Demand for new power and water capacity under study

MUSCAT -- The state-owned power and desalinated water offtaker, Oman Power and Water Procurement Company (OPWP), envisions the potential for new capacity to meet burgeoning domestic demand for power and desalination water beyond the 2016 timeframe.

A new 7-year statement issued by **OPWP**, covering the demand outlook over the 2011-2017 timeframe, outlines the likely need for new power generation and water desalination capacity within the Main Interconnected System (MIS) serving much of northern Oman, as well as the Salalah System, and the Duqm Zone, where a huge industrial hub is envisaged.

Towards this end, **OPWP** plans to shortly kick off studies to assess the need to procure new capacity in the form of Independent Power Projects (IPPs), Independent Water Projects (IWPs) or extensions to Independent Water and Power Projects (IWPPs).

"**OPWP** intends to commence initial studies in 2011 to develop its strategy for the procurement of new capacity for the Main Interconnected System in the 2016-2018 timeframe. These studies will include consideration for feasible locations and fuel availability for new plants.

"Consideration will also be given to the impact of the expiry of Power/Water Procurement Agreements (PWPAs) in the same timeframe, and the interaction between options for the development of new capacity and renewal of PWPAs for existing capacity," the offtaker said in its 7-Year statement issued here recently.

Average 'expected demand' for electricity is anticipated to increase from 1,924 MW in 2011 to 2,454 MW by 2017, entailing an average growth rate of about 9 per cent per year. Peak 'expected demand' is projected to increase at around the same rate, rising from 3,500 MW to 6,371 MW by 2017.

But given the uncertainty inherent in assessing demand projections, **OPWP** also considers 'low case' and 'high case' scenarios in assessing requirements for new capacity.
Under **OPWP**'s 'low case' scenario, demand growth is a moderate six per cent annually, with peak demand projected to rise to 5,402 MW by 2017, which is almost 1,000 MW less than the expected peak demand.

In contrast, under the 'high case' scenario, demand is projected to be as high as 12-13 per cent annually. Consequently, peak demand under this scenario will reach 7,899 MW by 2017, which is about 1,500 MW higher than the expected peak demand and almost 2,500 MW higher than in the 'low case'.

"**OPWP** has to consider the needs for generation resources across this range of potential outturns, and must develop its generation procurement strategy in the context of this uncertainty," the report said.

According to **OPWP**'s study, some 483 MW of new capacity may be required in the MIS by 2015 under the 'high case' scenario. (The MIS is an area encompassing the Governorates of Muscat and Buraimi, and most of the South Batinah, Dakhiliyah, Sharqiyah, North Batinah and Dhahirah regions.) This could potentially rise to 2,069 MW by 2017 under the same assumption. However, under the 'low case' scenario, additional capacity in the MIS may not be required until 2017 or even later.

In the medium term, electricity demand growth within the MIS will be met by two new IPPs currently under construction in the Batinah region. Sohar II and Barka III, due to commissioned on a phased basis in 2012 and 2013, will add 1,490 MW of new capacity to the MIS. A further 1,500-2,000 MW of new capacity will become available by 2014 when a green-field IPP at Sur is fully commissioned.

Besides, MIS generation capacity is expected to be augmented around 2015 as a result of a government initiative to promote the development of grid-connected solar power projects. Subject to a final nod from the government, the competitive process for the first such solar-based project, involving 100-200 MW of capacity, is expected to make headway.

Significantly, new generation capacity will be required partly to offset output shortfalls as a number of existing generation assets fall out of contract in the coming years or are permanently decommissioned because of their age and condition.

For example, the power purchase agreement (PPA) covering output from the Al Kamil IPP is due to expire completely in early 2017. In total, about 750 MW of existing capacity is due to fall out of contract by 2017, although 500 MW of this capacity could potentially be re-contracted, says **OPWP**.

On the related-water front, **OPWP** envisions that new desalination capacity required from 2014/15 for the Barka and Sohar zones will most likely need to go ahead on a water-only basis.

With regard to the Salalah System, which serves Dhofar Governorate, **OPWP** is evaluating the possibility of combining the procurement of desalination capacity with the addition of new power generation capacity around 2016. A decision in this regard is expected to be taken in consultation with Dhofar Governorate's Directorate-General of Water (DGW) during 2011, the offtaker said.

"If it is decided not to combine the procurement of desalination capacity with new power generation capacity, then possible alternatives would include standalone desalination procured by the DGW, or a water-alone extension to the Salalah IWPP," **OPWP** stated.

The Salalah IWPP, consisting of a 445 MW and 15 MIGD desalination plant, will be fully operational by early 2012. With its commissioning, the total generation capacity of the Salalah System (which includes Dhofar Power's Raysut facility), will rise to about 700 MW.

"The study is expected to be completed by mid-2011 and will form the basis for a decision with respect to the initiation of a competitive procurement process for new capacity (for power generation only or in combination with desalination capacity)," it added.