Guidance for ARRA Smart Grid Program Metrics and Benefits		
Guidance ID	G-001	
Metric	Developing Baseline Metrics	
Smart Grid Category	All	
Metric Type	Build and Impact	
Issue Date	April 19, 2010	
Revision and Date	N/A	

Background

Determining the value of the Smart Grid Investment Grant and Smart Grid Demonstration programs ("Smart Grid Programs") requires that DOE understand what recipients ("Project Teams") would have done if they had not received their awards (i.e., the "baseline" condition). DOE is requiring that baseline metrics be provided as reference points for the Build and Impact metrics that each project will report.

Guidance

Baseline metrics are relevant for all Build and Impact metrics that project teams will report. They are intended to illustrate the deployment of Smart Grid technology and its associated effects without the DOE project.[1] In developing baseline metrics Project Teams should consider the following.

- Baseline metrics should be provided for all Build and Impact metrics that the project team has agreed to report as part of its Metrics and Benefits Reporting Plan (MBRP).

- As part of the first Metrics & Benefits report, Project Teams should provide baseline metrics for the full five-year term of the Smart Grid Program. This means 20 quarterly values for Build metrics and 10 semi-annual values for Impact metrics (Table 1).

- Baseline metrics may be updated at the discretion of each Project Team, particularly if a material event or development alters the conditions that were assumed or implied in previously provided baseline metrics. Examples of material events include, but are not limited to, major technology shifts, new regulatory policies, and macroeconomic changes. In such cases, it would not be necessary to modify values for past periods, prior to these events.

- In cases where the equipment implementation schedule is shorter than five years, project teams should still provide values for baseline metrics for the full reporting period of five years.

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[1] For example, prior to receiving a Smart Grid Investment Grant (the baseline condition) a recipient may have planned to deploy 500,000 AMI smart meters and a critical peak pricing program over a five year period to achieve operational improvements and shift peak demand. As a result of winning the SGIG award, the recipient modified the deployment to include 1,000,000 AMI Smart Meters in an accelerated three year period.

- In some cases, Project Teams may have created multiple forecasts for baseline and project metrics to account for variations in regulatory treatment, financial conditions, or customer adoption rates of Smart Grid technologies and programs. In such cases, Project Teams should provide only one set of metrics that they believe best represents the baseline condition.

- Depending on the metric and the nature of the project, baseline estimates may be derived from recent historical data, forecasts, statistical or model-based projections, or possibly comparison/control groups (e.g., similar feeders or households) during the course of the project.

Table 1. Periods for which baseline metric values are reported.

Metric Type	Time Periods																			
	Year 1 Quarters				Year 2 Quarters				Year 3 Quarters				Year 4 Quarters				Year 5 Quarters			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Build Metrics	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Impact Metrics		X		X		X		X		X		X		X		X		X		X

X indicates that the values for baseline metrics are reported for that period

DOE recognizes that uncertainties related to regulatory approval, budgets, and other business conditions may make it difficult to determine baseline metrics that are highly precise. However, DOE requests that project teams apply creativity and judgment in estimating these baseline metrics. This may include normalizing data for weather or economic conditions, adjusting for abnormalities, and forecasting escalation rates for demand. All approaches, calculations, and assumptions to be used to determine baseline metrics should be described in the MBRP.