



15 December 2022

RWE announces plans for new UK project combining solar, batteries, onshore wind and sustainable farming

RWE, one of the UK's largest energy providers and renewables developers intends to expand its solar business into the UK, with early planning for a project to be located on land in south Yorkshire and north Lincolnshire.

The UK project, named Tween Bridge Solar Farm, recently secured a capacity agreement with National Grid - a vital next step in a green energy development which aims to provide thousands of homes and businesses with renewable electricity. Located on land to the east of Thorne, Tween Bridge Solar Farm has an agreement for a possible generation capacity of up to 600MW which could be operational by 2029. The project would be located next to RWE's existing Tween Bridge onshore Wind Farm; therefore, no additional overhead power lines or other network infrastructure would be required.

Katja Wünschel, CEO Onshore Wind and Solar Europe & Australia of RWE Renewables commented, "Solar in combination with battery storage fits well into RWE's UK development portfolio, where we already generate 15% of the country's energy needs. Our strategy is geared towards sustainability and the vigorous expansion of large scale solar will be part of these ambitions." Once constructed, the land would simultaneously host both solar power generation, battery storage, onshore wind and animal husbandry. It is planned for Tween Bridge Solar to become one of the largest lowland sheep farms in the country and an opportunity has also been identified for a bee farm on the site.



Tween Bridge Solar is RWE's latest project entering early planning as it expands its UK renewable portfolio. Its established presence in south Yorkshire and north Lincolnshire includes onshore wind farms at Goole Fields and Tween Bridge, plus offshore wind farms the Humber Gateway and Triton Knoll. In addition, the company is developing the Grimsby



Hub, an expanded operations and maintenance base providing specialist services to its offshore fleet, while creating jobs and apprenticeships for local people. The plans are the latest effort in a national drive to meet net zero targets by providing more clean green energy.

RWE will now undertake detailed environmental surveys following the submission of the project's environmental scoping report to the Planning Inspectorate. Early discussions are also underway with landowners and planning authorities in order to inform the design and layout of the site. RWE is committed to a meaningful consultation with local communities and other stakeholders and informal consultation is expected during spring 2023. Once the proposals are finalised, RWE will be submitting a Development Consent Order (DCO) application to the Planning Inspectorate to seek planning permission.

RWE

<http://www.rwe.com/>

15 December 2022

Regulators grant critical approval for Dominion wind farm

Virginia regulators granted critical approval Thursday for Dominion Energy's plans to construct and operate a 176-turbine wind farm in the Atlantic Ocean.

The State Corporation Commission effectively signed off on an agreement Dominion reached this fall with the Virginia attorney general and other parties, in which the company agreed to implement several consumer protections in connection with the Coastal Virginia Offshore Wind project.

"We thank the Commission for its approval and appreciate the collaboration of the parties involved to reach an agreement that advances offshore wind and the clean energy transition in Virginia," the Richmond-based company said in a statement. "Coastal Virginia Offshore Wind has many benefits for our customers. It is fuel free, emissions free, diversifies our energy mix and is a transformative economic development opportunity for Hampton Roads and Virginia." In its order, the commission also issued a warning about the impact the project will have on the electricity bills of Dominion's captive electric utility customers.

"The magnitude of this project is so great that it will likely be the costliest project being undertaken by any regulated utility in the United States. And the electricity produced by this Project will be among the most expensive sources of power — on both a per kilowatt of firm capacity and a per megawatt-hour basis — in the entire United States," the order said. Dominion filed its application to build and recover the costs of the project with the State Corporation Commission last year. That kicked off a lengthy process before the regulatory agency, one that has included voluminous filings and an evidentiary hearing in May.

The commission initially signed off on the project in August, but it included a consumer protection provision — a performance guarantee — that Dominion strenuously objected to, saying it would kill the project. Several parties to the SCC proceeding, including Walmart, the AG's office and conservation groups, began to hash out a compromise, announcing a proposed agreement in late October that did away with the performance guarantee but does include performance reporting requirements and provisions laying out a degree of construction cost sharing.

The agreement now approved by the SCC calls for a cost-sharing arrangement for any overruns beyond the estimated \$9.8 billion price tag. The company would cover 50% of construction costs between the range of \$10.3-\$11.3 billion and 100% of costs between \$11.3-\$13.7 billion. If construction costs were to exceed \$13.7 billion, the issue would go back to the commission. The proposal would not require the company to guarantee certain energy production levels, like the SCC had initially ordered. Rather, Dominion will have to report average net capacity factors annually and "provide a detailed explanation of the



factors contributing to any deficiency.” Capacity factor is a measure of how often a generating facility runs during a period of time.

The commission will also have the continuing authority to inspect Dominion’s expenditures on the project to ensure they are reasonable and prudent under state law. The project, which will be located about 27 miles off the coast of Virginia Beach, has drawn broad support from local officials, policymakers, business groups and trade unions, who say it will help fight climate change and create jobs. The company already has a two-turbine pilot project up and running. The 2.6-gigawatt, utility-scale project’s schedule calls for an in-service date of late 2026 or early 2027. Dominion expects the project to generate enough clean energy to power up to 660,000 homes. Thursday’s SCC order noted that while Dominion estimates the capital cost of the project to be nearly \$10 billion, total project costs, including financing, are estimated to be approximately \$21.5 billion. Clean Virginia, a clean energy and rate-reform advocacy group, said in a statement that the approved compromise would help hold Dominion accountable.

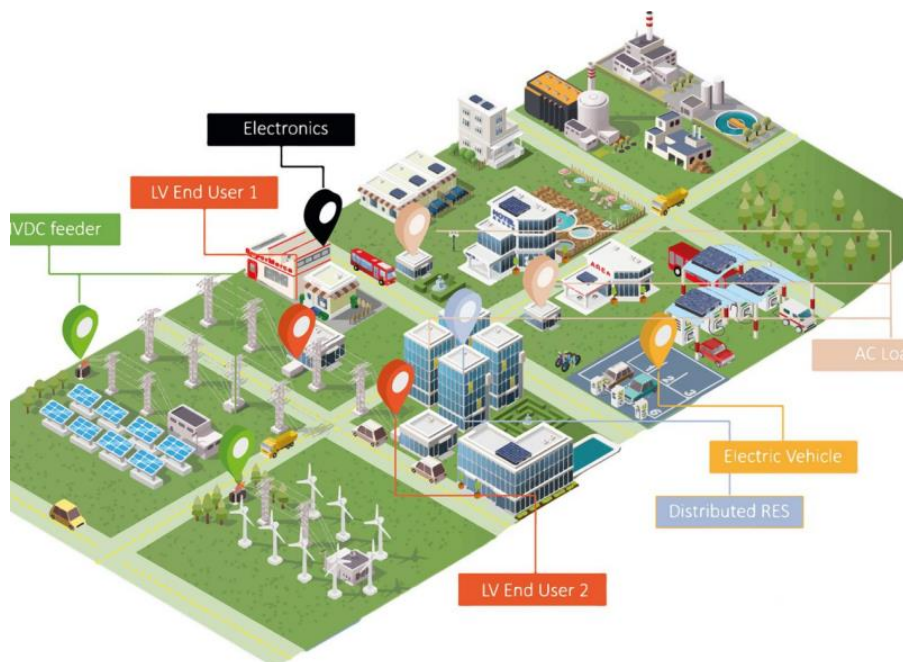
“With its final ruling today, the State Corporation Commission demonstrated that consumer protection must go hand in hand with Virginia’s clean energy transition,” Clean Virginia Energy Policy Manager Laura Gonzalez said. “Absent the Commission’s leadership and pressure from environmental groups, the Attorney General, and Walmart, Dominion Energy would have zero incentive to actually produce clean energy from its offshore wind project or keep costs reasonable.

The Washington Post
<http://www.washingtonpost.com/>

16 December 2022

Hybrid DC microgrid development shows progress

Project TIGON, launched in January 2020 with EU Horizon 2020 funding, is aiming to develop solutions to overcome the challenges of moving from the traditional AC-based grids to a DC-based infrastructure used by most renewables and modern electrical devices and that could advance Europe’s green energy ambitions. The project consortium comprised of 15 partners from eight countries is focused on demonstrating hybrid microgrid solutions to integrate DC loads while maintaining the reliability, resilience and performance of the networks.





Two demonstrations are planned at the Centre for the Development of Renewable Energies (CEDER) in Soria in northern Spain and at the Institute for Solar Energy in Le Bourget-du-Lac in southeastern France. The solutions will then be replicated in two use cases – a public metro network in Sofia, Bulgaria and a residential district in Finland, which will serve as niche markets for assessing their further rollout. TIGON is developing both hardware and software components for the monitoring, control and management of DC grids. The key hardware components are a solid-state transformer, silicon carbide DC/DC converters, DC protection schemes and a medium voltage DC photovoltaic plant.

On the software side the main components are wide area monitoring protection and control, an energy management system, a decision support tool for DC-based grids and a cybersecurity defence system. Following the mid-October first in-person meeting of the project team, project manager Montserrat Lanero from the Spanish research centre Fundación CIRCE reported that the project is generally unfolding according to plan.

“Now our sights are set on preparing TIGON solutions for their deployment at the demo sites so that we can start the operation of these sites, which will be a major new phase in TIGON.” While most aspects are stated to be progressing on time, the supply chain constraints have impacted some of the equipment deliveries and thus the demonstration scheduling.

Power Engineering International
<http://www.powerengineeringint.com/>

16 December 2022

First contracts awarded for US strategic uranium reserve

The US Department of Energy (DOE) National Nuclear Security Administration earlier this year issued a solicitation to purchase up to an estimated 1 million pounds (385 tU) of domestically produced U3O8, through up to four awards of 100,000 to 500,000 pounds U3O8. The US Congress in 2020 allocated USD75 million to set up the reserve.

Strata has been contracted to supply 300,000 pounds U3O8, from US-origin material currently held in the company's accounts. The agreed pricing is above current reported spot and term pricing benchmarks, reflecting the scarcity of US origin materials in the uranium market, Peninsula said. Peninsula recently made the decision to restart uranium production operations early next year at its Lance in-situ leach (ISL) project in Wyoming, where it previously produced uranium from 2015 until 2019. "This transaction with the DOE is highly supportive of our objective to become a long-term reliable uranium producer. We are also pleased to support the DOE's efforts aimed at revitalising the US nuclear fuel cycle," Managing Director and CEO Wayne Heili said.

Colorado-based Energy Fuels owns the White Mesa uranium mill in Utah - the USA's only currently operating conventional uranium mill - and the Nichols Ranch ISL project in Wyoming. The company's announcement did not disclose the size of its contract award but said it expected to realise total gross proceeds of USD18.5 million. It expects to complete the sale of the material - which is currently held in the company's inventory at the Metropolis Works Conversion Facility in Illinois - during the first quarter of 2023.

US and European nuclear industries are actively working to shift away from Russian uranium supply, but this will be a "difficult and lengthy" process, he added. "For the past several years, US uranium production has been near-zero and our only uranium conversion facility has been shut-down. The Uranium Reserve is a small, but important, step toward resolving this untenable situation."

Energy Fuels also announced it has applied to join the HALEU Consortium which was recently launched by the DOE Office of Nuclear Energy to help create a secure domestic



supply of high-assay low-enriched uranium - or HALEU - that will be used by many of the next generation of advanced nuclear reactor technologies.

World Nuclear News
<http://www.world-nuclear-news.org/>

19 December 2022

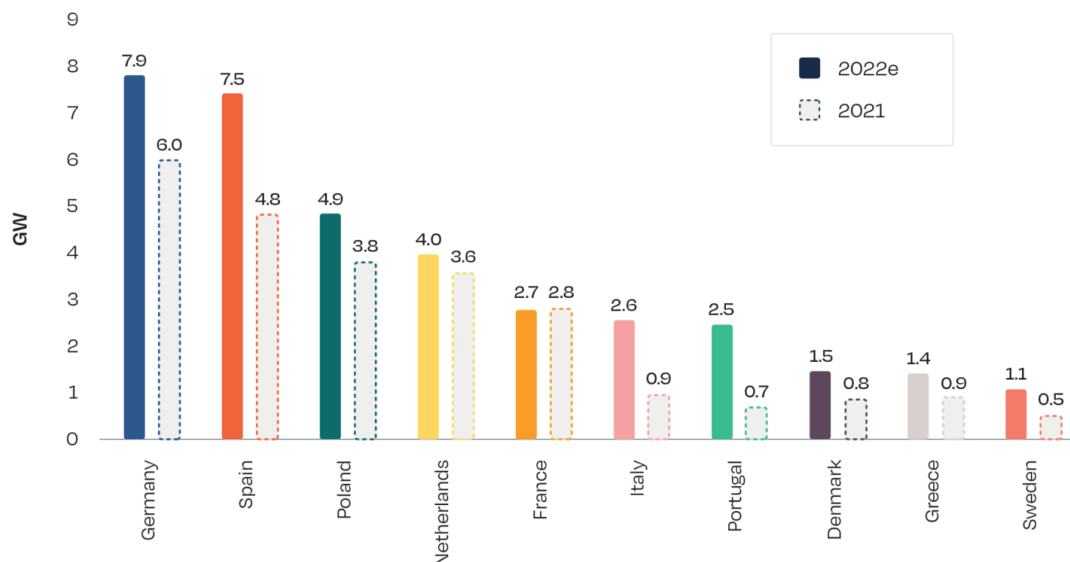
Europe added 41.4 GW of new solar in 2022

Europe added 41.4 GW of new solar capacity in 2022, according to SolarPower Europe’s (SPE) new EU Market Outlook for Solar Power 2022-2026 [report](#). Annual additions grew by almost 50%, up from 28.1 GW in 2021. It’s another record-breaking year for solar, with the continent adding 10 GW more capacity than predicted by SPE in 2021.

Germany again installed more solar than any other European country, adding 7.9 GW. Spain followed close behind with 7.5 GW of new installations, and Poland closed out the top three with 4.9 GW. Poland’s shift from net-metering to net-billing in April 2022, combined with high electricity prices and a fast-growing utility-scale segment, contributed to its remarkable third-place performance.

The Netherlands (4 GW), France (2.7 GW), Italy (2.6 GW), Portugal (2.5 GW), Denmark (1.5 GW), Greece (1.4 GW), and Sweden (1.1 GW) round out the solar top 10, all above the GW milestone according to SPE estimates. While the top five EU markets remain unchanged from 2021, Portugal and Sweden entered the top 10 at the expense of Hungary and Austria. Portugal joined the GW club for the first time thanks to impressive annual growth of 251%, mainly due to the large increase in utility-scale solar.

EU27 TOP 10 SOLAR PV MARKETS 2021-2022



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Italy, on the other hand, finally returns to the GW group after adding an estimated 2.6 GW, 174% year-on-year growth. “The small-scale PV segment has bolstered the market, thanks to the country’s favorable Superbonus 110% incentive scheme, and high electricity prices which have improved the attractiveness of self-consumption business models,” the report reads.

The EU’s total solar power capacity grew by 25%, from 167.5 GW in 2021 to 208.9 GW in 2022, according to SPE. The industry body forecasts annual PV growth in Europe will be 53.6 GW in 2023, and 85 GW in 2026, according to its “most likely” scenario. This



means the EU solar market is set to more than double within four years, reaching 484 GW by 2026.

The report also highlights five key areas for getting Europe ready for solar: expanding the pool of solar installers, maintaining regulatory stability, improving grid stability, streamlining administrative procedures, and strengthening European manufacturing.

[pv-magazine](http://www.pv-magazine.com/)

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

19 December 2022

France's EDF Delays Restart of Nuclear Reactors in Blow to Energy Supply

Electricite de France SA extended maintenance halts at two nuclear reactors by four months and warned it may have to carry out lengthy repairs at seven others next year, further straining European power supplies. The world's largest nuclear fleet has suffered prolonged shutdowns this year that have left Europe even more reliant on natural gas at a time of record prices. While EDF has returned many units to service in recent weeks, its aging plants look set to run far below optimal capacity this winter. That could worsen an energy supply crisis that's already cost Europe \$1 trillion to try to contain. The restart of EDF's Penly-2 unit has been delayed to June 11 from Jan. 29, while its Golfech-1 generator will also be back online June 11 rather than Feb. 18, the utility said Monday in a message to the grid operator. In addition, the halt of Cattenom-3 is extended by one month to March 26, and the restart of Civaux-2 is postponed by more than a month to Feb. 19.

France has been forced to import power, having traditionally been a major exporter to neighboring countries. Its reactors are now running at just over two-thirds of typical capacity. France's grid operator has flagged the risk of a potential power shortfall in the colder months as heating demand rises while EDF continues to grapple with reactor repairs. Multiple plant shutdowns have resulted from stress corrosion cracks on pipes in the reactors' cooling systems. Since EDF uncovered the problem at the end of 2021, it has found that 16 of its 56 reactors are more prone to the issue than its older units because of their designs. Ten of these have been fixed this year or are still undergoing repairs.

On Friday, the utility said it's now considering fully replacing the cooling-system pipes on the remaining six "sensitive" reactors as a preventative measure. It may also opt for a full pipe replacement at Cattenom-1, which is among units already halted for repairs. One country affected by France's nuclear troubles is the UK, which is linked to mainland Europe by giant cables and has typically been able to tap French supply when needed.

The outages put Britain in a more perilous position, especially when temperatures sink and calm weather crimps wind energy, as happened last week. In that instance, the UK was able to import sufficient power from Europe, but France's nuclear woes increase the risk of a shortfall. And it's not only EDF's existing plants that have problems. In a further setback to France's nuclear program, the company said last week that it's delayed the startup of a new reactor in Normandy by several months into 2024 due to extended work. That project is already more than a decade late.

[Bloomberg](http://www.bloomberg.com/)

<http://www.bloomberg.com/>

20 December 2022

ENTSO-E and DSO Entity signed today the Declaration of Intent for developing a Digital Twin of the European Electricity Grid

This joint declaration marks the initiation of the development of a "Digital Twin" of the European Electricity Grid aiming at coordinating investment to foster the digitalization of the energy system.



The declaration was signed by Vincenzo Ranieri, President of EU DSO Entity and Hervé Laffaye, President of ENTSO-E Assembly in presence of European Energy Commissioner Kadri Simson. Digital technologies will be instrumental to support the decrease of Europe's dependence on external supply of fossil fuels ensuring at the same time the affordability and sustainability of an access to energy for all and also to enable the participation of a larger span of consumers. To meet this goal, the European Commission stressed the need to build a smarter and more interactive energy system to optimise resources efficiency and implement decarbonization, electrification, sector integration and the decentralization of the energy system.

The EU Action Plan "Digitalizing the Energy System" proposed by the EU Commission in October 2022 outlined a series of measures to be taken and to be invested in to enable a swift transition where the EU Green Deal and the Digital Decade EU Policy programme for 2030 go hand-in-hand. In this regard, ENTSO-E and DSO Entity signed today the official Declaration of Intent to develop jointly the Digital Twin of the EU electricity grid as suggested in the EU Action plan from last October. The digital twin will be a sophisticated virtual model of the European electricity grid which aim is to enhance the efficiency and smartness of the grid throughout the energy system as a whole and through continuous investment and innovation efforts for years to come. It will ensure the development of innovative solutions and coordination of investment in five areas:

- Observability and controllability;
- Efficient infrastructure and network planning;
- Operations and simulations for a more resilient grid;
- Active system management and forecasting to support flexibility and demand response;
- Data exchange between TSOs and DSOs.

In parallel, and liaising with regulatory authorities, it will provide guidance and support for network operators on sustainable and cost-effective smart investments by the development of a tailored set of "Smart Grid Indicators" (SGI). These SGIs will help to foster investments in smartening the grid for enhanced capacity and flexibility, geared to empowering consumers to take part in energy transition.

ENTSO-E and DSO Entity will kick start the set-up of a common Task Force which will work out an implementation plan and identify joint actions and deliverables covering the five areas composing the Digital Twin of the electricity network.

Hervé Laffaye, President of ENTSO-E Assembly: "ENTSO-E and DSO Entity are already successfully collaborating in various areas to ensure a common approach for the European electricity grids. Today's event marks the path to a new activity to the common working endeavour of which we are very proud of."

Vincenzo Ranieri, President of EU DSO Entity: "Based on this Declaration of Intent, DSO Entity and ENTSO-E will closely cooperate to provide further guidance to grid operators to optimize their investments into smartening the network. This will optimize the way grid operators manage their network, unleashing resiliency and flexibility potentials. In that way, the European Power System can effectively evolve as an enhanced open grid which will empower consumers to take an active part in the energy transition."

Kadri Simson, European Commissioner for Energy commented: "Looking back at the past three years of this Commission's mandate and our cooperation, one can only be amazed at how much has changed, and how much higher the stakes have become. But what is constant: the digitalisation of the energy system is instrumental to achieve our energy and climate goals."



20 December 2022

Vattenfall Will Build 1.3-GW Offshore Wind Farm Near Finland

Vattenfall, the Sweden-based multinational power company, will build and operate Finland's first gigascale offshore wind farm as part of a joint venture with Finnish state-owned seabed and forest management group Metsähallitus.

The project announced Dec. 20 is the 1.3-GW Korsnäs plant in the Bay of Bothnia, which sits between Sweden and Finland in the Baltic Sea. The plant will be located off the west coast of Finland, about 250 miles south of the Arctic Circle. The wind farm, which reportedly will represent an investment of as much as €3 billion (\$3.2 billion), is expected to produce about 5 TWh of power annually. Officials on Tuesday said it is expected to be completed in the next decade.

"We are very honored to have been selected to develop Finland's first large-scale offshore wind farm," said Helene Biström, head of the wind business area at Vattenfall. She added that Vattenfall would "bring our broad experience to the Korsnäs project, supporting Finland to reach their ambitious climate targets." Elina Kivioja, chief executive at Vattenfall's Finnish unit, said the project will enable the company to expand its role as a producer of renewable energy, in addition to its present status as one of the largest electricity retailers.

"As one of the largest sellers of electricity, Vattenfall has redeemed its role as a partner for Finns," said Kivioja. "With the offshore wind power project, we are expanding our role to become a significant producer of renewable energy in Finland." Finland's offshore renewable energy at present features only the 42-MW Tahkoluoto wind farm, near Pori, which was built by wind developer Suomen Hyötytuuli. The Finnish government has issued a permit to expand that project by as much as 900 MW. The country has a goal to be carbon-neutral by 2035.

Finland also, like other European nations, wants to expand its renewable energy resources to replace energy imports from Russia, which have been cut due to Russia's ongoing war with Ukraine. Officials have said Metsähallitus, which oversees much of the country's land and water, is key to development of its energy resources. "The Korsnäs offshore wind power project is a very significant new opening towards the realization of Finland's climate goals and it will strengthen our country's energy self-sufficiency in the coming decade," said Metsähallitus CEO Juha S. Niemelä. "Now that the first auction of the offshore wind power project has been completed, we will continue to prepare future auctions in 2023, as the municipalities of the regions show interest in them."

Niemelä continued: "Vattenfall presented strong experience on large-scale offshore wind projects together with sustainable business practices in addition to competitive commercial terms. We are confident that this project will benefit the people of Korsnäs, the economic zone around Vaasa as well as the state of Finland."

Power Mag

<http://www.powermag.com/>

21 December 2022

Delay to start-up of CGN's first Hualong One unit

Unit 3 of the Fangchenggang nuclear power plant in China's Guangxi Autonomous Region will now not begin operation until the first half of 2023, China General Nuclear (CGN) announced in a statement to the Hong Kong Stock Exchange. The unit - the first of two demonstration Hualong One (HPR1000) reactors under construction at the site - had been due to start up in the second half of 2022.

"The company has recently made an overall evaluation of the construction of the Fangchenggang unit 3 in order to realise the high-quality operation of the first reactor of the



demonstration projects of HPR1000 technology of the company and to ensure the long-term safe and stable operation of the unit when put into operation," CGN said.

"After due consideration, it has been decided to adjust the expected time of commencement of operation of Fangchenggang unit 3 to be the first half of 2023." CGN noted that an operating licence for Fangchenggang 3 was granted on 25 November and that the loading of fuel into the reactor's core was completed on 28 November. "As at the date of this announcement, Fangchenggang unit 3 is in commissioning phase," it said. "The group will continue to coordinate resources and strengths from all parties and strengthen the control and management of the safety, quality, progress, investment and other aspects of the project, with an aim to promote the completion of commissioning work, smooth grid connection and commencement of commercial operation of Fangchenggang unit 3," CGN said.

First concrete was poured for the nuclear island of unit 3 of the Fangchenggang plant - 39% owned by Guangxi Investment Group and 61% by CGN - in December 2015, while that for unit 4 was poured a year later. Unit 3 was originally expected to start up in 2019, with unit 4 scheduled to start up in 2020. Both their start-ups were subsequently postponed until 2022. In January this year, CGN announced that the start up of Fangchenggang 3 and 4 had been put back due to delays caused by the COVID-19 pandemic. "The novel coronavirus pneumonia epidemic has had a certain impact on the units' construction resources in the past two years," the company said at that time. The company said the start of operation of unit 3 had been put back to the second half of 2022, with that of unit 4 expected in the first half of 2024.

The two demonstration units of China National Nuclear Corporation's (CNNC's) version of the Hualong One design at the Fuqing plant in Fujian province have both already started up. Unit 5 entered commercial operation on 30 January 2021, with unit 6 following on 25 March this year. CNNC has also started construction of two Hualong One units at the Zhangzhou plant in Fujian province, plus two units at Changjiang in Hainan.

CGN is also building two Hualong One units at Taipingling in Guangdong, as well as two the San'ao site in Zhejiang. It has also started construction of the first of two Hualong One units at the Lufeng plant in Guangdong. Two HPR1000 units have been constructed at Pakistan's Karachi nuclear power plant. Construction began on Karachi unit 2 in 2015 and unit 3 in 2016. These entered commercial operation in May 2021 and April 2022, respectively.

World Nuclear News

<http://www.world-nuclear-news.org/>

22 December 2022

Finnish EPR set to resume test operation

On 18 October, TVO announced that damage had been discovered in the internals of the feedwater pumps located in the plant's turbine island during maintenance and inspection work. Ten days later, it said cracks of a few centimetres had been identified in all four of the feedwater pumps. Earlier this month, TVO said the earliest date for resuming the production of electricity at OL3 had been moved back to 25 December, which would see regular electricity production due to start in February 2023.

The feedwater pumps are Olkiluoto 3's largest pumps and are used to pump water from the feedwater tank into the steam generators. TVO said the cracks detected in the pumps have no impact on nuclear safety

"The investigation into the damage in Olkiluoto 3's feedwater pumps has mainly been completed," TVO said. "The cracks in the impellers of the feedwater pumps have most likely been caused by the test production, where the pumps are used in abnormal circumstances.



The feedwater pumps have been operated outside the range of normal use during production tests, which has led to a higher-than-normal strain on the pumps. The recurrence of similar damage can be avoided by the optimal operation of the pumps as well as using impellers with more robust measurements."

The company said that, based on the results of the investigation and the planned inspection programme for the pumps, the plant's test production can be continued temporarily by using intact pumps of the current model together with cracked feedwater pumps. It said test production will be continued with two feedwater pumps which are using a spare impeller and two feedwater pumps with a cracked impeller. One of the pumps with a cracked impeller is used as a reserve.

"It is of course extremely unfortunate that Olkiluoto 3's test production was interrupted during late autumn when the feedwater pumps' damage was discovered," said TVO President and CEO Jarmo Tanhua. "This caused a long period of uncertainty relating to our production during the winter period. The investigations, which turned out to be especially challenging, have now been completed so that based on them, we can return to completing the last tests in the test production programme and proceed towards regular electricity production."

Test production will continue 27 December, with a test period of about 11 days, during which power levels vary significantly. TVO said around ten significant tests still remain to be conducted. After tests at full power, electricity production will be interrupted for around four weeks in order to inspect the feedwater pumps and restart the plant unit. After that, test production lasting about one month will follow, during OL3 will mostly be operated continuously at full power.

Impellers reinforced with a new design are being produced and are expected to be delivered in late-February or early-March 2023. TVO said time has been reserved in the test production programme to inspect the existing impellers as well as install the new impellers.

OL3 attained first criticality on 21 December last year and was connected to the grid on 12 March. The EPR, a 1600 MWe pressurised water reactor, was operated at full capacity for the first time in late-September. The Areva-Siemens consortium constructed the OL3 plant under a fixed-price turnkey contract. Construction began in 2005 but there have been various setbacks and delays. Once regular electricity production has started, OL3 will produce about 15% of Finland's total electricity consumption.

World Nuclear News
<http://world-nuclear-news.org/>

26 December 2022

Iran plans to install 10,000 MW of new power capacity

The Iranian government plans to install 10,000 megawatts of new power generating capacity with the help of private investors, an official with Iran's Thermal Power Plants Holding Company (TPPH) says. "Based on the planning, it has been decided that up to 5,000 megawatts of F-class combined cycle power plants will be built by the state in eight different areas. In the first phase, the program to build four power plants is on the agenda," Alireza Nasrollahi said. "Also, it was decided that 5,000 megawatts of projects for F-class power plants will be implemented by the private sector on the recommendation of the government. Therefore, we are facing the prospect of building 10,000 megawatts of F-class power plants in the country."

The first government-owned F-class power plant has already entered operation, part of Iran's continuing plan to add more natural gas-fired power generation. The plant is located in Hengam in Iran's southern Hormozgan province. It is part of a larger project led by MAPNA Group, which is Iran's largest power plant engineering, procurement, and construction (EPC)



contractor. The power plant has two 307 MW F-class gas turbines - which, Nasrollahi said, have gone operational - and a 292 MW steam unit, with a total capacity of 906 MW and an efficiency of 58 percent. The second project is underway in Dukohe, Andimeshk, whose gas unit will be put into operation this winter. The third combined cycle project is being implemented in Bonab in northwest Iran, where the plant's gas unit is projected to become operational next year, Press TV reported. Another combined cycle power plant project is built in Ahvaz, said Nasrollahi who is the executor of combined cycle power plants. According to Nasrollahi, water consumption has been greatly reduced in F-class power plants.

Previously, the efficiency of E-class combined cycle plants was around 50%, where an upgraded gas turbine produced between 160 and 200 megawatts of power. With the induction of F-class turbines, the efficiency has increased by 58 percent, and the production capacity of each gas turbine has reached 300 megawatts. MAPNA is the largest contractor for steam, gas and combined cycle and renewable power plants in Iran, which has carried out major projects in the Middle East and beyond. According to MAPNA Group CEO Abbas Aliabadi, the company has built more than 5,000 megawatts of thermal power plants across the world and begun manufacturing hydrogen-fueled turbines.

Mehr News Agency
<http://mehrnews.com/>

26 December 2022

Thousands lose power after three substations targeted in Washington state, sheriff says

Thousands of residents were without power near Tacoma, Washington, after three electrical substations were vandalized, local authorities said on Sunday, adding that it was not yet clear if the Christmas Day incidents were linked. The Pierce County Sheriff's Department said robberies were reported at two substations belonging to Tacoma Public Utilities and another belonging to Puget Sound Energy. Deputies cited forced entry into the fenced-in area, with equipment vandalized but nothing taken from the sites, it said. More than 14,000 customers were affected. "At this time deputies are conducting the initial investigation. We do not have any suspects in custody. It is unknown if there are any motives or if this was a coordinated attack on the power systems," the department said in a statement on its website. Earlier this month, a utility in North Carolina reported outages from what local authorities said were orchestrated shootings now being investigated by federal law enforcement.

The FBI has also been investigating shots fired near a power facility in South Carolina days later, and whether those two incidents could be related, NBC News and other local media have reported. Utilities nationwide have been strained by a severe cold weather system that swept across the country this week, leaving more than 300,000 without power from the winter storm. In east Piece County, about 2,700 people serviced by Tacoma Public Utilities remained affected midday on Sunday after an initial 7,300 residents lost power in the area, about 45 miles (72 km) south of Seattle, Tacoma Public Utilities said in a post on Twitter.

Reuters
<http://www.reuters.com/>

27 December 2022

China Is Building World's Biggest Floating Offshore Wind Farm

China has begun constructing the world's largest floating offshore wind farm at a cost of CNY23 billion (USD3.3 billion). The local branch of Power Construction Corporation of



China, or PowerChina, started work on the 1,000 MW project off Wanning in southern Hainan province yesterday, the report said. When completed, it will generate 4.2 billion kilowatt-hours of electricity for the local area every year.

The project is centered 22 kilometers off the coast at an average depth of 100 meters and covers an area of 160 square kilometers. Its floating platforms make the undertaking more expensive and difficult to build than those with fixed foundations. The first phase will have a capacity of 200 MW and is scheduled to be ready by 2025. It will include 12 wind turbines, each with a 16 MW to 17 MW capacity. There will also be a 220-kilovolt station onshore, linked to the turbines via submarine cables, transmitting energy to the grid. The project's second phase will add about 800 MW and will be finished by 2027.

Yicai Global
<http://www.yicaiglobal.com/>