3 April 2018

Nepal prepares new route suggestion for cross-border line with China

The monitoring department of the state-owned Nepal Electricity Authority (NEA) has worked out a new alignment for the 400 kV Rashuwagadi (Nepal)–Kerung (Tibet) cross-border transmission project that avoids Langtang National Park in the north of Kathmandu.

A preliminary feasibility report prepared by the NEA recently had identified three potential routes for the proposed project, but NEA rejected all of them because the suggested routes passed through the nature and wildlife preserve.

The department will submit the report with the new route suggestions to NEA, which in turn will forward the same to Nepal's Ministry of Energy.

After the ministry approves the route, the NEA will hold talks with China's State Grid Corporation of China (SGCC) to finalise the development of the project and the construction modality. The Chinese government has appointed SGCC as the focal institution for the development of the project.

The project is estimated to cost NPR10 billion. The Nepal government has selected the project for potential financing under the China-proposed Belt and Road Initiative (BRI), under which it plans to restore the ancient Silk Road for promoting trade and economic integration between Asia, Europe, and Africa. The country had signed an MoU with China to become part of the initiative in May 2017.

Global Transmission
http://www.globaltransmission.info

4 April 2018

Belgium maintains nuclear phase-out policy

The Belgian government has approved a new "energy pact" that maintains the previous policy to phase out nuclear energy in the country by 2025. A draft bill on the new federal energy strategy will be submitted to the cabinet by the end of May.

The energy pact was agreed last December by Belgium's four energy ministers, at federal, Brussels, Walloon and Flemish level. The new strategy maintains the country's plan to shut down its seven operating nuclear reactors by 2025. It also calls for investments in gas and renewables, particularly off-shore wind turbines, to replace the capacity that will be lost through the nuclear phase-out.

The Council of Ministers approved the new energy strategy on 30 March.

The government noted that while the energy and climate objectives for the period 2021-2030 had already been set at the European level, the national energy and climate plan to 2030 has yet to be agreed between the different federal entities. However, the new energy strategy confirms that Belgium will adopt its national energy strategy for 2030 by next year.

The latest federal energy strategy, the government said, aims to ensure security of supply; respect the Paris climate change agreement; maintain affordable energy for businesses and families; and maintain the highest level of safety at energy facilities.

Belgium's seven operating nuclear reactors - four at Doel and three at Tihange - produce about half of the country's electricity.

"To achieve the very ambitious climate goals, we need all the solutions existing today: nuclear energy, like renewables, produces very few CO2 emissions," Belgian trade body Forum Nucléaire said yesterday. "As a carbon-free energy source, nuclear enables Belgium to ensure its security of electricity supply, maintain a stable price for energy and move towards its climate objectives. Nuclear energy will enable the energy transition."

A study by PwC Enterprise Advisory, commissioned by Forum Nucléaire and published in October 2016, concluded that even with "massive" development of renewable energy sources, a nuclear phase-out would lead to a "considerable deterioration" in Belgium's carbon footprint by 2050, with the country needing to resort to imports and "more expensive power plants". The study also found that without nuclear capacity, Belgian electricity generation would not be enough to meet the country's demand.

In a May 2016 report, the International Energy Agency also noted that the country's policy to phase out the use of nuclear energy by 2025 "does not help Belgium meet any of its energy policy goals".

According to the IEA, "A rapid phase-out ... would have a significant impact on energy supply, on the level of electricity prices and on the country's ability to meet its long-term GHG emission targets." It suggested, "The government should reconsider the current phase-out policy and opt for a more gradual approach. A better option would be to allow nuclear power plants to run as long as the regulator considers them safe. The IEA recommends the government to simply avoid a phase-out as it is currently envisaged."

In November 2017, three major Belgian business associations – Essenscia, Agoria and Febeliec – said that shutting all nuclear plants by 2025 was not an affordable idea, and that the plan would boost carbon dioxide emissions and damage Belgian businesses.

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

4 April 2018

Global renewable capacity rose to 2,179 GW at the end of 2017

According to the International Renewable Energy Agency (IRENA), the global renewable power capacity rose by 8.3% (+167 GW) to reach 2,179 GW in 2017, of which 1,152 GW for hydropower (53%), 514 GW of wind power (23%), 397 GW of solar energy (18%), 109 GW of bioenergy, 13 GW of geothermal and 500 MW of marine energy (tidal, wave and ocean energy).

The main driver behind this growth is solar energy with 94 GW of capacity increase (+32%), then wind energy with 47 GW (+10%), while hydropower (+21 GW, +2%) and bioenergy (+5 GW, +5%) increased slightly. Solar and wind facilities accounted for 85% of the new renewable capacity installed in 2017.

These capacities are spread mostly in Asia, which accounted for 64% of the new capacity in 2017 (+58% in 2016) resulting in a renewable energy capacity of 919 GW (42% of the global capacity). It was also the fastest growing region (+13%), while Europe gained the second rank in capacity expansion with an increase of 24 GW (+4.8%). In North America, capacity additions slowed down in 2017 (+16 GW, +4.9%) compared with the recent years' average (+25 GW/year).

75% of the global wind power expansion came from five countries: China (+15 GW), the USA (+ 6 GW), Germany (+6 GW), the UK (+4 GW) and India (+4 GW). As for solar

energy, three countries accounted from most of the growth: China (+53 GW, +68%), India (+9.6 GW, +100 %) and Japan (+7 GW, +17%).

Enerdata
http://www.enerdata.net

4 April 2018

EU ETS CO_2 emissions rose for the first time in 7 years in 2017

The European Commission has released the first 2017 carbon market emissions figures: emissions under the EU Emissions Trading System (ETS) rose by 0.3% to 1.756 Gt of CO_2eq - the first increase in the last seven years - owing to a more significant industrial output. Industrial emissions under the ETS grew by 1.8%, while emissions from power and heating generation fell by 1%. If aviation is included (+6.1% in 2017 due to an increase in air traffic), total EU ETS emissions rose by 0.5% to 1.821 Gt of CO_2eq.

Around 12,000 power plants, factories and airlines accounting for approximately 45% of the European Union's greenhouse gases (GHG) emissions are currently regulated by the EU ETS. This scheme is expected to contribute to 2/3 of the emissions reductions required to meet the EU target of cutting emissions by 20% from 1990 levels by 2020.

Enerdata
http://www.enerdata.net

6 April 2018

Position on FES request for PJM emergency order complicated by Trump comment

The emergency order request recently filed by First Energy Solutions with Energy Secretary Rick Perry to give financial support to some PJM coal and nuclear facilities may have gained ground with reports late Thursday that President Trump expressed some support. But industry experts are skeptical the request will get traction. The request for a declaration of emergency in the PJM Interconnection market under little used Section 202c of the Federal Power Act was filed with the DOE by FES on March 29. FES on the same day said it would be retiring its three nuclear facilities by 2021, and two days later the Akron, Ohio-based merchant generating arm of FirstEnergy filed a Chapter 11 bankruptcy petition.

FES's request for an emergency order was based on its belief that PJM should immediately begin negotiations to secure the long-term capacity of nuclear and coal-fired generation and see asset owners compensated "for the full benefits" their assets provide.

Speculation began immediately as to how Energy Secretary Perry would respond to the application. On Thursday evening, during a speech in West Virginia, President Donald Trump told the audience, "We'll be looking at that."

FES has also said that the US Federal Energy Regulatory Commission, in rejecting in January the NOPR put forward by Secretary Perry in late September that called for certain nuclear and coal-fired facilities with 90 days of fuel onsite to receive cost recovery, had "failed to acknowledge" the value of those plants providing reliability to the grid.

AN APPROVED ORDER WOULD BE COURT CHALLENGED

It remains unclear whether Secretary Perry will approve the Section 202c application. "FERC, the agency responsible for overseeing the grid, has already rejected this bailout in another form," Joel Eisen, professor of Energy Law at Richmond University,

said on Friday. "FirstEnergy's request is just an attempted end run around that decision." Any approved order would certainly be challenged in federal court "immediately," Eisen said. "If Perry does approve the order, and it goes to court, FirstEnergy Solutions wouldn't get immediate relief."

The FES board approved the filing of the 202c application and thus apparently concluded that there was some financial advantage from doing so. If the order is approved and not reversed by a court, and FES's assets are granted financial relief, the value of those assets would only increase, Eisen noted.

S&P Global Platts
http://www.platts.com

6 April 2018

EU transmission system operators see long life in natural gas for power generation

EU power generation demand for natural gas will still be significant in 2040, potentially ranging from 990 TWh (90 Bcm) to over 1,400 TWh (127 Bcm), compared with an estimated 825 TWh in 2020, according to EU gas and power transmission system operators. Even the top end of the estimated range would still be on a realistic pathway to achieve the EU's goal to cut its emissions by at least 80% on 1990 levels by 2050, formal EU gas TSO body Entsog and EU power TSO body Entso-e said in the final version of their first 10-year network development plan joint scenario report published at the end of March.

In the short term EU power generation demand for gas could rise more than 70% to 1,415 TWh in 2025 if gas goes before coal in the merit order, the two TSO bodies estimated. Even if coal goes before gas in 2025 they still estimate gas demand would rise 19% to 984 TWh.

The two bodies based these "best estimates" on TSO inputs and taking account of all national and European regulations. They included the coal versus gas merit order analysis in response to stakeholders' interest in this variable. Gas and coal prices are key uncertainties for future power generation, even in the relatively short term.

Entso-g and Entso-e assume that gas goes before coal in all three of their longer term scenario pathways to a decarbonized future. The results still show large variations, with a potential EU peak of 1,477 TWh in 2030 under an EC scenario which assumes a 30% by 2030 EU energy efficiency target. The EU is in the final stages of agreeing this target, with 30% still an option.

EU power generation demand for gas is high and stable at around 1,425 TWh to 1,450 TWh in the sustainable transition scenario, which assumes the EU reaches its low carbon goals through national regulation, the EU Emissions Trading System, subsidies, and making the most of existing infrastructure.

It drops to its lowest by 2040 at around 992 TWh in the global climate action scenario, which assumes full speed global decarbonization, and large-scale renewables growth in both power and gas sectors.

EU power generation demand growth for gas is slow and limited in the distributed generation scenario, which sees "prosumers" driving demand for decentralized energy, particularly solar, batteries, hybrid heat pumps, electric vehicles and demand side response. This leaves power generation demand for gas at around 1,112 TWh by 2040, which is 22% or 314 TWh lower than the sustainable transition scenario.

BIGGEST GAS POTENTIAL

At national level, Italy has the biggest potential power generation demand for gas in absolute terms, up nearly 80% to an estimated 302 TWh in 2025 from an estimated 168 TWh in 2020, in a gas before coal scenario. In the coal before gas scenario, Italy's gas demand for power would rise just 15% to an estimated 193 TWh. Germany is second, with an estimated 200 TWh gas demand for power in 2025 in a gas before coal scenario, nearly double the estimated 101 TWh for 2020. This is also a huge rise compared with Germany's estimated 117 TWh gas for power demand in a coal before gas scenario in 2025.

Greece has the potential for a big relative rise, with estimated gas demand for power almost tripling to 56 TWh in 2025 from just 19 TWh in 2020 in a gas before coal scenario. In a coal before gas scenario Greece's gas demand for power would only reach an estimated 20 TWh in 2025.

Other countries that would see relative big rises on smaller volumes in a gas before coal merit order in 2025 include Austria (an almost tenfold increase to 18 TWh), Croatia (a more than eightfold increase to 11 TWh), and Hungary (nearly quadrupling to 10 TWh). Spain also has the potential to more than double its gas demand for power to 128 TWh in 2025 from 52 TWh in 2020, in a gas before coal scenario, compared with 82 TWh in a coal before gas scenario. The UK has the highest estimated gas demand for power in the EU in 2020, at 224 TWh, and also in 2025 in a coal before gas scenario, at 249 TWh. But it is overtaken by Italy's estimated 302 TWh in a gas before coal scenario in 2025, with the UK reaching an estimated 288 TWh, up 28% on 2020 estimates.

Italy's power generation demand for gas could peak at 378 TWh by 2030 in the sustainable transition scenario, well ahead of Germany on 261 TWh and the UK on 180 TWh.

NEXT STEPS

These scenarios feed into Entsog's and Entso-e's work on their separate 2018 ten-year network development plans. They plan to publish both as drafts for public consultation in the third quarter of this year, then the final electricity plan by the end of 2018 and the final gas plan in spring 2019.

S&P Global Platts
http://www.platts.com

6 April 2018

Enel inaugurates new phase of 754 MW Villanueva solar park in Mexico

Enel Green Power México, a subsidiary of the Italian power company Enel, has inaugurated a new phase of the 754 MW Villanueva solar photovoltaic (PV) park in the Coahuila state of Mexico. The plant is owned by EGPM subsidiaries Villanueva Solar and Parque Solar Villanueva Tres and encompasses the Villanueva-1 and Villanueva-3 parks with a respective capacity of 427 MW and 327 MW. This US$650m facility is the largest PV park under construction in Mexico and Enel's largest worldwide renewable project. So far, the park is 41% complete and is expected to produce over 1.7 TWh/year once built. Villanueva-3 is now producing electricity from a portion of over 190 MW, while Villanueva-1 has been producing power from a portion of more than 120 MW since December 2017.

EGPM is Mexico's largest renewables operator in terms of installed capacity. The company operates 728 MW of installed capacity of which 675 MW of wind power and 53

MW of hydropower. Apart from the Villanueva facility, Enel expects to develop several other solar and wind projects in Mexico in the years to come with a combined capacity of around 1 GW: the 200 MW Amistad wind park, the 238 MW Don Jose solar project in the Guanajuato State and the 93 MW Salitrillos wind project in the Tamaulipas State.

Enerdata
http://www.enerdata.net

9 April 2018

Scottish Power's 'vested interests' behind DSR storage de-rating proposal

The utility's existing pumped hydro storage assets, such as Cruachen, would benefit from further de-rating of battery storage say DSR providers.

Scottish Power has come under scrutiny from the demand side response (DSR) sector after proposing to Ofgem that de-rating factors applied to large scale battery storage should be extended to those used to provide DSR in the Capacity Market.

The utility put forward the proposal to Ofgem last month, which included plans for a 'storage DSR' technology class which would force DSR providers to identify as part of their bid any battery storage unit within the CMU which would be de-rated.

The proposal was met with criticism from market participants who, as well as claiming the plan would not work in practice, added that such a move would set 'a dangerous precedent' for DSR.

Attention has now turned to Scottish Power and its reasons for making such a suggestion as an incumbent utility with "a vested interest" in keeping batteries limited in the Capacity Market.

David Bowman, managing director of commercial and industrial energy consultant N-Ergy, pointed out: "Scottish Power has a vested interest in pumped storage and de-rating batteries works in its favour."

Between its Cruachen, Galloway and Lanark assets, Scottish Power has 566MW of pumped hydro storage to call on and has already completed a two-year feasibility study that determined a further 400-600MW could be added to Cruachen.

While others were less straightforward in pointing out the link between Scottish Power, its existing interests and the competition posed by battery technology, DSR providers have posed questions over the utility's opposition to alternative sources of flexibility.

Robert Owens, vice president of asset optimisation at SmartestEnergy, which secured 231.64MW of unproven DSR contracts in both the recent T-1 and T-4 Capacity Market auctions, said: "We can't speak on Scottish Power's behalf but clearly they have a number of assets which benefit from a Capacity Market without innovative new participants.

"They have a vested interest in the Capacity Market as a support mechanism for traditional generation and have been generally sceptical of the role that DSR can play."

Michael Phelan, chief executive of GridBeyond – formally Endeco Technologies – which also secured 113MW and 149MW of T-1 and T-4 DSR contracts respectively, added: "We can't be entirely sure as to what Scottish Power will gain from this, but what

we can assume is that they don't have a pipeline of behind-the-meter battery opportunities for their customers."

Phelen also agreed with comments given to Clean Energy News by Kiwi Power last month, which questioned whether or not such a proposal could even be implemented.

"We do not believe it would work, mainly because an unproven CMU is exactly that. How can you possibly de-rate something you don't know? The DSR CMU might consist of a number of assets, both battery and load. Within a mixed DSR portfolio, it is difficult to distinguish between the two when called upon in a capacity event as the battery is intrinsically linked to other operational requirements on a site," he said.

However he added that the plans, if taken forward, would serve to make capacity "uninteresting" to investors following low clearing prices in the Capacity Market and the fact that DSR can only secure one year contracts in comparison to the 15 years offered to other technology classes.

"Further de-rating potential elements of the DSR CMU will have a negative impact on the value and will be one more reason for a project not to be developed," Owens added.

Bowman agreed, saying: "The bottom-low clearing capacity market auction prices and the latest de-rating factors created many challenges for bidders.

"DSR already had a lot of challenges and the government should work on improving the conditions for bidders instead of making it tougher on them."

Scottish Power has insisted that the proposal is to ensure fairness in the Capacity Market mechanism, previously claiming there was a risk of "over-rewarding such storage and increasing costs to consumers".

"It is also contrary to the CM policy of technology neutrality and unfair to other market participants," a company statement noted at the time of the proposals.

However, Phelan added that the length of contracts available across the Capacity Market shows a lack of neutrality across the technologies.

"If technology neutrality were to be achieved and every provider be treated in the same way, then either DSR contracts would need to be lengthened significantly (currently only 1 year), or directly connected generation and batteries would have their contract duration reduced (currently at 15 years), which creates a new issue," he said.

Bowman added: "We do realise the necessity of continuous reforms of the capacity market to help it serve the cause it was created for, but we need to remember that changes should be fair to all parties and introduced at the right time."

In response to the comments made by N-Ergy, Smartest and GridBeyond, a Scottish Power spokesperson reiterated the comanpy's position in a statement released to CEN.

"We think that the same duration de-rating should apply to batteries whether they are behind or in front of the meter. In the longer term, if other forms of DSR can only deliver for periods less than that of a typical system stress event, then it should be de-rated accordingly so as to ensure that security of supply is maintained."

Clean Energy News
http://www.cleanenergynews.co.uk

9 April 2018

Chile is using Ethereum's Blockchain to track energy data

Chile will use ethereum's blockchain as a way to record energy sector statistics, its government announced Thursday.

The National Energy Commission, which is a part of the country's Energy Ministry, said it would commit data to the public ethereum ledger in order to "augment levels of security, integrity, traceability and confidence in the information available to the public," according to a statement. The commission is particularly concerned that its databases can be hacked and manipulated. The ethereum-based approach represents an alternative method for data storage, given that distributing records among a large number of nodes helps to alleviate that concern.

The commission has already begun committing some data to the blockchain, including information about installed electricity-generating capacity, average market prices, marginal costs, hydrocarbon prices and compliance with laws requiring that renewables account for a certain share of electricity generation. Following this first stage of the project, known as "Energia Abierta" or "Open Energy," the commission will study the results and share them with other companies and government bodies in the sector.

Susana Jimenez, Chile's energy minister, said in a statement: "We are interested in taking this technology from a conceptual level to a concrete case, understanding that it's considered to be the most disruptive technology of the last decade by world-class experts, and that it could be part of day-to-day life in the next few years."

The commission's decision to use an open blockchain like ethereum as opposed to a so-called permissioned network stands out. The statement explained that having "hundreds of thousands of servers" authenticating the data makes it more trustworthy and difficult to alter.

CoinDesk
http://www.coindesk.com

13 April 2018

Finland confirms phasing out coal-fired plants by 2029

The Finnish government has confirmed that the country will phase out coal-fired power generation in 2029 and is considering implementing a new large-scale subsidy scheme worth €90m to support power utilities exiting coal by 2025 (ahead of the planned schedule). As of 2017, more than 10% of the Finnish power generation is still sourced from coal, most of which (66%) is imported from Russia.

Finland would replace coal with nuclear (34% of the power mix in 2016), and two projects are being developed, with the first one, Olkiluoto-3 EPR, expected in May 2019. Nuclear could cover up to 60% of the power mix in 2025.

Finland's greenhouse gas emissions (GHG) are on the rise and grew by 6% in 2017, partly because of an increase in coal burning for electricity and heating. The country has already planned to unveil legislation for a carbon tax in 2018 and the government is pushing for a policy startup in 2019 so that gas power plants could compete more easily with coal-fired ones.

Enerdata
http://www.enerdata.net