, Technical Staffing Manager**

📍 **Chrissy Mulay, Technical Staffing Specialist**

📍 **Pat McHale, Consultant**

📍 **Ken Schaaf, NRC Consultant**

📍 **Jackie Pate, Administration**



*The Liberty Bell is tapped 13 times, every 4<sup>th</sup> of July, to signify the original 13 colonies and to signal - for bells across the U.S. - to begin ringing!*

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## Letter of Agreement Signed for Bellefonte Construction Activities



***“Nuclear Development, LLC won the bid to purchase the partially-completed units at Bellefonte from TVA (Tennessee Valley Authority) for \$111 Million, in November 2016. Now SNC-Lavalin Nuclear (USA) Inc. has signed a letter of agreement (LOA) with Nuclear Development, LLC to provide engineering, procurement, and construction (EPC) management services to complete construction at Bellefonte Unit 1.”***

Bellefonte is back in the NEWS! SNC-Lavalin Nuclear (USA) Inc. has signed a letter of agreement (LOA) with Nuclear Development, LLC to provide engineering, procurement, and construction (EPC) management services to complete construction at Bellefonte Unit 1.

You may recall that Nuclear Development, LLC won the bid to purchase the partially-completed units at Bellefonte from TVA (Tennessee Valley Authority) for \$111 Million, in November 2016. Onsite at Bellefonte were two partially-built B&W PWR's (Babcock & Wilcox Pressurized Water Reactors) which included infrastructure such as; switchyards, office building, warehouses,

cooling towers, water pumping stations, and railroad spurs. Part of the deal was a two-year timeframe for Nuclear Development, LLC to close on the property while TVA would maintain the property site; acquisition is scheduled to close later this year.

SNC-Lavalin Chief Nuclear Officer Preston Swafford said: "The impetus to complete the Bellefonte plant signifies that nuclear power has regained interest as an energy source that is necessary as part of the overall energy portfolio in the US."

Sandy Taylor, president of SNC-Lavalin's nuclear sector, added: "SNC-Lavalin is collaboratively working with many major nuclear vendors in North

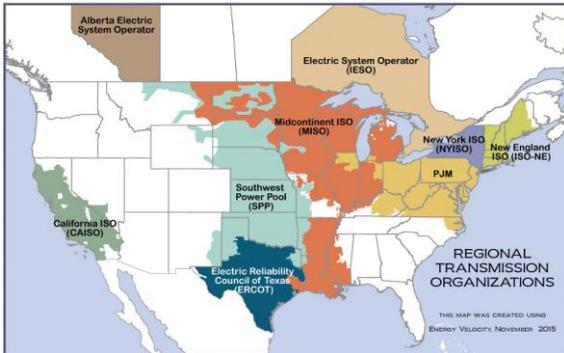
America to form the most capable team that has the depth and breadth of experience to complete this nuclear project."

TVA purchased Bellefonte, located in northern Alabama not far from Hollywood, AL in 1974 and began work to build the two Babcock & Wilcox PWRs. However, construction was suspended in 1988, when Unit 1 was about 90% complete and Unit 2 about 58% complete. Since then, many of the units' components have been transferred or sold and components still onsite will need to be upgraded or replaced. Therefore, the % of completion today, is substantially lower than the values listed above.

In 2011, TVA announced their plans to complete Bellefonte Unit 1 following completion of Watts Bar 2 but later changed their decision - based on a forecast of lower energy demand and changing usage patterns in their distribution network. Then in 2015, TVA determined that it would not need to build any new large-scale baseload capacity for at least the next 20 years, and therefore decided to auction Bellefonte to the highest bidder.



## “202 Order” – A Matter of National and Economical Security ?



**“President Trump has directed Energy Secretary Perry to take “immediate steps” to bolster the struggling coal-fired and nuclear power plants to keep them open, calling it a matter of national and economic security – invoking the 202 Rule. However, FERC Chairman, Kevin McIntyre told Congress, “There is no immediate calamity or threat, the existing power sources are sufficient to satisfy the nation’s energy needs.”**

At a West Virginia rally on tax cuts, President Donald Trump veered off onto a subject that likely puzzled most of his audience – “202 order”.

Ohio-based Murray Energy Corporation, the nation’s largest privately-owned coal-mining company, and its largest customer, FirstEnergy, pushed the Energy Department for the “202 order” - a measure typically reserved for war or natural disasters.

CEO Robert Murray and Charles Jones, CEO of FirstEnergy’s parent company, met with Trump in West Virginia to discuss the “202 order” request, informing the president that the power company was on the verge of bankruptcy.

In August 2017, DOE Secretary Perry rejected the “202 order”, saying the emergency order wasn’t the right mechanism and offered another option in the form of an NOPR (*Notice of Proposed Rule*), asking the Federal Energy Regulatory Commission (FERC) to approve a rule that rewarded nuclear and coal-fired power plants for providing grid reliability and resiliency based on

having a 90-day or greater fuel supply. However, FERC rejected this plan and thrust determination of our grid reliability and resiliency onto the Independent System Operators (ISO’s) and Regional Transmission Organizations (RTO’s).

The PJM Interconnection that oversees the power grid in Ohio and 12 other states, as well as, the District of Columbia, has said that the Eastern grid is in no immediate danger and that FirstEnergy can shut down all three of its nuclear power plants within three years without destabilizing the grid.

While FirstEnergy Solutions disagrees, FERC Chairman, Kevin McIntyre told Congress, “There is no immediate calamity or threat, the existing power sources are sufficient to satisfy the nation’s energy needs.” But, Senator Lisa Murkowski, who chairs the Energy Committee said, “In my view, FERC should be pointing the way on policy improvements that address grid vulnerabilities, while reaffirming our commitment to competition in wholesale power markets. I find it unfortunate that prior commissions did not lead more effectively.”

FERC Chairman McIntyre, agreed it was prudent to study grid resilience, saying regulators “need to take a long-term lens” to ensure future reliability.

FirstEnergy Solutions and other utilities advocate

subsidizing nuclear and coal plants. Some states – NY, IL, and NJ - have passed legislation to subsidize their nuclear power plants with a Zero Emissions Credit (ZEC) because these plants produce electricity without carbon gas emissions; cost to implement minimal - less than \$5/mo for the average customer.

Although widely opposed by environmental groups and businesses - President Trump has directed Energy Secretary Perry to take “immediate steps” to bolster the struggling coal-fired and nuclear power plants to keep them open, calling it a matter of national and economic security.

Thus, Perry and the DOE are considering use of the “202 Order”. If it is invoked, the DOE will issue a directive requiring the PJM Interconnection and other RTO’s to buy power from coal and nuclear plants for two years, “to forestall any future actions toward decommissioning, retirement, or deactivation.”

Justification for invoking the Defense Production Act or “202 Order” and keeping these power plants running for two years is based on national and economic security and in addition it would provide a timeframe for DOE to conduct a study of the vulnerabilities of the US power grid – grid resilience, as suggested by Senator Murkowski.

## Preliminary Victory for S.C. – No Shutdown for MOX Fuel Facility



***“The MOX Fuel Fabrication Facility (pictured above) was designed to turn weapons-grade plutonium into commercial fuel. The U.S. and Russia (Plutonium Management and Disposition Agreement) agreed that both would dispose of 34 metric tons of plutonium. Federal judge, U.S. District Court Judge Michelle Childs, has approved a preliminary injunction that prevents a full shutdown of the MOX Fuel Fabrication Facility”***

Federal judge, U.S. District Court Judge Michelle Childs, has approved a preliminary injunction that essentially prevents a full shutdown of the MOX Fuel Fabrication Facility at the Savannah River DOE Site in South Carolina.

Attorney Randolph Lowell argued South Carolina’s case against the U.S. Department of Energy and its National Nuclear Security Administration in Columbia, SC.

The DOE filed a partial stop work order in late May that would take effect on June 11, 2018 and force the projects end by dispersing the entire work force (600+ jobs).

U.S. Senator Lindsey Graham (SC) told the U.S. Senate Appropriation Committee that

“Somebody needs to be held accountable for starting programs like this, signing deals with the Russians and saying, ‘Oh, never mind,’ when you get 70 percent of it built”.

You may recall that the MOX Fuel Fabrication Facility was designed to turn weapons-grade plutonium into commercial reactor fuel based on a 2000 pact between the U.S. and Russia (Plutonium Management and Disposition Agreement) that required each country to dispose of 34 metric tons of plutonium. This facility has been a work-in-progress for more than a decade now, ballooning well past its initial \$4.8 billion budget.

The DOE now plans to pursue the “dilute and dispose” method for disposal. Under the dilute and disposal method the SRS facility would be

used to dilute the plutonium and then it would be disposed of at the Waste Isolation Pilot Plant (WIPP) in New Mexico.

However, the National Nuclear Security Administration now suggests that the SRS make new plutonium pits for nuclear weapons, as well. If this occurs, disposal would be carried out at both site facilities.

South Carolina’s Attorney General Alan Wilson called the decision to end the MOX Fuel Fabrication Facility another chapter in the long, tortured history of broken promises by the federal government to South Carolina.

After announcement of the partial stop work order, Attorney General Wilson filed a lawsuit, on behalf of South Carolina, with the Department of Energy (DOE) based on the fact that Energy Secretary Rick Perry didn’t consult with South Carolina Governor Henry McMaster before issuing the stop work order - ending construction at the Savannah River Site.

Following the court’s ruling, Attorney General Wilson commented, “the court’s decision is based upon rule of law and common sense. This is a victory for the people of South Carolina”.

## **Missouri Nuclear Power Plant Security Guard Act – Signed into Law**



***“The Nuclear Power Plant Security Guard Act will play a vital role in ensuring the safety of our only nuclear power plant and its neighbors.”***

In Missouri, House Bill 1797 – Nuclear Power Plant Security Guard Act has been signed into law.

This bill will strengthen security measures at the Callaway Nuclear Power Plant.

It defines the specific actions that their armed security guards can take to protect the facility, provides civil liability protection for carrying out their duties; and it increases the penalties associated with trespassing at a nuclear power plant.

"I am proud we were able to move this legislation

through the process and sign it into law in one year," Representative Travis Fitzwater, said. "This law will be helpful to those charged with protecting some of our most sensitive assets in the country, and it also resolves conflicts between Missouri state statutes and federal law."

Commonly known as the Nuclear Power Plant Security Guard Act, the legislation faced little opposition in the state House and Senate. Sen. Jeanie Riddle, R-Mokane, filed a similar bill, Senate Bill 830, and guided HB 1797 through the Senate

where it was approved without any opposition. The House approved the final version of the bill by a 116-8 vote.

"This legislation plays a vital role in ensuring the nuclear plant in my district is safe and secure," Riddle said. "The Callaway County nuclear plant provides nearly 1,000 jobs to my community. Providing the plant's security guards with the tools they need to keep the facility safe ensures the safety of our neighbors and the overall safety of our state's only nuclear power plant."

## **Renewables – Are they Really Cheaper than Gas, Coal, & Nuclear?**



***“YES, the cost of renewables maybe coming down but for the near-term future - natural gas, coal, and nuclear are cheaper, when you consider all the parameters. Solar and wind need some other source of power to back them up, because they are not available when needed most – that makes them costlier.”***

Based on several studies by utilities, financial analysts, and others..... the average purchase cost for wind power has been about \$42 per megawatt-hour, since 2007. On the surface it appears cheaper than natural gas generation and on par with existing coal plants and nuclear. However, because wind power is not available when it is most needed – a capacity factor of 20-25% - it must be backed up by some other source of power; these days - natural gas. Therefore, the real cost is above that of coal and nuclear power plants when you add in these costs.

Solar power has historically cost just a little more than wind, but most recently, before tariffs

were imposed on imported solar panels, solar was being purchased around \$50 per megawatt-hour. Once again, without storage capacity, solar is not available when it is most needed - a capacity factor of 70-75% - it must be backed up by some other source of power; these days - natural gas. Therefore, the real cost is above that of coal and nuclear power plants. When storage capacity is added, the cost soars and becomes several times more expensive than coal and nuclear power plants.

If you take away the incentives and tax breaks for wind and solar; utility-scale photovoltaic solar is \$72 - \$86 per megawatt-hour and onshore wind ranges from \$37 to \$81 per megawatt-hour. If you are considering residential

rooftop solar – don't. It is one of the most expensive forms of generation you can purchase at \$180 - \$265 per megawatt-hour; more expensive than coal with carbon capture. The only electricity costlier would be diesel-electric generation at \$297 - \$332 per megawatt-hour.

YES, the cost of renewables maybe coming down but for the near-term future - natural gas, coal, and nuclear are cheaper, when you consider all the parameters and without them - renewables can't be effective. And when storage capacity is added natural gas, coal, and nuclear will be cheaper - still, and nuclear has carbon-free emissions; the only one that can compete - in that arena.

## Did You Know?



“That New Mexico regulators heard concerns from ranchers, and arguments for the project from SunZia consultants, over the \$2 billion SunZia Project aimed at transporting electricity from renewable facilities in New Mexico and Arizona, to larger U.S. Southwestern markets. These transmission lines will cross ~520 miles of state, federal, and private lands within these two states. A decision is expected to be reached by the end of the summer.”

<p><b>202 Order</b></p>	<p>That <b>“202 Order” was invoked recently – in 2001?</b> It was used to provide natural gas flow to California in hopes of preventing the blackouts and brown-outs they were experiencing; it worked.</p>
<p><b>TMI to shut down in 2019 unless ..</b></p>	<p>That <b>Three Mile Island (TMI) nuclear power plant in Pennsylvania will be shut down in 2019 due to economic reasons unless some effort is made to keep the emissions-free facility open</b>, says David Fein of Exelon. "Whether that's a state program combined with a regional program or a federal program, you know, all of these things need to sort of come into clearer focus for us to reverse the decision," he says.</p>
<p><b>Six western states have filed an amicus brief against Washington State over a coal-export terminal on the Columbia River</b></p>	<p>That <b>six western states (Kansas, Montana, Nebraska, South Dakota, Utah, and Wyoming) and several national industry groups have filed an amicus brief against Washington State over its decision to reject permits for a coal-export terminal on the Columbia River.</b> The Washington Department of Ecology denied the project a “water-quality permit” saying there were too many major harmful impacts including air pollution, rail safety, and vehicle traffic. The project would move coal mined in U.S. western states through a terminal in Longview, WA for export to South Korea, Japan, and other Asian markets; handling ~44 million metric tons, boosting U.S. exports to foreign markets.</p>
<p><b>Bipartisan House members - Nevada, New Mexico, South Carolina and California have filed legislation to repeal tariffs on imported solar panels</b></p>	<p>That in January the <b>Trump administration imposed higher taxes on imported solar panels, arguing that U.S. manufacturers were being crushed by an influx of cheap solar cells and modules from China.</b> China went from producing 7% of the world's solar cells in 2005 to nearly 70% last year. Now a <b>bipartisan contingent of House members from Nevada, New Mexico, South Carolina, and California have filed legislation to repeal the tariffs on imported solar panels, because the higher prices are jeopardizing jobs in the U.S.</b> According to Solar Energy Industries Association, the higher tariffs have prompted the cancellation or delay of some projects and that has resulted in decisions to delay hiring or reduce the number of jobs initially anticipated. However, the U.S. Energy Department just launched a new \$3 million competition aimed at revitalizing solar manufacturing in the U.S. The idea is to support entrepreneurs with the development of new products that will be made in America.</p>
<p><b>Researchers successfully converted CO<sub>2</sub> into solid rock in just two years.</b></p>	<p>That <b>researchers - a team of scientists and engineers from Columbia University, the Universities of Copenhagen and Iceland, and Reykjavik Energy (the plant's operator) - successfully converted CO<sub>2</sub> into solid rock in just two years. The process, called CarbFix, was expected to take centuries to achieve. It involves the injection of 175 tons of pure carbon dioxide, that is later mixed with hydrogen sulfide and water. The carbon dissolves amid extreme water pressure, and the mixture was then pumped deeper into a layer of basaltic rock, where the mixture mineralized into stable carbonate within two years.</b> This could lead to meaningful reductions in greenhouse gas emissions from power plants, since once it is stored within carbonate minerals, leakage risk is eliminated, and any monitoring program could be significantly reduced - enhancing storage security and potentially public acceptance.</p>

## U.S. Nuclear Renaissance Watch Update



### Under Construction:

**Vogtle 3 & 4** – 1,100 MWe Westinghouse AP1000, Southern Nuclear Operating Company; Waynesboro, GA; **COL issued February 10, 2012**; ~60% complete in EPC terms. **Proposed START date undetermined due to Westinghouse bankruptcy filing.** ITAAC status: 71 closed / 68 confirmed by NRC – Unit 3; 59 closed / 55 confirmed by NRC – Unit 4.

### Licenses Received:

**Fermi 3** – ESBWR, DTE Energy; Monroe, MI; **COL issued May 1, 2015**; licensee has not signed an EPC contract or announced any commitment to build and operate.

**South Texas 3&4** – Toshiba ABWR, Nuclear Innovation North America; Palacios, TX; **COL issued February 12, 2016**; EPC contract signed February 2009. *Design certification application for the Toshiba ABWR was closed by the NRC in January 2017.*

**Levy 1&2** – AP1000, Duke Energy; Levy County, FL; **COL issued October 26, 2016**; original EPC contract signed in January 2009 was cancelled on August 1, 2013 and has not been reinstated. *Duke Energy announced on August 29, 2017 they will not be moving forward with this project, pending approval by the Florida PSC.*

**Lee 1&2** – AP1000, Duke Energy; Gaffney, SC; **COL issued December 19, 2016**; licensee has not signed an EPC contract. *Duke Energy announced on August 25, 2017 they will not be moving forward with this project, pending approval by the North Carolina Utilities Commission.*

**North Anna 3** – ESBWR, Dominion Generation; Mineral, VA; **COL issued May 31, 2017**; *Dominion and GE Hitachi Nuclear Energy have stated that they have reached agreement on all contract terms but licensee has not signed an EPC contract.*

### ABANDONED:

**V.C. Summer 2&3** - **Project was ABANDONED on July 31, 2017.** Two - Westinghouse AP1000 (1,100 MWe each), SCANA / Santee Cooper; Parr, SC; **COL issued March 30, 2012**; ~64% complete in EPC terms.

### License Applications:

**Duke Energy's Harris 2&3, and Luminant's Comanche Peak 3&4 License Applications have been slowed or suspended at the request of the applicant.**

**Talen Energy's Bell Bend License Application was withdrawn on August 31, 2016.**

### "Active" License Applications:

**Turkey Point 6&7** – 1,100 MWe Westinghouse AP1000, Florida Power & Light; Florida City, FL; **FSER** November 10, 2016; **FEIS** October 2016; **MH** October 5, 2015; EP2 completed February 27, 2015. *A request for hearing and petition to intervene was submitted on April 18, 2017 by the City of Miami, the Village of Pinecrest, and the City of South Miami.*

**Eastern Idaho** – two or more NuScale Power Modules (SMR), Utah Associated Municipal Power Systems with Energy Northwest; on or near the property of Idaho National Laboratory. **Application submittal planned for 2018.**

### Early Site Permits:

**PSEG Site** – reactor TBD, PSEG; Salem, NJ; **FSER** issued September 29, 2015; **FEIS** issued November 13, 2015; **MH** March 24, 2014. **ESP** issued May 5, 2016.

**Clinch River Site** – reactor TBD, TVA; Clinch River, TN; **Application** submitted May 12, 2016; **NRC** accepted application for docketing and detailed technical review on December 30, 2016. **Three groups filed petitions** in June 2017 against TVA's application; **ASLB** established in July 2017.

**Blue Castle Project** – two AP1000, Blue Castle Holdings; Green River, UT. **Application submittal planned for 2019.**



## GTTSi

807 Bypass 123 – Suite 31  
Seneca, SC 29678

Phone: 864-882-3111  
Email: [ginfo@gttsi.com](mailto:ginfo@gttsi.com)

### Jackie Pate

Administration  
Phone: 864.882.3111  
Fax: 864.882.1026  
[jackie.pate@gttsi.com](mailto:jackie.pate@gttsi.com)

### Sid Crouch

Vice President, Technical Operations  
Phone: 843.339.9874  
Fax: 843.339.9528  
[sid.crouch@gttsi.com](mailto:sid.crouch@gttsi.com)

### Kaye Browder

Technical Staffing Manager  
Phone: 864.631.9325  
Fax: 864.862.8730  
[kaye.browder@gttsi.com](mailto:kaye.browder@gttsi.com)

### Chrissy Mulay

Technical Staffing Specialist  
Phone: 864.506.4647  
Fax: 716.604.1948  
[chrissy.mulay@gttsi.com](mailto:chrissy.mulay@gttsi.com)

### Pat McHale

Consultant  
Phone: 864.882.3111  
[pat.mchale@gttsi.com](mailto:pat.mchale@gttsi.com)

### Ken Schaaf

NRC Consultant  
Phone: 864.882.3111  
[kenneth.schaaf@gttsi.com](mailto:kenneth.schaaf@gttsi.com)

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## Mrs. Kaye Browder (GTTSi) - Delivers Keynote Address



Mrs. Kaye Browder – GTTSi Technical Staffing Manager provided the keynote address during the May luncheon for the *HR Leadership Forum of the Up-State* in Greenville, SC.

The *HR Leadership Forum of the Upstate* is a division of the *HR Leadership Forum* - a collegial learning community of senior leaders building successful, healthy and sustainable organizations by sharing leading edge people strategies.

Since GTTSi was awarded “**Best of the Upstate**”

Mrs. Browder was asked to share her thoughts on how GTTSi maintains its working relationship with their “specialty market” and how they offer their services to the industries and businesses they support.

During the keynote, she addressed how knowledge of their “specific” market was key in providing valuable insight to their CLIENTS. Knowing the available talent pool, their location, how to reach them, their salary rates, career expectations, available skill-sets, and any hiring complexities is critical in addressing the specific needs of your CLIENTS.

She pointed out that other businesses are struggling to find the same people; therefore, YOU as the **expert recruiter** need to offer alternative solutions. The best recruiters act as partners and collaborators with their CLIENTS - YOU become their eyes and ears, within the market. It is hard work to partner closely with each client; however, it is beneficial for YOU and your CLIENT to foster such a relationship - then YOU, as the **expert recruiter**, can represent them as the “employer of choice”.

*HR Leadership Forum of the Upstate* works with the community to provide support and guidance to the less fortunate; sponsoring clothing drives to provide professional clothing for interviews, and interview tips - for new job applicants after completing their college and/or training. Mrs. Browder has been a member of this group for over two years.

**If you would like to learn more visit:** <https://www.hrleadershipforum.org/>

### GTTSi

P.O. Box 307  
Hartsville, South Carolina 29550

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