

## Spot Market Summary

### Introduction

The Oman Power and Water Procurement Company SAOC (OPWP) is developing a wholesale electricity Spot Market. This summary provides stakeholders with an introduction to the market design. The aims of the Spot Market initiative include improving the efficiency and transparency of the operation of the electricity sector, providing opportunities for diverse generation sources that do not compete in OPWP's normal P(W)PA tender process, and providing an option for the continued participation of existing generation plants whose P(W)PAs have expired. The Market Rules governing the Spot Market are being developed by OPWP under the supervision of the Authority for Electricity Regulation (AER) and in consultation with Oman Electricity Transmission Company (OETC) and other stakeholders. The Spot Market is expected to start operational trials in early 2020 and go live by the end of 2020.

The geographical scope of the Spot Market will be the Main Interconnected System (MIS) in Oman. The Dhofar power grid, the PDO power grid, Musandam, and regional generation under RAECO will not be included at the time being<sup>1</sup>. The Spot Market is a wholesale electricity market. Generators will be able to sell electricity, and OPWP will be the sole purchaser. Retail market reforms, allowing electricity customers to choose a supplier, are not included in the Spot Market development.

### Market Roles

The market design includes the following roles:

- OPWP – There will be separate ring-fenced roles for OPWP in its licence and in the Market Rules:
  - Market Operator (MO) – operates and administers the Spot Market.
  - Power Procurer (PP) – purchases power in the Spot Market (and continues OPWP's existing roles with P(W)PAs). The PP is the sole purchaser in the Spot Market.
- Oman Electricity Transmission Company (OETC) – The Load Dispatch Centre (LDC) will continue to be the power system operator and be responsible for dispatching generators under the Grid Code.
- Authority for Electricity Regulation (AER) – In addition to its current roles, AER will provide regulatory oversight of the Spot Market, including monitoring for rule breaches and abuse of market power.
- Generators – Submit daily offers, access market data such as schedules and prices and receive payment for electricity sold through the Spot Market. Participation will generally be compulsory for generators above a certain size threshold, although generators with existing P(W)PAs will continue to be settled under their contract terms.

Note that distribution companies will not participate in the Spot Market. They will continue to purchase electricity from OPWP through the bulk supply tariff arrangements.

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<sup>1</sup> Though it is possible that the scope of the spot market could be increased to some of these areas in future reforms.

## Market Operation

The Spot Market processes occur in a daily cycle, with generator offers submitted a day ahead. An ex-ante market schedule is produced by the MO a day ahead, then LDC manages physical scheduling and dispatch of the generators. The Market Rules will not include these LDC processes, which will continue to be governed by the Grid Code. There will be information flows including forecasts and generation schedules between the MO and LDC. Final prices are calculated ex-post, with a single published energy price for each trading period within the day, based on the price of the marginal generator.

Settlement will occur monthly. Spot Market settlement amounts will be calculated for all generators, but it is important to note that settlement for generators with current P(W)PAs will be netted out of actual Spot Market settlement payments. These generators will continue to be settled under the terms of their P(W)PAs, with the same P(W)PA prices and conditions, not Spot Market prices. Generators without a P(W)PA will get paid based upon Spot Market prices. In the future, there is potential for generators with new forms of P(W)PAs to have contracts that do not cover 100% of the plant output – they would then be paid partly under the P(W)PA, with the rest paid under the Spot Market.

OPWP acting as the Power Procurer will be the sole purchaser in the Spot Market. Prudential monitoring and security from generator market participants is not required at this time. In addition, electricity retail related issues such as consumer meter aggregation, profiling etc. are not part of the Spot Market design.

The market design uses “complex” generator offers, with start-up cost, no load cost, and incremental costs, and technical characteristics of the plant such as ramp-rates and minimum on and off times. Offers may also take into account CCGT configuration, and transitions between operating configurations. Offers are adjusted to reflect unsubsidised “economic” fuel prices, for ambient temperature, and for capacity used to provide ancillary services. Offers are submitted once a day, in the morning of the day ahead of the trading day. In exceptional circumstances (e.g. fuel supply outage) a generator can update their offer. Generators will be required to submit bids that reflect their short run marginal costs, which for generators with P(W)PAs will consist of prices consistent with their P(W)PAs. Intermittent generators will register as price-taker plants and submit a forecast of their output. Plants defined as “must-run” (currently envisaged to comprise MSF water cogeneration plants) will have hybrid offers, with the part related to the fixed schedule being treated as price-taker. The MO will use all of the available offers, from plants with and without P(W)PAs, to form the market generation schedule and prices, and will pass this information to LDC.

As well as energy payments, generators may receive a scarcity payment. These payments are based on a defined amount of money allocated across the trading periods, reflecting the reserve margin (so trading periods when the system is tight will have higher payments). Money which is not paid out during the year may be available in an end of year reconciliation. Generators with current P(W)PAs will continue to be paid under the terms of their contract, so they will not be eligible for scarcity or energy payments.

Transmission losses and constraints are not included in the Spot Market. Ancillary services are not traded in the Spot Market, though, as noted above, a generator’s energy offer may be adjusted to reflect capacity used to provide spinning reserve.

OPWP acting as the Power Procurer will manage Spot Market offers for contracted demand side units, and is also responsible for demand adjustments in the Spot Market to represent international power flows via interconnectors.

**Market Governance**

The market will be governed by a set of Market Rules, which will be a multilateral contract between the parties. As well as the operational matters described above, the market rules provide for:

- Spot market entry and exit processes and the registration of generation plant
- Procedures for resolving disputes, including settlement disputes
- A Market Advisory Committee whose roles include review of market rule change proposals

**Generator participation**

<p>Generator with an existing PPA or PWPA</p>	<p>The terms of the PPA or PWPA will not change, and the generator will continue to receive payments in accordance with the contract until it expires. The generator will not receive any payments from the Spot Market during this period.</p> <p>The generator will register for the Spot Market, and will need to provide daily offers to the MO, reflecting the availability of its plant.</p> <p>The generator will participate in the governance of the Spot Market, including the dispute process and may participate in the Market Advisory Committee.</p>
<p>Generator with an expiring PPA or PWPA</p>	<p>After the expiry of the PPA or PWPA, the generator may choose to continue to participate in the Spot Market, and may then be eligible for Spot Market energy and scarcity payments.</p> <p>OPWP is also reviewing its power procurement process, to allow existing plants to compete with new build plants in a PPA tender. So, a plant with an expired PPA may have the opportunity to enter tender rounds to compete for a new PPA contract, as these tender rounds occur.</p>
<p>Generator without an existing PPA or PWPA</p>	<p>A generator without an existing PPA or PWPA (including new build generation without a contract) will be required to register for the Spot Market. It will then submit daily offers to the MO, and will be eligible for Spot Market energy and scarcity payments.</p> <p>The generator will participate in the governance of the Spot Market, including the dispute process and may participate in the Market Advisory Committee.</p> <p>A generator participating in the Spot Market will also be able to enter into a tender round to compete for a new PPA contract, as these tender rounds occur.</p>