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Current News
மின் செய்திகள்

December, 2019

Consumer guide to grid-connected rooftop solar - Part 7

The previous issue explained payment terms and conditions in the quotation for installing and connecting the rooftop solar with the utility grid. This part will explain additional requirements to be met for the installer and things to be considered during material purchase.

Meeting additional requirements

The installer may recommend additional requirements during the site visits. For example,

- If the requirement of wires between the inverter and building's electrical distribution box is more than 25 metre in length then the cost of extra wires may have to be borne by the consumer.
- If the roof is weak or in a slanting position, a concrete block may be required to withstand the mounting structures of the rooftop solar.

Apart from the above, a consumer may have to provide space for keeping panels and other components during the period between delivery and installation date.

Material purchase

According to the terms and conditions mentioned by the installer in the quotation, a consumer may need to pay a certain percentage of the cost as advance to commence installation of rooftop solar. Once the advance amount is disbursed, the installer should send the materials within the time limit mentioned in the quotation. The consumer should follow up with them for the dispatch of material.

It is important to check the quality of the material after delivery. The quality of solar panels and other components will directly impact the lifetime of the plant and the rate of solar power generation.

a) Label: All PV modules should have a label affixed at the rear side of the module displaying the manufacturing details. The label should include information such as maximum power, current and voltage at maximum power, short-circuit current, open-circuit voltage, manufacturer's name, model number, and serial number.

The label should be water resistant and heat resistant. If the label is missing or any technical information is omitted, then the module may be counterfeit.

b) Cracks and scratches in front glass: Scratches on the glass cover of the solar panels is a major issue. Water can ingress through the cracks and affect the transmission of light to the underlying cells, leading to output power degradation.

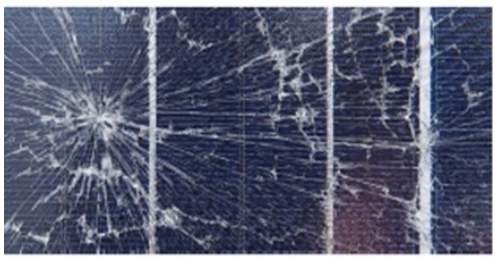

Image: Cracks & scratches in front glass

Scratches or cracks are also an indicator of poor handling of the module during the manufacturing or transportation process.

(to be continued...)

INSIDE THIS ISSUE:

Please send your feedback to
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Electric Vehicles (Part - 5)

As outlined in the previous issues, charging of the energy storage system in an electric vehicle (EV) is a functional requirement to operate the vehicle. This issue focuses on the various aspects of charging electric vehicles.

Charging of electric vehicles

Charging can be done either at private charging stations or public charging stations.

i) Private charging refers to charging of electric vehicles through a private owned charging station that may be at home or work place. The cost of charging is incurred by the owner as part of his/her normal electricity bill.

ii) Public charging implies that the e-vehicle is charged outside of the private space for example, at Public Charging Stations (PCS). PCS are similar to petrol bunks where the consumers pay to have their electric vehicles charged as per requirement.

A typical diagram of a public charging station is given in the figure.

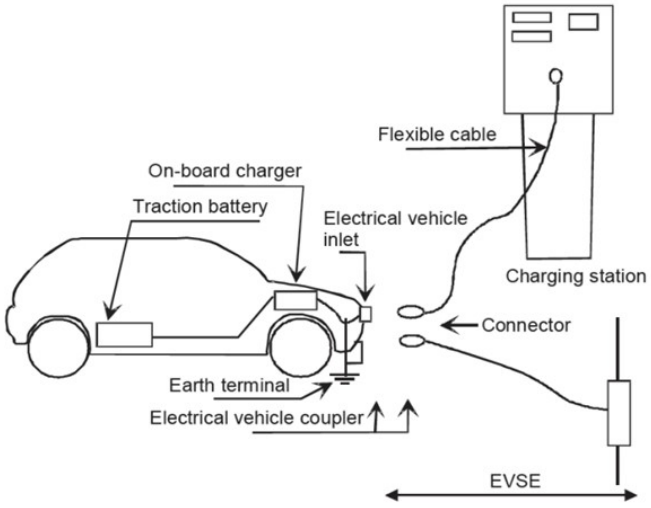

Figure: A typical Public Charging Station (PCS)

Electric Vehicle Supply Equipment (EVSE)

An Electric Vehicle Supply Equipment (EVSE), also called a charger, supplies electricity to charge the storage system of your electric vehicle. An EVSE is a wall mounted box. It has a safety lock-out feature that does not allow the electricity to flow from the device until the plug is physically inserted into the electric vehicles for charging. EVSEs in charging stations get electricity from the grid or stand alone energy sources (e.g. solar) for charging the EVs.

EVSEs can be customised with added features such as:

- ***Authentication*:** An authentication mechanism can be made in an EVSE to initiate charging or allowing only authorised vehicles to charge;
- ***Integrated payment gateways*:** A public charging station can integrate their EVSE with payment gateways, to enable consumers to make their charging payment easily, online; and
- ***Software for remote monitoring*:** The functions of an EVSE such as on/off charging, rate of charging, and charging time can be monitored and controlled through an associated software.

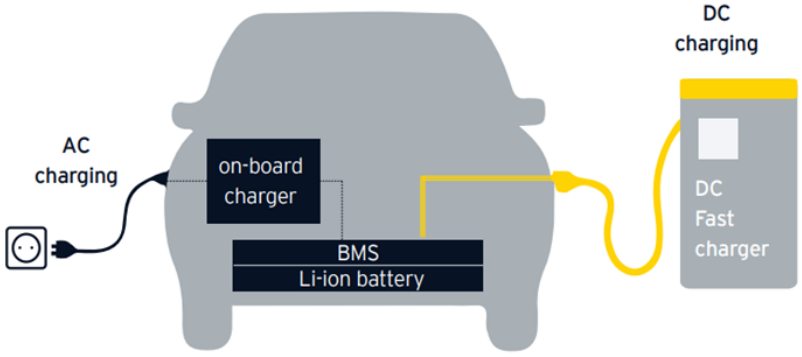

Figure: Scenario of AC and DC charging

An EVSE can charge the vehicles by supplying either alternate current (AC) or direct current (DC). A DC EVSE can supply power ranging from 10 kW to more than 240 kW, whereas an AC EVSE can supply from 3.3 kW to 43 kW. In case of an AC EVSE, the EVs will have on-board chargers that can convert AC into DC and then charge the storage system. The given figure explains the scenario of AC and DC charging.

(to be continued...)

Tamil Nadu News

Tamil Nadu's dependence on central units for power soars

With increasing power demand and Tamil Nadu Generation and Distribution Corporation (TANGEDCO) thermal capacity addition remaining stagnant, the distribution company (DISCOM) is dependent more on central thermal and nuclear units to augment its power supply.

Tamil Nadu gets more than 5,000MW of power from the Central pool, the maximum share among all southern states. While this ensures assured power supply, it entails increase in power purchase cost and higher financial burden whenever NTPC increases tariffs. On any given day, it is only the Central units that contribute a major share to the total supply of power in the state. Recently, 600MW from NLC was added to Tamil Nadu's share as two units with 500MW capacity each were commissioned. The balance 400MW of power from these NLC units goes to other southern states. "Central thermal units play a major role in our daily supply of power. We get power from NTPC units in Simhadri, Talcher and Vallur. NLC, which generates power from coal and lignite, is another major contributor to us. All these are dependable sources of supply," said a senior TANGEDCO official.

He said TANGEDCO is not able to depend much on nuclear units due to sudden stoppage of power generation from the two units at Kudankulam. "We get nuclear power from Kudankulam, Kalpakkam and Kaiga. Kudankulam supplies 900MW if both the units generate at full capacity. But most part of the year, we don't get our full due from Kudankulam as the units are either shut for maintenance or they run on lower capacity. During such times, we depend on other sources," said the official.

TANGEDCO's new thermal units are stuck with various problems. "North Chennai stage 3 with a capacity of 800MW is likely to be commissioned early next year. This will add to our capacity and our dependence on other sources of power will reduce. Other new units will take a longer time for commissioning," said the official.

Source: The Times of India, December 28, 2019

India News

India's electricity demand falls for fourth straight month, here's why it matters

India's power demand fell 4.3 per cent in November from a year ago, representing the fourth straight month of decline, government data showed, potentially reflecting a worsening industrial slowdown which has stifled overall economic growth. In October, the country's power demand fell 13.2 per cent from a year ago, its steepest monthly decline in more than 12 years, as a growth slowdown in Asia's third-largest economy deepened.

Electricity demand fell to 94.60 billion units in November, from 98.84 billion units during the same period last year, data compiled by the Central Electricity Authority (CEA) showed. For the eight months ending November 30, India's electricity demand was up 1.2 per cent, the CEA said. Demand rose 6.4 per cent during the eight months ended November 30, 2018.

Electricity demand is seen by economists as an important indicator of industrial output and a deceleration could mean a further slowdown. "Power demand can decline for two reasons: one is the existing projects not performing and second due to new projects not coming up. Both seem to be the case here," said NR Bhanumurthy, a professor at the National Institute of Public Finance and Policy in New Delhi.

India's overall economic growth slowed to 4.5 per cent in the July-September quarter, government data last month showed, the weakest pace since 2013 as consumer demand and private investment weakened. Slower economic activity has resulted in a fall in sales of everything from cars to cookies, prompting some large scale industries such as the automobile sector to slash jobs.

Source: India Today, December 10, 2019

Consumer Focus

The petitioner, a domestic consumer, registered a complaint with TANGEDCO for abnormal charges levied. He stated that electricity consumption units recorded by the assessor were higher compared to previous billing cycles. The Assistant Engineer did a feasibility study based on recorded consumption and electrical appliances in the household. Based on this, the AE deduced that the units entered in the meter card were correct. The meter installed was also verified to be in working condition. The consumer was asked to pay the bill. Dissatisfied with the response, the petitioner approached the Consumer Grievance Redressal Forum (CGRF) to redress the issue.

During the CGRF hearings, it was revealed that the assessor made a mistake as he had entered a lesser number of units as consumed in the previous billing cycle. Due to which, the unaccounted units were entered in the present bill, leading to a higher amount. The CGRF passed an order in favour of the utility and gave the petitioner time to pay the bill in three installments as per the regulations 12 (3) of TNERC Supply Code. Thereafter, the petitioner appealed to the Electricity Ombudsman.

The Ombudsman, while upholding the order of the CGRF, suggested that if the consumer suspected the functioning of the meter, he could get its accuracy assessed by applying to TANGEDCO for a special meter test, as per Regulation 7(9) of the TNERC Supply Code.

This test, otherwise known as “challenge test”, should be conducted by any third party testing laboratory accredited by National Accredited Laboratories (NABL) or Chief Electrical Inspector to the Government of Tamil Nadu

ECC VOICE

பூங்காவனம் கிராமத்தில் வசிக்கும் திரு. பி. வாசு அவர்கள், பழுதடைந்த நிலையில் மின் கம்பி ஒன்று அவர் வீட்டு முன் மிகவும் ஆபத்தான நிலையில் இருப்பதாகவும், அதை சரி செய்யுமாறும், மல்லவாடி மின் அலுவகத்தை அணுகினார். பல முறை புகார் அளித்தும் அவர்கள் சரி செய்யவில்லை .

அந்த மாதம் நடந்த மின் நுகர்வோர் கூட்டத்தில் இந்த புகாரைப் பற்றி அவர் கூறினார். அதற்கு மின் நுகர்வோர் மைய ஆலோசகர் திரு. ஆனந்தன் அவர்கள் கடிதம் மூலமாக இந்த புகாரை மின் அலுவகத்திற்கும் மற்றும் மின் நுகர்வோர் மையத்திற்கும் அனுப்ப ஆலோசனை கொடுத்தார். மின் நுகர்வோர் மைய ஆலோசகர், கூட்டம் முடிந்த பிறகு, திரு. வாசு வீடு முன் இருக்கும் கம்பத்தை புகைப்படம் எடுத்துக்கொண்டார்.

அன்றே, தொலைபேசி மூலம் மல்லவாடி இளநிலை மின் பொறியாளர் அவர்களுக்கு இந்த புகாரைப் பற்றி கூறி, அதை சரி செய்யுமாறு கூறினார். மறு நாள், மின் நுகர்வோர் மைய ஆலோசகர் மின் பொறியாளரை நேரில் சந்தித்த பொழுது, அவர் இரு தினங்களில் மாற்றி அமைக்கப்படும் என்று உறுதி அளித்தார். அவ்வாறே, பழுதடைந்த மின் கம்பி, இரு தினங்களில் மாற்றப்பட்டது.

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Initiative of

CAG
Citizen consumer and civic Action Group

Citizen consumer and civic Action Group (CAG) is a non-profit, non-political and professional organization that works towards protecting citizen's rights in consumer and environmental issues and promoting good governance processes including transparency, accountability and participatory decision making.

World News

South Korea plans world's largest floating solar plant in Yellow Sea

The Saemangeum Investment Agency of Korea (SDIA) together with Amsterdam Capital Partners (AMSCAP), G8 Subsea (G8), and Saemangeum Offshore Wind Power (SOWP) have agreed to cooperate towards a giant renewable energy mega-development of up to 3GW in the Yellow Sea off Korea.

Plans for the near-shore Samangeum Industrial Complex include a vast 2.7GW floating solar array and 300MW of offshore wind. The floating PV plant would be located behind the world's longest seawall at Saemangeum that encloses 409km^2 of reclaimed area, AMSCAP and G8 said, without giving further details about the coastal complex.

AMSCAP said it will work together with G8 alongside SOWP on the offshore wind development, on both financial and a technical elements of the project. SOWP has already developed a 100MW offshore wind project that is in final development stage, with all permits and regulatory approvals secured.

"SOWP has clearly paved the way for offshore wind in Korea and we are very excited to contribute our structuring expertise and bringing financial partners to the region to execute this project and the further offshore wind plans," Michael van der Heijden from AMSCAP said.

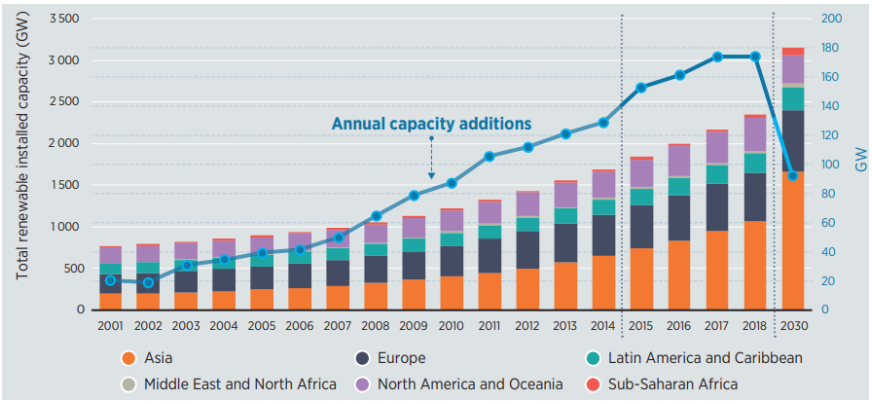
South Korea has earlier said it aims to develop 13GW of offshore wind capacity off its coast by 2030 to drive toward a target of having at least 30% renewable energy in its national mix by 2040.

Source: Recharge News, December 09, 2019

Publications / Regulations

- Guideline for development of decentralised solar power plants, Ministry of New and Renewable Energy (MNRE)
- NDCs in 2020—Advancing renewables in the power sector and beyond, International Renewable Energy Agency (IRENA)
- Rethinking power sector reform in the developing world, World Bank
- Demand-side flexibility for power sector transformation, International Renewable Energy Agency, (IRENA)

Global renewable installed capacity (in GW)



Source: International Renewable Energy Agency, December 2019