

EDC COMMUNIQUE



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Editorial

Grid-Tie Solar PV-(Good Installation, Operation & Maintenance Practices)

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At a time when the country is looking towards economic prosperity through electricity trade, it is very likely for the Government agencies and private sector investors to put their feet in. With 108 years of history since Nepal started producing hydro electricity from Pharping power station, there is not much for us to cherish about. In so many years Nepal has just been able to produce 626.7 MW hydro - electricity (Source: NEA), which is very less as compared to the increasing demand in the country. Private sector developers have developed 682 MW and so many are on the pipelines. Similarly, Solar Energy is in the process of becoming a mainstream source of electricity. 15 MW Solar PV generated electricity out of 25 MW from the under construction site of NEA at

Nuwakot is expected to feed into the national grid by the end of Baishak 2077 (Source: Nagarik News) and many other Solar PV plants are either under construction or waiting for the PPA. Not only the large scale power plants, but the mid-scale Solar Grid-tie system from the range of 10kW to 1 MW are also likely to feed in to the grid in near future. While concentrating on the generation side, we shouldn't miss the installation, operation and maintenance basics and good practices.

Solar PV System

The Solar PV has been catering the needs of the rural Nepal since many years and helped energize the country during the heavy load-shedding days as well. The commercial use and its benefit have just been tasted by few in the country with the introduction of Solar Grid -Tie system. The opening of the demand in the once saturated market have influenced many Solar PV companies to jump into the business and establish themselves. With this the quality of work and workmanship have been a big challenge. Though the companies involved in Solar PV system installation know how to install the system, they might have been missing or not considering some good practices of installation which will help them run the plant for the desired duration of years (20-25 years).

TIPS FOR FEW GOOD INSTALLATION PRACTICES

Solar Mounting Structures: Depending on the location and the availability of the site for installation it can be ground mount or roof mount for commercial Solar PV grid-tie system. The mounting

structure need to be designed and planned in such a way that it should last for more than 20 years. So, while selecting the mounting structure one needs to select either hot dip galvanized or aluminum sections. Also, few other things need to be considered as shown in pictures below:



Water entering gaps need to be sealed so that the water doesn't get into the pipes (If pipes are used, this doesn't comply for the C-Section)



The Nuts & Bolts need to be galvanized & properly tightened.

Wiring of Solar PV: The wiring of the Solar PV is an essential part and it also should last as long as the plant is generating. So, many of us makes a very simple mistake while wiring the PV.



The wiring looks neat and clean. But it is a wrong way of wiring. The cables shouldn't have a sharp bend else over 3-4 years' time the layer of the cables

goes off exposing the wires. Also, while using the zip ties it should hold the cable tight



In right way of wiring, the cable is kept loose and gently tied up. Though the wiring doesn't look neat and clean but this will last longer.



end with the negative end.

As the voltage of the PV is high, it can really be dangerous. So, while installing the Solar PV, team should not try to connect the positive



Proper ferrule needs to be used for the identification of the cables.

Operation and Maintenance Challenges

Successful Installation of a Grid-Tie Solar PV system alone doesn't make it a long lasting system. Proper Operation and Maintenance needs to be planned and carried out in order to make the system last long. There are various challenges that not all are aware of while carrying out operation and maintenance.

TIPS FOR FEW OPERATION AND MAINTENANCE PRACTICES

Cleaning for Solar PV: Time to time cleaning of

Solar PV's are must and needs to be carried out in regular basis.



The maintenance team should be very careful while spraying the water and cleaning the Solar PV. It should only be cleaned either early in the morning

or in the evening when the PV voltage gets completely discharged.



Timely cleaning of the growing plants and vegetation is required. This will help run the plant in an efficient manner.



Proper High voltage/ Keep away tags need to be installed around the area to prevent unwanted trespassing and casualties.



Use of Safety tools are very essential while on field to prevent from casualties and mishaps.

The above given tips on good practices doesn't include all the Installation, Operation and Maintenance methods, solution and practices but covers few very essentials which many of our technical team doesn't consider or practice.



EDC ACTIVITIES

26th February 2020

An Interaction Program on Draft Electricity Bill 2076



An interaction program on Draft Electricity Bill 2076 was organized on 26th February 2020 at Hotel Himalaya, Lalitpur by EDC in support with USAID's NHDP. Presentations were made on "Key provisions on the latest bill ", " Unlocking the Power of Sun: Current Regulatory Hurdles & Way Forward", " Market Scenario - Hydro Power Sectors of Nepal" & "Private Sector Participation in Transmission Line". It was followed by an intensive panel discussion on the bill.

Thank you once again to all the speakers, panelist, attendees, media, partners for your active participation. A detailed report and highlights of the program is featured at :



[EDC Website](#)



[EDC Youtube Channel](#)



MEMBER UPDATES

13th February 2020

Early Completion of Transmission Line Project



Completion of Transmission Line Project 9 months ahead of commercial operation date in Nepal, a rare successful example. Many congratulations to Mr. Mahesh Mahato and his team at Cosmic Electrical Pvt. Ltd., which is also an EDC member organization.

27th February 2020

Saral Urja Nepal's rooftop revolution



No drilling, no screws, no penetration, just glue and very little aluminum. Using adhesive structures for the first time in Nepal, Saral Urja Nepal – SUN - Simple Energy leads a rooftop revolution where 200 KW system was installed in two weeks at Hulas Autocraft, Ramgram, Nawalparasi.



MEDIA COVERAGE

2nd February, 2020

ELECTRIC VEHICLES PROPOSED FOR TOP-LEVEL GOVERNMENT OFFICIALS

In a major move that is likely to encourage promotion of electric vehicles (EVs), the government has come up with a proposal that makes it mandatory for high-level government officials to use electric vehicles.

The Ministry of Physical Infrastructure and Transport has drafted a proposal that requires the public officials—joint secretaries and secretaries—must use only electric vehicles for their daily commute.

According to Mani Ram Bhusal, a joint secretary at the Transport Ministry, recommendation for government officials to only use EVs has come from an internal committee of the ministry.

“The committee has proposed that at least top government officials should commute in the green vehicles,” Bhusal, who is also a member of the five-member committee, told the Post. “The proposal would soon be forwarded to the Transport Minister for approval.”

The move to introduce green vehicles for top government officials have been inspired by the annual expenses of transportation topics. According to Bhusal, the government spends around five to six billions on purchase of fossil fuel-run vehicles, their maintenance and over fuel.

“The government is spending a huge budget over these vehicles every year,” said Bhusal. “Although the initial investment for buying EVs will be higher, expenses on fuel will be saved and maintenance will be cheaper. Most importantly, the message for the promotion of EVs will go out loud and clear.”

The proposal will have to be approved by the Cabinet before it goes into force next fiscal year. The proposal also makes it mandatory if those government officials cannot use EVs then they have to furnish a solid reason for not being able to commute in eco-friendly vehicles.

In 2017, the National Planning Commission (NPC) became the first government agency in the country to purchase an electric vehicle (EV), as a part of a bid to replace the diesel and petrol-powered cars currently used by government agencies. Last year, the President’s Office also bought an EV, in a symbolic gesture for promotion of green vehicles in the country.

Promoters of the green vehicles also have applauded the proposal for it would contribute to the greater promotion of EVs across the country.

“We should welcome this type of action coming from the government,” said Umesh Shrestha,

president of Electric Vehicle Association of Nepal (EVAN). “This should be effectively mandatory for top government officials.”

Various policies and action plans of the government has prioritised the promotion of EVs in the country, however, progress has remained mostly stunted, mainly due to lack of infrastructure required to facilitate e-mobility in the country. Lack of charging stations remains one of the leading challenges behind sluggish popularity of EVs in the country. EVs experts believe that government coming out to promote will contribute to expediting infrastructure required for the operation of these vehicles. Recently, Nepal Electricity Authority, the

state power utility opened a global tender for setting up charging stations across the country.

According to Shrestha, such charging stations can be established at every 100km distance along the East-West Highway, whereas a charging station can be set up at a distance of 50km in the hilly region, making it accessible for the public.

“If government officials start using EVs then there will be charging stations at vehicle parking stations as well. Even the public can use such charging stations by paying some amount,” said Shrestha. “It will definitely accelerate the infrastructure development for EVs.”

27th February, 2020

PRAIVATE SECTOR SEEKS MORE ROLE IN ENERGY SECTOR

The country's private sector has asked the government to clearly define its role in the upcoming law.

Speaking at an interaction on the draft of Electricity Bill organized by Energy Development Council (EDC) and USAID's Nepal Hydropower Development Project (NHDP) in Lalitpur on Wednesday, Guru Prasad Neupane, chairman of Api Power Company Ltd, said that the government should clearly define private sector's role in hydropower developing in the upcoming act. "There are no forums where the private sector can put forward their concerns. Active participation of private sector should be ensured in each and every part of the hydropower sector," he added.

The draft bill mentions about electricity

generation, but is silent on other issues like transmission, distribution and trading, participants of the interaction said. Stating that there is monopoly of Nepal Electricity Authority (NEA) in transmission line sector, they said the upcoming law should unbundle it from the NEA.

As the country is preparing for energy trading with Bangladesh and China along with India, they said that the private sector wants to play an effective role in energy trading as well.

Neupane said that the draft bill fails to differentiate between domestic and foreign investors. “Though the bill proposes handing over licensing rights of projects below 20 MW to provincial government, there are no infrastructures at the provincial level yet,” he said, adding: “We will have

to face problem as soon as this law comes into effect. It will be impossible to work that way."

As per the bill, the concerned authority will have to decide on the license for electricity generation within 15 days of receiving applications and supporting documents. Similarly, timeframe for deciding on licenses for electricity transmission or distribution electricity trade is 120 and 45 days, respectively.

Also speaking at the program, Ram Prasad Dhital, spokesperson at Electricity Regulatory Commission, said that the draft bill has tried to introduce competition in power generation sector. "Electricity is both an essential service and a tradable commodity, so it should be treated accordingly," he said. "Licensing mechanism should be taken care by an independent organization,

whereas the government system should prepare a framework for legal policy to protect the investment," Dhital added.

Kedar Karki, a hydropower developer, said that the provision to lower license validity period will put public investment at risk. "Why did the government feel it necessary to reduce validity period?" he questioned.

The draft bill has proposed to lower license validity to 40 years which is 10 years lower than what has been provisioned in Electricity Act, 2049 BS. The licensee generating energy from sectors other than hydropower can operate the project for 25 years.

According to the existing act, the term of license to be issued for generation, transmission or distribution of electricity is a maximum of 50 years.

2nd March, 2020

UK HYDROGEN TASKFORCE LAUNCHED TODAY IN PARLIAMENT

A newly launched cross-industry coalition wants to establish 100 hydrogen stations in the UK by 2025 and wants the UK Government to commit £1bn towards hydrogen projects.

In what could be described as a historic moment in the unfolding of the UK's hydrogen story, the Hydrogen Taskforce has officially been launched today, backed by ten major companies at the heart of the energy system.

Aiming to secure investment and support for hydrogen in the UK to enable the country to become a world leader in hydrogen, the Hydrogen Taskforce will align a wide range of stakeholders including government, industry and an informed public with

the aim of driving investment in hydrogen to promote its large-scale deployment.

Comprising of Arup, Arval, Baxi, BNP Paribas, BOC, BP, Cadent, DBD, ITM Power, Shell and Storengy, the Taskforce has agreed a collective position on the next steps that must be taken to ensure the UK capitalises on this opportunity to decarbonise cost-effectively, and to play a leading role in the growing global market for hydrogen solutions.

The Taskforce marked its launch with the publication of a report on *The Role of Hydrogen in Delivering Net Zero*, which outlines a series of policy recommendations for industry and

government to work towards over the next five years.

This would scale hydrogen applications and unlock the benefits of hydrogen, the Taskforce said. The action plan includes the following steps:

1. Development of a cross-departmental Hydrogen Strategy within UK Government.
2. Commitment by government of £1bn over the next Spending Review Period to hydrogen production, storage and distribution projects.
3. Development of financial support for the production of hydrogen for blending into the gas grid, industrial use, power generation and transport.
4. Amendment of Gas Safety Management Regulations (GSMR) to enable hydrogen blending into the UK Gas Grid and take the next steps towards 100% hydrogen heating through supporting public trials and mandating hydrogen-ready boilers by 2025.
5. Collaboration to establish 100 hydrogen refuelling stations (HRS) by 2025 to support the roll-out of hydrogen transport.

An event is currently underway at the House of Commons, where the Right Honourable Kwasi Kwarteng MP has just given a short address discussing the importance of hydrogen in reducing carbon emissions, both in the UK and globally.

Jacob Young, MP for Redcar, and Chair of the Hydrogen All Party Parliamentary Group (APPG), discussed the importance of hydrogen's role in levelling up the regions and helping the government to deliver on its ambitions to meet Net Zero by 2050.

He said, "The political, social and economic arguments for large scale hydrogen conversion have never been so strong."

"It is clear that we cannot meet our Net Zero 2050 target without hydrogen technology."

"From heating our homes, to our journeys to work, hydrogen can play a huge part in our decarbonisation in this decade."



"By taking the next steps and accelerating hydrogen development programmes we can create thousands of new, skilled, green jobs and continue to lead the world in the hydrogen economy."

MEMBERS





MEMBERS

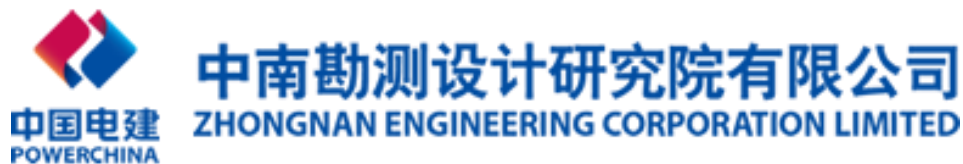




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Energy Development Council (EDC) is a non-profit umbrella organisation of the entire energy sector of Nepal established to ensure every Nepali has access to energy and energy security by promoting favourable policies and investments. EDC consists of Energy Developers, Energy Associations, Energy Consumers, Energy Financiers and other funds, Consumer Institutions, Energy Contractors from both private and government sectors involved in hydropower, solar, wind and other renewables, generating more than 80 percent of the nation's total electricity.



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