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The Thai electricity supply industry operates through a state-owned scheme under which private businesses are classified into three types: (i) IPP (*Independent Power Producer*), (ii) SPP (*Small Power Producer*) and (iii) VSPP (*Very Small Power Producer*). As these names imply, classification is based on production capacity, with IPP having total production capacity exceeding 90 MW and SPP and VSPP having capacities between 10 to 90 MW and less than 10 MW, respectively. IPP and SPP are obligated to sell all of their outputs to the Electricity Generating Authority of Thailand (“**EGAT**”), while VSPP only may sell to the Provincial Electricity Authority (“**PEA**”).

Provided that a bidding system is utilized for selecting IPP project operators, bidders typically are driven to enter a low bid so as to increase their likelihood of being selected. As such, investment in IPP generally is not as commercially profitable, and thus not as prevalent, as investment in SPP. Similarly, as the VSPP scheme basically seeks to accommodate very small-scale private energy businesses (especially those operating rooftop solar projects), it also is not as commercially profitable as investment in SPP.¹ Although SPP attract the most investment within the Thai solar sector, this article discusses the Thai laws and regulations applicable to both SPP and VSPP.

1. SPP Business

Generally, SPP are projects operated by a private or state entity that generate electricity either from (a) non-conventional sources such as wind, solar, and hydropower, waste, residues or biomass, or (b) conventional sources such as natural gas, coal or oil, using a co-generation system.²

From time to time, EGAT announces tender calls for SPP power supply at a prescribed quantity and price, in response to which interested parties must submit certain bid-related documents. In essence, these documents amount to an application for an SPP operation license to produce renewable energy based electricity (including solar) and include, amongst other things, relevant certificates such as a company affidavit, piping and instrument diagrams and requisite guarantees, together with a request and an offer to sell power to EGAT.

¹ SPP typically have higher profit ratios than IPP, however, IPP ultimately can be more profitable than SPP in gross terms. Alternatively, VSPP can have higher profit ratios than SPP, with the latter, nonetheless, being more profitable overall.

² The Regulation on Power Purchase from SPP for Electricity Generated from Renewable Energy A.D. 2007 (as amended) and the Regulation on Power Purchase from SPP for Electricity Generated under the Co-generation System A.D. 2007 (as amended).

Within 90 days of document submission, EGAT sends a notification to inform the applicant whether, based on examination of their materials, a license has been granted (i.e. whether EGAT is willing to purchase power generated by the applicant). If a license to operate an SPP is granted, a Power Purchase Agreement (PPA) shall be concluded within two years therefrom; otherwise, the request and offer to sell power initiated by such applicant shall be deemed cancelled. In cases where a license is not granted, EGAT informs the applicant of the reason.

After obtaining an SPP operation license from EGAT and before commencing electricity transmission, the SPP operator shall fulfill the additional conditions stipulated in the Regulation on Power Purchase from SPP for Electricity Generated from Renewable Energy, which include (i) submitting an Environmental Impact Assessment at least 15 days before the conclusion of the PPA (if applicable), (ii) obtaining and submitting proof of the requisite licenses for the operation of the energy project (examples of which are provided in the table below) by ten days before the Commercial Operation Date (COD) set by EGAT and (iii) concluding a Secondary Electricity Sales Contract, an Agreement on Electricity Security Service and an Agreement on Electricity Grid Connection, along with other agreements required to be concluded with EGAT.

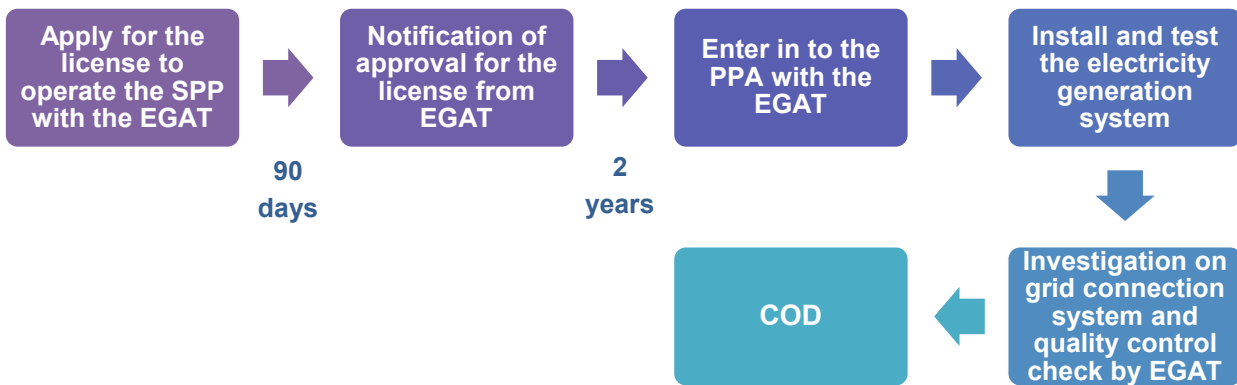


Figure: Process from applying for the license to operate the SPP until COD

Table: Examples of the licenses required by EGAT for the operation of an SPP³

| Certificates and Licenses | Grantors |
|--|---|
| Factory License (Ror.Ngor. 4) | Ministry of Industry, Department of Industrial Works |
| Construction Permit and Construction Certificate (if applicable) | The relevant local administration (e.g. Sub-district Administrative Organization or District Office) or the Industrial Estate Authority |
| Controlled Energy Production License | Energy Regulatory Commission |
| Electricity Operation License | Energy Regulatory Commission |

³ In addition, during the initial stage of submitting documents and relevant certificates to apply for an SPP operation license, a document containing details on the quantity and capacity of electricity which will be distributed in the network system of EGAT shall be submitted alongside the documents mentioned above (e.g. company affidavit, piping and instrument diagram and requisite guarantee).

PPA involving SPP can be categorized into two types: so-called “non-firm” and “firm” agreements. Firm PPA are those with a term designated between 20 to 25 years, in which the project operator is required to provide electricity during peak demand months. On the other hand, non-firm PPA have terms that do not exceed five years, during which the project operator would not be required to provide electricity in peak demand months but may receive payment for the electricity sold to EGAT at a lower rate than that paid to project operators under firm agreements.⁴ Furthermore, the type of agreement that will be used for the operation of the SPP (i.e. firm or non-firm) is prescribed in the regulations on power purchase from SPP as announced from time to time by EGAT. In other words, the project operator cannot choose the type of agreement to enter into as it will be prescribed beforehand by EGAT regulation.

EGAT utilizes standard PPA forms for both firm and non-firm agreements with project operators. In firm agreements, EGAT is entitled to curtail SPP generated power in the case of force majeure (while compensating the project operator). On the other hand, no such provision exists in the standard non-firm agreement form, meaning that project operators are not compensated for curtailments during force majeure events.

2. VSPP Business, Particularly for Solar Rooftop Projects

VSPP are defined as projects operated by a private or state entity that generate electricity from non-conventional sources such as wind, solar, or mini-hydro energy for sale to the Metropolitan Electricity Authority (“**MEA**”) or PEA.⁵ VSPP solar rooftop project operators may generate power for their own consumption, sell the power they generate to private parties or, from time to time under state-initiated schemes, sell such power to the state (through the MEA or PEA). Regardless of their objective, VSPP operators are required to obtain the necessary licenses and certificates, examples of which are provided in the previous table for the operation of an SPP.

2.1. Power Purchase with the State

From time to time, the MEA and PEA announce the initiation of submission periods for requests to enter into a power purchase scheme. During such periods, interested VSPP operators may submit a request to enter into a PPA with the MEA or PEA for the sale of power generated from solar rooftop projects. The target purchase power capacity, terms and conditions of the scheme may vary from project to project depending on the type of buildings where the solar rooftop projects will be installed.

For example, the recent Notification of the Energy Regulatory Commission on Invitation to Purchase Power from Solar Rooftop Projects on Residential Houses A.D. 2021 stipulates that homeowners with production capacity not exceeding 10 kW who install solar rooftops to generate electricity for their own consumption may sell any excess electricity to the MEA or PEA, as the case may be. Under this regulation, the MEA or PEA will purchase solar power from homeowners at the rate of Baht 2.20 per kWh for a period of 10 years.

In the case of installation of solar rooftop projects on schools, educational institutions, hospitals, and agriculture pilot projects, VSPP operators with production capacity between 10 kW to 200 kW which generate

⁴ The “lower rate” applies to non-firm agreements during peak months. Since project operators operating under non-firm agreements are under no obligation to produce and distribute electricity to EGAT during peak demand months (unlike project operators under firm agreements), the rates of payment received under non-firm agreements during peak months are lower than those of firm agreements.

⁵ The Regulation on Power Purchase from VSPP for Electricity Generated from Renewable Energy A.D. 2006

solar power for their own consumption may sell any excess electricity to the MEA or PEA under a non-firm agreement as prescribed in the Notification of the Energy Regulatory Commission on Invitation to Purchase Power from Solar Rooftop Projects on Schools, Educational Institutions, Hospitals, and Pilot Projects for Agriculture A.D. 2021. For this particular scheme, the MEA or PEA will purchase solar power from VSPP operators at the rate of Baht 1.00 per kWh for a period not exceeding 10 years.

Interested applicants are required to make an online submission of the request and offer to sell power and to upload the supporting documents (such as the company affidavit (in cases where the applicant is a juristic person), detailed plans of the solar power project, and a single line diagram, among other documents) within the period specified in the announcement.

The procedure on power purchase from a VSPP operator under this scheme operates on a “First Come First Serve basis”⁶ whereby applicants who submit completed documents in a timely manner are given priority for consideration. The MEA or PEA will publish the names of successful applicants on its website and notify them by email to sign the standard form PPA and to make payment of fees to the MEA or PEA within 30 days from the date of such publication. In the event where the applicant does not sign the PPA within the specified time, the request and offer to sell power shall be deemed cancelled.

Thereafter, the successful applicant shall install and connect the solar power system to the grid which will then be inspected by an officer from the MEA or PEA. The applicant shall also be required to submit an online request to notify the Energy Regulatory Commission of its intention to be exempted from the requirement to obtain an Energy Production License.

Upon completion of the aforementioned steps, the VSPP operator may commence electricity transmission on the Scheduled Commercial Operation Date (SCOD) which shall be stipulated in the PPA.

2.2. Power Purchase with the Private Sector

Regarding agreements to purchase power between VSPP and private parties, applicants will need to obtain the requisite licenses and certificates listed in the table above. The VSPP and the private party will also be required to enter into a private agreement for the power purchase. At present, the Energy Regulatory Commission does not prescribe a standard form contract for PPA made between two private parties. As such, the parties are free to determine their own terms.

2.3. Production of Solar Power Solely for Consumption

In the case where an applicant wishes to generate solar power solely for its own consumption, the applicant shall be required to obtain the requisite licenses and certificates listed in the above table (namely the Controlled Energy Production License and the Construction Permit and Construction Certificate), except for the licenses relating to the distribution or sale of energy.

⁶ For SPP, applications are considered on a first come first serve submission basis (provided that no documents are missing), but note that this may not be the sole deciding factor in determining successful applicants, as EGAT may exercise discretion.

3. Electricity Purchase Price

Since 2007, EGAT has employed an adder rate structure to calculate the electricity price paid to project operators. Under such structure, energy payments include an adder rate on top of the prevailing wholesale price of electricity;⁷ such adder rate could be Baht 8 per kWh at the maximum in the case of electricity generated from solar energy. Provided that the additional cost of the adder rate is passed on to consumers in the form of a fuel tariff ("Ft")⁸ included in the electricity price, which varies according to the costs incurred by EGAT, too much burden could be placed on consumers. As a result, in 2015, the Energy Regulatory Commission implemented the Feed-in-Tariff (FiT) policy to replace the adder rate structure for the purchase of electricity generated from renewable energy; this is applicable particularly to applicants whose applications for a license to operate an SPP have not yet been accepted under the adder rate scheme.⁹ In relation to projects operated by VSPP operators, the MEA or PEA monthly PPA payment to the VSPP operator shall be paid in accordance with the FiT policy at the rate¹⁰ stipulated in the power purchase announcement for each scheme.¹¹

4. Promotion for Solar Business in Thailand

In December 2014, the Thailand Board of Investment (BOI) announced incentives to promote investment in renewable energy projects. Under the BOI's investment promotion scheme, solar business would be granted the incentive of an eight-year corporate income tax exemption, accounting for 100% of the investment (excluding the costs of land and working capital);¹² exemption of import duties on machinery; and other non-tax incentives.

⁷ Wholesale price in this context refers to the base/purchase price of electricity that is paid by EGAT to project operators under each project.

⁸ The Ft rate is included in the calculation of monthly electricity bills for consumers. The Ft rate, which falls on consumers in the form of monthly electricity bills (collected by EGAT), enables EGAT to have the financial capacity to purchase power from private operators and to pursue power projects in accordance with the government's policies. In relation to power projects employing either adder or FiT rates, such rates are included in the Ft rate borne by consumers.

⁹ SPP operators could not enjoy the adder program, but can enjoy the FiT program. An adder is the additional amount of money paid on top of the base electricity price and may change over time in accordance with the base electricity price, whereas FiT is calculated from the actual costs incurred by the project operator in undertaking the project (e.g. the costs of land, materials, labor, etc.). Regardless of whether an adder or FiT rate is employed, the rates will be borne by consumers in the form of an Ft. However, in the case of FiT, consumer burden appears to be lighter due to the fact that the FiT rate remains unchanged throughout the entire duration of the project (i.e. it is fixed), and projects operating under FiT have a longer duration than those under an adder, therefore providing more stability in comparison to those operating under adder rates.

¹⁰ The rate may vary from scheme to scheme depending on the nature, terms, and conditions of the project in question but the rate for each scheme remains fixed throughout the duration of the project.

¹¹ The same applies to SPP, that is the FiT rate shall vary from scheme to scheme depending on the project announced by EGAT.

¹² Section 31 of the Investment Promotion Act B.E. 2520 prescribes that the promoted person shall be granted an exemption of corporate income tax on the net profit derived from the activity in proportion to the investment capital (excluding the costs of land and working capital). Furthermore, the income on which the computation of the net profit derived from the activity is to be based shall include income from the sale of such by-products and semi-manufactured products.

This Article is intended merely to provide a regulatory overview and not to be comprehensive, nor to provide legal advice. Should you have any questions on this or on other areas of law, please contact any of the authors.

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