Smart Metering AMI - AFRICA
Advanced Revenue Program: Large Power Users

October, 2017

“Technical Solutions for our changing business models”
Abstract…….“Advanced Revenue Program: Large Power Users”

Revenue contribution: Large Power Users vs Small Power Users

STS “Prepaid” Metering vs “Advanced Revenue” Smart Metering

What is an “Advanced Revenue” program?

What are the benefits of “Advanced Revenue” to LPU C&I consumers?

How does a Utility manage the transition from “post-paid” to “prepaid” billing using a “Advanced Revenue Smart Metering AMI Program”?

How does a Utility managed “Disconnects | Reconnects” for LPU’s?
Focus area of a typical utility metering system?

Revenue Generation
- “Pre-paid” – STS prepaid meters
- “Post-paid” – manual or AMR read meters

Billing
- Accuracy of billing a challenge
- Post-paid vs. Pre-paid
- Large debtors department
- Manual reads

Collections
- Typically a % of billing
- Generally ~80% collections
- Large debtors days
- +/- 150 days

Non-Technical Loss (NTL)
- Theft
- Accuracy of billing
- STS prepaid meters easy to bypass
- LPU loss very high

Tariff Management
- Electricity tariffs designed around meters rather than metering system around tariffs
Large Power Users vs Small Power Users

**Small Power Users**
- Typically single phase – direct connect meters
- Sub 60A rated
- Low value billing
- Mainly STS “prepaid” meters – “Pre-Paid” billing
- Majority of meters (~80%+), but generates small (~20%) of Electricity revenue

**Large Power Users**
- Typically Three phase – direct and CT connected meters
- 100A+ usage
- High value billing
- Mainly Smart AMR meters – “Post-Paid” billing
- Minority of meters (~20%+), but generates large (~80%) of Electricity revenue
Revenue contribution: LPU vs. SPU?

![Diagram showing revenue contributions from LPU, MPU, and SPU](image-url)
STS “Prepaid” Metering vs “Advanced Revenue” Smart Metering

STS “Pre Paid” Meter vending

- Smart Meter
- Electricity & Water
- My profile
- STS Voucher
- PoS
- Meter disconnects | reconnects
- Meter keeps “Unit Wallet”
- STS Prepaid meter

“Advanced Revenue” Smart Metering

- Smart Meter
- Electricity & Water
- My profile
- Meter disconnects | reconnects
- Online | Mobile eWallet
- Online | Mobile “Topup”
- Smart Metering
What is an “Advanced Revenue” program?
What is the benefit of “Advanced Revenue” to LPU C&I consumers?

<table>
<thead>
<tr>
<th>Large Power Users (LPU)</th>
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<tr>
<td><strong>LPU</strong></td>
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<tr>
<td>Multiple meters per account</td>
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<td>Direct and CT connected Three Phase Smart Meters</td>
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<td>Positive Cash Flow – typically minus 15 debtor days due to prepayment</td>
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<td>Data is instant – not waiting for 30 – 60 days for bill to arrive with post-consumption meter data</td>
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<td>Real time account reconciliation</td>
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What is the benefit of “Advanced Revenue” to LPU C&I consumers?

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<td><strong>LPU</strong></td>
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<td>Real time complex tariff rating: TOU</td>
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<td>No manual meter reading and data capture – reduces inaccurate billing to zero</td>
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<td>Meter tampering alerts and events – reduce NTL</td>
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<tr>
<td>CT</td>
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<td>Phase data measurement and detection</td>
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<td><strong>Meter Population:</strong> 1 - 20%</td>
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<td><strong>Total Revenue:</strong> 50 – 80%</td>
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Prepayment for Large Users (LPU)

- The benefits for LPU’s in a “Advanced Revenue” environment are:

  - LPU users can download and view online data in terms of real time consumption, billing data etc.
  - LPU consumer are able to plan according to real time data (e.g. when to switch on their smelter etc).
  - Account reconciliation happens in a real time mode.
  - No manual meter reading and inaccurate data.
  - Tariff rating is done in real time and therefore they can determine their costs despite the tariff codes being complex.
  - Cash flow management – the customer can pay according to their cash flow and consumption plan | Strategy, as well as optimise cost saving etc.
Benefits of “Advanced Revenue” Smart Metering to the Utility | Municipality

**Benefits of AMI prepayment to Utilities | Municipalities are:-**

- **Utility cash flow typically moves from 150 debtor days to minus 10 to 15 days.** This means that the Utility gets cash in advance before electricity consumption – thus allowing for growth planning and strategy.

- **Real time data is available to the Utility.** Allows for planning, growth and value add support to the end consumer, be it LPU’s | MPU’s or SPU’s.

- **Grid control is enhanced as a real time view of load consumption and trends is available.**

- **Depending on the MDM, this type of data can be linked into a SCADA system for grid control applications such as DRMS, Load Management etc.**
How does a Utility manage the transition from “post-paid” to “prepaid” billing using a “Advanced Revenue Smart Metering AMI Program”? 

- Critical is customer engagement
- Negotiate an account cutover
- Use the “Advanced Revenue” customer portal to manage the transition
- Enforce strong customer communication policy
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