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Global Transmission Weekly

Update on the global electricity transmission industry

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NORTH AMERICA

US DOE allocates up to USD70 million to enhance energy resilience

The US Department of Energy (DOE) has announced the All-Hazards Energy Resilience Funding Opportunity of up to USD70 million to support research and development (R&D) projects aimed at strengthening the resilience of the nation's energy delivery infrastructure. The funding is designed to address a range of hazards, including cyber threats, physical attacks, natural disasters, and climate change-induced extreme weather events.

The competitive funding opportunity aims to foster innovations that enhance the resilience of US energy systems, encompassing the power grid, electric utilities, pipelines, and renewable energy sources like wind and solar. Proposed project areas include Cyber Research and Development, Climate Mitigation Research and Development, Wildfire Mitigation Research and Development, Physical Security Research and Development, and University-Based Research and Development. The projects aim to advance cybersecurity, reduce cyber risks, and develop innovative solutions to mitigate climate effects on energy transmission, along with addressing the impact of wildfires, enhancing physical security, and integrating university-based research in the electric sector's cyber and cyber-physical security posture.

The fund is managed by DOE's Office of Cybersecurity, Energy Security, and Emergency Response (CESER), which focuses on anticipating and addressing challenges to maintain secure and reliable energy flow across the nation. CESER plans to fund up to 25 research, development, and demonstration projects, with funding ranging from USD0.5 million to USD5 million. It is open to public and private sector stakeholders, universities, and DOE's National Laboratories. The call for applications is open to diverse teams from universities, non-profit and for-profit companies, national laboratories, state and local governments, and Tribal Nations.

Vineyard Wind 1 OWF achieves first power transmission to New England grid

Avangrid – a sustainable energy company and part of the Iberdrola Group, and Copenhagen Infrastructure Partners (CIP) – a global company in renewable energy investments, have successfully achieved power transmission from the 800 MW Vineyard Wind 1 project to the New England grid, for the first time. The recent development marks the commissioning of one wind turbine, and transmission infrastructure associated with the project.

The Vineyard Wind 1 project is one of the large-scale offshore wind farms (OWF) in the US, currently being constructed off the coast of Massachusetts by a 50-50 joint venture between Avangrid and CIP. It is located in federal wind energy area OCS-A-0501, 15 miles south of Martha's Vineyard and Nantucket, and 35 miles from mainland Massachusetts. It consists of an array of 62 wind turbines of 13 MW each, spaced one nautical mile apart on an east-west and north south orientation; two submarine cables from the offshore substation to the landing point onshore at Covell's Beach in Barnstable. From the onshore cable landing site, the cables will be installed underground along public roads to an onshore substation in the village of Hyannis.

Avangrid signed an agreement in August 2022 to assume responsibility as the operations and maintenance services provider for Vineyard Wind 1, upon achieving commercial operations. The latter's offshore construction was initiated in late 2022, with steel-in-the-water achievement in June 2023.

Further testing, both onshore and offshore, is scheduled in the upcoming weeks, aiming for five turbines to operate at full capacity early in 2024.

Alabama Power plans transmission substation at former Ensley Works site

Alabama Power has unveiled plans to construct a new transmission substation on 11 acres of land of the company named, U.S. Steel, at the site of the former Ensley Works steel mill.

The new substation aims to enhance reliability for customers in the area, replacing the outdated substation in Pratt City. It is expected to accommodate future load growth and improve overall reliability, minimising impact on nearby neighbourhoods like Sherman Heights, Pratt City, and Ensley, as most transmission lines already run through the area. The proposed power substation, located at 1475 Pleasant Hill Road, will occupy a small portion of the former steel mill property, with the rest considered a potential industrial site for redevelopment. Despite the long-standing abandonment of the former steel mill, U.S. Steel retains ownership of significant property in the area, which was recently acquired by Japanese steelmaker Nippon.

The Birmingham City Council approved the rezoning of the property from mixed use to a qualified heavy industrial district, paving the way for the development of the transmission substation.

ComEd to reassess investment strategy post grid plan denial by ICC

Commonwealth Edison Company (ComEd), a subsidiary of Exelon, is re-evaluating its investment strategy for 2024 after Illinois Commerce Commission (ICC) rejected ComEd's multi-year grid plan. ICC issued an order in the utility's 2024-27 rate case, approving only approximately one-third of the requested USD1.5 billion in rate increases over four years due to the grid plan denial.

ICC, in a 4-1 vote, turned down ComEd's grid plan, citing non-compliance with portions of the state's Climate and Equitable Jobs Act (which mandates Illinois to transition to a carbon-free power sector by 2045). ICC stated that the utility failed to adequately incorporate customer affordability into its proposal, and the grid plans lacked clarity on how 40 per cent of plan benefits would be directed to low-income and environmental justice communities.

ComEd, dissatisfied with ICC's decision, had previously filed an application on December 22, 2023 seeking a rehearing of the rate case. The application argued that ICC must address legal and evidentiary errors in its decision, including setting an unrealistically low return-on-equity target for ComEd and side-lining all investments above the company's 2022 year-end rate base.

Exelon, in a filing with the US Securities and Exchange Commission, has announced its intention to appeal ICC's order over the first few weeks of 2024. Meanwhile, ComEd will reassess its operational and investment plans for 2024, while emphasising the importance of maintaining a safe and reliable grid. ICC's ruling necessitates ComEd to submit new grid plans by mid-March 2024.

In a recent investor presentation, Exelon estimated that ComEd, representing 37 per cent of Exelon's rate base, would spend USD2.55 billion on capital projects in 2024, consistent with the current year's total. About USD0.55 million of this will be allocated to transmission work, with the remaining USD2 billion earmarked for distribution projects.

Avangrid abandons acquisition of PNM amid regulatory impasse

Avangrid – a sustainable energy company and part of the Iberdrola Group, has officially terminated its USD8 billion acquisition plan of PNM Resources Inc. (PNM) – an Albuquerque-based utility, following prolonged delays in obtaining regulatory approval from the New Mexico Public Regulation Commission (NM PRC).

The acquisition agreement, signed in October 2020, encountered hurdles as the New Mexico regulatory body expressed reservations about a proposed benefits agreement valued at approximately USD300 million. Concerns were raised regarding the service track record of Central Maine Power Company (CMP), Avangrid's Maine utility, alongside an ongoing investigation into alleged spying by three Iberdrola executives. Despite receiving regulatory clearances from various authorities, the unresolved matter with the NM PRC

prompted both Avangrid and PNM to repeatedly extend their merger deadline while seeking a rehearing of their case. The deadline for final regulatory approvals had lapsed on December 31, 2023, as outlined in the merger agreement. The New Mexico Supreme Court, which heard arguments in 2023, is yet to render a decision. The uncertainty surrounding the court review led Avangrid to terminate the merger agreement.

In their statement, Avangrid cited the lack of a clear timeline for the resolution of the court review and subsequent regulatory actions as the primary reasons for terminating the agreement. Avangrid also declined PNM's request for another deadline extension, signalling the end of the proposed merger.

NYPA issues RFI on BESS and renewable energy development opportunities

The New York Power Authority (NYPA) has issued a request for information (RFI) to assess potential interest and opportunities for collaboration with renewable developers, contractors, and companies in the development, ownership, and operation of renewable energy generation projects and battery energy storage systems (BESS).

The RFI aims to build on insights derived from NYPA's recently published Conferral Report, which gathered input on renewable energy deployment through formal conversations with stakeholders, as mandated by legislation in the 2023-24 Enacted State Budget. NYPA is particularly interested in feedback from private sector renewable developers, contractors, and companies.

Responses to the RFI are invited till February 7, 2024.

LATIN AMERICA

ProInversión to award four groups of transmission projects in Peru in 2024

Peru's investment promotion agency, ProInversión, has set a goal of awarding 40 public-private partnership (PPP) asset projects, totalling USD8 billion, in 2024. The PPP awarding goals and asset projects for 2024 include electrical projects within the Plan de Transmisión or Transmission Plan under the Ministerio de Energía y Minas (MINEM) or Ministry of Energy and Mines. Under this, electrical transmission projects worth USD897 million will be offered. These projects have been divided into four groups, Group 1 with projects worth USD337 million, Group 2 with projects worth USD334 million, Group 3 with projects worth USD131 million, and Group 4 with projects worth USD98 million.

Panama's ETESA conducts factory tests for Veladero–Panama line conductor

The engineering department of Panama's state-owned electricity transmission company, Empresa de Transmisión Eléctrica SA (ETESA), conducted factory tests for the new phase conductor of the Veladero–Panama transmission line. These tests are being conducted by Chinese manufacturer selected for the project at its manufacturer's laboratories in the province of Jiangsu, China. As part of an ongoing expansion plan for the transmission network, ETESA is enhancing the capacity of the said 230 kV transmission line, which spans approximately 292.35 km, traversing the provinces of Chiriquí, Veraguas, Coclé, Panamá Oeste, and Panamá. This initiative involves upgrading the existing 230 kV line by replacing the current 750 thousand circular mills (KCMIL) aluminium conductor alloy reinforced (ACAR) phase conductor, with a new high-temperature, low-sag trapezoidal conductor. The implementation of this new conductor is expected to increase power capacity to 500 MVA per circuit under normal operating conditions (temperature of 180°C) and 545 MVA per circuit in emergencies (temperature of 200°C).

ETESA completes installation of new transformer at Panama 1 substation

Panama's ETESA has successfully concluded the installation of a new transformer at the

Panama 1 substation. The project encompassed the supply, assembly, commissioning, and civil works for the replacement of the previous T3 autotransformer at the Panama 1 substation in the Condado del Rey sector, with a total investment exceeding BOB6 million.

The newly installed 230/115/13.8 kV T3 autotransformer boasts a nominal capacity of 350/350/75 MVA.

(BOB1=USD0.15)

Mexico's CFE to execute 15 transmission projects in 2024

Mexican state-owned power company, Comisión Federal de Electricidad (CFE), plans to execute 15 transmission projects aimed at fortifying the Sistema Electrico Nacional (SEN) or national electrical system, in 2024.

As outlined in the bidding rules published by the state company until November 20, 2023, these 15 projects span various regions of the country – some are new initiatives, while others focus on reinforcing congested areas. CFE anticipates completing these projects in the initial months of 2024, while addressing any shortcomings in the tender processes.

Among the notable projects is the Increase in Electric Energy Transmission on the West Coast of the Country (I20) project, which involves an investment of approximately USD750 million to build 766 km of transmission lines at the 400 kV level.

The project spans the states of Sonora, Sinaloa and Nayarit, and aims at enhancing the transmission capacity in the northwest, north and west regions of Mexico.

Another significant project involves the establishment of an underwater interconnection line connecting Cozumel with Playa del Carmen, to address electricity supply challenges on the island.

The need to strengthen electrical networks is urgent, to address energy deficits and enable service continuity in industries and geographically isolated sectors.

ASIA PACIFIC

China's CSG completes Guangdong Target Grid project

Guangdong Power Grid Corporation – a subsidiary of China's second largest power transmission company, China Southern Power Grid Corporation (CSG), has completed the Guangdong Target Grid project. This has resolved the three major problems of excessive short-circuit current, interaction between alternating current (AC) and direct current (DC), and the risk of large-area power outages that have long plagued the operation of Guangdong's power grid. The power supply capacity between the east and west of Guangdong province has been increased from 4 GW to 10 GW, while the total capacity of the province has increased to 300 GW, more than twice the original amount.

The Guangdong Target Grid project comprises 18 main projects spanning over 2,000 km, implemented across two phases including the following:

- Suidong–Hengli capacity expansion and reconstruction project (put into operation in May 2021)
- Guangdong–Hong Kong–Macao Greater Bay Area DC back-to-back Guangzhou project (March 2022)
- 500 kV Qingcheng power transmission and transformation project (April 2022)
- Guangdong–Hong Kong–Macao Greater Bay Area 500 kV Outer Ring middle section (May 2022)
- Guangdong–Hong Kong–Macao Greater Bay Area DC back-to-back Dongguan project (May 2022)
- Shenzhen Central and Western Power Channel project (July 2022)
- Suidong Jiekou Storage and Extension Line project (July 2022)
- Kapok–Zengcheng Line project (November 2022)

- Guangdong–Hong Kong–Macao Greater Bay Area 500 kV Outer Ring eastern section (June 2023)
- Huizhou to Yanda Line project (September 2023)
- Guangdong–Hong Kong–Macao Greater Bay Area 500 kV Outer Ring western section (October 2023)

With this, the main grid structure of Guangdong Power Grid has been formed as a whole with reasonable zoning, flexible interconnection, security and controllability, and now enables the flow of green electricity into the Bay Area. The company has built a new power system in Guangdong with the Guangdong–Hong Kong–Macao Greater Bay Area as the core, comprehensively constructing a flexible DC interconnection main grid based on the outer ring of the Bay Area, improving Guangdong's power grid resource optimisation allocation capabilities and safe operation levels. The project spans 12 prefectures and cities, and is the country's longest 500 kV outer ring channel that can further strengthen Guangdong, Hong Kong, and Macao.

The project has several firsts. The Guangdong–Hong Kong–Macao Greater Bay Area DC back-to-back project is the first in the world to use flexible DC to ensure safe and stable operation of the system. Also, for the first time, a project used 100 per cent domestic insulated gate bipolar transistor (IGBT) devices in the converter unit and developed a new flexible DC converter valve section.

It is also the country's largest provincial-level control system, with indigenously developed, large-capacity 550 kV/8,000 Ampere gas-insulated switchgear (GIS). For a long time, large-capacity switching technology has been monopolised by a few foreign companies. The switchgear was jointly developed and put into operation in cooperation with China Southern Power Grid Research Institute, Xikai Electric, Xi'an Jiaotong University, and other units.

The 500 kV Nanyue back-to-back converter station (as part of the South Passage Project) is the first three-dimensional (3D) scene intelligent operation and maintenance converter station in China that runs through the entire life cycle. Through digital twin 3D technology, operation and maintenance personnel can grasp all details of the equipment, including the temperature and parameters of the multi-layer valve group, without entering the valve hall.

India and Nepal sign power trade agreement for 10 GW of electricity

Nepal and India have signed a long-term power trade agreement to export 10,000 MW of electricity to India over the next decade. The agreement was signed in Kathmandu by the secretaries of the Nepalese Ministry of Energy, Water Resources and Irrigation, and the Indian Ministry of Power. This is a follow-up to the announcement by the prime ministers of the two countries in June 2023 of the commencement of negotiations for India to import 10 GW of electricity over ten years.

The agreement is one of the five signed during the visit by the Indian external affairs minister to Nepal, which also involved the inauguration of three 132 kV transmission lines completed with India's help – Raxaul–Parwanipur, Kushaha–Kataiya and New Nautanwa–Mainahiya lines. Besides the power trade pact, the agreements covered high-impact community development projects (HICDPs), cooperation in renewable energy, the launch of a Nepali space satellite, and the transfer of earthquake relief supplies. India has increased the budgetary ceiling for the implementation of HICDPs from NPR50 million to NPR200 million.

(NPR1=USD0.0075)

POWERGRID emerges as successful bidder for ISTS project in Indian state

India Power Grid Corporation of India (POWERGRID) has received the letter of intent (LoI) to establish an interstate transmission system (ISTS) for a 2,500 MW solar energy zone in Bidar, Karnataka. It emerged as the successful bidder for the project, which will

implemented be on a build, own, operate, and transfer basis under the tariff-based competitive bidding (TBCB) process. The scope of the project comprises the establishment of a new 765/400/220 kV substation at Bidar, 765 kV double-circuit transmission line, and associated bays' extension works at other existing substations in Karnataka and Telangana.

Indian Sterlite Power bags new orders worth INR20 billion in Q2 2023-24

Indian private company, Sterlite Power, has secured a substantial surge in orders for its Global Products and Services (GPS) business during the second quarter (Q2) of 2023-24. The new orders worth INR20 billion, signify a remarkable increase of INR7 billion as compared to Q1. The company's robust performance reflects the global momentum in the transmission infrastructure components market, fuelled by the ongoing wave of energy transition. In the first half of the fiscal year, Sterlite Power secured a cumulative total of INR33 billion in orders for high-performance, green products like conductors, optical ground wire (OPGW), cables, and specialised engineering, procurement and construction (EPC) services, from both domestic and international markets.

The company has secured major orders for projects like POWERGRID's 765 kV Bhadla III–Sikar II (Part-1) double-circuit line and OPGW cable supply for the Part-E transmission project in Rajasthan, supporting renewable energy evacuation efforts in the western region of the country. Internationally, the company is strengthening its presence in the Americas, Africa, and the Middle East. Sterlite Power also received contracts for upgrades to existing power transmission lines of 132 kV and 220 kV in Rajasthan and Odisha.

(INR1=USD0.012)

Techno Electric secures contracts worth INR17.50 billion in India

Techno Electric & Engineering Company (TEECL), an Indian EPC company, has been awarded multiple contracts worth INR17.5 billion.

This includes an INR7.09 billion transmission order for a 765 kV air-insulated switchgear (AIS) substation package for Neemrana-II from Sterlite Power, an INR2.23 billion order for a 765 kV AIS substation package at Sikar from POWERGRID, and an INR2.88 billion contract covering a substation package for 765/400 kV in Dausa district, and extension of the 765 kV Beawar substation in Rajasthan from POWERGRID. Additionally, TEECL secured INR10.41 billion orders from REC Power Development and Consultancy (RECPDCL) for 727,000 smart meters in Kashmir under a design, build, finance, own, operate, and transfer (DBFOOT) model.

(INR1=USD0.012)

Vietnam's EVNNPT keeps projects on schedule in 2024

State-owned Vietnam Electricity's (EVN) subsidiary, National Power Transmission Corporation (EVNNPT), plans to commence 34 electricity transmission projects and complete 63 others during 2024. EVNNPT will focus on key projects to ensure electricity supply throughout the year, including those enhancing the capacity of the 500 kV north-central power transmission grid and serving renewable power plants, as well as for the purchase of electricity from Laos. A detailed schedule for the operational progress of key projects will be established, along with plans to secure sufficient capital for major projects until 2025. The Prime Minister has directed local authorities to focus on tackling obstacles in land clearance compensation for EVNNPT's key electricity grid projects.

EVN reported a 2.8 GW increase in generation capacity in 2023 taking the country's installed capacity to 80,555 MW, which is the highest in the Association of South East Asian Nations (ASEAN) region. EVN invested nearly VND91 trillion in power projects, with 146 grid projects initiated and 163 others completed. In

2024, the company plans to invest over VND101.91 trillion in new projects and complete 190 grid projects of 110-500 kV voltages.

(VND1=USD0.000041)

Sabah passes Bills to take over power sector regulatory authority in Malaysia

In a special session, the Sabah State Legislative Assembly passed three Bills related to the takeover of regulatory authority over the country's power supply, by the Sabah government from the federal government of Malaysia. The Sabah Energy Commission (Amendment) Bill, 2024; the Sabah Renewable Energy Bill, 2024; and the Electricity Supply Bill, 2024 were passed with a majority vote. The objective is to entrust the functions and powers regarding electricity supply and renewable energy from the Suruhanjaya Tenaga (ST) or Energy Commission and the Sustainable Energy Development Authority (SEDA), to the Energy Commission of Sabah (ECoS).

The Sabah government also announced plans to take over Sabah Electricity Sdn Bhd (SESB), a vertically integrated power company in the eastern state of Malaysia, and is working out a formula to realise the plan within seven years. The state government currently holds 17 per cent stakes in SESB, with the remaining held by Tenaga Nasional Berhad (TNB), a state-owned integrated utility that owns a majority of the provincial generation facilities and 100 per cent of the transmission and distribution (T&D) network in Peninsular Malaysia on the west.

The current issues of electricity supply in Sabah are attributed to inadequate generation capacity for the increase in load. The plan is to ensure that the short-term generation development plan is implemented on a fast track to achieve spare generation capacity to a level of 30 per cent. This is in line with the Sabah Energy Roadmap and Master Plan 2040 (SE-RAMP 2040) launched in September 2023. The government plans to advance the installation of a 100 MW BESS scheduled for completion in 2026 to 2024, among other things. In the long term, 400 MW of hydropower will be developed.

SESB is constructing a 31-km, 275 kV double-circuit transmission line project to interconnect Mengalong, Sabah to Lawas in Sarawak, Malaysia. This will facilitate an initial export of 30 MW and eventually 50 MW for 15 years. It will also strengthen the capacity and stability of Sabah's grid to cater to large load requests from industrial users in future. SESB is also building the 330-km, 275 kV Southern Link between Mengalong, Sipitang to Tawau via Upper Padas. Phase 1 up to Upper Padas will be completed in 2024, while Phase 2 from Upper Padas to Tawau is expected to be completed by 2027. This link will serve as a gateway to the Sabah–Sarawak interconnection and provide infrastructure necessary to connect with North Kalimantan, Indonesia.

Philippine ERC issues rules for third-party accreditation of NGCP's grid study

The Philippine Energy Regulatory Commission (ERC) has notified a resolution (ERC Resolution No. 18 of 2023) adopting the accreditation process for third-party system impact study (SIS) service providers, from the National Grid Corporation of the Philippines (NGCP). This follows the amendments issued in June 2022 of some provisions of the Open Access Transmission Service (OATS) rules, including allowing third parties to conduct the SIS to address the backlog of requests. The SIS will determine the capacity of the power grid to accommodate the additional capacities and identify necessary improvements such as additional transmission lines, transformers or substations. The OATS rules require the transmission network provider (TNP), which is NGCP, to maintain a sufficient number of accredited third-party SIS providers to ensure that the timelines for processes prescribed by the rules are met.

The latest ERC resolution includes the guidelines outlining the accreditation process for the services. Under this, an annual review

of the performance of all accredited service providers would be conducted by NGCP. It mandates adherence to a prescribed timeline for completing accreditation evaluations. NGCP is required to regularly update its simulation software to ensure continuous software support, security and compatibility. The objective of these initiatives is to foster a more transparent electricity market, ensuring the safe, reliable and efficient operation of the power system.

In a separate development, NGCP called for better resource planning after Panay Island experienced a power outage on January 2, which it attributed to the tripping of multiple power plants isolating the island from the rest of the Visayas grid. Power was restored in Panay Island on January 5, four days after the blackout. NGCP also announced that transmission operations were fully restored in all areas on the island. It has called for improved planning to ensure sufficient generation per island with a well-balanced mix of fuels and technology, and recommends the review of the Philippine Grid Code to cater to renewable energy sources, particularly the effective use of emerging technologies such as energy storage systems, among others.

EUROPE

UK-Denmark Viking Link begins commercial operations

The UK's transmission system operator (TSO) National Grid has announced that the UK–Denmark Viking Link interconnector has commenced commercial operations. The GBP1.7 billion project has been completed by National Grid Viking Link (NGVL)—a subsidiary of the UK's National Grid and Danish TSO Energinet. The 1.4 GW link involves a 765-km, +525 kV high voltage direct current (HVDC) cable system including 621 km of submarine cables, 68 km of onshore cable on the UK side from Sutton-on-Sea to Bicker Fen substation in Lincolnshire, and 76 km on the Danish side up to the Revsing substation in southern Jutland. This marks the first interconnection between the two countries.

Siemens Energy, the principal contractor for the project, designed, installed and commissioned the electrical assets on both sides. It also built the converter station in the UK while Energinet built the Danish converter station.

The HVDC offshore cable was manufactured and laid by Prysmian Group. In the UK, Balfour Beatty installed the HVDC land cable manufactured by Prysmian Group, while the Danish land section was manufactured by NKT and installed by Monck.

Construction on Viking Link started in 2019. In August 2023, the final cable testing for the interconnector was completed. The cable underwent testing at 735 kV, which is 1.4 times its normal operational voltage of 525 kV. This successfully verified the integrity of the cable terminations, both on land and underwater joints.

Initially, the Link will operate at a capacity of 800 MW and will increase to full capacity in 2025 when the Danish electricity grid is ready. . The two TSOs will work together to bring the interconnector up to full capacity.

(GBP1=USD1.27)

Germany's BNetzA approves Section A of TenneT's Fulda–Main line

Germany's energy regulator, Bundesnetzagentur (BNetzA) or Federal Network Agency, has finalised the federal sector planning for Section A of the Fulda–Main line. The project is being carried out by the Dutch-German TSO, TenneT.

The planning of the 53-km overhead line (OHL) with the option of underground cabling (UGC) relates to a corridor between the Mecklar substation northeast of Bad Hersfeld, running south crossing the Fulda district and turning eastwards in Petersberg near Fulda, before ending at the Dipperz substation in Hesse.

The Fulda–Main line connects to the existing Wahle (Lower Saxony)–Mecklar and Vieselbach (Thuringia)–Eisenach–Mecklar systems, and runs parallel to the Wilster–Bergrheinfeld West line between Schleswig–Holstein and Bavaria.

The larger project involves extending the 380 kV line up to Bergrheinfeld West substation in Bavaria to increase the transmission capacity between the latter and Hesse.

In the subsequent planning approval procedure, BNetzA will determine the technical design and route of the line. The whole project is expected to be commissioned in 2031.

German TSO Amprion presents UGC route for A-Nord HVDC connection

Dortmund-based Amprion GmbH, one of the four TSOs for electricity in Germany, has presented the UGC route for the ±525 kV HVDC A-Nord connection.

In October 2023, BNetzA gave its provisional approval to begin construction work in Haren (Ems), Meppen, and Wietmarschen, north of the municipal boundary to Nordhorn, up to Kortenberken Street.

The provisional approval was for building a cable protection tube system and all the necessary measures required to build it. In the same month, Amprion had submitted the planning approval documents for the A-North UGC route, which BNetzA has published on its website for public consultation.

Amprion proposes the following UGC route: From Emsland, the route runs through the urban area of Nordhorn between the Klausheide industrial area and the city centre. Near the border with the Netherlands and west past Bad Bentheim, it avoids the Gildehauser Venn nature reserve to the east. It then runs along the A31 for a short distance through the Steinfurt district in the Ochtrup area. The route runs past Gronau and Heek between Ahaus and Ottenstein, towards Vreden. To the west past Stadtlohn it continues between Südlohn and Oeding into the Borken urban area, before the route runs southeast of Rhede into the Wesel district.

The A-Nord connection will transport the rapidly growing wind power from the North Sea to large consumer centres in North Rhine-Westphalia. In the future, the EUR3 billion DC connection will absorb around 2 GW of wind power from the North Sea region in Emden and bring it to Meerbusch-Osterath near Düsseldorf. The A-Nord DC connection is expected to be commissioned by mid-2027.

(EUR1=USD1.10)

TenneT submits application for Schleswig-Holstein section of SuedLink

Dutch-German TSO, TenneT, has submitted an application to BNetzA for its last section under the SuedLink project. TenneT is responsible for the northern section of the SuedLink and the converters in Schleswig-Holstein and Bavaria, while German TSO TransnetBW is responsible for the southern section of the route and the converter in Baden-Württemberg.

The Schleswig-Holstein section runs from the converter locations and network connection points in Wilster and Brunsbüttel, to the municipal border of Wewelsfleth in Elbe. The documents contain a detailed description of the pipeline route, construction methods, and required land. BNetzA is expected to publish the plans in the first quarter of 2024 for public consultations and then issue the planning approval decision, based on the feedback received. All SuedLink sections in the north, between Schleswig-Holstein and southern Lower Saxony, are at the end of their approval process or are already under construction. The entire EUR10 billion SuedLink is planned for completion in 2028.

(EUR1=USD1.10)

EC, France, Portugal and Spain sign MoU for cross-border interconnections

The European Commission (EC) has signed a Memorandum of Understanding (MoU) with

the energy ministers of France, Portugal and Spain on cross-border energy interconnections in South-West Europe. The MoU builds on the cooperation in the framework of the High-Level Group on Interconnections in South-West Europe, the 2015 Madrid Declaration and the 2018 Lisbon Declaration, and acknowledges that a fully interconnected European energy network is a precondition to ensure secure, affordable and sustainable energy in the European Union (EU).

As per the MoU, the countries would cooperate on key strategic projects such as establishing cross-border interconnections and implementing priority electricity projects. The MoU also introduces new priorities on offshore infrastructure and renewable energy projects, exploring the potential of renewable hydrogen in the Iberian Peninsula and France, and related transport infrastructure.

Spanish Redeia issues EUR500 million green bond

Redeia Corporacion SA, the parent company of Spain's power grid operator, Red Electrica, has issued a EUR500 million green bond to finance projects within Red Electrica's green finance framework. These include planned investments in the development of Spain's transmission grid.

The notes have an annual coupon of 3 per cent, and issuance price of 99.405 per cent, with a yield of 3.07 per cent. The bond would mature in ten years.

Financial services providers Barclays, Banco Bilbao Vizcaya Argentaria, S.A. (BBVA), BNP Paribas, CaixaBank, Citi, ING, Mediobanca and Santander participated in the issuance, which attracted a significant investment from the European Investment Bank (EIB).

(EUR1=USD1.10)

Greek Mytilineos secures EUR400 million loan from EIB

Greek Mytilineos Energy and Metals, an industrial and energy multinational company, has signed a 10-year loan contract with EIB for investments in BESS and solar photovoltaic (PV) parks. The new facilities, which will be located in various less-developed and transition areas across Greece and the EU, have a timeline of 2027. The EUR400 million financing will also help upgrade the existing electricity grid, enable better management of power supply, increase reliability, and cater for future demand.

This new financing agreement is another part of the EIB's tailored package of support to RepowerEU, the EU's ambitious multi-billion plan to reduce dependence on fossil-fuel imports, accelerate the green transition, and help Europe cut its carbon emissions to net-zero by 2050.

(EUR1=USD1.10)

Finnish Fingrid to appeal Energiavirasto's decision in Market Court

Finland's TSO, Fingrid Oyj, is appealing the Finnish Energiavirasto or Energy Authority's decision on the regulatory methods for grid operations, in the Market Court.

Energiavirasto had recently given its decision on the methods concerning the specifications of the returns for electricity transmission grid operations for the sixth regulatory period (January 1, 2024–December 31, 2027) and seventh regulatory period (January 1, 2028–December 31, 2031). The key issue is a proposal by the energy agency to freeze the valuation of grid assets in response to inflation concerns for the 2024-2031 period.

As per Fingrid, the decision on the regulatory methods is a significant weakening of the electricity transmission grid operations' reasonable return regulatory method that expired on December 31, 2023.

As per the country's distribution system operator (DSO) Caruna, the new rules could deflate the value of grid assets over time, with returns failing to cover associated costs of financing and maintenance, resulting in significant delays to green production and consumption projects.

Fingrid is continuing to implement its largest investment programme but is assessing the profitability of its future grid investments due to the new regulatory methods set by the Energy Authority.

Fingrid is of the view that the assessment of impacts in preparing the regulatory model decision has been deficient and there are still issues open to interpretation related to the presented decision. Fingrid is advocating for a solution that would also enable the future development of the grid, allowing its investments in Finland to be implemented as planned.

Swedish SvK submits application for 400 kV Porjusberget–Naalojärvi line

Sweden's TSO, Svenska Kraftnat (SvK), has submitted an application to the Energy Markets Inspectorate (Ei) to build a 400 kV line between Porjusberget in Jokkmokk municipality and Naalojärvi near Vitåfors in Gällivare municipality.

The line will envisage an investment of SEK43 million, while a new transmission network station in Naalojärvi near Gällivare would cost SEK 172 million. The 50-km line will help increase the power output in the region and supply power to Hybrit, which is a pilot plant for the production of fossil-free sponge iron. Initially, the new line will have a capacity of 900 MW; when further reinforcements are made in the network, it will be able to deliver up to 1,500 MW.

The project is part of SvK's initiative and Ei's mandate to reduce lead timeson projects.

(SEK1=USD0.097)

MIDDLE EAST AND AFRICA

Keir signs 132 kV cable contract with Saudi Arabia's National Grid

Saudi-based Keir International has signed a SAR14.05 million contract with Saudi Electricity Company's (SEC) subsidiary, National Grid S.A, for a Riyadh project. The contract, awarded on December 11, 2023, entails the network expansion of 132 kV high voltage underground cables in Riyadh. The scope of the contract covers the protection, substation automation, design, and telecommunications processes of the station. The project must be delivered in 21 months from the signing date of January 3, 2024. The contract follows an earlier SAR34.13 million contract secured from SEC in November 2023 for the replacement of a cable circuit with a new one at the station in Riyadh city.

In 2023, SEC awarded contracts worth close to SAR180 million to Keir.

(SAR1=USD0.27)

Egypt and KfW sign agreements and grants worth EUR76 million

The Ministry of International Cooperation of Egypt and the German Kreditanstalt für Wiederaufbau (KfW) Development Bank inked soft development financing agreements and grants worth EUR76 million. With this funding, Egypt aims to fund multiple electricity sector projects and drive the nation's green evolution toward renewable energy sources (RES).

The first GBP53 million agreement extends soft development financing and a grant for the Ministry of Electricity and Renewable Energy's smart grid development project. The project aims to boost the Abis transformer station's capacity by 450 MW, alleviate loads in the new city of Abu Qir, and ensure network stability post closure of the current low-power station. It will also enhance service efficiency and facilitate access to RES from the Red Sea region to the northern coastal area.

The agreement falls within the framework of the joint political declaration in November 2022 with Germany and the US to support the energy initiatives within the Nexus Water, Food & Energy (NWFE) programme. The collaborative effort aims to expedite Egypt's 42 per cent RES generation by 2030, instead of 2035. Germany has pledged EUR258 million in concessional financing, debt swaps, and grants

to bolster the NWFE programme's energy initiatives. Furthering this commitment, a EUR54 million debt swap tranche was signed in June 2023 for the electricity transmission project, aiming to support increased RES use, mitigate greenhouse gas emissions, and facilitate the transition toward sustainability. The latest agreement is the second within the tranche agreed by Germany.

The second is a EUR23 million soft development financing agreement for an energy efficiency project (EUR8 million) and rehabilitation of hydroelectric stations (EUR15 million) in Egypt.

(EUR1=USD1.10)

Kenyan Parliament calls for settlement of KES43 billion owed by power utilities

Kenyan Members of Parliament (MPs) have asked the Treasury and Ministry of Energy to settle outstanding payments totalling KES43 billion owed by various power utilities in Kenya. The National Assembly's Committee on Energy presented these figures as part of the report on the scrutiny of the budget implementation by Ministry of Energy for 2022-23. The unpaid dues involve entities such as the state-owned Kenya Electricity Transmission Company (KETRACO) (KES22.2 billion), Kenya Power and Lighting Company (KPLC or Kenya Power) (KES19.6 billion), Geothermal Development Company (GDC) (KES1.2 billion), and the Nuclear Power and Energy Agency (NuPEA) (KES82.9 million). The dues of the former three companies pertain to works done by contractors, budgetary constraints, litigation and wayleave compensation, and that of NuPEA pertains to conferences and project funding constraints.

In the report, the committee recommended the prioritisation of payments, specifically emphasising compensations owed for wayleaves to individuals and those pending for more than four years, with a deadline set for February 28, 2024. The committee suggested a more balanced distribution of limited annual funding across multiple pending bills instead of settling them one at a time. The committee noted that at the end of the fiscal year 2022-23 ending June 2023, Kenya Power owed KES82 billion – to independent power producers (KES38.9 billion), to KenGen (KES21.7 billion) and Rural Electrification and Renewable Energy Corporation (REREC) (KES7.8 billion), for power imports (KES4.2 billion), and to KETRACO (KES4.2 billion), and other suppliers (KES6.6 billion).

(KES1=USD0.0064)

Mulilo-EDF chosen as preferred bidder for 257 MW BESS in South Africa

A consortium comprising South African independent power producer (IPP), Mulilo Energy Holdings (Pty) – a majority owned by CIP, and EDF Renewables (Pty) – a local unit of French EDF, has been chosen as the preferred bidder for three BESS projects in South Africa. These projects – Oasis Aggeneis, Oasis Mookodi, and Oasis Nieuwehoop – will have a combined capacity of 257 MW/1,028 MWh and an expected investment of ZAR7 billion.

The projects were awarded under South Africa's first bid window of the Battery Energy Storage Independent Power Producer Procurement Programme (BESIPPPP) facilitated by the Department of Mineral Resources and Energy (DMRE). Under this window, DMRE aims to procure 513 MW of BESS across specific Eskom transmission substations in South Africa's Northern Cape province. Earlier in November, under the same bid window, it had declared Norwegian Scatec ASA as the preferred bidder for the Mogobe (Ferrum) BESS project totalling 103 MW/412 MWh. With the latest award, DMRE has awarded four projects procuring a total of 360 MW/1,440 MWh.

Power from these projects will be dispatched under a 15-year power purchase agreement (PPA). DMRE earlier announced plans to conclude commercial negotiations by June 2024.

(ZAR1=USD0.053).◆