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August 31, 2007

Ms. Jean Jewell  
Commission Secretary  
Idaho Public Utilities Commission  
472 West Washington Street  
PO Box 83720  
Boise, Idaho 83720-0074

Re: Supplement to Phase I AMI Implementation Status Report  
Case No. IPC-E-06-01

Dear Ms. Jewell:

Enclosed please find eight copies of Idaho Power's Advanced Metering Infrastructure (AMI) Implementation Plan. This report is a supplement to the Advanced Metering Infrastructure (AMI) Status Report filed on May 1, 2007, and is filed in compliance with Idaho Public Utilities Commission Order No. 30102.

If you have any questions regarding this report, please do not hesitate to contact me.

Sincerely



Maggie Brilz  
Director, Pricing

MB

c: Ric Gale  
P&RS/Legal files



IPC-E-06-01

# Advanced Metering Infrastructure (AMI) Implementation Plan

Presented by Idaho Power Company  
to the Idaho Public Utilities Commission

August 31, 2007

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# Implementation Plan

## 1. Introduction and Purpose

Idaho Power Company (IPC) has fully analyzed the costs and benefits of implementing AMI<sup>1</sup> throughout the remaining portions of its service territory. Based on this analysis, IPC proposes to install an AMI system covering roughly 99% of the customers in the service territory and proposes to do so by the end of 2011.

This report, supplemental to IPC's AMI Status Report filed on May 1, 2007, provides:

- A summary of the financial analysis
- An AMI implementation plan for the service territory
- A discussion for cost recovery
- Identification of the remaining issues

## 2. Financial Assumptions and Analysis Results

IPC's financial analysis compares the forecasted cost associated with the current meter reading operations to the forecasted costs associated with operations utilizing AMI. The analysis includes all components and costs associated with replacing existing metering equipment with advanced metering infrastructure capability. Included in these costs are metering and communication equipment, amortization of the undepreciated investment in the existing meters, reductions in Operations and Maintenance (O&M) expenses related to operational savings, AMI benefits, and costs of implementation.

### A. 2007 Analysis Assumptions

The 2007 financial analysis is based on the following assumptions:

- The analysis covers a 30-year time frame.
- The meter count (i.e., number of customers) increases yearly by our current load forecast projections.
- The operation and maintenance costs and operational savings (including labor) escalate yearly based on Idaho Economics' CPI forecast.

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<sup>1</sup> The term AMI refers to systems that measure, collect, and analyze energy usage information from advanced metering devices through various communication media on request or on a pre-defined schedule. This infrastructure includes hardware, software, communications equipment, customer associated systems, and data management software.

- Current productivity levels remain constant.
- Income Tax Rates are based on 2006 amounts.
- Property and Insurance Rates are based on 2006 amounts.
- The present value calculations are based on IPC's actual 2006 after-tax weighted average cost of capital.
- The book value of the existing meters is amortized over the three-year implementation schedule.
- The AMI meters have a 15-year life.
- Current meters have a 30-year life.
- All equipment is replaced at the end of its useful life.
- Replacement costs of meter equipment is at today's costs.

The results of the financial analysis indicate that the long-term benefits derived from reduced operating expenses are sufficient to support a decision to move forward with AMI implementation. Although the analysis indicates that implementation of AMI will increase IPC's revenue requirement in the early years, it is expected that the long-term benefits of reduced expenses plus additional benefits not yet identified or quantified will result in net benefits in the long term. For these reasons, IPC believes it is reasonable to proceed with AMI implementation.

### 3. Implementation Plan

Numerous factors were considered in developing the AMI implementation plan. The primary factors IPC considered were (in no particular order):

- Impact on revenue requirement
- Impact on existing employees
- Operational savings
- Impact on annual capital requirements
- Other major capital requirements needed to reliably serve existing customers
- Areas with high growth (new meters)
- Ease of implementation logistics

Based on a consideration of these factors, IPC has determined that a 3-year AMI implementation plan is reasonable. Work on the project would actually begin in 2008 with such tasks as pre-implementation planning, execution of contracts, ordering of long-lead materials, and installation of some communication equipment. Table 1 shows the year when AMI would be implemented in each regional area.

Table 1. AMI Implementation Time Schedule.

| Year | Area of Implementation   |
|------|--|
| 2009 | Capital Region (Boise, Meridian, Eagle, Kuna, etc.)                                      |
| 2010 | Canyon Region and Payette Region (Nampa, Caldwell, Payette, Ontario, etc.)               |
| 2011 | Southern Region and Eastern Region (Twin Falls, Hailey, Jerome, Pocatello, Salmon, etc.) |

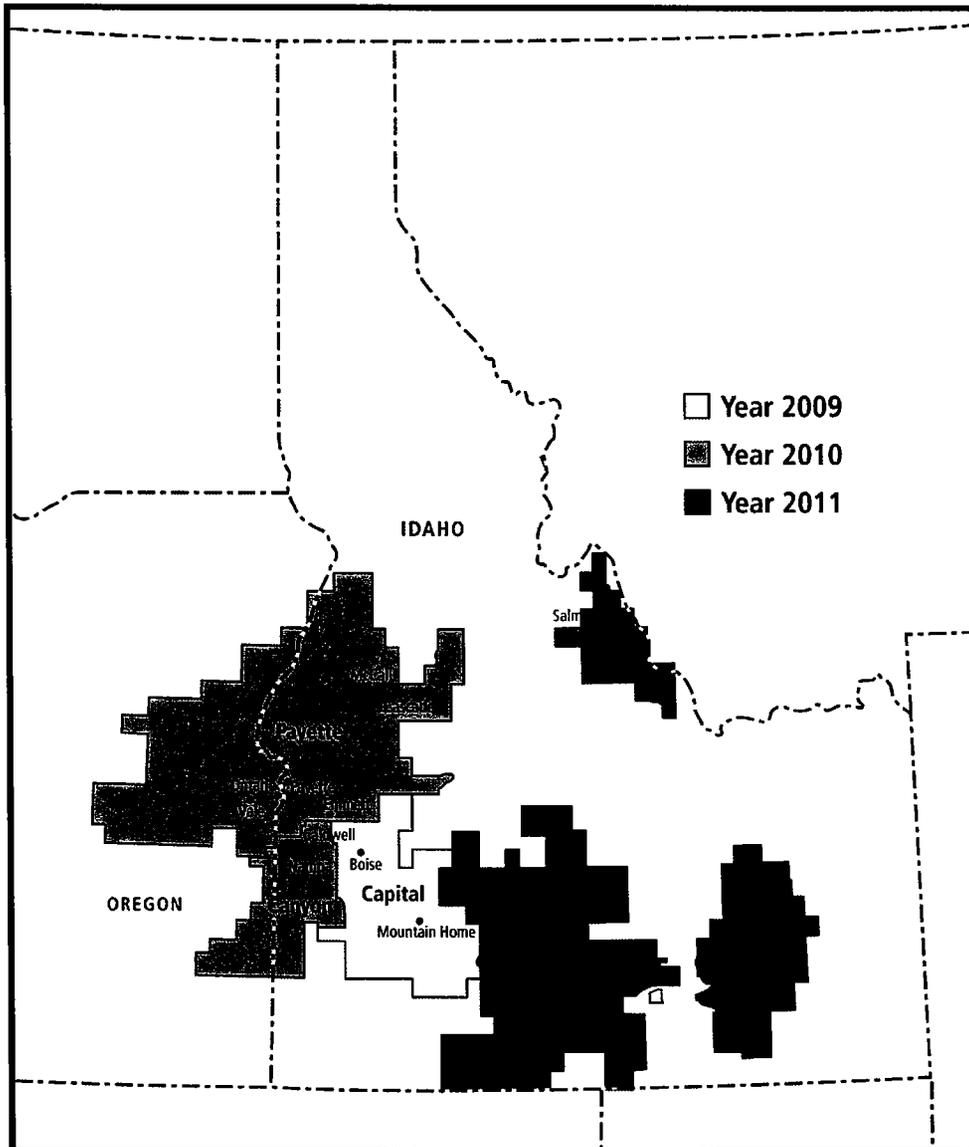


Figure 1. Idaho Power Company's Regional Implementation Map.

#### 4. Cost Recovery

As referenced in IPC's May 1, 2007, AMI Status Report, implementation of AMI will provide customers increased benefits compared to the current operational practice of manually reading meters. In addition, AMI will create the foundation for the ability to offer customers pricing options and additional information about their energy consumption, which may lead to additional future benefits. For these reasons, IPC believes it is reasonable to pursue full implementation of AMI staged over a three-year period. However, the significant customer and economic growth IPC has been experiencing requires continued investments in infrastructure to connect and meet the energy needs of these customers. Additionally, there is an ongoing need to replace existing infrastructure to continue to reliably serve existing loads. Although AMI will provide benefits to customers, it is not an investment that is necessary in order for IPC to fulfill its obligation to meet new and existing service requirements. Therefore, in order to support the large capital expenditures needed to meet new and ongoing service obligations as well as to implement AMI, IPC has identified three regulatory needs between when AMI implementation begins and when AMI deployment is complete. These three regulatory needs are:

1. Three-year depreciation of the meters and metering equipment that AMI will replace.
2. Recovery of new metering equipment as it is placed in service and capture of O&M benefits as they begin to occur.
3. Establishment of appropriate depreciation rates for AMI equipment.

As part of its AMI implementation plan, IPC will bring before the Commission requests to address each of these regulatory needs.

##### **A. Accelerated Depreciation of Existing Meters**

An integral component of IPC's financial analysis is the assumption that IPC will begin collecting in rates the accelerated depreciation of the meters and metering equipment that AMI will replace at the time that AMI deployment commences on January 1, 2009. Specifically, IPC wishes to have the old metering equipment fully depreciated coincident with the completion of the three-year AMI deployment. This regulatory action is deemed essential to IPC's commitment to moving forward with AMI implementation.

##### **B. Recovery of New Metering Equipment**

The revenue requirement associated with the installation of AMI includes the return on and of the investment in metering equipment less the net O&M savings as they occur through the process changes enabled by the new technology. An adjustment to rates on January 1, 2009, to include the revenue requirement associated with AMI implementation will support IPC's financing requirements as it continues to fund significant investments in system infrastructure. This adjustment may take the form of specific inclusion in a general rate case test year or a separate rate mechanism specifically targeted to the AMI implementation.

### **C. Depreciation Rates for AMI Equipment**

AMI meters and associated equipment have shorter useful lives than the standard metering equipment now being utilized by IPC. In order to appropriately recognize these shorter lives, IPC will include in its next depreciation filing before the Commission recommended depreciation rates for the various components of AMI equipment.

## **5. Issues to Resolve**

### **A. CIS Assessment—Time-Variant Pricing**

Implementation of AMI will provide the technology necessary to capture customers' energy usage on an hourly basis, creating the foundation for a variety of time-variant pricing options. Although IPC currently offers two time-variant pricing options to customers where AMI is installed, constraints within the Customer Information System (CIS), which require manual intervention in the rate change process, limit IPC's ability to offer time-variant pricing on a large-scale basis. Additional time and investment is required before IPC can offer time-variant pricing on a large-scale basis.

### **B. Meter Data Management System (MDMS)**

The MDMS system currently has the functionality required to support the AMI system and time variant rates. As the AMI system expands beyond the current 25,000 endpoints, additional work related to scalability and usability will be required.

## **6. Conclusions**

IPC has analyzed the costs and benefits of implementing AMI in the remaining portions of the service territory. Based on the results of the financial analysis, IPC believes implementation of AMI will provide customers with long-term benefits. In addition, AMI will create the foundation for the ability to offer customers pricing options and additional information about their energy consumption, which may lead to additional future benefits. For these reasons, IPC believes it is reasonable to pursue full implementation of AMI staged over a three-year period.

To recover the costs of implementation, it is essential that IPC 1) begin to collect accelerated depreciation of the meters and metering equipment that AMI will replace, 2) recover the costs of new metering equipment as it is deployed and capture O&M benefits as they begin to occur through the process changes enabled and necessitated by AMI, and 3) establish the appropriate depreciation rates for AMI equipment.

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