

Preparing Your System for an AMI Deployment – Assess and Mitigate Risks*

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Any utility about to embark on an AMI deployment will focus on managing risks and performance for the AMI implementation project lifecycle. Risk management processes help to identify and isolate issues, and to mitigate potential issues before the AMI deployment ever begins.

Despite planning, many issues do arise during AMI implementation that could be proactively avoided. This article addresses the typical risk areas that are experienced, and highlights how they can be mitigated and managed prior to AMI deployment.

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ZERO CONSUMPTION METER READS

Well in advance of the AMI deployment, perform an inspection and validation of “zero usage” collected through the current metering system. While there are good reasons that an account could have a zero usage (e.g., vacation or legitimately vacant premises), utilities do get behind in zero usage inspections, resulting in not only a loss of revenue, but a big shock to the customer when a dead meter is replaced with a new working AMI meter.

There’s no explanation for why a customer would think a utility bill without localized generation should be zero, but it’s guaranteed that when they receive a “true” usage bill after many months, it will result in a complaint. So, iron these out in advance, and have any

adjustments resolved prior to your AMI deployment.

AMR TECHNOLOGY

Performing a validation comparison and physical check of operational AMR systems is an important preparation, including drive-by or previously installed network meter reading. Many of these systems were installed some time ago and have been left to the remote read processes year after year. The legacy systems are pulse based modules which inherently have potential for occasional misses or false counts. Compounded over a number of years, these can add up to an impactful discrepancy in the out-read.

Typically, AMI systems are installed in volume, using manual visual out-read processes. If the out-read is not consistent with the pulse AMR read, then the subsequent exchange billing will be abnormal to the customer, resulting in a complaint on the first month of AMI billing. Proactively manage this by sampling a subset for a field manual read verification, and comparing this to the AMR read to determine the accuracy of your system. Once you understand this, you can plan appropriately to manage customer billing.

SOCKET AND INFRASTRUCTURE

Inspect infrastructure in areas known to contain old sockets or high volumes of disconnect activity that could have potential for meter base issues. Most utility meter shops know exactly where these exist in the service territory. Hot sockets and service issues can present serious safety issues, damage the new AMI installations, and potentially leave the customers without power while awaiting

repairs. If you are aware in advance of these areas, you can plan an appropriate level of service crews or subcontractor resources and balance your installation plans to accommodate the necessary repair work. There's also a potential to tie some minor repair work such as jaw measurements or replacements into the AMI installation vendor contract services. Water services could uncover bad curb stops or soft pipes. And for gas deployment, it pays to do advanced inventory compatibility analysis to determine those meters that will need to be replaced to accommodate a module, and will require indoor access to re-light the pilot.

Consider what level of repair service the utility will pay for through the deployment program. This may extend beyond normal demarcation, as it will keep the deployment on track, and add to the level of customer satisfaction throughout the program. Handling these installations that will require special service crews, equipment and advanced appointments will all add to customer satisfaction and maintain service levels with the least interruption during the installation.

CHALLENGING CUSTOMER AREAS

Identify your most challenging customers and plan the timing and communications approach for them prior to deployment. Which are the high impact neighborhoods that might need special processes for a successful deployment? Pinpoint those that will need advanced customer engagement to gain access, and those that may need special processes to maintain safety. Who are your highly vocal and high impact customers? Determine the appropriate time to include these customers in the deployment. If they can be strong supporters, it's wise to include them early in the process and gain their feedback and early support. In other cases, it may be better to flush out and stabilize the process to some level of maturity prior to including these customers. The details for this topic are unique for each utility, but the considerations remain fairly constant. There's no doubt that your customers will provide their

feedback on the program, and a well thought out approach with considerations for the diversity of your customer base can create positive response, and manage the naysayers.

COMMERCIAL AND INDUSTRIAL PLANNING

C&I customers always require special attention, and in most cases require independent deployment planning. In most utilities, this class of customer constitutes a majority of the revenue base, but is always the lowest volume of installs when planning the deployment. Because of the lack of volume, the planning can be overlooked. A key consideration is to determine whether the utility personnel or an install subcontractor will be responsible to exchange the CT rated service meters. This decision varies amongst utilities, and comes down to safety and quality control preferences. Typically, self contained will be done by the subcontractor, and CT rated will be performed by utility personnel. In either case, keep in mind that the volume of deployment will be substantially lower per day, and the concentration of these services within a particular route can be high, so plan the volumes and resources appropriately. This plan may be independent, but should be in alignment with the residential high volume deployment if possible in order to effectively cut-over meter reading routes.

Another effective best practice is to perform commercial install cold calls in off-hours before the businesses open. Perform small commercial in the early morning hours, and then have the installers work services with bypass switches and appointments for the remainder of the day. Just don't fall into the trap of overlooking the special needs of your commercial customers in the design of the deployment plan.

RATES AND PRICING

Plan the timing of rate changes, or new rate introductions, to avoid any consequential perception of high bills due to the AMI

deployment. This risk area represents a bit of conflict in AMI benefits drivers and customer satisfaction. AMI projects are time constrained in development of advanced features to support the desired advanced rate classes. Initially, many utilities will say “we need to implement Critical Peak Pricing in June to support our Seasonal Peaks.” This is a very bad statement when it comes to customer satisfaction and acceptance to new AMI programs, since the customer will not have the opportunity of a non-peak baseline to feel confident that the AMI system is delivering data properly. Their first experience will be a new peak rate structure and potentially a much higher bill if they chose not to manage it appropriately. Instead, plan your project to implement rate changes away from the AMI deployment where possible. Attempt to maintain a baseline time allowance for the customer to gain confidence in the new AMI system under their legacy rate class terms. This may delay some percentage of benefits realization by a season, but will prove to be well worth the risk of a regulatory complaint or worst yet, negative press.

In the eyes of the customer, any negative experiences that happen to occur during the AMI deployment — whether it be to billing or customer service — ‘must’ be a result of the change to a new AMI system. The recovery of miss-perceptions after the fact is extremely difficult to overcome, and in some cases have substantially disrupted the AMI initiative with bad public perception, schedule delays and added costs.

The above areas of risk are common and have led to tough lessons learned in many recent Smart Grid deployments. Planning ahead to assess and manage such risks, and avoid customer satisfaction issues, takes discipline and investment early in the process and will pay dividends throughout the implementation.

About the author

Scott Stein is a Principal Consultant with Enspira Solutions, a Black & Veatch company. He has 19 years of experience in utilities AMI systems and wireless/telecommunications, with particular expertise in AMI deployment and systems integration. Mr. Stein holds a BS in Telecommunications Management and is a certified Project Management Professional (PMP). He formerly held positions with Landis+Gyr, eMeter, and Cellnet Data Systems.