15 March 2022

A 'conservative' approach to Texas grid operations is raising costs for consumers: ERCOT market monitor

The Electric Reliability Council of Texas (ERCOT) has been taking a "conservative" approach to grid operations in the wake of the February 2021 blackouts, and Independent Market Monitor Carrie Bivens told lawmakers on Wednesday that additional reserves required by the strategy added $300 million to $400 million to customer bills in the latter half of 2021. Changes to how the grid operator schedules emergency reserve generation and demand response resources are also distorting ERCOT markets, say experts.

ERCOT now procures 6,500 MW of non-spinning reserve generation in the day ahead market, and up to an additional 1,000 MW more on days with high forecast demand or uncertainty. The reserve was raised from approximately 4,500 MW after Winter Storm Uri.

Bivens, representatives from ERCOT, and Public Utilities Commission of Texas (PUCT) Chairman Peter Lake testified to the Texas Senate Committee on Business & Commerce on efforts to reform wholesale markets. The "conservative" approach has meant expanded use of emergency resources, and bringing more resources online sooner. "The grid is strong, and more reliable than it's ever been," Lake told Texas lawmakers.

Lake credited the improved reliability to greater coordination between the electric and gas industries, a requirement to winterize power facilities, and adjustments to the wholesale markets. Lawmakers praised the commission's efforts, but were also wary. "PUC commissioners all collectively have done an amazing job in a very short period of time," Sen. Robert Nichols, R, said, speaking to Lake. "We were operating [the grid] so close to our margins that .... we were on the edge of the cliff all the time. You widened that margin."

Reliability unit commitments

Nichols then delved into a topic that came up throughout the hearing, and extended into Thursday's PUCT open meeting. "You widened the margin by using RUC," Nicols said, referring to an ERCOT reliability product, reliability unit commitment, through which the grid operator can compel generators to be available in case they are needed. "I saw the breakdown of the age of the units that are being called up, and they are about 50 years old," Nichols said. He also noted that while the units are paid for their costs, they are not always making money and do not want to be called.

Observers say the increased use of RUCs is having broad impacts on the wholesale market. RUCs are not new, but since Uri, ERCOT has been using them more frequently to boost reserves. "We're not just using [RUCs] a little more ... it's like 10 times more, almost 20 times more," said Nichols, who asked how long the practice would continue. Though there is no clear date to phase out expanded use of RUCs, the practice was "never intended to go on in perpetuity," said Lake. Rather, it was a step necessary to ensure immediate reliability. The expanded reserve margins, however, are likely "good long-term changes," he said.

RUCs cost Texans about $5 million last year -- not a large sum relative to the cost of the increase in non-spinning reserves, Bivens noted. However, their use is not efficient because of how ERCOT counts and dispatches its reserves. RUCs were designed for emergency use, and utilizing them daily is adding costs and distorting the market, said Michael Jewell, an attorney with Jewell & Associates who represents ERCOT market

participants. On Feb. 24, for instance, RUCs likely contributed to Texas consumers paying hundreds of millions of dollars more for electricity than they should have, he said.

Feb. 24 planning 'not conservative enough'

ERCOT experienced two winter storms in February. The earlier storm was not a significant test of the grid, observers say. The conservative forecast used by the grid operator meant more resources than were necessary showed up in the market and kept prices low. But in the late February event, the conservative forecasts were "not conservative enough," Lake said when the RUC discussion carried over into the PUCT open meeting on Thursday. Wind resources failed to show up and load was higher than anticipated.

While RUCs may have helped keep the lights on, they also caused prices to be higher than necessary, say regulators. Texas needed all the resources it had teed up, according to Lake. But it would have been preferable to procure them through an Operating Reserve Demand Curve (ORDC) adder rather than an RUC, he said. The ORDC is used by ERCOT to determine when scarcity pricing events occur — but, critically, it does not count reserves acquired through RUC. So if ERCOT uses RUC to increasingly ensure sufficient reserves, the ORDC will not relay accurate signals, said Jewell. "It's an emergency tool," said Jewell. "But in this 'conservative' approach to running the grid, ERCOT is no longer treating RUC as an emergency tool. It is using it as an everyday tool. And the problem is, the market is not designed for it to be used as an everyday tool."

Utility Dive
http://www.utilitydive.com

15 March 2022

World can reach 65% renewables share in primary energy by 2050

Renewables can reach a share of 65% in global primary energy by 2050 under the greenest scenario in BP plc's Energy Outlook 2022.

The report has three main scenarios - Accelerated, Net Zero and New Momentum. The share of renewables in 2050 across the three ranges between 35% and 65%, up from roughly 10% in 2019, while fossil fuels' share of 80% in 2019 global primary energy is melting to between 60% and 20% by 2050. BP expects the share of electricity in final energy to climb from 20% in 2019 to at least 30% and up to 50% in 2050, depending on the scenario.

Under the Accelerated and Net Zero scenarios, the world's installed wind and solar power generation capacity will expand more than 15-fold by 2050 from 2019 levels, while the jump under the New Momentum scenario is nine-fold. This means wind and solar could surpass 20 TW of installed capacity by the middle of the century, or at least top 10 TW under New Momentum.

The levelised cost of electricity (LCOE) from wind and solar farms, including integration costs, drops by around 20%-25% and 40%-55%, respectively, by 2030. In the following two decades the pace of cost reductions is slower or non-existent because the cost reductions are offset by higher system balancing expenses. In Energy Outlook 2022, the average rate of increase in installed wind and solar capacity in the Accelerated and Net Zero scenarios is 600 GW-750 GW per year in the 2030s, and then 700 GW-750 GW in the 2040s. This is a significant acceleration in capacity additions.

Most of the solar and wind capacity will be used to supply electricity at the final point of use, but in Accelerated and Net Zero, green hydrogen production will be consuming around 20%-30% of that by 2050. Under these same scenarios, green hydrogen accounts

for around 55% of low-carbon hydrogen, and its share rises to some 65% by 2050. Blue hydrogen is seen to almost fully cover the difference, but it is important to note that the Outlook has been largely prepared before Russia invaded Ukraine and it does not take into account the war's impact on gas and other energy sources.

Renewables Now
http://renewablesnow.com

16 March 2022

Continental Europe: successful synchronisation with Ukraine and Moldova power systems

Following an urgent request by Ukrenergo and Moldova for emergency synchronisation, the TSOs of Continental Europe agreed to start on 16 March 2022 the trial synchronisation of the Continental European Power System with the power systems of Ukraine and Moldova. This acceleration of the synchronisation project ongoing since 2017 has been possible thanks to the previous studies carried out and the adoption of risks mitigation measures.

Continental Europe TSOs are now supporting the stability of the Ukrainian-Moldovan power system following a positive analysis which confirmed that an emergency synchronisation is technically feasible with a number of measures to ensure safe and secure power systems.

This is a significant milestone for the Continental Europe TSOs working in collaboration with Ukrenergo and Moldelectrica that are operating their respective power systems under extremely difficult circumstances. ENTSO-E would like to thank the European Commission, all TSOs involved and their national authorities for their support and assistance in the synchronisation process.

ENTSO-E
http://www.entsoe.eu

16 March 2022

US: What cyber incident reporting rules mean for critical infrastructure

Federal officials are beginning work with the private sector to prepare for the historic provision passed last week that requires critical infrastructure providers to notify the Cybersecurity and Infrastructure Security Agency of malicious cyber intrusions. Critical providers including utilities, banks, energy providers and other sectors will have to alert CISA within 72 hours of a major cyberattack or 24 hours of a ransom payment under new federal regulations. The requirements are part of a long-sought partnership that shields companies from liability and allows for rapid intelligence sharing.

The legislation gives CISA the authority to subpoena companies that fail to adhere to the reporting requirements and refer them to the Department of Justice if they fail to provide the requested information.The Edison Electric Institute, which represents investor-owned utilities, said it will work with CISA and "other government partners" to integrate new requirements into rules that already exist for the electric power sector. Some reporting requirements already exist for utilities, through Critical Infrastructure Protection (CIP) rules overseen by the North American Electric Reliability Corp. The industry will work to "harmonize new and existing reporting requirements," EEI Senior Vice President, Security and Preparedness, Scott Aaronson said in a statement.

The goal of the legislation is to provide legal cover for companies to share threat intelligence with law enforcement and government agencies. The SolarWinds attack showed how federal authorities had little to no insight into the nation's IT infrastructure. The private sector has only informed government agencies of about 30% of cyberattacks they have encountered, said Sen. Mark Warner, D-Va., chairman of the Senate Intelligence Committee, during a hearing last week on worldwide threats. That means the government has no intelligence on about 70% of the cyber threats facing the U.S.

Executives in the C-suite and shareholders often keep data breaches and cyberattacks on a need-to-know basis, fearing the embarrassment of public disclosure and concerned that information sharing would open them to investor suits, law enforcement probes and irreversible damage to brand reputation. "Many companies have historically wanted to maintain plausible deniability because the disclosure of cyber intrusions has a material impact and is a source of significant reputational risk," Tom Kellermann, head of cybersecurity strategy at VMware, said via email. "For too long, the curtain of plausible deniability has been undermining cybersecurity investment."

The new legislation will help close visibility gaps for investigators and security responders, said Robert Sheldon, director of public policy and strategy at CrowdStrike, one of the nation's top cybersecurity and incident response firms. CISA and other relevant government agencies need timely access to threat information and ransomware, he said. "Cyberattacks targeting critical infrastructure have grown increasingly severe and impactful over the past couple of years," Sheldon said. The law closes some visibility gaps for both investigators and responders, Sheldon said, which can help strengthen the overall security posture of critical infrastructure providers. However, providers still need to push to incorporate best practices for the purpose of proactive defense, including the use of endpoint detection and response, zero trust and sound log protection practices.

In the months following the December 2020 discovery of the SolarWinds attack, Microsoft was a major proponent of greater information sharing between industry and the federal government. Microsoft, a target of the SolarWinds threat actor, which it dubbed Nobelium, publicly called out numerous other firms in the information technology space that were known to have been impacted by the same threat actor, either through the SolarWinds vector or direct impact, but failed to publicly share detailed threat information.

SolarWinds, which was originally notified of the attack by FireEye Mandiant researchers, said it readily shared threat information with federal authorities after the attack. Companies need to be open and transparent about disclosing sensitive data in order to prevent malicious attacks from spreading to other companies in the future, the company said.

Utility Dive
http://www.utilitydive.com

17 March 2022

First Fully Recyclable Wind Turbine Blade Rolls Out

The ZEBRA (Zero wastE Blade ReseArch) consortium has produced the first prototype of its 100 per cent recyclable wind turbine blade. Within the project, LM Wind Power, a GE Renewable Energy Business, has designed and built the world’s largest thermoplastic blade at its Ponferrada plant in Spain. This milestone is achieved after a year of material development and testing backed by sub-component level process trials by the consortium partners.

The 62-metre blade was made using Arkema's Elium resin, which is a thermoplastic resin known for its recyclable properties together with the new high-performance Glass Fabrics from Owens Corning, LM Wind Power said. Launched in September 2020, the ZEBRA (Zero wastE Blade ReseArch) project is a unique partnership led by French research center IRT Jules Verne and brings together industrial companies including Arkema, CANOE, Engie, LM Wind Power, Owens Corning, and SUEZ.

Offshorewind.biz
http://www.offshorewind.biz

17 March 2022

New pumped-storage hydropower station in east China begins construction

Construction of a new pumped-storage hydropower station project started in east China's Zhejiang Province Thursday, said the State Grid Zhejiang Electric Power Co., Ltd.

The hydropower station in Taishun County, Wenzhou City has an installed capacity of 1.2 million kilowatts. It is expected to be put into use by 2028, with an investment of 7.13 billion yuan (about 1.12 billion U.S. dollars).

So far, there are four pumped-storage hydropower stations operational in Zhejiang with a total installed capacity of 4.58 million kilowatts. Six such stations are still under construction.

Xinhuanet
http://www.xinhuanet.com

17 March 2022

Spain and Portugal to propose EU cap of 180 EUR/MWh on energy prices

Spain and Portugal will propose limiting wholesale electricity prices to 180 euros per megawatt hour (MWh) in the European Union to tackle a record-breaking surge in energy prices. "We are working on a European response to lower energy prices," Spanish Energy and Environment Minister Teresa Ribera told Onda Cero radio on Thursday, adding that Spain would take its own measures if the EU did not reach an agreement at the next EU summit on March 24-25.

Portugal's Environment Minister Joao Matos Fernandes told Reuters the proposal would be finalised on Friday but it would only be discussed at the summit. With the new joint proposal, Spain and Portugal wish to reinstate the limit of 180 euros/MWh in the electricity "spot" market they were forced to eliminate in 2019 when the EU decided to remove curbs on energy prices across Europe.

"Until two years ago, the maximum price of 180 euros per MWh seemed like a fantasy that would never be reached, and today it has been largely surpassed," Ribera said. "There is little argument that this should be the maximum we should accept in our market." Earlier this week, Matos Fernandes said combined-cycle natural gas plants, where the cost per MWh is more than 180, would be paid the difference from the European Compensation Fund under the proposal.He told Reuters on Thursday the program could also be funded through the countries' electricity tariff deficit if no deal is reached on EU-wide funding. He said the proposal would allow Portugal and Spain to save up to 5.7 billion euros ($6.30 billion) every month.

"The wholesale electricity market is strongly pressured by the price of natural gas, which is registering maximum prices never seen before," Matos Fernandes said on Tuesday.

He argued that without the cap "irreversible harmful effects" could impact Europe's industries and families. Matos Fernandes told Reuters he was still not sure if other EU countries would back the plan, but argued that it was crucial for them to do so. "This cap is a way to protect the current electricity tariff and avoid an increase in electricity's inflation, which is unnecessary and damaging," he said.

Reuters
http://www.reuters.com

18 March 2022

Greater Tokyo area power outage following quake a tactic to avoid wide-area blackouts

The blackouts that affected some 2.08 million buildings in the Tokyo Electric Power Company (TEPCO) Holdings Inc. service area following a major earthquake that hit northeast Japan on the night of March 16 were reportedly a tactical measure taken by the power company to avoid even larger blackouts.

Electric frequency gets disrupted unless electricity demand and supply are kept matched up at all times. While TEPCO and other power companies, such as Tohoku Electric Power Co., accommodate electricity with each other, multiple power plants operated by TEPCO and adjacent Tohoku Electric shut down due to the March 16 earthquake that measured upper 6 on Japan's 7-point seismic intensity scale in Miyagi and Fukushima prefectures, resulting in the temporary loss of 5.18 million kilowatts -- equivalent to power generated by five nuclear reactors. When a situation continues where power supply is low compared to demand, electric frequency drops. If this is left unaddressed, power generators become overloaded and operations halted, possibly leading to a major blackout.

To avoid such a situation, TEPCO executed a measure called "load rejection," in which a power outage is deliberately caused to suppress demand so that it balances with the supply decrease. The areas to experience blackouts are decided mechanically and automatically. To efficiently hold down power demand, busy downtown areas tend to be picked for tactical blackouts. Since load rejection is carried out at each electrical substation, some parts of the same downtown area may experience blackouts while their adjacent blocks may not.

In the latest case, load rejection was triggered almost at the same time as the quake at around 11:36 p.m. on March 16, causing blackouts for extensive parts of the TEPCO service area, including some 700,000 buildings in Tokyo, about 290,000 in Saitama Prefecture and around 220,000 in Ibaraki Prefecture. As electricity from other power plants started coming in, the areas experiencing blackouts also started getting their electricity back, and by shortly after 2 a.m. the following day the blackouts caused by load rejection had ended.

Electricity is run more widely in geographical terms than it used to be, meaning that there are load rejection-caused blackout risks even in locations far from an earthquake epicenter. At the same time, power restoration from load rejection happens relatively soon after a blackout, unlike power outages caused by damage to utility poles and other related facilities.

In the 2018 Hokkaido eastern Iburi earthquake, though Hokkaido Electric Power Co. carried out load rejection, it lost supply-demand balance due to a string of power plants shutting down, leading to Hokkaido-wide blackouts.

The Mainichi
http://mainichi.jp

18 March 2022

Release of South Africa's 2050 Infrastructure Plans Sees Nuclear Projects in the Pipeline

The release of South Africa's National Infrastructure 2050 plan last Friday came with promises of 9.6GW in new nuclear energy plants converted from decommissioned coal fleets. This move could prove a timely one if execution carries through in supporting it. Last August, the country's major grid supplier-operator Eskom announced coal plant closures, reducing generation capacity from 20GW to 12GW over the next decade. And this January compounded the damages with planned closures at the Koeberg nuclear facility – the only commercial nuclear power plant in South Africa and on the continent, supplying five percent of the country's electricity.

Though falling, the contribution of coal to South Africa's domestic power generation still stands at over 75%, with renewables approaching 15% of the country's energy mix. Thus a minimum of 44.7GW in alternative power sources is required to complete a transition from coal-based energy, with an additional 75-116GW on top of that in projected domestic demand for power by 2050. Last week's National Infrastructure Plan sets a target of 25GW by 2030 towards this, consisting largely of renewables with nuclear in a supporting role. The synergies between these source types are obvious: the former contributing rapid, cost-effective, modular installation capacity, and the latter complementing with year-round stable power production as a baseload energy source.

Since 2010, South Africa's Integrated Resource Plans (IRPs) have been promising new projects to meet the needs of the energy transition. That year's report slated 18GW worth, of which one-third would be formed by renewables for delivery by 2020. A decade later, only one-half of these proposed facilities were operational. Likewise, six to eight new reactors were promised by 2030 at a cost of $66 billion, but 2016's IRP scrapped these plans entirely to be replaced by a timeline placing the launch of the first new reactor by 2041. In 2017, the Western Cape High Court overturned government plans for the procurement of a 9.6GW Russian-designed station, Eskom aborting similar plans for a 20GW nuclear plant in the country, deeming it economically unfeasible.

Recently, however, it would seem the tides are shifting thanks to advances in Small Modular Reactors (SMRs). These designs bridge the cost-effective, rapid-deployment advantages of conventional renewable sources, and can be repurposed for hydrogen production and water desalination, among other uses. Eskom's renovations of the 1910MW Koeberg plant this year, adding six new steam generators for an additional 10% capacity, will halve the station's operable output over 10 months, destabilizing the country's energy supply. With SMRs, however, generation can be shared across a distributed, decentralized network – retrofitting South Africa's baseload coal fleet for deployment inland, retraining the existing workforce to man them all per the new 2050 National Infrastructure Plan. The French-designed Koeberg plant has been in operation since 1984, and its current $1.3-billion renovations by Jacobs Engineering Group should extend its lifespan a further two decades to 2045.

Yet already plans are underway for South Africa's next large nuclear facility to bolster Koeberg's capacity and act as its successor. The country's National Energy Regulator of South Africa (NERSA) approved conditional plans for such a plant in August last year, to be located at Thyspunt on the Eastern Cape with 2.5GW capacity. The government's Request for Proposals will land by the end of the month, procurement slated for completion by 2024 leading to full operations effective from 2030. Between the Thyspunt developments and new

SMRs, South Africa is laying the stage for a timely and strategic energy transition with a renewables portfolio backed by baseload nuclear power.

Energy Capital & Power
http://energycapitalpower.com

18 March 2022

Belgium delays nuclear energy exit 10 years due to Ukraine war

Belgium on Friday delayed by a decade a plan to scrap nuclear energy in 2025, spooked by the huge rise in energy prices due to the Russian invasion of Ukraine. "The federal government has decided to take the necessary steps to extend the life of two nuclear reactors by ten years," Prime Minister Alexander De Croo said in a statement. "This extension will strengthen our country's independence from fossil fuels in a turbulent geopolitical environment," he added. The push to 2035 comes as calls are rising that neighbouring Germany, Europe's biggest economy, should also rethink its nuclear energy exit, but miniters in Berlin last week doubled down on their country's no atom pledge despite the price shock.

Europe is scrambling to find ways to wean itself off its energy dependency on Russia, which provides 40 percent of Europe's gas needs, mainly to Germany, Italy and several central European countries. Prices have skyrocketed for Europeans since the invasion by Russia of Ukraine and EU leaders will meet next week to agree on fresh emergency measures to soften the blow for consumers and businesses. Belgium currently, operates two nuclear power plants with a total of seven reactors.

The promise of a gradual phase-out of nuclear power has been enshrined in Belgian law since 2003 and the decision to again delay the moratorium was fiercely resisted by the Greens party. In Friday's plan, which was negotiated during a marathon cabinet session, the government agreed to extend the operating lives of the Doel 4 reactor near the port city of Antwerp and Tihange 3 near Liege until 2035.

De Croo insisted that the decision would give the country certainty after years of quarrelling over the wisdom of the nuclear exit. The government must negotiate with French energy giant Engie, owner of the nuclear power plants in Belgium, on the costs and delivery of the new plan. Engie had previously indicated that it was too late for the De Croo government to change its mind. The government also warned that the two reactors in any case will not be available for the winter of 2025.

The Greens had made an exit from nuclear power in 2025 a condition to join a politically fragile seven-party coalition that was painfully cobbled together in 2020, more than a year after inconclusive elections. But since the February 24 invasion, with the surge in energy prices, the party signalled it would agree to consider an alternative scenario.

France24
http://www.france24.com

18 March 2022

China's highest-altitude mega hydropower plant fully operational

With the last 500,000-kW power generation unit officially putting into use, a mega hydropower plant built at an average altitude of 3,000 meters, the highest one of its kind in China, went fully operational on Friday. With a planned total installed capacity of 3 million kW, the Lianghekou hydropower plant is located on the Yalong River in Tibetan Autonomous

Prefecture of Garze, southwest China's Sichuan Province. Construction of the project, with an approved investment of 66.5 billion yuan (about 10.5 billion U.S. dollars), started in October 2014 and is expected to be fully completed by 2023, according to the Yalong River Hydropower Development Company, Ltd. The storage capacity of the reservoir is designed to reach 10.8 billion cubic meters, and the annual power generation volume is expected to surpass 11 billion kWh.

The Yalong River basin is one of China's clean energy bases. The operation of the Lianghekou hydropower plant will help ease imbalanced power generation in Sichuan and promote high-quality development of the Yangtze Economic Belt and the Chengdu-Chongqing economic circle.

Xinhuanet
http://www.xinhuanet.com

23 March 2022

China maps 2021-2035 plan on hydrogen energy development

Chinese authorities on March 23 released a plan on the development of hydrogen energy for the 2021-2035 period as the country races toward its carbon peaking and neutrality goals.

By 2025, China will put in place a relatively complete hydrogen energy industry development system, with the innovation capability significantly improved and the core technologies and manufacturing processes basically mastered, according to the plan jointly released by the National Development and Reform Commission and the National Energy Administration.

Annual hydrogen production from renewable energy is expected to reach 100,000 metric tons to 200,000 metric tons to become an important part of new hydrogen energy consumption by 2025 and enable carbon dioxide emission reduction of 1 million to 2 million metric tons per year.

By 2030, China is seeking a reasonable and orderly industrial layout and wide use of hydrogen production from renewable energy to offer solid support for the carbon peaking goal. By 2035, the proportion of hydrogen produced from renewable energy in terminal energy consumption will increase significantly, which will play an important supporting role in the country's green energy transformation, according to the plan.

Hydrogen is a secondary source of energy that usually requires a primary energy input to be produced on an industrial scale. Depending on the source from which it is produced, hydrogen can be gray, blue or green, and green hydrogen is the only type produced in a climate-neutral manner that could reduce emissions.

GOV.CN
http:// www.gov.cn

23 March 2022

Vattenfall energizes hybrid wind-solar-storage plant in the Netherlands

Sweden-based energy company Vattenfall commissioned its first hybrid, utility scale wind-photovoltaic-storage project in the Dutch province of South Holland on Tuesday. The energy park Haringvliet benefits from synergy effects which lead to lower development costs and reduces the impact on the environment, according to Vattenfall, which sees its first so-called full hybrid power plant as a blueprint for many other projects.

The power plant consists of a 38MW photovoltaic power plant and a 22MW wind farm connected to 288 batteries in 12 standard containers. The three systems share the same grid connection. “We are gaining important experience with the project which we also want to use here in Germany,” explained Claus Wattendrup, head of the solar and batteries business unit at Vattenfall. “The combination of generation and storage can serve as an example for more efficient planning and implementation of such projects. This can also accelerate the expansion of renewable energy in Germany.”

The generation plants complement each other, with the photovoltaic system supplying plenty of electricity during the day, and from spring to autumn, while the wind turbines produce a particularly large amount in the winter months. At the same time, the battery storage ensures that the grid remains stable and serves as a temporary storage facility for the electricity generated. According to Vattenfall, specially developed software ensures that the various components work together optimally.

The company also emphasizes the advantages of the integrated planning and development of such full hybrid power plants. In Germany, the period between planning and the first generation of electricity for wind farms is seven years, on average. But if the photovoltaic system and battery storage are included from the start there would be important time savings in planning. In addition, the joint realization is more cost-effective than if each technology is deployed individually, as they share the same substation, the same cables and service routes.

pv-magazine
http://www.pv-magazine.com

23 March 2022

Bulgaria: Accident Occured at Chaira Hydro Power Plant

An accident has occurred at the Chaira Pumped Storage Hydro Power Plant (Chaira PSHPP), Energy Minister Alexander Nikolov told an extraordinary briefing of the Council of Ministers on Wednesday evening. The accident took place during a testing of the capacities of Chaira PSHPP, which were supposed to be put into service in a few days after three years of repair.

"An inspection has been underway since Tuesday. Earlier on Wednesday, deputy Energy Minister Danail Nikolov was there. We are continuing the inspection. Data is being collected on what and why has technically happened to the unit. This is a machine that can produce up to 210 megawatts per hour", Alexander Nikolov explained. He added that the capacity was relied on in order to further decrease energy prices in peak hours, but that will not happen. "For all other additional details and all inspections related to suspicions of negligence or willful misconduct, information will be given when data is collected", Nikolov added.

Chaira PSHPP is located near the village Sestrimo, Southwestern Bulgaria and is owned by the National Electric Company (NEK EAD). No people were injured and no one's life is in danger, Prime Minister told the extraordinary briefing. He said that there is no danger of an electricity price increase, and that he has ordered the Interior Ministry and the State Agency for National Security to fully inspect the case. "Unfortunately, the contract for repair was signed by [opposition party] GERB in 2017, and not with the unit's manufacturer Toshiba", Petkov added.

Bulgarian News Agency
http://www.bta.bg

23 March 2022

Coal mines can host enough solar panels to power 7M Turkish homes

Approximately half of Turkey's open-cast coal mines are suitable for conversion to solar farms, a move that could generate enough solar power to meet the needs of almost 7 million homes annually, according to a new study released on Wednesday.

"The Solar Potential of Coal Sites in Turkey" report analyzed 22 open-cast mines that provide coal for 10,495 megawatts (MW) of the total installed capacity of coal plants in Turkey. The report comes as countries across Europe look for ways to rapidly scale up renewable energy capacity, also in the context of the Russian invasion of Ukraine and surging fossil fuel prices. It was prepared by Solar3GW for Europe Beyond Coal, the European Climate Action Network (CAN Europe), Greenpeace Mediterranean, WWF-Turkey (World Wide Fund for Nature), the Climate Change Policy and Research Association, 350.org, Ekosfer and the Yuva Association.

The report found that an additional 13,189 MW of solar power could be installed in these open-cast coal mines. Potential solar capacity in open-cast coal mines in the country corresponds to an almost 170% rise from the current installed capacity. The potential solar capacity from open-cast coal mines of 19,079 gigawatt-hours of electricity could meet the electricity needs of almost 7 million homes. Furthermore, converting half of Turkey's open-cast coal mines would reduce carbon dioxide emissions by 12.4 million tons per year, the report calculated.

WWF-Turkey Climate and Energy Program Manager Tanyeli Behic Sabuncu said one-fourth of the country's total greenhouse gas emissions originate from coal, leading to premature deaths and exacerbating the climate crisis. "If we are sincere in our goal of being net-zero by 2053, we must urgently plan the exit from coal," he underlined. Duygu Kutluay, a campaigner for Europe Beyond Coal, explained that Turkey has recently revised up its climate ambitions by ratifying the Paris Agreement and setting a net-zero goal.

"In a fortuitous arc of history, the mines that have provided the coal, which has so damaged our climate and communities, can play a vital role in decarbonizing our energy systems and tackling the climate crisis," Kutluay said. "The sooner we start delivering on these targets, the greater the benefits will be for our health and our economy, which was hit hard by last year's climate change-induced wildfires," she said. She advocated for the adoption of such an energy plant, as converting open-cast coal mines to solar farms would cut Turkey's annual carbon dioxide emissions by an equivalent amount to approximately 50 million passengers flying from Istanbul and Rome.

Transforming these coal sites would produce 19 billion kilowatt-hours of fossil-free electricity, said Barış Eceçelik, a board member at the Ekosfer Association. That is equivalent to a third of the electricity Turkey produced from hard coal and imported coal in 2021, he added. Bahadir Turhan, chairperson of the board at Solar3GW, noted that the study confirms that countries with large open-cast coal mines should be viewing them as renewable energy transition assets. "They have a cost advantage over virgin plots as they come ready equipped with much of the necessary infrastructure required to host solar installations and when you kit them out with advanced battery storage systems, they are able to consistently deliver a base load of cheap, clean, fossil-free energy. We really should be capitalizing on them," he said.

"Converting our open-cast coal mining sites would significantly lower energy costs, which are surging courtesy of global fossil fuel market volatility," said Onur Akgül, Climate

and Energy Project Responsible at Greenpeace Mediterranean. "We'd also see enormous improvements in air quality and public health, and would be protecting our natural environment from the direct impacts of mining, while helping ward off the worst impacts of the climate crisis, such as wildfires and floods," he noted.

Daily Sabah
http://www.dailysabah.com

24 March 2022

ENKA 'Finally' Terminates Namakhvani HPP Contract

ENKA Renewables LLC has terminated its contract with the Georgian Government to build and operate the Namakhvani Hydropower Plant in western Georgia, financial statements of the constructor's parent company said.

The document, published in Georgian media today, confirmed that ENKA Renewables had as of December 31, 2021 written off capitalized property, plant and equipment of the HPP worth USD 40.4 million. It was not immediately clear if the Georgian Government had bought the disposed assets. The contract had included a provision stipulating that the investor was allowed to request the Government to purchase, however.

The authorities and the investor have been in talks since the parent company of ENKA Renewables LLC, Istanbul-based ENKA Insaat announced on September 20, 2021 it had notified the Government for terminating the contract due to breaches of terms and force majeure. The details about the negotiations have been scarcely available to the public.

Then-Economy Minister Natia Turnava was cited in the media as saying on January 18 that the Government was trying to find a settlement with the investor so that the case did not go to arbitration. Turnava, who quit the post in early February, stressed that the Government's aim was to ensure that the company's withdrawal would not harm either the Namakhvani project or the country. But noteworthy, even if the case went to arbitration, the contract between the Government and the investor obliged both parties to ensure confidentiality about the dispute, including keeping the information secret about its existence.

Meanwhile, Turnava's successor Levan Davitashvili made ambiguous remarks about the talks with the company. On February 21, he refrained from confirming that the contract had been indeed terminated, saying the investor had "certain proposals." "We should wait for properly conducted legal process, about which the public, especially concerned persons, will be provided with complete information."

The Namakhvani HPP Project in western Georgia encompasses two separate HPPs on the Rioni River, the longest river flowing solely within the Georgian boundaries: the Lower Namakhvani HPP (333 MW) and the Upper Namakhvani HPP (100 MW)

Locals opposing the planned power-plants over multiple concerns, including environmental, gave a fierce resistance to the project. Their months-long tent protest gradually grew into a major nationwide movement, which held massive rallies, including in Tbilisi, the capital in May 2021. Besides environmental risks, activists and CSOs opposing the project had cited "cabal" and "anti-state" provisions of the contract. The government, on its part, stressed the need to enhance the energy security and to employ up to 1,600 Georgians with the "foreign direct investment in the amount of USD 800 million."

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25 March 2022

State Grid launches 2 major projects

State Grid Corp of China started construction of two ultrahigh voltage power transmission projects on Thursday to further facilitate the country's ongoing green energy transition.

With a total investment of 10.9 billion yuan ($1.7 billion), the projects—an ultrahigh voltage power transmission line linking Fuzhou with Xiamen in Fujian province and a line linking Zhumadian in Henan province with Wuhan in Hubei province—are expected to be put into operation by 2023, said the company on Thursday during a news conference.

Ultrahigh voltage transmission lines refer to power transmission cables operating at greater than 800 kilovolts direct-current or 1,000 kV alternating-current. Compared with traditional transmission lines, the new lines will not only increase transmission capacity and extend transmission distances, but also reduce transmission losses.

China vows to continue accelerating domestic grid network construction this year with a focus on ultrahigh-voltage power transmission networks amid efforts to further ensure power supply stability and boost green power consumption in the country.

Analysts said the projects will further ensure China meets its carbon neutrality target. Luo Zuoxian, head of intelligence and research at the Sinopec Economics and Development Research Institute, said long-distance power transmission plays a key role in the country in ensuring sufficient power supply as the nation's power supply and demand are not evenly distributed.

With green power in China's solar and wind-rich regions expected to increase on a large scale in the future—including in the Xinjiang Uygur autonomous region and Qinghai province—it is likely that more green power will be transmitted and the technology of ultrahigh voltage power transmission will play a key role, Luo said. The country has pledged to build a new electric power system with a higher share of new energy resources so as to peak carbon emissions by 2030 and achieve carbon neutrality by 2060.

Wei Hanyang, a power market analyst at research firm BloombergNEF, said demand for ultrahigh-voltage transmission lines in the country is expected to be further lifted as China has been developing clean energy on a large scale. It promised to invest 473 billion yuan last year in grid network infrastructure. Total investment in grid network construction during the 2021-25 period is expected to reach 2.23 trillion yuan.

The company said it has constructed 29 ultrahigh voltage projects so far with total length of lines in operation or under construction reaching 46,000 kilometers. All the projects have transmitted more than 2.5 trillion kilowatt-hours as of Thursday.

The company expects its cross-provincial power transmission capacity will gain further momentum from the current 240 million kWh to 370 million kWh, which will provide strong grid support for the country's rapid development of clean energy while ensuring sufficient power supply.

According to State Grid, the Fujian-Xiamen ultrahigh voltage transmission project, with a total investment of 7.1 billion yuan, will further improve the main grid frame structure in Fujian while effectively improving power supply capacity and stability in the country's coastal regions. It expects clean energy installed capacity, including wind and nuclear power, will account for around 80 percent by 2030, and the project—once put into operation

—can well ensure clean power transmission from the region to load centers in southern areas, which will in turn substantially boost large-scale consumption of clean energy. The two ultrahigh voltage transmission lines both adopt the country's world-leading self-developed ultrahigh voltage transmission technology, it said. China launched the world's first 1,100-kV ultrahigh-voltage direct-current transmission network in 2019, and has been investing in high-voltage electricity transmission lines for more than a decade.

Its advantages in better transmission capacity, long-distance operability and low losses during transmission are especially obvious for cross-provincial transmission networks and can better meet the increasing demand for electricity in the central parts of China during the 14th Five-Year Plan period (2021-25).

China Daily
http:// chinadaily.com.cn

25 March 2022

United States and European Commission Announce Task Force to Reduce Europe's Dependence on Russian Fossil Fuels

Today, President Joe Biden and European Commission President Ursula von der Leyen announced a joint Task Force to reduce Europe's dependence on Russian fossil fuels and strengthen European energy security as President Putin wages his war of choice against Ukraine. This Task Force for Energy Security will be chaired by a representative from the White House and a representative of the President of the European Commission. It will work to ensure energy security for Ukraine and the EU in preparation for next winter and the following one while supporting the EU's goal to end its dependence on Russian fossil fuels.

The Task Force will organize its efforts around two primary goals: (1) Diversifying liquefied natural gas (LNG) supplies in alignment with climate objectives; (2) Reducing demand for natural gas.

Diversifying LNG Supplies in Alignment with Climate Objectives

- The United States will work with international partners and strive to ensure additional LNG volumes for the EU market of at least 15 bcm in 2022, with expected increases going forward.
- The United States and the European Commission will undertake efforts to reduce the greenhouse gas intensity of all new LNG infrastructure and associated pipelines, including through using clean energy to power onsite operations, reducing methane leakage, and building clean and renewable hydrogen-ready infrastructure.
- The European Commission will prepare an upgraded regulatory framework for energy security of supply and storage, as well as working with EU Member States to accelerate regulatory procedures to review and determine approvals for LNG import infrastructure. The United States will maintain its regulatory environment with an emphasis on supporting this emergency energy security objective and the REPowerEU goals.
- The European Commission will work with EU Member States toward the goal of ensuring, until at least 2030, demand for approximately 50 bcm/year of additional U.S. LNG that is consistent with our shared net-zero goals. This also will be done on the understanding that prices should reflect long-term market fundamentals and stability of supply and demand.

Reducing Demand for Natural Gas

- The United States and the European Commission will engage key stakeholders, including the private sector, and deploy immediate recommendations to reduce overall gas demand by accelerating market deployment of clean energy measures.
- Immediate reductions in gas demand can be achieved through energy efficiency solutions such as ramping up demand response devices, including smart thermostats, and deployment of heat pumps. The REPowerEU plan estimates that reductions through energy savings in homes can replace 15.5 bcm this year and that accelerating wind and solar deployment can replace 20 bcm this year, and through EU's existing plans such as "Fit for 55" contribute to the EU goal of saving 170 bcm/year by 2030.
- As global leaders in renewable energy, the United States and the European Commission will work to expedite planning and approval for renewable energy projects and strategic energy cooperation, including on technologies where we both excel such as offshore wind.
- We will continue to collaborate to advance the production and use of clean and renewable hydrogen to displace unabated fossil fuels and cut greenhouse gas emissions, which will include both technology and supporting infrastructure.

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