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Ensuring uninterrupted power supply

WE refer to your article entitled *Healthy Reserve Margin Ensures Power Supply Security (Perspective, Jan 4)*. We agree with the writer's viewpoint on the need for a healthy reserve margin to ensure the security and reliability of the power supply system. The excess of generation above peak demand or reserve margin is designed to meet additional requirements if demand levels rise more than expected, or if there is a sudden deficit in power plant production. At the same time, an acceptable balance between cost and security needs to be determined. Regulatory bodies (such as the Malaysian Energy Commission) usually require the designated utility to maintain a certain percentage of peak demand capacity allocated for reserve margin.

To the point where the writer alluded there was a suggestion that one of the causes of high tariffs was due to customers having to pay for the excess electricity generated, we would like to clarify that there is no "excess" electricity generated. Instead there is a "spare" capacity on standby that could come in whenever

there is a tripping of a power plant due to technical problems. This is the normal prudent utility practice and ensures that our customers receive uninterrupted supply to the best extent as technically possible. The cost of keeping this spare available is termed as the capacity charge and is typical in a regulated utility

environment such as ours to compensate for the risks being borne by all the power plants in Malaysia, for both TNB and independent power producers.

We would like to point out that in Singapore, the official reserve margin in 2013 was declared to be at 60%. This is as expected as theirs is a market-based environment where the merchant power plants take their own risks for being in the system. Malaysia is more of a regulated one where the total generation capacity is determined by the Energy Commission, thus enabling us to establish the reserve margin required more appropriately.

There is, however, a caveat to the reserve margin number. The percentage assumes that all power plants in the system are

able to generate at any time as required by demand with unlimited fuel. This is not strictly true as we face problems with regards to the fluctuation in the volume of gas that is supplied by the gas supplier. If there is a problem with their gas supply infrastructure, or due to routine maintenance work, all the gas power plants in Malaysia are not able to generate electricity simultaneously if required. This will cause the reserve margin number to diminish and occasionally alternative (and expensive) fuels have to be burnt to meet demand, especially during peak periods.

An additional point worth noting is that the article correctly stated that a power

plant typically generates not the entire 100% of its rated capacity. Normally a power plant is scheduled up to 90% of its rated capacity to provide "standby" power i.e. if another power plant suddenly goes off the grid. The additional 10% generation capacity (along with the other power plants spare capacity) will immediately provide the replacement to ensure uninterrupted

supply of electricity to customers. We would like to stress that the losses on our high voltage transmission system is already very low. The 8% mentioned in the article is for both transmission and distribution (low voltage wires to the homes) losses which are expected.

TNB has implemented various procedures to ensure the security and reliability of the power supply system. Reserve margin is only one of the many measures that include other "ancillary" services such as power quality improvement devices, emergency import from neighbouring countries and controlled demand reduction. We strive to employ the most advanced techniques to guarantee high degree of reliability to almost eight million customers. We trust our explanation has clarified some of the issues raised in the article.

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