Proposals for modification in the use of meter readings from smart meters for compliance with the Guaranteed Standards and billing directives
August 19, 2022

Context

JPS has been transforming the way we do business, and at the centre of this is how we serve our customers. A key enabler to this transformation is the upgrading of our smart grid infrastructure and the digitalisation of our services. JPS has invested significant capital in building out our smart infrastructure, which includes the installation of smart meters across the island and the related applications and tools to extract value for our customers and operational efficiency.

Since 2016, JPS has installed over 408,000 smart meters in communities across the island at a cost of approximately US$79M. Over 60% of customer premises are now served by smart meters. Smart meters are at the core of the development of a smart grid.

The features and capabilities of smart meters have enabled direct customer access and use of their electricity consumption data for energy management: These include detailed information on energy consumption in 15-minute, hourly and daily intervals. Customers can also view and manage their energy consumption with usage data in these shorter time intervals as opposed to monthly. The detailed breakdown of electricity consumption reveals habits that contribute to electricity costs and allows customers to make adjustments that results in savings.

JPS has provided these capabilities directly to customers through the MyJPS Mobile App, that offers a full suite of online services including paperless billing, **Real-time monitoring of their electricity usage** (monthly, weekly, daily and hourly), creating a monthly electricity budget and other customer support features which allows the customer to make reports, query accounts, chat with an agent and make payments. A key enabler of these features and operational benefits is the ability of the smart meters to store and transmit meter reading data on an ongoing basis.

Operational efficiencies

The deployment of smart meters has also presented JPS with many opportunities for operational improvements with direct impact on customers. The most obvious and impactful is the capability for remote reading of customers' meters. This capacity has allowed JPS to address and mitigate several challenges associated with the former manual reading process including meter inaccessibility, impassable terrain, dogs, locked gates, etc.

Bill estimation

The proliferation of smart meters both reduces the need for the estimation of bills, and where readings are not available within the tolerance of the specific billing date, estimates can be generated with a more accurate understanding of how each customer utilizes electricity daily and hourly up to that period. Smart meters have enabled estimates to be done with a more accurate understanding of how each customer utilizes electricity during a period on a daily or hourly basis. The data quality for estimates and the associated accuracy are enhanced as the company utilises the readings and data stored by smart meters. In addition, anomalies in reported electricity use can be reconciled faster based on the actual data stored by the meters.

Real-time push notifications, for example, proactive billing updates via text message, Mobile App and email are provided to customers. Other notifications include high bill alert, disconnection warning, conservation and disaster preparedness tips.

Proposals for EGS7 (Frequency of Meter Readings)

The Company made a deliberate effort to raise its compliance with the Guaranteed Standards, over the years, as a proxy for its overall service standard. Deliberate efforts have been made to reduce breaches that have begun to produce improved results.

A primary strategy includes the implementation of smart meters, the upgrading of communication systems, as well as improved internal controls all geared at ensuring timely and accurate meter readings. EGS 7 is the Guaranteed Standard with the highest number of breaches. The standard requires that JPS renders no more than two consecutive bills to a customer. A primary reason for the high incidence of breaches is the inability of JPS to obtain normal meter readings in several areas across the island with a high prevalence of electricity theft.

Many of these communities are served by a residential automated metering infrastructure (RAMI) which includes the use of special smart meters mounted on the networks. However, extensive tampering with the equipment to defeat the anti-theft design and enable power theft has wreaked havoc with the operations of these networks, and affected the remote reading functionality, resulting in the absence of actual reads for billing. This has resulted in a higher than average frequency of estimated bills for some customers that accumulatively result in the persistently high breaches of this Guaranteed standard.

The deployment of smart meters to over two thirds of customers offer the opportunity for a different approach to be adopted in the estimation of bills and with the treatment of over and under-estimation.

We therefore present for the OUR's initial consideration in response to the Guaranteed Standards Comprehensive Review the following proposals for changes in relation to EGS7 and as a corollary, other billing related directives – consumption threshold and reading days – that impinges on other Guaranteed Standards.

JPS fully appreciates the need for further discussions with the OUR on these proposals.

1. **Definition of Estimation (Smart Meter)**
   The capabilities of smart meters to store and recall actual consumption data at a point in time has created a need to define a criterion of what is an "estimated bill" for users with smart meters. This requires clear documentation of how smart meter data is generated, transmitted, and stored. JPS is proposing the following:

   - Where there are actual readings for at least 75% of the days in a billing period, these actual readings will be used to do a linear estimate of the remaining days in the billing period for which there are no readings. For the purpose of guaranteed standards, given the very high degree of accuracy in this computation, this bill would be treated the same as an actual bill and would not attract compensation.

JPS is proposing that the basis on which non-smart meter accounts are estimated remain as is, where the average of the last three actual readings is used to bill customers.

2. Treatment of Under Estimation

JPS understands the need to maintain service standards for EGS7 in order to protect customers from prolonged estimated bills that could result in higher than usual billing. As a result, JPS is proposing the approaches below, which will address the injury to customers that are in receipt of estimated bills. The proposal is that this replaces the existing compensation mechanism of EGS 7, where a customer is compensated for more than two consecutive estimated bills. This is applicable to R10 (Residential) and R20 (General Service) customers only.

a) Where an actual reading is obtained after two or more consecutive estimates, and the actual reading is higher than the average of the last three actual readings, JPS will not bill the customer the excess kWh.

b) Where the reading comes out lower than the average of the last three readings, customers will benefit from the write-off of the excess estimation as per existing billing practices.

However, a) and (b) above will not apply where the estimate is due to faulty customer infrastructure or unauthorized customer activities.

3. Adjustment to Reading Date Threshold

Where an actual reading for AMI meters is unavailable on the scheduled read date, it is proposed that JPS be permitted to bill accounts with readings obtained +/- three (3) days of the scheduled date. This allows greater flexibility in the billing process that may be needed due to exigencies, increases the number of actual readings, and allows for real-time and accurate billing for customers, while mitigating the risk of overestimation or underestimation.

4. Elimination of the High/low Exception Threshold

JPS is proposing that the 30% and 40% exception threshold for the Residential and Commercial customer classes respectively be eliminated for automated readings from AMI meters. That is, consumption readings registered by a smart meter that exceed these thresholds (above/below) should not be treated as exceptions and the readings accepted and used to bill the account.

In relation to actual readings that are obtained and transmitted automatically, there is no reason to disregard these readings and estimate a customer's usage based on the 30/40% threshold, as a customer has the freedom to consume more or less at any given point. Distinctively, smart meters provide greater confidence to proceed to bill on these readings in comparison to manual meter readings that are subject to human error, and therefore, the need for the verification process that the exception threshold directive mandated.