



FREEMAN, SULLIVAN & CO.

A MEMBER OF THE FSC GROUP

CALMAC Study ID: SCE0300

## Southern California Edison's 2010 Demand Response Load Impact Evaluations Portfolio Summary

April 1, 2011

Freeman, Sullivan & Co.  
101 Montgomery St., 15th Floor  
San Francisco, CA 94104  
fscgroup.com



*Prepared for:*

David Reed  
Southern California Edison  
6060 N. Irwindale Avenue, Suite J  
Irwindale, CA 91702

*Prepared by:*

Stephen George, Ph.D.  
Josh Bode, M.P.P.  
Josh Schellenberg, M.A.  
Freeman, Sullivan & Co.  
fscgroup.com

---

## Table of Contents

1	Introduction .....	1
2	Overview of Demand Response Programs .....	4
2.1	Emergency Response Programs .....	4
2.1.1	Base Interruptible Program .....	4
2.1.2	Agricultural and Pumping Interruptible Program .....	4
2.1.3	Summer Discount Plan Commercial .....	5
2.2	Price Responsive Programs .....	5
2.2.1	Summer Discount Plan Residential .....	5
2.2.2	Critical Peak Pricing .....	5
2.2.3	Demand Bidding Program .....	6
2.3	DR Aggregator Managed Programs .....	6
2.3.1	Capacity Bidding Program .....	6
2.3.2	Demand Response Contracts .....	6
2.4	Non-Event Based Programs .....	7
2.5	SmartConnect Enabled Programs .....	7
2.6	Program Enrollment .....	7
3	Methodology .....	9
3.1	Selection of 1-in-2 and 1-in-10 Weather Years .....	10
3.2	Overview of Evaluation Methods .....	10
3.3	Program Specific Analysis Methods .....	12
4	Ex Post Load Impact Estimates .....	15
4.1	Summary of 2010 Events .....	15
4.2	Event Averages by Program .....	17
5	Ex Ante Load Impact Estimates .....	18
5.1	Projected Change in Portfolio Load Impacts from 2011-2021 .....	18
5.2	2012 Portfolio Aggregate Load Impacts by Month .....	19
5.3	Portfolio Load Impacts by Program Type .....	20
5.4	Portfolio Load Impacts by Program .....	21
6	Recommendations .....	25
6.1	Emergency Response Programs .....	25

---

6.2 Price Responsive Programs.....	25
6.3 Aggregator Managed Programs.....	25
6.4 Non-Event Based Programs.....	26
Appendix A. Regression Specifications.....	27
A.1. Base Interruptible Program.....	27
A.2. Agricultural and Pumping Interruptible Program.....	28
A.3. Summer Discount Plan Commercial.....	29
A.4. Summer Discount Plan Residential.....	30
A.5. Critical Peak Pricing for Large Customers.....	31
A.6. Demand Bidding Program.....	32
A.7. Capacity Bidding Program and Demand Response Contracts.....	33
A.8. Real Time Pricing.....	34
Appendix B. Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions by Month and Forecast Year.....	35
Appendix C. Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions by Month and Forecast Year.....	46
Appendix D. Program Specific Aggregate Ex Ante Load Impact Estimates for 1- in-2 System Conditions by Month and Forecast Year.....	57
Appendix E. Program Specific Ex Ante Load Impact Estimates for 1-in-10 System Conditions by Month and Forecast Year.....	68

# 1 Introduction

This report summarizes the load reduction capability from Southern California Edison’s (SCE) portfolio of Demand Response (DR) programs. It details the load impacts from 2010 events (ex post impacts) and load reduction capabilities for 2011 through 2021 under 1-in-2 and 1-in-10 system conditions (ex ante impacts). The report adheres to the April 8, 2010 decision by the California Public Utilities Commission (CPUC) that requires a DR portfolio summary and specifies the format and content of the summary.<sup>1</sup>

The 17 DR resources listed in Table 1-1 are summarized in this report. Considering that SCE plans to transition Summer Discount Plan (SDP) Residential so that it operates as a price responsive resource in 2012, this program is not categorized as emergency response as it was in last year's portfolio summary. This year's portfolio summary also includes ex ante load impact estimates for one program in the SmartConnect enabled category, which is a DR segment for programs tied to SCE's rollout of smart meters.

**Table 1-1:  
Summary of Programs and Categorization**

Emergency Response	Price Responsive	Aggregator Managed	Non-Event Based	SmartConnect Enabled
<ul style="list-style-type: none"> <li>▪ Base Interruptible Program with 15-minute advance notice (BIP-15)</li> <li>▪ Base Interruptible Program with 30-minute advance notice (BIP-30)</li> <li>▪ Agricultural and Pumping Interruptible Program (AP-I)</li> <li>▪ Summer Discount Plan Commercial Basic (SDP COM-B)</li> <li>▪ Summer Discount Plan Commercial Enhanced (SDP COM-E)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Summer Discount Plan Residential Basic (SDP RES-B)</li> <li>▪ Summer Discount Plan Residential Enhanced (SDP RES-E)</li> <li>▪ Default Critical Peak Pricing for large customers (CPP-L)</li> <li>▪ Default Critical Peak Pricing for medium customers (CPP-M)</li> <li>▪ Default Critical Peak Pricing for small customers (CPP-S)</li> <li>▪ Demand Bidding Program Day Ahead Notification (DBP)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Capacity Bidding Program Day Ahead Notification (CBP-DA)</li> <li>▪ Capacity Bidding Program Day Of Notification (CBP-DO)</li> <li>▪ Aggregator Demand Response Contracts Day Ahead Notification (DRC-DA)</li> <li>▪ Aggregator Demand Response Contracts Day Of Notification (DRC-DO)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Real Time Pricing (RTP)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Save Power Day (SPD)</li> </ul>

<sup>1</sup> D.10-04-006

---

Two programs listed in the CPUC decision are not included in this report. Optional Binding Mandatory Curtailment (OBMC) is a program of last resort, triggered immediately prior to rolling blackouts and is not considered a DR program by SCE. The Scheduled Load Reduction Program (SLRP) is also not included because there are no participants in the program currently, no empirical evidence on its load impact and no projected enrollment.

Three programs that are included in this report have yet to be evaluated in accordance with the Load Impact Protocols<sup>2</sup> because there is no data available at this point. Critical Peak Pricing for medium customers (CPP-M), CPP for small customers (CPP-S) and Save Power Day (SPD) will become part of SCE's DR portfolio in 2012 as these programs are made available to customers. Although load impact evaluations have not yet been conducted for these programs, they are included in this summary because SCE expects these programs to comprise a substantial portion of its DR portfolio starting in 2012. For more information on how load impacts were estimated for these programs, see SCE's 2012-2014 DR Application or: *George and Bode. Enrollment Projections and Load Impacts for SCE's Demand Response and Dynamic Pricing Programs. Final Report. February 23, 2011.*

For all other DR resources, this report summarizes the 2010 program evaluations filed by SCE on April 1, 2011 in accordance with the Load Impact Protocols. Specifically, the contents of the following reports are summarized:

- George, Bode, Perry, Schellenberg, Malaspina and Holmberg. *Load Impact Estimates for SCE's Demand Response Programs: Residential and Commercial Summer Discount Plan, Agricultural and Pumping Interruptible Program, Real Time Pricing.* Final Report. April 1, 2011.
- George, Bode and Schellenberg. *2010 Load Impact Evaluation of California's Statewide Base Interruptible Program.* Final Report. April 1, 2011.
- George, Bode, Schellenberg and Holmberg. *2010 California Statewide Non-Residential Critical Peak Pricing Evaluation.* Final Report. April 1, 2011.
- Braithwait, Hansen and Armstrong. *2010 Load Impact Evaluation of California Statewide Aggregator Demand Response Programs: Ex Post and Ex Ante Report.* Final Report. April 1, 2011.
- Braithwait, Hansen and Reasor. *2010 Load Impact Evaluation of California Statewide Demand Bidding Programs (DBP) for Non-Residential Customers: Ex Post and Ex Ante Report.* Final Report. April 1, 2011.

Ex post results are summarized for all programs that experienced an event in 2010. Ex post load impacts determine what happened over some historical period, based on the conditions that were in effect during that time. Because historical performance is tied to past conditions such as weather, price levels and dispatch strategy (e.g., localized dispatches), ex post load impacts may not reflect the full option value of a DR resource.

Ex ante load impacts are summarized for each program and for SCE's DR portfolio as a whole. Portfolio impacts summarize the load reduction that can be expected from all of SCE's DR programs if jointly dispatched. In other words, they avoid double counting of load impacts from dually-enrolled customers. Ex ante load impacts are forward-looking and are designed to reflect the load reduction capability of a DR

---

<sup>2</sup> Attachment A to CPUC D.08-04-050, issued on April 28, 2008.

---

resource under a standard set of conditions that match the market and system conditions that drive the need for additional capacity – 1-in-2 and 1-in-10 system peaking conditions.

The structure of this report begins with a description of SCE's DR programs summarized within this filing, including current program enrollment and forecast enrollments that are linked to ex ante impacts. This program overview section is followed by a summary of the methods employed in analyzing the ex post and ex ante load impacts for each program. The next two sections summarize the ex post and ex ante results for each program as well as the portfolio of programs collectively. The final section summarizes the recommendations from the 2010 program evaluations. Appendix A describes the regression specifications that were used in modeling customer load for each program evaluation. Appendix B through Appendix E contain all of the ex ante results that must be included in the portfolio summary.

---

## 2 Overview of Demand Response Programs

SCE's current programs can be assigned to one of five categories: emergency response, price responsive, aggregator managed, non-event based and SmartConnect enabled programs. In general, emergency programs are called when operating reserves are limited, either immediately prior to or during system emergencies. Price responsive programs can be called based on market conditions defined by market prices, generation heat rates or other indicators. In aggregator managed programs, aggregators contract with commercial and industrial customers and assist them in delivering load reduction. Each aggregator forms a portfolio of individual customer accounts and nominates specific accounts for either an existing DR program such as the Capacity Bidding Program or for meeting contractual load reduction obligations. Non-event based programs are not dispatchable, but provide incentives for customers to shift or reduce loads during peak periods through either time-varying prices or explicit incentives. SmartConnect enabled programs refer to programs that are tied to SCE's rollout of smart meters.

### 2.1 Emergency Response Programs

Emergency programs are called when operating reserves are limited, either immediately prior to or during system emergencies.

#### 2.1.1 Base Interruptible Program

Each of California's three major investor-owned utilities, including SCE, offer the Base Interruptible Program (BIP). BIP is a tariff-based, emergency-triggered demand response program that CAISO can dispatch for system emergencies. Utilities can dispatch BIP for local emergencies or on a test event basis to verify the load reduction capability.

The program can be dispatched both for instances when electricity system demand approaches installed generation capacity – a resource shortage – or in response to emergencies due to transmission and generation outages. Customers enrolled in BIP receive incentive payments in exchange for committing to reduce their electrical usage to a contractually-established level referred to as the Firm Service Level (FSL). Participants who fail to reduce load to the FSL are subject to a financial penalty assessed on a kW per hour basis.

The SCE program differentiates payment level based on the timing of the advance notification provided. Customers can commit to providing load within 15 or 30 minutes of notification. The load impacts for both options are summarized in this report.

#### 2.1.2 Agricultural and Pumping Interruptible Program

The AP-I program provides a monthly credit to eligible agricultural and pumping customers for allowing SCE to temporarily interrupt electric service to their pumping equipment during CAISO or other system emergencies. Agricultural and pumping customers with a measured demand of 37 kW or greater, or with at least 50 horsepower of connected load per service account, are eligible to participate in the AP-I program. Participating customers must already be served under an agricultural and pumping rate schedule. When an interruption is deemed necessary and is allowed under the terms of the tariff, SCE sends a signal to the load control device installed on a customer's pumping equipment. The signal



---

automatically turns off the equipment for the entire duration of the interruption event. The number of interruptions cannot exceed 1 per day, 4 per week and 25 per calendar year. The duration of an interruption cannot exceed 6 hours and the total hours of interruption cannot exceed 40 per calendar month or 150 per calendar year. In exchange for allowing SCE to interrupt pumping service during emergencies, AP-I customers receive a monthly credit. For customers on time-of-use (TOU) rates, the credit is based on measured peak and mid-peak electricity consumption. For customers that are not on a time-of-use rate, the credit is based on monthly consumption.

### **2.1.3 Summer Discount Plan Commercial**

SDP Commercial is a central AC direct load control program for commercial customers. During high system peak hours or emergency conditions, a signal is sent to control devices that limit the operation of the AC compressor. Participants can elect whether or not to limit the number of maximum events and the degree of the AC control – the cycling strategy. The basic plan allows SCE to control an AC up to a maximum of 15 events per summer and up to 6 hours at a time. Participants can agree to allow an unlimited number of events in exchange for higher incentives, known as the enhanced plan. The load impacts in this report are separately summarized for the basic and enhanced program for commercial customers. In its 2012-2014 DR Application, SCE has proposed to transition SDP Commercial to a price responsive program, but the plan has not been finalized, so it is categorized as an emergency response program in this report.

## **2.2 Price Responsive Programs**

The distinguishing feature of price responsive programs is that they are dispatched based on economic criteria rather than solely for emergency conditions. SCE has the option of dispatching these programs when minimum conditions – defined by market prices, generation heat rates and other market indicators – are met.

### **2.2.1 Summer Discount Plan Residential**

SDP Residential is a central AC direct load control program for residential customers. SCE plans to modify the SDP Residential program so that it is operated as a price responsive resource by 2012, which is why it is not categorized as emergency response. During high system peak hours, a signal is sent to control devices that limit the operation of the AC compressor. Like with the SDP Commercial program, participants can elect whether or not to limit the number of maximum events and the degree of AC control – the cycling strategy. The basic plan allows SCE to control an AC up to a maximum of 15 events per summer and up to 6 hours at a time. Participants can agree to allow an unlimited number of events in exchange for higher incentives, known as the enhanced plan. The load impacts in this report are separately summarized for the basic and enhanced program for residential customers.

### **2.2.2 Critical Peak Pricing**

CPP is a dynamic pricing program for commercial and industrial customers. In 2010, SCE's large customers over 200 kW were defaulted onto CPP. Under the default CPP rate, higher prices on critical peak days are offset by a reduction in off-peak prices, demand charges or both. SCE has a 2 PM to 6 PM event window on CPP days and only calls events on non-holiday summer weekdays. SCE is



---

committed to a minimum of 9 events and a maximum of 15 events each year. In 2010, only large customers with peak demands exceeding 200 kW received service under CPP except for some voluntary medium customers. In 2012, SCE will begin to default small and medium business customers under 200 kW onto CPP once they have accrued a year of smart meter data. The ex ante load impacts in this report are summarized separately for large, medium and small CPP customers.

### **2.2.3 Demand Bidding Program**

The Demand Bidding Program (DBP) is a voluntary demand buy-back program that provides enrolled customers with the opportunity to receive financial incentives as payment for load reductions on event days. The program is designed to allow commercial and industrial facilities to provide load reduction without firm commitments or participant risk. Because a firm commitment is not required, participants can decide whether or not to bid in load reduction on an event-by-event basis. As such, the mix of event participants (versus enrollment) and magnitude of load reduction may vary from event-to-event.

## **2.3 DR Aggregator Managed Programs**

Technically, aggregator managed programs are also price responsive resources, but they are given a separate category because customers are not directly enrolled with the utility. In aggregator managed programs, aggregators contract with commercial and industrial customers and assist them in delivering load reduction. Each aggregator forms a portfolio of individual customer accounts and nominates specific accounts for either an existing DR program such as the Capacity Bidding Program (CBP) or for meeting contractual load reduction obligations. The aggregator assumes responsibility for managing relationships with individual customers, arranging for load reductions on event days, receiving incentive payments and paying penalties (if warranted) to the utility. SCE currently has two aggregator managed programs: CBP and Demand Response Contracts (DRC).

### **2.3.1 Capacity Bidding Program**

CBP is a statewide program that provides aggregators with monthly capacity payments (\$/kW) based on load reduction commitments for each month, plus additional energy payments (\$/kWh) based on actual electricity demand reductions during events. Each month, aggregators may adjust the nominated load reduction, the mix of customers that provide load reduction and event options (e.g., day-ahead or day-of events, and 4-hour, 6-hour or 8-hour event lengths). CBP events may be called on non-holiday weekdays in the months of May through October, between the hours of 11 AM and 7 PM. For this report, CBP day-ahead and day-of resources are summarized separately.

### **2.3.2 Demand Response Contracts**

DRC is very similar to the CBP program. The primary difference is that the contracts are individually negotiated and span a longer period over which load reduction resources ramp up to contractual levels. Like CBP, aggregators contract with commercial and industrial customers to act on their behalf with respect to all aspects of the DR program, including receiving notices from the utility, arranging for load reductions on event days, receiving incentive payments and paying penalties to the utility (if warranted). Each aggregator forms a portfolio of individual customer accounts so that their aggregated load participates in the DR programs and penalty risk is mitigated. In 2013, DRC will be discontinued and

---

SCE anticipates that the load reduction capability will transfer to CAISO market products, although it is plausible that aggregators may elect to apply those resources in CBP. For this report, DRC day-ahead and day-of resources are summarized separately.

## 2.4 Non-Event Based Programs

Non-event based programs provide load reduction or load shifting on a daily basis, but are not dispatchable. They provide incentives for customers to shift or reduce loads during peak periods through either time-varying prices or explicit incentives. One non-event based program, RTP, is summarized in this report.

RTP is a dynamic pricing tariff that charges participants for the electricity they consume based on hourly prices that vary according to day type and temperature. It attempts to incorporate time-varying components of energy costs and generation capacity costs. The RTP tariff consists of nine hourly pricing profiles that vary by season, day type and daily maximum temperature as measured by the Los Angeles Civic Center weather station. The tariff is available to large commercial and industrial customers. Because the rate schedules are linked to variation in weather, participants experience higher prices on hotter days and a greater number of high-price days during extreme weather years than in normal weather years.

## 2.5 SmartConnect Enabled Programs

This year's portfolio summary also includes ex ante load impact estimates for one program in the SmartConnect enabled category, which is a DR segment for programs tied to SCE's rollout of smart meters. Save Power Day (SPD) is a peak time rebate program for residential customers. In 2012, residential customers with advanced meters will be defaulted onto SPD. Customers on the program will receive a rebate for reducing load during peak periods when events are called. Customers who do nothing are neither rewarded nor penalized.

## 2.6 Program Enrollment

Table 2-1 summarizes the SCE DR enrollment forecasts for 2011 to 2021. SCE expects a large increase in DR participants in 2012, which is when small and medium non-residential customers will be defaulted onto CPP and residential customers will be defaulted onto SPD. In 2013, DRC enrollment drops to zero because this program will be discontinued. SCE anticipates that the load reduction capability from DRC will transfer to CAISO market products, although it is plausible that aggregators may elect to apply those resources in CBP. No growth is expected for BIP because SCE is near its cap on emergency DR programs. SDP Commercial is expected to grow by 25% between 2011 and 2014, but this may not have long-term implications for the emergency DR cap because SCE may transition it to a price responsive program. SCE projects that participation in the RTP program will increase significantly as the program is made available to all C&I customers, regardless of size.<sup>3</sup>

---

<sup>3</sup> Currently, RTP is only available to customers above 200 kW.

**Table 2-1:  
SCE DR Portfolio Projected Enrollments for 2011-2021 by Program  
(Values reflect expected enrollment in August)**

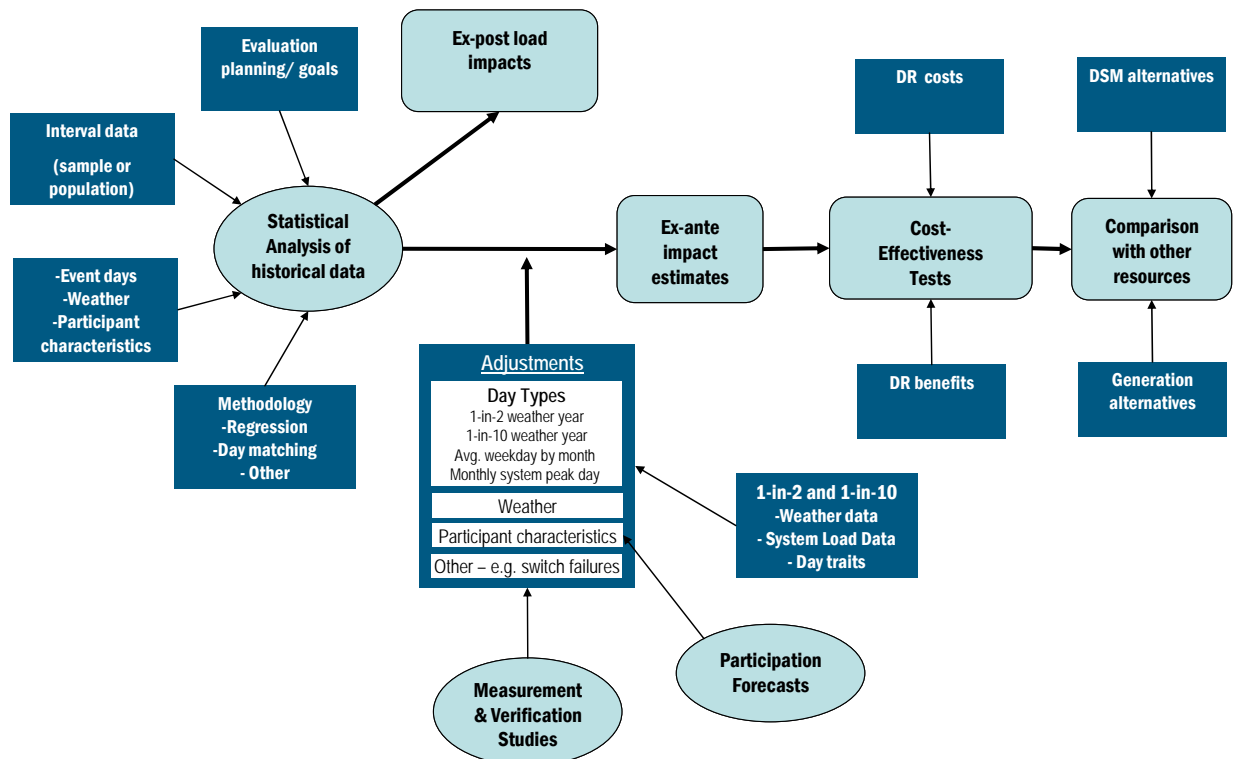
Program Type	Program	Forecast Year			
		2011	2012	2013	2014-2021
Emergency Response	BIP-15	68	68	68	68
	BIP-30	558	558	558	558
	AP-I	897	928	959	990
	SDP COM-B	2,493	2,822	3,149	3,475
	SDP COM-E	8,640	9,273	9,902	10,527
Price Responsive	SDP RES	298,045	326,709	355,640	384,799
	CPP-L	3,127	2,509	2,597	2,685
	CPP-M	0	24,691	61,143	23,225
	CPP-S	0	93,628	231,852	88,067
	DBP	1,456	1,550	4,090	3,538
Aggregator Managed	CBP-DA	97	115	132	150
	CBP-DO	442	473	504	536
	DRC-DA	393	380	0	0
	DRC-DO	1,225	1,192	0	0
Non-Event Based	RTP	99	99	184	268
SmartConnect	SPD	0	1,780,454	2,076,316	2,099,397
<b>Portfolio Total</b>		<b>317,540</b>	<b>2,245,449</b>	<b>2,747,094</b>	<b>2,618,283</b>

### 3 Methodology

The Load Impact Protocols governing the development of ex ante load impacts were designed to help ensure that demand response impact estimates would be directly comparable with other resource alternatives (i.e., other DR resources, energy efficiency, renewables and generation). Figure 3-1 shows how the ex ante load impact estimates can be integrated with cost-effectiveness analysis and resource planning. As shown, the Protocols require that the ex ante load impact estimates be based on analysis of historical data whenever the existing data and characteristics of the program allow for such an approach. Analysis of historical program data is then employed to produce ex ante load impact estimates that are subsequently used for resource adequacy, cost-effectiveness assessment and, by connection, resource planning.

Ex ante load impacts reflect the fact that demand response load impacts vary as a function of weather, participant characteristics, changes in the number of program participants and other factors such as switch failure rates in order to provide an appropriate comparison with alternative resources under the same planning paradigm. Put differently, ex post load impacts for any given year may differ from the load impacts that could be achieved during the low probability, extreme conditions under which many DR resources are likely to be used and for which they provide insurance value.

**Figure 3-1:  
Summary of Ex Post and Ex Ante Analysis Process and Connections**



---

### 3.1 Selection of 1-in-2 and 1-in-10 Weather Years

The selection of 1-in-2 and 1-in-10 weather years was the same as in last year's load impact evaluations. In order to better align the weather with the primary applications of the load impact estimates – long-term planning, resources adequacy and cost-effectiveness – the selection of the 1-in-2 and 1-in-10 monthly system peak weather conditions was based on an analysis of system load data from 2006-2009 and weather from 1990 through 2009 from 25 weather stations located throughout the SCE territory. The process consisted of the following steps:

- Develop a demand model that estimates system load as a function of weather conditions, hour of day and seasonal factors;
- Estimate the system load for 1990-2009 (20 years) based on historical weather conditions;
- Identify the day on which the monthly system peak load occurs for each month of each year from 1990-2009;
- Rank the monthly system peak load for each month;
- Identify the 50th and the 90th percentile monthly system peaks (i.e., 1-in-2 and 1-in-10 weather year conditions); and
- Select the weather associated with the selected monthly peak days as the 1-in-2 and 1-in-10 year weather conditions.

The analysis relied on a demand model rather than on historical system peak data for several reasons. Central AC saturation, population centers, industry and building and appliance codes changed substantially over the 20-year span. By relying on a system demand model, demand estimates given current drivers of system load and known historical weather variation were produced. The system demand model was developed based on 2006 through 2009 system load data and weather patterns. The time span includes a diverse set of weather conditions, enabling the prediction of system load for extreme weather conditions. Once developed, the demand model was applied to the historical weather for the 20-year time span from 1990 through 2009 in order to identify extreme and normal conditions for monthly system peaks.

### 3.2 Overview of Evaluation Methods<sup>4</sup>

The methodologies used to estimate ex post and ex ante load impacts for each of the DR programs in the SCE portfolio are conceptually similar. Each of the 2010 evaluations relied on regression analysis to estimate a model reflecting the relationship between customer or end-use load and key determinants of the variation in energy use over time, such as weather and time-of-day, day-of-week and seasonal patterns that reflect the normal pattern of business or household operations. These models are based on historical hourly or sub-hourly electricity use data for customers that have participated in the DR programs. Each model or set of models is used to estimate the reference load for an average customer

---

<sup>4</sup> In this section, evaluation methods are summarized for programs that were evaluated in 2010 in accordance with the Load Impact Protocols. As discussed in Section 1, ex ante load impacts for CPP-M, CPP-S and SPD are included in this report, but these programs have yet to be evaluated in accordance with the Load Impact Protocols because there is no data available at this point. For more information on how ex ante load impacts were estimated for CPP-M, CPP-S and SPD, see SCE's 2012-2014 DR Application or: *George and Bode. Enrollment Projections and Load Impacts for SCE's Demand Response and Dynamic Pricing Programs. Final Report. February 23, 2011.*

---

enrolled in a program, which represents what customers would be expected to use in the absence of an event on days in which program events either were called (for ex post impact estimation) or have a high probability of being called (for ex ante impact estimation). For the single non-event based program (RTP), the methods were slightly different. For RTP, the reference loads represent what the average customer would use on a specific day if they faced the otherwise applicable tariff, TOU-8, rather than the RTP tariff.

In most instances, ex post impacts were estimated by comparing the reference level energy use in each hour with the estimated load with DR in the hour on each event day. For ex ante estimation, predicted energy use in each hour was estimated under the assumption that an event occurred and also under the assumption that it did not occur, while everything else (e.g., weather, day-of-week effects) was held constant at values representative of a typical event day or monthly system peak day.

At a more technical level, two general approaches were used to estimate the regression models:

- **Individual Customer Time Series Regressions:** This method works well for event-based programs with numerous events (e.g., CPP) and for programs with substantial variation in the drivers of load response or load shifting (e.g., RTP). This approach is also useful for programs with substantial differences in the magnitude and load patterns of customers, which is more typical among large customers. The coefficients vary at the customer level. While the regressions do not necessarily explain individual customer behavior perfectly, in aggregate, they explain most of the program level variation in loads. Importantly, individual customer regressions can be employed to describe the distribution of customer load reductions as well as the distribution of percent load reductions. They can also be used to describe impacts for segments of the participant population. The key limitation to individual customer regressions is their inability to make use of control groups.
- **Panel Regressions:** This method is particularly suitable when equivalent control groups are available, or sample sizes are sufficient for the territory, but inadequate for smaller segments such as local capacity areas. A key strength of panel regressions is the ability to control for certain omitted or unobservable variables.<sup>5</sup> While panel regressions can increase the accuracy of impact estimates for the average customer, they cannot be employed to describe the distribution of impacts among the participant population. Importantly, panel regressions cannot control for customer characteristics that interact with occupancy and or weather unless those variables are explicitly included.

The regression models used to predict the reference load were developed with the primary goal of accurately predicting average customer load given the time of day, day of week, temperature and location of each customer and predicting load reductions under different temperature conditions. The focus was on the accuracy of the prediction and the validity of load impact estimates. The regression equations used to model load patterns and estimate load impacts for each program are detailed in Appendix A.

---

<sup>5</sup> Panel regressions can account for omitted variables that are unique to customers and relatively time invariant over the analysis time frame (fixed effects) such as household income. Panel regressions can also account for omitted variables that are common across the participant population but unique to specific time periods (time effects). They cannot, however, account for omitted variables that vary both by participant and by time period or for household characteristics (e.g., central AC) that interact with variables that vary over time, such as weather and occupancy.

---

### 3.3 Program Specific Analysis Methods

Table 3-1 summarizes the analysis methodology for each program. It describes the general approach used for load impact estimation and details any key assumptions required in the analysis. The specific methodology chosen for each program was based on the available data, event dispatch patterns and the strengths and weakness of each regression approach.



**Table 3-1:  
Summary of Analysis Methodologies by Program**

Program	Method	Evaluation Description	Key Assumptions
Baseline Interruptible Program (BIP- 30 and BIP-15)	Individual Customer Regressions	Individual load patterns were modeled using hourly data from 2008-2010 for all participants with available data. Ex ante impacts were estimated as the reference load under 1-in-2 and 1-in-10 system peak conditions minus the firm service level, with adjustments based on historical over or under performance.	<ul style="list-style-type: none"> <li>▪ Historical over and under performance accurately describes future performance</li> <li>▪ Participant load increases at 1.5% per year until 2014 as the economy improves</li> </ul>
Agricultural Pumping Interruptible Program (AP-I)	Individual Customer Regressions	Agricultural pump loads were modeled as a function of time of day, day of week, rate periods, rainfall in prior weeks, temperature and other factors. Estimates of switch activation success rates were developed based on the 2010 test events and applied to reference loads.	<ul style="list-style-type: none"> <li>▪ Pump loads are fully shut down when switch activation is successful</li> <li>▪ Switch activation success rates are improved until 2014 due to a concerted effort to identify and fix communication and switch failures</li> </ul>
Summer Discount Plan Commercial (SDP-COM-B and SDP-COM-E)	Individual Customer Regressions	Air conditioner loads were analyzed based on 5-minute AC load data gathered from a representative sample of 392 customers. Due to limited event data, percent load impacts from SDG&E's Summer Saver program were applied to the reference load data based on temperature conditions, hour and cycling strategy to estimate load impacts.	<ul style="list-style-type: none"> <li>▪ The percent load reductions are similar for SCE and SDG&amp;E under similar temperature conditions</li> </ul>
Summer Discount Plan Residential (SDP-RES-B and SDP-RES-E)	Panel Regressions	2006-2007 end-use load data for 166 air conditioners (historical research sample) was employed to model AC load patterns as a function of temperature, hour of day and other factors. Because limited event data was available for the historical sample, percent load reductions by temperature and cycling strategy from SDG&E's Summer Saver program were applied for ex ante load impact estimates.	<ul style="list-style-type: none"> <li>▪ The percent load reductions, particularly under 100% cycling, are similar for SCE and SDG&amp;E under similar temperatures</li> </ul>
Critical Peak Pricing for large customers (CPP-L)	Individual Customer Regressions	The CPP ex post hourly load impacts for program year 2010 were estimated using separate econometric models for each enrolled CPP customer, based on historical customer load data for the summer of 2010. In the ex ante analysis, load impacts and the estimated reference load were based on the regression coefficients from the ex post model.	<ul style="list-style-type: none"> <li>▪ Customers who provide large impacts are more likely to stay on the rate</li> </ul>

Program	Method	Evaluation Description	Key Assumptions
Demand Bidding Program (DBP)	Individual Customer Regressions	Ex post hourly load impacts were estimated using regression equations applied to customer-level hourly load data. Ex-ante load impacts were estimated using percentage load impacts directly calculated from the ex post results and applied to 1-in-2 and 1-in-10 reference loads. Program-level load impacts are significantly higher than portfolio-level load impacts in all forecast years due to dual enrollment in BIP.	<ul style="list-style-type: none"> <li>Future bidding behavior will be similar to current bidding behavior</li> </ul>
Capacity Bidding Program (CBP- DO and CBP-DA)	Individual Customer Regressions	Direct estimates of total program-level ex post load impacts for each program were developed from the coefficients of individual customer regression equations. These equations were estimated over the summer months for 2010 using individual data for all customer accounts enrolled in each program.	<ul style="list-style-type: none"> <li>Future load impacts for each customer will be similar to load impacts provided in the past</li> </ul>
Demand Response Contracts (DRC-DO and DRC-DA)	Individual Customer Regressions	Direct estimates of total program level ex post load impacts for each program were developed from the coefficients of individual customer regression equations. These equations were estimated over the summer months for 2010 using individual data for all customer accounts enrolled in each program.	<ul style="list-style-type: none"> <li>Future load impacts for each customer will be similar to load impacts provided in the past</li> </ul>
Real Time Pricing (RTP)	Individual Customer Regressions	Customer load was modeled as a function of time of day, day of week, weather, and hourly price schedules using 2008-2010 hourly data. The impacts were estimated as the difference between customer loads under RTP and estimated hourly loads under the otherwise applicable tariff prices based on individual customer price response.	<ul style="list-style-type: none"> <li>Customers will continue to respond to prices as they have done in the past</li> </ul>

---

## 4 Ex Post Load Impact Estimates

This section summarizes the load impacts in 2010 for event-based programs. Ex post load impacts are based on modeling electricity use patterns and load impacts over a historical period. They estimate what happened, based on the conditions that were in effect during that time. While historical load patterns and impacts are critical to understanding the magnitude of load reduction resources, they have limitations. Because historical performance is tied to past conditions such as weather, price levels and dispatch strategy (e.g., localized dispatches), ex post load impacts may not reflect the full option value of a DR resource. For example, a test event for a highly weather sensitive program such as SDP Commercial may yield lower impacts than what the program can provide because future events might occur at hotter temperatures when AC loads are higher. Likewise, resources such as CBP or DRC may be dispatched partially – one product line is called – in which case ex post events do not necessarily reflect the program load reduction capability.

### 4.1 Summary of 2010 Events

In 2010, SCE DR resources were dispatched based on program rules and need. The event days and event hours differed across programs and, sometimes, within programs. Table 4-1 summarizes the events called in 2010 by date and program. BIP is not included in the table because it did not have an event in 2010. CPP-M, CPP-S and SPD are not included because these programs will not be in operation until 2012. Finally, RTP is omitted because it is not an event-based program. Of the event-based programs, CBP-DA and CPP-L were dispatched most frequently. All existing DR programs except BIP and DRC were called on September 27th, which was SCE's highest system load day since the all-time system peak in 2006.

**Table 4-1:  
Summary of 2010 Events by Date and Program**

Date	AP-I	SDP	CPP-L	DBP	CBP-DA	CBP-DO	DRC
Jun. 30							
Jul. 14							
Jul. 15							
Jul. 16							
Jul. 19							
Jul. 28							
Jul. 29							
Aug. 6							
Aug. 12							
Aug. 16							
Aug. 17							
Aug. 18							
Aug. 23							
Aug. 24							
Aug. 25							
Aug. 26							
Aug. 27							
Sep. 1							
Sep. 2							
Sep. 3							
Sep. 20							
Sep. 24							
Sep. 27							
Sep. 28							
Sep. 29							
Sep. 30							
Oct. 1							
<b>Total Events</b>	<b>2</b>	<b>2</b>	<b>12</b>	<b>9</b>	<b>16</b>	<b>9</b>	<b>2</b>

 = Resource Dispatched

## 4.2 Event Averages by Program

Interpreting the aggregate average impact across events can be difficult because multiple factors vary across days, including temperature, the normal pattern of energy use, enrollment, the number of customers called, dispatch strategy and number of event hours. For programs such as large customer DBP and CPP with stable participation, fixed event windows, less weather sensitive customers and universal dispatch for all events, the average event impacts can provide meaningful and insightful data about program performance. However, for resources that do not have those characteristics, the average aggregate impacts provide limited insight and can be misleading. A better metric for average ex post impacts is the average and percent impacts per event hour for customers that were dispatched. Still, this metric has flaws in that it does not necessarily reflect the load reduction capability of weather sensitive resources. The hourly aggregate impact also does not reflect the load reduction capability of resources that are dispatched on a localized basis where the dispatched participants may have different characteristics than the average participant. In short, ex post load impacts may not reflect the full option value of a DR resource and should be interpreted with caution.

Table 4-2 summarizes the average hourly load impact for each of SCE's programs that had an event in 2010. A total row at the bottom is not provided because these are different types of programs that were dispatched at different times in 2010, as shown in Table 4-1. Of these programs, SDP Residential had the largest aggregate impact per event hour (742.5 MW). Although SDP Residential has the lowest load impact per customer (2.2 kW), it has the largest aggregate impact because 343,566 accounts were called for the event. The DRC-DO resource had the largest load impact per customer (117.2 kW) and the second largest aggregate impact per event hour (98.7 MW).

**Table 4-2:  
2010 Ex Post Load Impacts per Event Hour by Program<sup>6</sup>**

Program	Reference Load (kW)	Load with DR (kW)	Load Impact per Customer (kW)	% Load Impact	Aggregate Impact (MW)	Accounts Called	Number of Events
AP-I	55.0	12.8	42.2	76.7	33.3	793	2
SDP COM	10.5	5.7	4.8	45.5	46.3	9,665	1
SDP RES	2.6	0.4	2.2	82.7	742.5	343,566	1
CPP-L	263.5	256.0	7.5	2.8	30.7	4,091	12
DBP	747.7	702.8	44.8	5.9	62.0	1,383	9
CBP-DA	106.4	96.2	10.3	10.0	0.8	78	16
CBP-DO	253.6	208.0	45.6	18.0	15.4	338	9
DRC-DA	299.3	236.2	63.0	21.1	8.7	138	2
DRC-DO	350.2	233.0	117.2	33.5	98.7	842	2

<sup>6</sup> The July 29th event for SDP Commercial and SDP Residential is excluded from this calculation because it only lasted for a half hour and temperatures were relatively low during the event time period.

---

## 5 Ex Ante Load Impact Estimates

The portfolio ex ante load impact estimates summarize the load reduction that can be expected from all of SCE's DR programs if called simultaneously. They are based on a common event window and the weather conditions underlying 1-in-2 and 1-in-10 monthly system peak days. In other words, they provide estimates of the resources available under conditions that are linked to the need for additional capacity. Other than CPP-L, the load impact estimates for each program align with the revised resource adequacy hours. In the revised resource adequacy hours, the peak period is defined as 1 PM to 6 PM in April through October and 4 PM to 9 PM in November through March. For CPP-L, the peak period is defined as 2 PM to 6 PM for the entire year because the program has a fixed event window that does not vary by season. The CPUC has given SCE authorization to have this exception for CPP-L until the next rate design is decided.

In calculating the portfolio estimates, load reductions from dually-enrolled accounts were assigned to a single program in order to avoid double counting impacts. For customers dually-enrolled in an emergency response program and a price responsive program, the load impacts are attributed to the emergency response program in this portfolio summary.<sup>7</sup> Although dual participation is allowed for many of SCE's DR programs, currently, overlaps are almost exclusively between customers dually-enrolled in BIP and DBP.

The remainder of this section summarizes the ex ante load impact estimates for SCE's portfolio of DR programs. The discussion focuses on the high level, portfolio aggregate impacts by forecast year, month and program type. The remainder of the portfolio and program specific estimates that are required by the Protocols can be found in Appendices B, C, D and E.

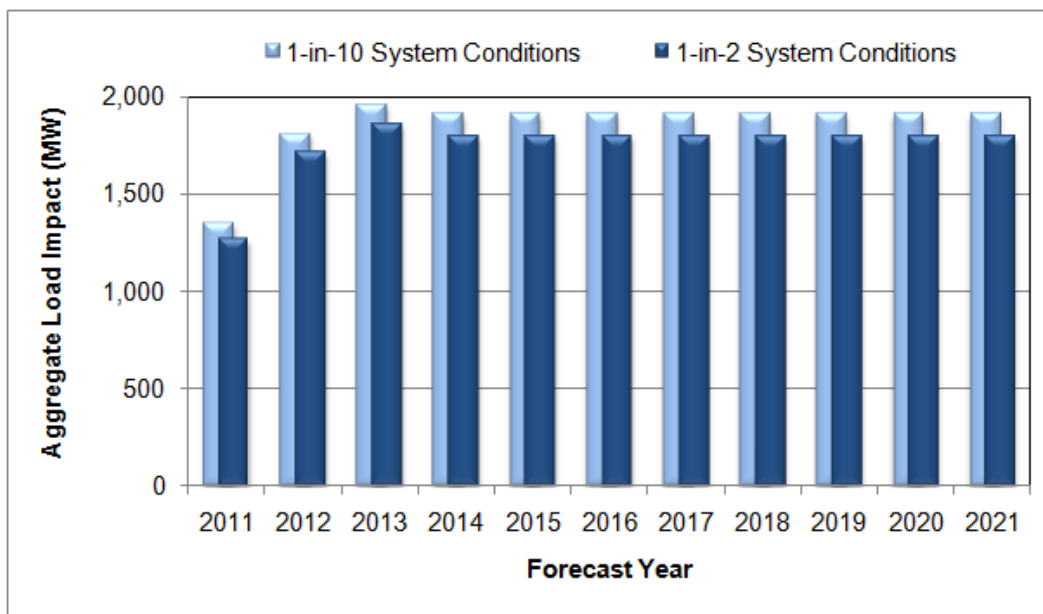
### 5.1 Projected Change in Portfolio Load Impacts from 2011-2021

Figure 5-1 provides the portfolio aggregate load impact estimates for the August system peak day under 1-in-2 and 1-in-10 system conditions by forecast year. The estimated aggregate load reduction is highest in 2013, but decreases slightly in 2014 as many medium and small business customers are expected to opt out of CPP after their first year of participation. Under 1-in-2 system conditions, SCE's DR portfolio is projected to grow from 1,265 MW in 2011 to 1,793 MW in 2014 and then remain stable thereafter. Under 1-in-10 system conditions, the aggregate load impact is 5% to 7% higher in each year. Once the programs reach a steady state in 2014, SCE's DR portfolio is expected to deliver 1,906 MW for the 1-in-10 August system peak day.

---

<sup>7</sup> It is important to note that for purposes of estimating aggregate load impacts that apply to the cap on emergency DR programs, the allocation rule is reversed in that the load impacts for dually-enrolled customers are attributed to the price responsive program.

**Figure 5-1:  
Portfolio Aggregate Load Impact Estimates (MW) for the August System Peak Day  
By 1-in-2 and 1-in-10 System Conditions and Forecast Year**



## 5.2 2012 Portfolio Aggregate Load Impacts by Month

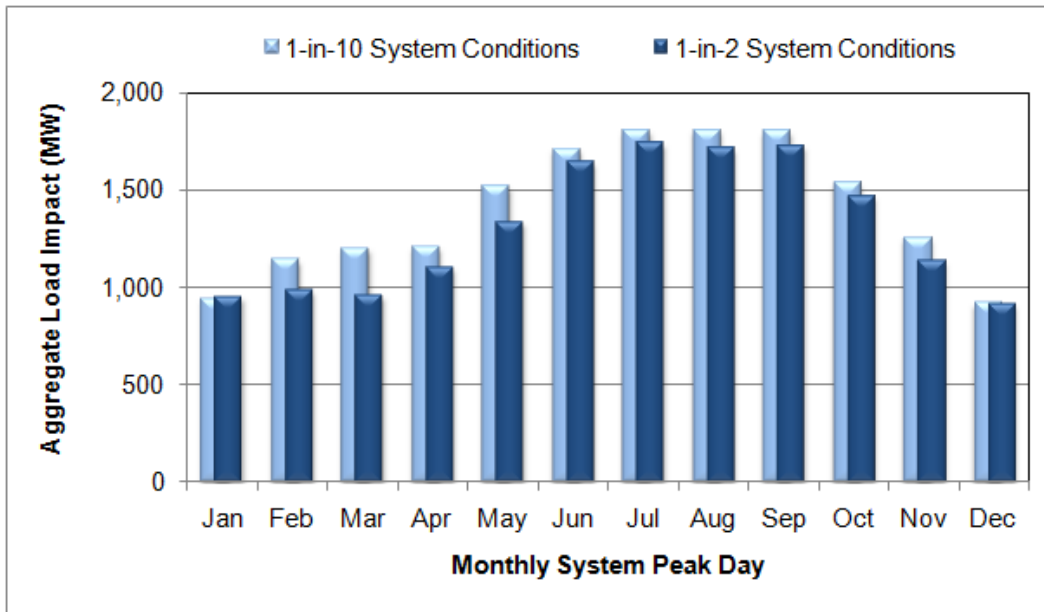
Figure 5-2 shows how the 2012 portfolio load impacts vary by month under 1-in-2 and 1-in-10 system conditions. In 2012, SCE's DR portfolio is projected to be capable of delivering up to 1,806 MW of load reduction during the August monthly system peak day under 1-in-10 system conditions. The July and September load impacts under 1-in-10 system conditions are quite similar, both of which are above 1,800 MW. The portfolio load impacts during non-summer months are substantially lower for three main reasons:

- Although SDP Residential will transition to a year-round program in 2012, the estimated load impacts are substantially lower during non-summer months;
- In 2012, SDP Commercial is only available to be called from June through September; and
- In 2012, CBP and DRC are only available to be called from May through October.

Although the portfolio load impacts during non-summer months are substantially lower, it is important to note that SCE's portfolio of DR programs is maximized from July through September, which are the months in which a system peak is most likely to occur.



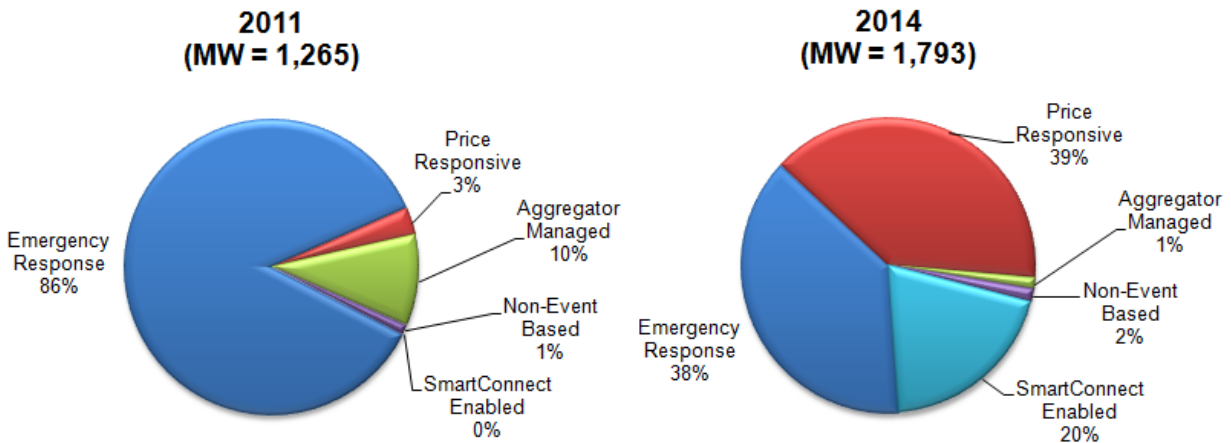
**Figure 5-2:  
2012 Portfolio Aggregate Load Impact Estimates (MW)  
By 1-in-2 and 1-in-10 System Conditions and Monthly System Peak Day**



### 5.3 Portfolio Load Impacts by Program Type

With the impending cap on emergency DR programs and transition to smart metering technology, SCE plans to move away from emergency response and have a more balanced DR portfolio by program type. Figure 5-3 reflects this change in the distribution of portfolio aggregate load impacts by program type. In 2011 for the August system peak day, load impacts from emergency response programs comprise 86% of SCE's DR portfolio. The share for price responsive programs is only 3%. In 2014 after the transition of SDP Residential to a price responsive program and implementation of default CPP for medium and small business customers, the share for price responsive programs grows to 39% of SCE's DR portfolio for the August system peak day. After SCE implements its peak time rebate program for residential customers, the SmartConnect Enabled category grows from 0% in 2011 to 20% in 2014. Considering that SmartConnect Enabled and Aggregator Managed programs are also price responsive, SCE's DR portfolio transitions from 82% emergency-dispatched programs to 60% price-dispatched programs between 2011 and 2014.

**Figure 5-3:  
Distribution of Portfolio Aggregate Load Impacts by Program Type  
2011 and 2014 August System Peak Day under 1-in-2 System Conditions**



## 5.4 Portfolio Load Impacts by Program

Table 5-1 summarizes the portfolio load impacts by program for 2011-2021 under 1-in-2 annual system peak conditions. The following list provides some background behind the aggregate impact results for each program:

- Although BIP enrollment does not change, aggregate load impacts increase over time because it is assumed that BIP customers experience 1.5% load growth per year from 2011 to 2014;
- AP-I aggregate load impacts increase over time because of enrollment growth and a projected improvement in switch activation success rates;
- SDP Residential is listed in two categories because it transitions from emergency response to price responsive in 2012. Aggregate load impacts increase over time because of projected enrollment growth, although it remains to be seen what the impact of the transition will be;
- CPP-L aggregate load impacts decrease slightly because it is expected that some customers will opt out of the rate after their initial year;
- Load impacts for CPP-M and CPP-S peak in 2013 once all eligible customers are defaulted onto the rate, but then decline because it is expected that many will opt out after the first year when bill protection expires;
- DBP portfolio impacts are lower than the ex post estimates or ex ante program specific impacts because of dual-enrollment with BIP;
- Load impacts for aggregator managed programs decrease substantially as DRC is discontinued while CBP aggregate load impacts remain relatively constant;
- RTP experiences substantial percentage growth as the program is made available to all C&I customers in conjunction with the SmartConnect rollout; and
- Portfolio load impacts increase substantially from 2012 onwards as SPD is implemented for residential customers.

Tables 5-2 and 5-3 summarize the monthly variation in portfolio aggregate load impacts in 2012 for 1-in-2 and 1-in-10 system conditions. Similar tables are available in Appendix B, C, D, and E for each forecast

year from 2011-2021, for 1-in-2 and 1-in-10 system conditions and for both a portfolio and program specific basis.

**Table 5-1:  
Portfolio Aggregate Load Impact Estimates (MW) for the August System Peak Day  
Under 1-in-2 and 1-in-10 System Conditions by Program and Forecast Year**

Program Type	Program	Forecast Year				
		2011	2012	2013	2014	2015-2021
Emergency Response	BIP-15	127	129	131	134	134
	BIP-30	410	417	425	432	435
	AP-I	37	40	43	47	47
	SDP COM-B	17	19	21	24	24
	SDP COM-E	39	42	45	47	47
	SDP RES-B	93	-	-	-	-
	SDP RES-E	363	-	-	-	-
	<b>SUB-TOTAL</b>	<b>1,087</b>	<b>647</b>	<b>665</b>	<b>682</b>	<b>686</b>
Price Responsive	SDP RES-B	-	102	137	157	157
	SDP RES-E	-	397	407	431	431
	CPP-L	27	25	23	26	24
	CPP-M	-	47	161	61	61
	CPP-S	-	14	35	13	13
	DBP	12	12	16	18	18
	<b>SUB-TOTAL</b>	<b>38</b>	<b>597</b>	<b>779</b>	<b>706</b>	<b>704</b>
Aggregator Managed	CBP-DA	1	1	1	2	2
	CBP-DO	17	19	20	21	21
	DRC-DA	26	25	-	-	-
	DRC-DO	82	80	-	-	-
	<b>SUB-TOTAL</b>	<b>126</b>	<b>124</b>	<b>21</b>	<b>23</b>	<b>23</b>
Non-Event Based	RTP	13	13	20	26	26
	<b>SUB-TOTAL</b>	<b>13</b>	<b>13</b>	<b>20</b>	<b>26</b>	<b>26</b>
SmartConnect	SDP	-	332	371	356	356
	<b>SUB-TOTAL</b>	<b>-</b>	<b>332</b>	<b>371</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,265</b>	<b>1,715</b>	<b>1,856</b>	<b>1,793</b>	<b>1,795</b>

**Table 5-2:  
2012 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	112	124	111	126	120	131	127	129	132	139	136	106
	BIP-30	392	406	389	432	469	426	420	417	420	445	400	354
	AP-I	21	22	27	40	43	41	40	40	38	40	32	22
	SDP COM-B	-	-	-	-	-	11	14	19	18	-	-	-
	SDP COM-E	-	-	-	-	-	23	34	42	34	-	-	-
	<b>SUB-TOTAL</b>	<b>525</b>	<b>552</b>	<b>526</b>	<b>598</b>	<b>631</b>	<b>633</b>	<b>634</b>	<b>647</b>	<b>642</b>	<b>624</b>	<b>569</b>	<b>482</b>
Price Responsive	SDP RES-B	0	0	0	14	33	94	112	102	106	61	27	0
	SDP RES-E	0	0	0	56	125	368	433	397	407	225	101	0
	CPP-L	26	31	30	29	25	27	27	25	23	24	30	30
	CPP-M	47	47	47	47	47	47	47	47	47	47	47	47
	CPP-S	14	14	14	14	14	14	14	14	14	14	14	14
	DBP	9	9	9	11	12	11	12	12	12	12	10	9
	<b>SUB-TOTAL</b>	<b>96</b>	<b>101</b>	<b>100</b>	<b>172</b>	<b>256</b>	<b>562</b>	<b>645</b>	<b>597</b>	<b>610</b>	<b>383</b>	<b>230</b>	<b>100</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	17	18	18	19	18	17	-	-
	DRC-DA	-	-	-	-	23	24	25	25	24	24	-	-
	DRC-DO	-	-	-	-	75	75	78	80	80	76	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>117</b>	<b>118</b>	<b>122</b>	<b>124</b>	<b>123</b>	<b>119</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	-1	-1	-1	-3	5	13	20	11	6	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-3</b>	<b>5</b>	<b>13</b>	<b>20</b>	<b>11</b>	<b>6</b>	<b>-1</b>
SmartConnect Enabled	SPD	332	332	332	332	332	332	332	332	332	332	332	332
	<b>SUB-TOTAL</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>
<b>PORTFOLIO TOTAL</b>		<b>952</b>	<b>985</b>	<b>958</b>	<b>1,102</b>	<b>1,336</b>	<b>1,642</b>	<b>1,739</b>	<b>1,715</b>	<b>1,728</b>	<b>1,469</b>	<b>1,136</b>	<b>914</b>

**Table 5-3:  
2012 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	102	126	122	124	117	125	123	127	130	138	134	112
	BIP-30	393	425	417	437	472	425	417	416	419	448	405	353
	AP-I	21	23	37	43	48	45	42	41	42	43	29	22
	SDP COM-B	-	-	-	-	-	12	15	22	19	-	-	-
	SDP COM-E	-	-	-	-	-	24	36	47	37	-	-	-
	<b>SUB-TOTAL</b>	<b>515</b>	<b>574</b>	<b>575</b>	<b>604</b>	<b>638</b>	<b>632</b>	<b>634</b>	<b>654</b>	<b>648</b>	<b>629</b>	<b>568</b>	<b>487</b>
Price Responsive	SDP RES-B	0	27	38	35	65	102	124	117	121	72	55	0
	SDP RES-E	0	109	151	139	258	403	486	460	460	270	201	0
	CPP-L	26	28	27	24	25	27	27	24	23	26	23	30
	CPP-M	47	47	47	47	47	47	47	47	47	47	47	47
	CPP-S	14	14	14	14	14	14	14	14	14	14	14	14
	DBP	9	10	10	12	12	12	12	13	12	13	10	9
	<b>SUB-TOTAL</b>	<b>96</b>	<b>235</b>	<b>287</b>	<b>271</b>	<b>421</b>	<b>605</b>	<b>710</b>	<b>675</b>	<b>678</b>	<b>442</b>	<b>351</b>	<b>101</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	17	18	19	19	18	18	-	-
	DRC-DA	-	-	-	-	23	24	25	25	24	24	-	-
	DRC-DO	-	-	-	-	76	77	79	80	78	78	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>118</b>	<b>120</b>	<b>123</b>	<b>126</b>	<b>121</b>	<b>120</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	4	0	9	20	5	20	20	11	-1	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>4</b>	<b>0</b>	<b>9</b>	<b>20</b>	<b>5</b>	<b>20</b>	<b>20</b>	<b>11</b>	<b>-1</b>	<b>-1</b>
SmartConnect Enabled	SPD	332	332	332	332	332	332	332	332	332	332	332	332
	<b>SUB-TOTAL</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>
<b>PORTFOLIO TOTAL</b>		<b>944</b>	<b>1,141</b>	<b>1,199</b>	<b>1,207</b>	<b>1,518</b>	<b>1,709</b>	<b>1,805</b>	<b>1,806</b>	<b>1,800</b>	<b>1,534</b>	<b>1,251</b>	<b>919</b>

---

## 6 Recommendations

The 2010 DR program evaluations contain recommendations for each program. The recommendations provide steps to improve the measurement and evaluation of DR resources and steps to improve program performance. This section summarizes the recommendations for each program. More detailed explanations of the recommendations can be found in the individual program evaluations.

### 6.1 Emergency Response Programs

Overall, emergency response programs are characterized by infrequent use, but substantial load reductions linked to either automated control technology or contractual agreements with substantial penalties for non-performance. Their importance and infrequent dispatch make it critical to understand the electricity use patterns of participants, call test events and measure the extent to which communications work well. The following summarizes the recommendations for the emergency response programs:

- Call test events for BIP, AP-I and SDP Commercial;
- For BIP test events, determine whether test events are designed to simulate shortages of installed capacity or short-term balancing of the grid to recover from forced transmission or generation outages. If a BIP test event is meant to simulate a generation supply shortage, one-day notice is recommended, without advance notice of the exact timing of the event. If a BIP test event is meant to simulate a transmission or generation outage, no advanced notice should be given;
- For AP-I, conduct an effort to improve switch activation success rates through test events, review of interval data and subsequent inspection and repair; and
- For SDP Commercial, continue analysis of AC end-use sample.

### 6.2 Price Responsive Programs

Price responsive programs are dispatched more frequently based on economic criteria rather than solely for emergency conditions. The following recommendations were made for price response programs:

- For SDP Residential, develop a representative sample of whole house load data in conjunction with the roll out of smart meters; and
- For CPP, the primary recommendations are to:
  - Conduct research to improve load responsiveness among customers already defaulted onto CPP;
  - Conduct research to reduce uncertainty of impacts from small and medium C&I customers scheduled to be defaulted onto CPP; and
  - Develop price responsiveness estimates for the agricultural sector.

### 6.3 Aggregator Managed Programs

In the load impact report that covered SCE's aggregator managed programs (CBP and DRC), the following recommendations were provided:

- The primary recommendation is to begin the load impact evaluation process earlier in the year and to consider offering multi-year evaluation contracts. Issuing an RFP in late summer would allow a kick-off meeting in early fall, an earlier start at assembling data and the opportunity to produce preliminary load impact results before the end of the year; and

- 
- Such an advance in schedule would hopefully relax some of the pressure to complete reports and load impact tables that invariably occurs just prior to the April 1 deadline.

## 6.4 Non-Event Based Programs

An evaluation was conducted for one non-event based resource in 2010, RTP. Given the high rate of projected RTP enrollment growth over the next few years, future aggregate load impacts are closely tied to the size of new participants relative to the existing population. Currently, RTP is only available to customers above 200 kW. The program will be open to all C&I customers, regardless of size, starting in 2013. If new participants are substantially smaller than the average existing RTP customer, the resulting aggregate load reduction will be relatively lower. On the other hand, if SCE is able to successfully market RTP and recruit more large customers, the resulting aggregate load reduction will be relatively higher. It is important that SCE continues to market RTP to large customers and not just focus on the smaller customers that the program will become available to in the near future.



## Appendix A. Regression Specifications

### A.1. Base Interruptible Program

$$\begin{aligned}
 kW_t = & A + B \times SummerOn_t + C \times SummerMid_t + D \times SummerOff_t + E \times WinterMid_t \\
 & + \sum_{i=1}^{24} \sum_{j=1}^5 F_{ij} \times Hour_i \times DayType_j + \sum_{i=1}^{24} \sum_{j=1}^{12} G_{ij} \times Hour_i \times Month_j \\
 & + \sum_{i=1}^{24} H_i \times Hour_i \times Year2010_t + \sum_{i=1}^{24} I_{ij} \times Hour_i \times TotalCDH_t \\
 & + \sum_{i=1}^{24} J_{ij} \times Hour_i \times TotalCDHsq_r_t + \sum_{i=1}^{24} K_{ij} \times Hour_i \times TotalHDH_t \\
 & + \sum_{i=1}^{24} L_{ij} \times Hour_i \times TotalHDHsq_r_t + \sum_{i=1}^{24} M_i \times Hour_i \times Other\_Eventday_t \\
 & + \sum_{i=1}^{24} \sum_{j=1}^2 N_{ij} \times Hour_i \times BIP\_Eventday_j + e_t
 \end{aligned}$$

Variable	Description
$kW_t$	hourly BIP customer load at time t
A	estimated constant term
B through $N_{ij}$	estimated parameters
$SummerOn_t$ , $SummerMid_t$ , $SummerOff_t$ and $WinterMid_t$	binary variables that indicate which TOU rate block is in effect for each hour
$Hour_i$	series of binary variables for each hour, which is interacted with all of the remaining variables because each has an impact that varies by hour
$DayType_j$	series of binary variables representing five different day types (Mon, Tues-Thurs, Fri, Sat, Sunday/Holiday)
$Month_j$	series of binary variables for each month
$Year2010_t$	binary variable for the most recent year of load data
$TotalCDH_t$	total number of cooling degree hours (base 70) per day
$TotalCDHsq_r_t$	total number of cooling degree hours per day squared
$TotalHDH_t$	total number of heating degree hours (base 70) per day
$TotalHDHsq_r_t$	total number of heating degree hours squared
$Other\_Eventday_t$	binary variable for event days from other DR programs
$BIP\_Eventday_j$	binary variable representing each BIP event day, <sup>8</sup>
$e_t$	error term

<sup>8</sup> SCE and SDG&E had one event during the time period included in the estimation, whereas PG&E had two events.

## A.2. Agricultural and Pumping Interruptible Program

$$\begin{aligned}
 kW_t = & A + \sum_{i=1}^{24} \sum_{j=1}^{12} B_{ij} \times Hour_i \times Month_j + \sum_{i=1}^{24} \sum_{j=1}^5 C_{ij} \times Hour_i \times DayType_j \\
 & + \sum_{i=1}^{24} D_i \times Hour_i \times PriceRatio_t + \sum_{i=1}^{24} E_i \times Hour_i \times TotalCDH_t \\
 & + \sum_{i=1}^{24} F_i \times Hour_i \times TotalCDHsqr_t + \sum_{i=1}^{24} G_i \times Hour_i \times TotalHDDH_t \\
 & + \sum_{i=1}^{24} H_i \times Hour_i \times TotalHDDHsqr_t + \sum_{i=1}^{24} I_i \times Hour_i \times WeeklyRain_t \\
 & + \sum_{i=1}^{24} J_i \times Hour_i \times WeeklyCDD_t + \sum_{i=1}^{24} K_i \times Hour_i \times OtherDR_t \\
 & + \sum_{i=1}^{24} \sum_{j=1}^3 L_{ij} \times Hour_i \times Eventday_j + \varepsilon_t
 \end{aligned}$$

Variable	Description
$kW_t$	Average hourly demand (kW) for each time period
A	Estimated constant term
$B_{ij}$ through $L_{ij}$	Regression model parameters
$Hour_i$	Series of binary variables for each hour, which account for the basic hourly load shape of the customer after other factors such as weather and prices are accounted for
$DayType_j$	Series of binary variables representing five different day types (Mon, Tues-Thurs, Fri, Sat, Sunday/Holiday)
$PriceRatio_t$	Ratio of the current cost of energy to the average daily cost of energy per kwh
$Month_j$	Series of binary variables for each month designed to reflect seasonality in loads
$TotalCDH_t$	Sum of cooling degree hours (base 65) for the day
$TotalCDHsqr_t$	$TotalCDH_t$ squared
$TotalHDDH_t$	Sum of heating degree hours (base 65) for the day
$TotalHDDHsqr_t$	$TotalHDDH_t$ squared
$WeeklyRain_t$	Weighted average measure of cumulative rainfall from the trailing seven days, with the weighting for the trailing two days equivalent to that of the previous five days
$WeeklyCDD_t$	Weighted average measure of cooling degree days from the trailing seven days, with the weighting for the trailing two days equivalent to that of the previous five days
$OtherDR_t$	Binary variable representing a customer's participation in another DR event
$Eventday_t$	Binary variable representing an AP-I event day
$\varepsilon_t$	Is the error term

### A.3. Summer Discount Plan Commercial

$$kWh = a + \sum_{i=1}^{24} b_i *hour_i + \sum_{i=1}^{24} \sum_{j=7}^9 c_{ij} * (WACDH *hour_i * month_j) + \sum_{i=1}^{22} d_i *event_i + e$$

Variable	Description
a	a is an estimated constant
b-d	b-d are estimated parameters
WACDH	A weighted average of the past 24 hours of cooling degree hours (defined as the maximum of 0 or temperature – 65°F), which is correlated with AC load
hour <sub>i</sub>	Dummy variables representing the hours of the day, designed to estimate the effect of operating schedule on kWh
month <sub>j</sub>	Dummy variables for month of the year, designed to pick up seasonal effects in operating schedules
event <sub>j</sub>	Dummy variable representing each potential event, designed to pick up the event effect
e	The error term

#### A.4. Summer Discount Plan Residential

$$\begin{aligned}
 kW_{xt} = & a_x + b^{CDH_t} * CDH_t + b^{CDH_t^2} * CDH_t^2 + \sum_{x=0}^3 b^{CDH_{t-x}} CDH_{t-x} \\
 & + \sum_{x=0}^3 b^{CDH_{t-x}^2} (CDH_{t-x})^2 + b^{CL*CDH} CL_t * CDH_t + b^{(CL*CDH)^2} (CL_t * CDH_t)^2 \\
 & + \sum_{i=6}^9 b^{CDH*month_i} CDH_t * month_i + \sum_{i=6}^9 b^{(CDH*month_i)^2} (CDH_t * month_i)^2 \\
 & + \sum_{i=2}^7 b^{CDH*dayofweek_i} CDH_t * dayofweek_i \\
 & + \sum_{i=2}^7 b^{(CDH*dayofweek_i)^2} (CDH_t * dayofweek_i)^2 \\
 & + \sum_{i=2}^{24} b^{\ln(NightCDH*hour_i)} * \ln(NightCDH_t) * hour_i
 \end{aligned}$$

Variable	Description
$kW_{tx}$	represents hourly AC load for customer x at time t
$a_x$	is the overall average AC level for customer x
b's	estimated parameters
$CDH_{t-x}$	number of cooling degree hours (base 65) at time t-x
$CL_t$	connected load (kW) of the AC unit;
$NightCDH_t$	sum of cooling degree hours (base 65) from midnight to 6 AM
$Month_i$	indicates a series of binary variables representing each month of the summer (6-9)
$Dayofweek_i$	indicates a series of binary variables representing each day of the week (1-7)
$Hour_i$	indicates a series of binary variables representing each hour of the day (1-24)
$e_t$	an error term

## A.5. Critical Peak Pricing for Large Customers

$$\begin{aligned}
 kW_t = & A + \sum_{i=1}^{24} B_i \times Hour_i \times Year2010 + \sum_{i=1}^{24} \sum_{j=1}^5 C_{ij} \times Hour_i \times DayType_j \\
 & + \sum_{i=1}^{24} \sum_{j=1}^{12} D_{ij} \times Hour_i \times Month_j + \sum_{i=1}^{24} E_i \times Hour_i \times TotalCDH_t \\
 & + \sum_{i=1}^{24} F_i \times Hour_i \times TotalCDHsq_r_t + \sum_{i=1}^{24} G_i \times Hour_i \times TotalHDH_t \\
 & + \sum_{i=1}^{24} H_i \times Hour_i \times TotalHDHsq_r_t + \sum_{i=1}^{24} I_i \times Hour_i \times SummerCPP_t \\
 & + \sum_{i=1}^{24} J_i \times Hour_i \times WinterCPP_t + \sum_{i=1}^{24} K_i \times Hour_i \times OtherDR_t \\
 & + \sum_{i=1}^{24} L_i \times Hour_i \times Eventday_t + \sum_{i=1}^{24} M_i \times Hour_i \times Eventday_t \times TotalCDH_t + \varepsilon_t
 \end{aligned}$$

Variable	Description
$kW_t$	Represents the average hourly demand (kW) for each time period
A	Is the estimated constant term
B through M	Represent the regression model parameters
$Hour_i$	Is a series of binary variables for each hour. They account for the basic hourly load shape of the customer after other factors such as weather and prices are accounted for
$Year_j$	Is a binary variable with a value equal to 1 for 2010. It was included to reflect changes in overall load patterns and economic conditions between the pre- and post-enrollment periods
$DayType_j$	Is a series of binary variables representing five different day types (Mon, Tues-Thurs, Fri, Sat, Sunday/Holiday)
$Month_j$	Is a series of binary variables for each month designed to reflect seasonality in loads
$TotalCDH_t$	Is a measure of heat intensity for the day. It is the sum of cooling degree hours (base 65) for the day
$TotalCDHsq_r_t$	Is the square of the above variable
$TotalHDH_t$	Is the sum of heating degree hours (base 65) for the day
$TotalHDHsq_r_t$	Is the above variable squared
$SummerCPP_t$	Is a binary variable representing a customer's CPP status (enrolled or not enrolled) on summer weekdays in interval t. By interacting it with the hourly binary variables, we capture the effect of the CPP summer period rate discount
$WinterCPP_t$	Is a binary variable representing a customer's CPP status (enrolled or not enrolled) on winter weekdays in interval t. By interacting it with the hourly binary variables, we capture the effect of the CPP summer period rate discount
$OtherDR_t$	Is a binary variable representing a customer's participation in another DR event in interval t;
$Eventday_t$	Is a binary variable representing a CPP event day in interval t
$\varepsilon_t$	Is the error term

## A.6. Demand Bidding Program

$$\begin{aligned}
 Q_t = & a + \sum_{Evt=1}^E \sum_{i=1}^{24} (b_{i,Evt}^{DBP} \times h_{i,t} \times DBP_t) + b^{MornLoad} \times MornLoad_t + \sum_{i=1}^{24} (b_i^{OTH} \times h_{i,t} \times OtherEvt_{i,t}) \\
 & + \sum_{i=1}^{24} (b_i^{CDH} \times h_{i,t} \times CDH_t) + \sum_{i=2}^{24} (b_i^{MON} \times h_{i,t} \times MON_t) + \sum_{i=2}^{24} (b_i^{FRI} \times h_{i,t} \times FRI_t) + \sum_{i=2}^{24} (b_i^h \times h_{i,t}) \\
 & + \sum_{i=2}^5 (b_i^{DTYPE} \times DTYPE_{i,t}) + \sum_{i=6}^{10} (b_i^{MONTH} \times MONTH_{i,t}) + b_t^{Summer} \times Summer_t \\
 & + \sum_{i=1}^{24} (b_i^{CDH,S} \times h_{i,t} \times Summer_t \times CDH_t) + \sum_{i=2}^{24} (b_i^{MON,S} \times h_{i,t} \times Summer_t \times MON_t) \\
 & + \sum_{i=2}^{24} (b_i^{FRI,S} \times h_{i,t} \times Summer_t \times FRI_t) + \sum_{i=2}^{24} (b_i^{h,S} \times h_{i,t} \times Summer_t) + e_t
 \end{aligned}$$

Variable	Description
$Q_t$	demand in hour $t$ for a customer enrolled in DBP prior to the last event date
$b$ 's	estimated parameters
$h_{i,t}$	dummy variable for hour $i$
$DBP_t$	indicator variable for program event days
$CDH_t$	cooling degree hours; <sup>9</sup>
$E$	number of event days that occurred during the program year
$MornLoad_t$	variable equal to the average of the day's load in hours 1 through 10
$OtherEvt_t$	equal to one in the event hours of other demand response programs in which the customer is enrolled
$MON_t$	dummy variable for Monday
$FRI_t$	dummy variable for Friday
$DTYPE_{i,t}$	series of dummy variables for each day of the week
$MONTH_{i,t}$	series of dummy variables for each month
$Summer_t$	variable indicating summer months (defined as mid-June through mid-August) <sup>10</sup>
$e_t$	error term

<sup>9</sup> Cooling degree hours (CDH) was defined as  $\text{MAX}[0, \text{Temperature} - 50]$ , where Temperature is the hourly temperature in degrees Fahrenheit. Customer-specific CDH values are calculated using data from the most appropriate weather station.

<sup>10</sup> This variable was initially designed to reflect the load changes that occur when schools are out of session. We have found the variables to a useful part of the base specification, as they do not appear to harm load impact estimates even in cases in which the customer does not change its usage level or profile during the summer months.

## A.7. Capacity Bidding Program and Demand Response Contracts

$$\begin{aligned}
 Q_t = & a + \sum_{Evt=1}^E \sum_{i=1}^{24} (b_{i,Evt}^{AGG} \times h_{i,t} \times AGG_t) + b^{MornLoad} \times MornLoad_t + \sum_{i=1}^{24} (b_i^{CDH} \times h_{i,t} \times CDH_t) \\
 & + \sum_{i=2}^{24} (b_i^{MON} \times h_{i,t} \times MON_t) + \sum_{i=2}^{24} (b_i^{FRI} \times h_{i,t} \times FRI_t) + \sum_{i=2}^{24} (b_i^h \times h_{i,t}) + \sum_{i=2}^5 (b_i^{DTYPE} \times DTYPE_{i,t}) \\
 & + \sum_{i=6}^{10} (b_i^{MONTH} \times MONTH_{i,t}) + e_t
 \end{aligned}$$

Variable	Description
$Q_t$	demand in hour $t$ for a customer nominated in the month of the event date
b's	estimated parameters
$h_{i,t}$	dummy variable for hour $i$
$AGG_t$	indicator variable for program event days
$CDH_t$	cooling degree hours; <sup>11</sup>
$E$	number of event days that occurred during the program year
$MornLoad_t$	variable equal to the average of the day's load in hours 1 through 10
$MON_t$	dummy variable for Monday
$FRI_t$	dummy variable for Friday
$DTYPE_{i,t}$	series of dummy variables for each day of the week
$MONTH_{i,t}$	series of dummy variables for each month
$e_t$	error term

<sup>11</sup> Cooling degree hours (CDH) was defined as  $\text{MAX}[0, \text{Temperature} - 50]$ , where Temperature is the hourly temperature in degrees Fahrenheit. Customer-specific CDH values are calculated using data from the most appropriate weather station.



## A.8. Real Time Pricing

$$\begin{aligned}
 kW_t = & A + \sum_{i=13}^{22} B_i \times Hour_i \times Price_t + \sum_{i=13}^{22} C_i \times Hour_i \times PriceSQR_t \\
 & + \sum_{i=1}^{24} D_i \times Hour_i \times PriceRatio_t + \sum_{i=1}^{24} \sum_{j=1}^5 E_{ij} \times Hour_i \times DayType_j \\
 & + \sum_{j=2}^{12} F_j \times Month_j + \sum_{i=1}^{24} G_i \times Hour_i \times Year2010_t \\
 & + \sum_{i=1}^{24} H_i \times Hour_i \times BIP\_EventDay_t + e_t
 \end{aligned}$$

For non-manufacturing customers, the following weather variables were also included:

$$+ \sum_{i=1}^{24} I_{ij} \times Hour_i \times TotalCDH_t + \sum_{i=1}^{24} J_{ij} \times Hour_i \times TotalHDD_t$$

Variable	Description
$kW_t$	hourly RTP customer load at time t
A	estimated constant term
$B_i$ through $J_{ij}$	estimated parameters
$Hour_i$	series of binary variables for each hour
$Price_t$	RTP price in effect for each hour
$PriceSQR_t$	RTP price squared
$PriceRatio_t$	ratio between the RTP price in effect for each hour and the maximum price for the day, which captures load shifting to hours when prices are relatively low
$DayType_j$	series of binary variables representing five different day types (Mon, Tues-Thurs, Fri, Sat, Sunday/Holiday)
$Month_j$	series of binary variables for each month
$Year2010_t$	binary variable for the most recent year of load data
$BIP\_Eventday_t$	binary variable for dually-enrolled customers that participated in the 2009 BIP event
$TotalCDH_t$	total number of cooling degree hours (base 70) per day
$TotalHDD_t$	total number of heating degree hours (base 70) per day
$e_t$	error term

## Appendix B. Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions by Month and Forecast Year

**Table B-1:  
2011 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	110	122	109	124	118	129	125	127	130	137	134	104
	BIP-30	385	399	382	424	461	419	413	410	413	437	394	348
	AP-I	18	19	24	37	39	38	37	37	35	37	29	20
	SDP COM-B	-	-	-	-	-	10	12	17	16	-	-	-
	SDP COM-E	-	-	-	-	-	20	31	39	33	-	-	-
	SDP RES-B	-	-	-	-	-	89	104	93	95	-	-	-
	SDP RES-E	-	-	-	-	-	348	403	363	374	-	-	-
	<b>SUB-TOTAL</b>	<b>514</b>	<b>541</b>	<b>515</b>	<b>585</b>	<b>618</b>	<b>1,053</b>	<b>1,125</b>	<b>1,087</b>	<b>1,096</b>	<b>611</b>	<b>557</b>	<b>472</b>
Price Responsive	CPP-L	36	35	35	30	29	31	25	27	27	24	25	32
	CPP-M	-	-	-	-	-	-	-	-	-	-	-	-
	CPP-S	-	-	-	-	-	-	-	-	-	-	-	-
	DBP	9	9	9	11	11	11	11	12	12	12	10	9
	<b>SUB-TOTAL</b>	<b>44</b>	<b>43</b>	<b>44</b>	<b>41</b>	<b>40</b>	<b>42</b>	<b>36</b>	<b>38</b>	<b>39</b>	<b>36</b>	<b>35</b>	<b>40</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	16	16	17	17	17	16	-	-
	DRC-DA	-	-	-	-	24	24	25	26	25	24	-	-
	DRC-DO	-	-	-	-	78	77	80	82	82	79	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>118</b>	<b>119</b>	<b>123</b>	<b>126</b>	<b>125</b>	<b>120</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	-1	-1	-1	-3	5	13	20	10	5	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-3</b>	<b>5</b>	<b>13</b>	<b>20</b>	<b>10</b>	<b>5</b>	<b>-1</b>
SmartConnect Enabled	SPD	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>PORTFOLIO TOTAL</b>		<b>557</b>	<b>584</b>	<b>559</b>	<b>625</b>	<b>775</b>	<b>1,211</b>	<b>1,289</b>	<b>1,265</b>	<b>1,280</b>	<b>777</b>	<b>596</b>	<b>512</b>

**Table B-2:  
2012 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	112	124	111	126	120	131	127	129	132	139	136	106
	BIP-30	392	406	389	432	469	426	420	417	420	445	400	354
	AP-I	21	22	27	40	43	41	40	40	38	40	32	22
	SDP COM-B	-	-	-	-	-	11	14	19	18	-	-	-
	SDP COM-E	-	-	-	-	-	23	34	42	34	-	-	-
	<b>SUB-TOTAL</b>	<b>525</b>	<b>552</b>	<b>526</b>	<b>598</b>	<b>631</b>	<b>633</b>	<b>634</b>	<b>647</b>	<b>642</b>	<b>624</b>	<b>569</b>	<b>482</b>
Price Responsive	SDP RES-B	0	0	0	14	33	94	112	102	106	61	27	0
	SDP RES-E	0	0	0	56	125	368	433	397	407	225	101	0
	CPP-L	26	31	30	29	25	27	27	25	23	24	30	30
	CPP-M	47	47	47	47	47	47	47	47	47	47	47	47
	CPP-S	14	14	14	14	14	14	14	14	14	14	14	14
	DBP	9	9	9	11	12	11	12	12	12	12	10	9
	<b>SUB-TOTAL</b>	<b>96</b>	<b>101</b>	<b>100</b>	<b>172</b>	<b>256</b>	<b>562</b>	<b>645</b>	<b>597</b>	<b>610</b>	<b>383</b>	<b>230</b>	<b>100</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	17	18	18	19	18	17	-	-
	DRC-DA	-	-	-	-	23	24	25	25	24	24	-	-
	DRC-DO	-	-	-	-	75	75	78	80	80	76	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>117</b>	<b>118</b>	<b>122</b>	<b>124</b>	<b>123</b>	<b>119</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	-1	-1	-1	-3	5	13	20	11	6	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-3</b>	<b>5</b>	<b>13</b>	<b>20</b>	<b>11</b>	<b>6</b>	<b>-1</b>
SmartConnect Enabled	SPD	332	332	332	332	332	332	332	332	332	332	332	332
	<b>SUB-TOTAL</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>
<b>PORTFOLIO TOTAL</b>		<b>952</b>	<b>985</b>	<b>958</b>	<b>1,102</b>	<b>1,336</b>	<b>1,642</b>	<b>1,739</b>	<b>1,715</b>	<b>1,728</b>	<b>1,469</b>	<b>1,136</b>	<b>914</b>

**Table B-3:  
2013 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	114	126	112	128	121	134	129	131	135	141	138	107
	BIP-30	399	413	395	439	477	433	427	425	427	453	408	360
	AP-I	22	24	29	44	46	45	43	43	41	43	35	24
	SDP COM-B	-	-	-	-	-	12	15	21	20	-	-	-
	SDP COM-E	-	-	-	-	-	23	34	45	38	-	-	-
	<b>SUB-TOTAL</b>	<b>535</b>	<b>563</b>	<b>537</b>	<b>611</b>	<b>645</b>	<b>647</b>	<b>648</b>	<b>665</b>	<b>661</b>	<b>637</b>	<b>581</b>	<b>492</b>
Price Responsive	SDP RES-B	0	0	0	18	41	123	148	137	141	79	35	0
	SDP RES-E	0	0	0	58	131	378	445	407	417	232	104	0
	CPP-L	28	30	27	28	28	26	27	23	26	24	29	30
	CPP-M	161	161	161	161	161	161	161	161	161	161	161	161
	CPP-S	35	35	35	35	35	35	35	35	35	35	35	35
	DBP	12	12	12	14	15	15	15	16	16	16	13	12
	<b>SUB-TOTAL</b>	<b>236</b>	<b>238</b>	<b>236</b>	<b>314</b>	<b>411</b>	<b>738</b>	<b>832</b>	<b>779</b>	<b>796</b>	<b>547</b>	<b>377</b>	<b>238</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	18	19	19	20	20	18	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>20</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	-1	-1	-1	-5	8	20	31	15	10	-2
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-5</b>	<b>8</b>	<b>20</b>	<b>31</b>	<b>15</b>	<b>10</b>	<b>-2</b>
SmartConnect Enabled	SPD	371	371	371	371	371	371	371	371	371	371	371	371
	<b>SUB-TOTAL</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>
<b>PORTFOLIO TOTAL</b>		<b>1,141</b>	<b>1,171</b>	<b>1,142</b>	<b>1,295</b>	<b>1,445</b>	<b>1,770</b>	<b>1,879</b>	<b>1,856</b>	<b>1,879</b>	<b>1,590</b>	<b>1,339</b>	<b>1,098</b>

**Table B-4:  
2014 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	115	128	114	130	123	136	131	134	137	143	140	109
	BIP-30	406	421	402	447	485	441	435	432	435	461	415	367
	AP-I	24	26	32	48	50	48	46	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>574</b>	<b>549</b>	<b>625</b>	<b>659</b>	<b>663</b>	<b>665</b>	<b>682</b>	<b>676</b>	<b>650</b>	<b>592</b>	<b>501</b>
Price Responsive	SDP RES-B	0	0	0	21	48	145	171	157	160	89	39	0
	SDP RES-E	0	0	0	61	138	400	471	431	440	243	109	0
	CPP-L	26	28	29	28	28	28	24	26	24	25	27	31
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	14	15	17	18	17	18	18	18	18	16	15
	<b>SUB-TOTAL</b>	<b>115</b>	<b>117</b>	<b>118</b>	<b>202</b>	<b>306</b>	<b>663</b>	<b>758</b>	<b>706</b>	<b>716</b>	<b>449</b>	<b>265</b>	<b>119</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-2	-2	-2	-6	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-6</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,015</b>	<b>1,046</b>	<b>1,020</b>	<b>1,181</b>	<b>1,340</b>	<b>1,697</b>	<b>1,813</b>	<b>1,793</b>	<b>1,811</b>	<b>1,496</b>	<b>1,226</b>	<b>974</b>

**Table B-5:  
2015 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	14	15	17	18	17	18	18	18	18	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>118</b>	<b>122</b>	<b>204</b>	<b>310</b>	<b>670</b>	<b>763</b>	<b>704</b>	<b>716</b>	<b>450</b>	<b>265</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,029</b>	<b>1,055</b>	<b>1,032</b>	<b>1,192</b>	<b>1,351</b>	<b>1,710</b>	<b>1,823</b>	<b>1,795</b>	<b>1,815</b>	<b>1,499</b>	<b>1,227</b>	<b>976</b>

**Table B-6:  
2016 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	14	15	17	18	17	18	18	18	18	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>118</b>	<b>122</b>	<b>204</b>	<b>310</b>	<b>670</b>	<b>763</b>	<b>704</b>	<b>716</b>	<b>450</b>	<b>265</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,029</b>	<b>1,055</b>	<b>1,032</b>	<b>1,192</b>	<b>1,351</b>	<b>1,710</b>	<b>1,823</b>	<b>1,795</b>	<b>1,815</b>	<b>1,499</b>	<b>1,227</b>	<b>976</b>

**Table B-7:  
2017 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	14	15	17	18	17	18	18	18	18	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>118</b>	<b>122</b>	<b>204</b>	<b>310</b>	<b>670</b>	<b>763</b>	<b>704</b>	<b>716</b>	<b>450</b>	<b>265</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,029</b>	<b>1,055</b>	<b>1,032</b>	<b>1,192</b>	<b>1,351</b>	<b>1,710</b>	<b>1,823</b>	<b>1,795</b>	<b>1,815</b>	<b>1,499</b>	<b>1,227</b>	<b>976</b>



**Table B-8:  
2018 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	14	15	17	18	17	18	18	18	18	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>118</b>	<b>122</b>	<b>204</b>	<b>310</b>	<b>670</b>	<b>763</b>	<b>704</b>	<b>716</b>	<b>450</b>	<b>265</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,029</b>	<b>1,055</b>	<b>1,032</b>	<b>1,192</b>	<b>1,351</b>	<b>1,710</b>	<b>1,823</b>	<b>1,795</b>	<b>1,815</b>	<b>1,499</b>	<b>1,227</b>	<b>976</b>

**Table B-9:  
2019 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	14	15	17	18	17	18	18	18	18	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>118</b>	<b>122</b>	<b>204</b>	<b>310</b>	<b>670</b>	<b>763</b>	<b>704</b>	<b>716</b>	<b>450</b>	<b>265</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,029</b>	<b>1,055</b>	<b>1,032</b>	<b>1,192</b>	<b>1,351</b>	<b>1,710</b>	<b>1,823</b>	<b>1,795</b>	<b>1,815</b>	<b>1,499</b>	<b>1,227</b>	<b>976</b>

**Table B-10:  
2020 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	14	15	17	18	17	18	18	18	18	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>118</b>	<b>122</b>	<b>204</b>	<b>310</b>	<b>670</b>	<b>763</b>	<b>704</b>	<b>716</b>	<b>450</b>	<b>265</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,029</b>	<b>1,055</b>	<b>1,032</b>	<b>1,192</b>	<b>1,351</b>	<b>1,710</b>	<b>1,823</b>	<b>1,795</b>	<b>1,815</b>	<b>1,499</b>	<b>1,227</b>	<b>976</b>

**Table B-11:  
2021 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	14	15	17	18	17	18	18	18	18	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>118</b>	<b>122</b>	<b>204</b>	<b>310</b>	<b>670</b>	<b>763</b>	<b>704</b>	<b>716</b>	<b>450</b>	<b>265</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,029</b>	<b>1,055</b>	<b>1,032</b>	<b>1,192</b>	<b>1,351</b>	<b>1,710</b>	<b>1,823</b>	<b>1,795</b>	<b>1,815</b>	<b>1,499</b>	<b>1,227</b>	<b>976</b>

## Appendix C. Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions by Month and Forecast Year

**Table C-1:  
2011 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	100	124	120	123	115	123	121	125	128	136	132	111
	BIP-30	386	418	410	429	464	418	409	409	412	440	398	346
	AP-I	18	21	33	39	44	41	39	39	39	40	27	20
	SDP COM-B	-	-	-	-	-	11	13	19	11	-	-	-
	SDP COM-E	-	-	-	-	-	22	34	44	35	-	-	-
	SDP RES-B	-	-	-	-	-	95	115	107	108	-	-	-
	SDP RES-E	-	-	-	-	-	381	453	420	422	-	-	-
	<b>SUB-TOTAL</b>	<b>505</b>	<b>563</b>	<b>563</b>	<b>591</b>	<b>624</b>	<b>1,091</b>	<b>1,184</b>	<b>1,163</b>	<b>1,156</b>	<b>616</b>	<b>557</b>	<b>477</b>
Price Responsive	CPP-L	36	32	31	24	28	28	24	26	27	27	19	32
	CPP-M	-	-	-	-	-	-	-	-	-	-	-	-
	CPP-S	-	-	-	-	-	-	-	-	-	-	-	-
	DBP	9	9	10	11	12	12	12	12	12	12	10	9
	<b>SUB-TOTAL</b>	<b>45</b>	<b>41</b>	<b>40</b>	<b>35</b>	<b>40</b>	<b>39</b>	<b>35</b>	<b>38</b>	<b>39</b>	<b>39</b>	<b>29</b>	<b>40</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	16	17	17	18	17	17	-	-
	DRC-DA	-	-	-	-	24	25	26	26	24	25	-	-
	DRC-DO	-	-	-	-	78	79	81	83	81	80	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>119</b>	<b>122</b>	<b>125</b>	<b>127</b>	<b>123</b>	<b>122</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	4	0	9	20	5	20	20	10	-1	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>4</b>	<b>0</b>	<b>9</b>	<b>20</b>	<b>5</b>	<b>20</b>	<b>20</b>	<b>10</b>	<b>-1</b>	<b>-1</b>
SmartConnect Enabled	SPD	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>PORTFOLIO TOTAL</b>		<b>549</b>	<b>603</b>	<b>607</b>	<b>625</b>	<b>792</b>	<b>1,272</b>	<b>1,349</b>	<b>1,348</b>	<b>1,337</b>	<b>786</b>	<b>585</b>	<b>517</b>

**Table C-2:  
2012 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	102	126	122	124	117	125	123	127	130	138	134	112
	BIP-30	393	425	417	437	472	425	417	416	419	448	405	353
	AP-I	21	23	37	43	48	45	42	41	42	43	29	22
	SDP COM-B	-	-	-	-	-	12	15	22	19	-	-	-
	SDP COM-E	-	-	-	-	-	24	36	47	37	-	-	-
	<b>SUB-TOTAL</b>	<b>515</b>	<b>574</b>	<b>575</b>	<b>604</b>	<b>638</b>	<b>632</b>	<b>634</b>	<b>654</b>	<b>648</b>	<b>629</b>	<b>568</b>	<b>487</b>
Price Responsive	SDP RES-B	0	27	38	35	65	102	124	117	121	72	55	0
	SDP RES-E	0	109	151	139	258	403	486	460	460	270	201	0
	CPP-L	26	28	27	24	25	27	27	24	23	26	23	30
	CPP-M	47	47	47	47	47	47	47	47	47	47	47	47
	CPP-S	14	14	14	14	14	14	14	14	14	14	14	14
	DBP	9	10	10	12	12	12	12	13	12	13	10	9
	<b>SUB-TOTAL</b>	<b>96</b>	<b>235</b>	<b>287</b>	<b>271</b>	<b>421</b>	<b>605</b>	<b>710</b>	<b>675</b>	<b>678</b>	<b>442</b>	<b>351</b>	<b>101</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	17	18	19	19	18	18	-	-
	DRC-DA	-	-	-	-	23	24	25	25	24	24	-	-
	DRC-DO	-	-	-	-	76	77	79	80	78	78	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>118</b>	<b>120</b>	<b>123</b>	<b>126</b>	<b>121</b>	<b>120</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	4	0	9	20	5	20	20	11	-1	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>4</b>	<b>0</b>	<b>9</b>	<b>20</b>	<b>5</b>	<b>20</b>	<b>20</b>	<b>11</b>	<b>-1</b>	<b>-1</b>
SmartConnect Enabled	SPD	332	332	332	332	332	332	332	332	332	332	332	332
	<b>SUB-TOTAL</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>
<b>PORTFOLIO TOTAL</b>		<b>944</b>	<b>1,141</b>	<b>1,199</b>	<b>1,207</b>	<b>1,518</b>	<b>1,709</b>	<b>1,805</b>	<b>1,806</b>	<b>1,800</b>	<b>1,534</b>	<b>1,251</b>	<b>919</b>

**Table C-3:  
2013 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	104	128	124	126	119	127	125	129	132	140	136	114
	BIP-30	399	433	424	444	481	433	424	423	427	456	412	359
	AP-I	23	26	40	47	52	48	46	45	46	46	32	24
	SDP COM-B	-	-	-	-	-	14	16	24	21	-	-	-
	SDP COM-E	-	-	-	-	-	25	39	50	40	-	-	-
	<b>SUB-TOTAL</b>	<b>526</b>	<b>586</b>	<b>588</b>	<b>618</b>	<b>652</b>	<b>647</b>	<b>650</b>	<b>671</b>	<b>665</b>	<b>642</b>	<b>580</b>	<b>497</b>
Price Responsive	SDP RES-B	0	33	48	45	85	135	165	158	160	96	71	0
	SDP RES-E	0	116	158	145	267	415	500	471	472	277	207	0
	CPP-L	28	29	25	24	28	24	26	23	26	26	22	30
	CPP-M	161	161	161	161	161	161	161	161	161	161	161	161
	CPP-S	35	35	35	35	35	35	35	35	35	35	35	35
	DBP	12	12	13	15	16	16	16	16	16	16	13	12
	<b>SUB-TOTAL</b>	<b>236</b>	<b>386</b>	<b>440</b>	<b>425</b>	<b>591</b>	<b>786</b>	<b>903</b>	<b>864</b>	<b>870</b>	<b>611</b>	<b>510</b>	<b>238</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	18	19	20	20	19	19	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>21</b>	<b>20</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	6	-1	12	28	8	30	31	15	-1	-2
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>6</b>	<b>-1</b>	<b>12</b>	<b>28</b>	<b>8</b>	<b>30</b>	<b>31</b>	<b>15</b>	<b>-1</b>	<b>-2</b>
SmartConnect Enabled	SPD	371	371	371	371	371	371	371	371	371	371	371	371
	<b>SUB-TOTAL</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>
<b>PORTFOLIO TOTAL</b>		<b>1,132</b>	<b>1,342</b>	<b>1,405</b>	<b>1,413</b>	<b>1,646</b>	<b>1,853</b>	<b>1,953</b>	<b>1,958</b>	<b>1,957</b>	<b>1,660</b>	<b>1,459</b>	<b>1,104</b>

**Table C-4:  
2014 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	105	130	125	128	121	129	127	131	134	143	139	116
	BIP-30	406	440	432	452	489	440	431	431	434	464	419	365
	AP-I	24	28	43	51	57	52	49	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	18	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	28	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>536</b>	<b>598</b>	<b>601</b>	<b>632</b>	<b>667</b>	<b>664</b>	<b>667</b>	<b>689</b>	<b>681</b>	<b>656</b>	<b>591</b>	<b>506</b>
Price Responsive	SDP RES-B	0	42	58	54	101	158	192	183	181	107	79	0
	SDP RES-E	0	120	165	152	281	438	528	497	498	291	216	0
	CPP-L	26	26	27	22	28	26	23	25	23	27	19	31
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	15	16	18	19	18	18	19	18	19	16	15
	<b>SUB-TOTAL</b>	<b>115</b>	<b>278</b>	<b>340</b>	<b>320</b>	<b>503</b>	<b>714</b>	<b>836</b>	<b>798</b>	<b>795</b>	<b>518</b>	<b>404</b>	<b>119</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	9	-2	16	38	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>9</b>	<b>-2</b>	<b>16</b>	<b>38</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,006</b>	<b>1,230</b>	<b>1,306</b>	<b>1,307</b>	<b>1,563</b>	<b>1,794</b>	<b>1,893</b>	<b>1,906</b>	<b>1,894</b>	<b>1,571</b>	<b>1,350</b>	<b>980</b>



**Table C-5:  
2015 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	15	16	18	19	18	18	19	18	19	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>284</b>	<b>351</b>	<b>328</b>	<b>509</b>	<b>722</b>	<b>841</b>	<b>796</b>	<b>795</b>	<b>518</b>	<b>405</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,020</b>	<b>1,246</b>	<b>1,328</b>	<b>1,323</b>	<b>1,578</b>	<b>1,812</b>	<b>1,904</b>	<b>1,909</b>	<b>1,898</b>	<b>1,574</b>	<b>1,352</b>	<b>981</b>

**Table C-6:  
2016 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	15	16	18	19	18	18	19	18	19	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>284</b>	<b>351</b>	<b>328</b>	<b>509</b>	<b>722</b>	<b>841</b>	<b>796</b>	<b>795</b>	<b>518</b>	<b>405</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,020</b>	<b>1,246</b>	<b>1,328</b>	<b>1,323</b>	<b>1,578</b>	<b>1,812</b>	<b>1,904</b>	<b>1,909</b>	<b>1,898</b>	<b>1,574</b>	<b>1,352</b>	<b>981</b>

**Table C-7:  
2017 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	15	16	18	19	18	18	19	18	19	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>284</b>	<b>351</b>	<b>328</b>	<b>509</b>	<b>722</b>	<b>841</b>	<b>796</b>	<b>795</b>	<b>518</b>	<b>405</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,020</b>	<b>1,246</b>	<b>1,328</b>	<b>1,323</b>	<b>1,578</b>	<b>1,812</b>	<b>1,904</b>	<b>1,909</b>	<b>1,898</b>	<b>1,574</b>	<b>1,352</b>	<b>981</b>

**Table C-8:  
2018 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	15	16	18	19	18	18	19	18	19	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>284</b>	<b>351</b>	<b>328</b>	<b>509</b>	<b>722</b>	<b>841</b>	<b>796</b>	<b>795</b>	<b>518</b>	<b>405</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,020</b>	<b>1,246</b>	<b>1,328</b>	<b>1,323</b>	<b>1,578</b>	<b>1,812</b>	<b>1,904</b>	<b>1,909</b>	<b>1,898</b>	<b>1,574</b>	<b>1,352</b>	<b>981</b>

**Table C-9:  
2019 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	15	16	18	19	18	18	19	18	19	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>284</b>	<b>351</b>	<b>328</b>	<b>509</b>	<b>722</b>	<b>841</b>	<b>796</b>	<b>795</b>	<b>518</b>	<b>405</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,020</b>	<b>1,246</b>	<b>1,328</b>	<b>1,323</b>	<b>1,578</b>	<b>1,812</b>	<b>1,904</b>	<b>1,909</b>	<b>1,898</b>	<b>1,574</b>	<b>1,352</b>	<b>981</b>

**Table C-10:  
2020 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	15	16	18	19	18	18	19	18	19	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>284</b>	<b>351</b>	<b>328</b>	<b>509</b>	<b>722</b>	<b>841</b>	<b>796</b>	<b>795</b>	<b>518</b>	<b>405</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,020</b>	<b>1,246</b>	<b>1,328</b>	<b>1,323</b>	<b>1,578</b>	<b>1,812</b>	<b>1,904</b>	<b>1,909</b>	<b>1,898</b>	<b>1,574</b>	<b>1,352</b>	<b>981</b>

**Table C-11:  
2021 Portfolio Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	15	15	16	18	19	18	18	19	18	19	16	15
	<b>SUB-TOTAL</b>	<b>120</b>	<b>284</b>	<b>351</b>	<b>328</b>	<b>509</b>	<b>722</b>	<b>841</b>	<b>796</b>	<b>795</b>	<b>518</b>	<b>405</b>	<b>120</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,020</b>	<b>1,246</b>	<b>1,328</b>	<b>1,323</b>	<b>1,578</b>	<b>1,812</b>	<b>1,904</b>	<b>1,909</b>	<b>1,898</b>	<b>1,574</b>	<b>1,352</b>	<b>981</b>

## Appendix D. Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions by Month and Forecast Year

**Table D-1:  
2011 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	110	122	109	124	118	129	125	127	130	137	134	104
	BIP-30	385	399	382	424	461	419	413	410	413	437	394	348
	AP-I	18	19	24	37	39	38	37	37	35	37	29	20
	SDP COM-B	-	-	-	-	-	10	12	17	16	-	-	-
	SDP COM-E	-	-	-	-	-	20	31	39	33	-	-	-
	SDP RES-B	-	-	-	-	-	89	104	93	95	-	-	-
	SDP RES-E	-	-	-	-	-	348	403	363	374	-	-	-
	<b>SUB-TOTAL</b>	<b>514</b>	<b>541</b>	<b>515</b>	<b>585</b>	<b>618</b>	<b>1,053</b>	<b>1,125</b>	<b>1,087</b>	<b>1,096</b>	<b>611</b>	<b>557</b>	<b>472</b>
Price Responsive	CPP-L	36	35	35	30	29	31	25	27	27	24	25	32
	CPP-M	-	-	-	-	-	-	-	-	-	-	-	-
	CPP-S	-	-	-	-	-	-	-	-	-	-	-	-
	DBP	54	56	59	66	68	66	67	68	68	68	59	53
	<b>SUB-TOTAL</b>	<b>90</b>	<b>91</b>	<b>94</b>	<b>96</b>	<b>97</b>	<b>96</b>	<b>92</b>	<b>95</b>	<b>95</b>	<b>92</b>	<b>84</b>	<b>84</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	16	16	17	17	17	16	-	-
	DRC-DA	-	-	-	-	24	24	25	26	25	24	-	-
	DRC-DO	-	-	-	-	78	77	80	82	82	79	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>118</b>	<b>119</b>	<b>123</b>	<b>126</b>	<b>125</b>	<b>120</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	-1	-1	-1	-3	5	13	20	10	5	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-3</b>	<b>5</b>	<b>13</b>	<b>20</b>	<b>10</b>	<b>5</b>	<b>-1</b>
SmartConnect Enabled	SPD	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>PORTFOLIO TOTAL</b>		<b>603</b>	<b>631</b>	<b>609</b>	<b>680</b>	<b>832</b>	<b>1,266</b>	<b>1,345</b>	<b>1,321</b>	<b>1,336</b>	<b>834</b>	<b>646</b>	<b>556</b>



**Table D-2:  
2012 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	112	124	111	126	120	131	127	129	132	139	136	106
	BIP-30	392	406	389	432	469	426	420	417	420	445	400	354
	AP-I	21	22	27	40	43	41	40	40	38	40	32	22
	SDP COM-B	-	-	-	-	-	11	14	19	18	-	-	-
	SDP COM-E	-	-	-	-	-	23	34	42	34	-	-	-
	<b>SUB-TOTAL</b>	<b>525</b>	<b>552</b>	<b>526</b>	<b>598</b>	<b>631</b>	<b>633</b>	<b>634</b>	<b>647</b>	<b>642</b>	<b>624</b>	<b>569</b>	<b>482</b>
Price Responsive	SDP RES-B	0	0	0	14	33	94	112	102	106	61	27	0
	SDP RES-E	0	0	0	56	125	368	433	397	407	225	101	0
	CPP-L	26	31	30	29	25	27	27	25	23	24	30	30
	CPP-M	47	47	47	47	47	47	47	47	47	47	47	47
	CPP-S	14	14	14	14	14	14	14	14	14	14	14	14
	DBP	57	59	62	69	71	69	71	71	71	72	62	56
	<b>SUB-TOTAL</b>	<b>144</b>	<b>151</b>	<b>152</b>	<b>229</b>	<b>316</b>	<b>619</b>	<b>704</b>	<b>656</b>	<b>668</b>	<b>443</b>	<b>282</b>	<b>147</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	17	18	18	19	18	17	-	-
	DRC-DA	-	-	-	-	23	24	25	25	24	24	-	-
	DRC-DO	-	-	-	-	75	75	78	80	80	76	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>117</b>	<b>118</b>	<b>122</b>	<b>124</b>	<b>123</b>	<b>119</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	-1	-1	-1	-3	5	13	20	11	6	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-3</b>	<b>5</b>	<b>13</b>	<b>20</b>	<b>11</b>	<b>6</b>	<b>-1</b>
SmartConnect Enabled	SPD	332	332	332	332	332	332	332	332	332	332	332	332
	<b>SUB-TOTAL</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>
<b>PORTFOLIO TOTAL</b>		<b>1,000</b>	<b>1,034</b>	<b>1,010</b>	<b>1,159</b>	<b>1,395</b>	<b>1,699</b>	<b>1,797</b>	<b>1,774</b>	<b>1,786</b>	<b>1,528</b>	<b>1,188</b>	<b>960</b>

**Table D-3:  
2013 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	114	126	112	128	121	134	129	131	135	141	138	107
	BIP-30	399	413	395	439	477	433	427	425	427	453	408	360
	AP-I	22	24	29	44	46	45	43	43	41	43	35	24
	SDP COM-B	-	-	-	-	-	12	15	21	20	-	-	-
	SDP COM-E	-	-	-	-	-	23	34	45	38	-	-	-
	<b>SUB-TOTAL</b>	<b>535</b>	<b>563</b>	<b>537</b>	<b>611</b>	<b>645</b>	<b>647</b>	<b>648</b>	<b>665</b>	<b>661</b>	<b>637</b>	<b>581</b>	<b>492</b>
Price Responsive	SDP RES-B	0	0	0	18	41	123	148	137	141	79	35	0
	SDP RES-E	0	0	0	58	131	378	445	407	417	232	104	0
	CPP-L	28	30	27	28	28	26	27	23	26	24	29	30
	CPP-M	161	161	161	161	161	161	161	161	161	161	161	161
	CPP-S	35	35	35	35	35	35	35	35	35	35	35	35
	DBP	62	64	67	75	78	75	77	78	77	78	67	60
	<b>SUB-TOTAL</b>	<b>286</b>	<b>290</b>	<b>290</b>	<b>375</b>	<b>473</b>	<b>798</b>	<b>893</b>	<b>840</b>	<b>858</b>	<b>609</b>	<b>432</b>	<b>286</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	18	19	19	20	20	18	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>21</b>	<b>21</b>	<b>20</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	-1	-1	-1	-5	8	20	31	15	10	-2
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-1</b>	<b>-5</b>	<b>8</b>	<b>20</b>	<b>31</b>	<b>15</b>	<b>10</b>	<b>-2</b>
SmartConnect Enabled	SPD	371	371	371	371	371	371	371	371	371	371	371	371
	<b>SUB-TOTAL</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>
<b>PORTFOLIO TOTAL</b>		<b>1,191</b>	<b>1,223</b>	<b>1,197</b>	<b>1,356</b>	<b>1,507</b>	<b>1,831</b>	<b>1,941</b>	<b>1,917</b>	<b>1,941</b>	<b>1,652</b>	<b>1,393</b>	<b>1,147</b>

**Table D-4:  
2014 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	115	128	114	130	123	136	131	134	137	143	140	109
	BIP-30	406	421	402	447	485	441	435	432	435	461	415	367
	AP-I	24	26	32	48	50	48	46	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>574</b>	<b>549</b>	<b>625</b>	<b>659</b>	<b>663</b>	<b>665</b>	<b>682</b>	<b>676</b>	<b>650</b>	<b>592</b>	<b>501</b>
Price Responsive	SDP RES-B	0	0	0	21	48	145	171	157	160	89	39	0
	SDP RES-E	0	0	0	61	138	400	471	431	440	243	109	0
	CPP-L	26	28	29	28	28	28	24	26	24	25	27	31
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	74	77	82	90	91	85	88	88	87	89	81	74
	<b>SUB-TOTAL</b>	<b>174</b>	<b>179</b>	<b>185</b>	<b>274</b>	<b>378</b>	<b>732</b>	<b>828</b>	<b>776</b>	<b>785</b>	<b>519</b>	<b>330</b>	<b>179</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-2	-2	-2	-6	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-2</b>	<b>-6</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,074</b>	<b>1,108</b>	<b>1,087</b>	<b>1,253</b>	<b>1,412</b>	<b>1,766</b>	<b>1,883</b>	<b>1,863</b>	<b>1,880</b>	<b>1,566</b>	<b>1,291</b>	<b>1,034</b>

**Table D-5:  
2015 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	74	77	82	90	91	85	88	88	87	89	81	74
	<b>SUB-TOTAL</b>	<b>179</b>	<b>180</b>	<b>189</b>	<b>277</b>	<b>382</b>	<b>738</b>	<b>834</b>	<b>774</b>	<b>785</b>	<b>520</b>	<b>329</b>	<b>180</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,089</b>	<b>1,118</b>	<b>1,099</b>	<b>1,264</b>	<b>1,424</b>	<b>1,778</b>	<b>1,893</b>	<b>1,865</b>	<b>1,884</b>	<b>1,569</b>	<b>1,292</b>	<b>1,035</b>

**Table D-6:  
2016 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	74	77	82	90	91	85	88	88	87	89	81	74
	<b>SUB-TOTAL</b>	<b>179</b>	<b>180</b>	<b>189</b>	<b>277</b>	<b>382</b>	<b>738</b>	<b>834</b>	<b>774</b>	<b>785</b>	<b>520</b>	<b>329</b>	<b>180</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,089</b>	<b>1,118</b>	<b>1,099</b>	<b>1,264</b>	<b>1,424</b>	<b>1,778</b>	<b>1,893</b>	<b>1,865</b>	<b>1,884</b>	<b>1,569</b>	<b>1,292</b>	<b>1,035</b>

**Table D-7:  
2017 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	74	77	82	90	91	85	88	88	87	89	81	74
	<b>SUB-TOTAL</b>	<b>179</b>	<b>180</b>	<b>189</b>	<b>277</b>	<b>382</b>	<b>738</b>	<b>834</b>	<b>774</b>	<b>785</b>	<b>520</b>	<b>329</b>	<b>180</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,089</b>	<b>1,118</b>	<b>1,099</b>	<b>1,264</b>	<b>1,424</b>	<b>1,778</b>	<b>1,893</b>	<b>1,865</b>	<b>1,884</b>	<b>1,569</b>	<b>1,292</b>	<b>1,035</b>

**Table D-8:  
2018 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	74	77	82	90	91	85	88	88	87	89	81	74
	<b>SUB-TOTAL</b>	<b>179</b>	<b>180</b>	<b>189</b>	<b>277</b>	<b>382</b>	<b>738</b>	<b>834</b>	<b>774</b>	<b>785</b>	<b>520</b>	<b>329</b>	<b>180</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,089</b>	<b>1,118</b>	<b>1,099</b>	<b>1,264</b>	<b>1,424</b>	<b>1,778</b>	<b>1,893</b>	<b>1,865</b>	<b>1,884</b>	<b>1,569</b>	<b>1,292</b>	<b>1,035</b>

**Table D-9:  
2019 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	74	77	82	90	91	85	88	88	87	89	81	74
	<b>SUB-TOTAL</b>	<b>179</b>	<b>180</b>	<b>189</b>	<b>277</b>	<b>382</b>	<b>738</b>	<b>834</b>	<b>774</b>	<b>785</b>	<b>520</b>	<b>329</b>	<b>180</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,089</b>	<b>1,118</b>	<b>1,099</b>	<b>1,264</b>	<b>1,424</b>	<b>1,778</b>	<b>1,893</b>	<b>1,865</b>	<b>1,884</b>	<b>1,569</b>	<b>1,292</b>	<b>1,035</b>



**Table D-10:  
2020 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	74	77	82	90	91	85	88	88	87	89	81	74
	<b>SUB-TOTAL</b>	<b>179</b>	<b>180</b>	<b>189</b>	<b>277</b>	<b>382</b>	<b>738</b>	<b>834</b>	<b>774</b>	<b>785</b>	<b>520</b>	<b>329</b>	<b>180</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,089</b>	<b>1,118</b>	<b>1,099</b>	<b>1,264</b>	<b>1,424</b>	<b>1,778</b>	<b>1,893</b>	<b>1,865</b>	<b>1,884</b>	<b>1,569</b>	<b>1,292</b>	<b>1,035</b>

**Table D-11:  
2021 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-2 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	117	130	116	132	125	137	132	134	137	144	141	109
	BIP-30	413	427	408	453	491	445	438	435	437	463	416	367
	AP-I	25	27	33	49	51	49	47	47	44	46	37	25
	SDP COM-B	-	-	-	-	-	13	16	24	22	-	-	-
	SDP COM-E	-	-	-	-	-	25	37	47	39	-	-	-
	<b>SUB-TOTAL</b>	<b>556</b>	<b>584</b>	<b>557</b>	<b>633</b>	<b>667</b>	<b>669</b>	<b>670</b>	<b>686</b>	<b>680</b>	<b>652</b>	<b>594</b>	<b>502</b>
Price Responsive	SDP RES-B	0	0	0	22	50	148	173	157	160	89	39	0
	SDP RES-E	0	0	0	63	140	404	474	431	440	243	109	0
	CPP-L	31	29	33	28	27	27	24	24	24	25	27	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	74	77	82	90	91	85	88	88	87	89	81	74
	<b>SUB-TOTAL</b>	<b>179</b>	<b>180</b>	<b>189</b>	<b>277</b>	<b>382</b>	<b>738</b>	<b>834</b>	<b>774</b>	<b>785</b>	<b>520</b>	<b>329</b>	<b>180</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	19	20	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>21</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	-3	-2	-2	-7	11	26	40	19	13	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>-3</b>	<b>-2</b>	<b>-2</b>	<b>-7</b>	<b>11</b>	<b>26</b>	<b>40</b>	<b>19</b>	<b>13</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,089</b>	<b>1,118</b>	<b>1,099</b>	<b>1,264</b>	<b>1,424</b>	<b>1,778</b>	<b>1,893</b>	<b>1,865</b>	<b>1,884</b>	<b>1,569</b>	<b>1,292</b>	<b>1,035</b>

## Appendix E. Program Specific Ex Ante Load Impact Estimates for 1-in-10 System Conditions by Month and Forecast Year

**Table E-1:  
2011 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	100	124	120	123	115	123	121	125	128	136	132	111
	BIP-30	386	418	410	429	464	418	409	409	412	440	398	346
	AP-I	18	21	33	39	44	41	39	39	39	40	27	20
	SDP COM-B	-	-	-	-	-	11	13	19	11	-	-	-
	SDP COM-E	-	-	-	-	-	22	34	44	35	-	-	-
	SDP RES-B	-	-	-	-	-	95	115	107	108	-	-	-
	SDP RES-E	-	-	-	-	-	381	453	420	422	-	-	-
	<b>SUB-TOTAL</b>	<b>505</b>	<b>563</b>	<b>563</b>	<b>591</b>	<b>624</b>	<b>1,091</b>	<b>1,184</b>	<b>1,163</b>	<b>1,156</b>	<b>616</b>	<b>557</b>	<b>477</b>
Price Responsive	CPP-L	36	32	31	24	28	28	24	26	27	27	19	32
	CPP-M	-	-	-	-	-	-	-	-	-	-	-	-
	CPP-S	-	-	-	-	-	-	-	-	-	-	-	-
	DBP	56	59	62	68	70	69	69	69	68	69	60	54
	<b>SUB-TOTAL</b>	<b>91</b>	<b>90</b>	<b>93</b>	<b>92</b>	<b>98</b>	<b>96</b>	<b>92</b>	<b>96</b>	<b>95</b>	<b>96</b>	<b>79</b>	<b>86</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	16	17	17	18	17	17	-	-
	DRC-DA	-	-	-	-	24	25	26	26	24	25	-	-
	DRC-DO	-	-	-	-	78	79	81	83	81	80	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>119</b>	<b>122</b>	<b>125</b>	<b>127</b>	<b>123</b>	<b>122</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	4	0	9	20	5	20	20	10	-1	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>4</b>	<b>0</b>	<b>9</b>	<b>20</b>	<b>5</b>	<b>20</b>	<b>20</b>	<b>10</b>	<b>-1</b>	<b>-1</b>
SmartConnect Enabled	SPD	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>PORTFOLIO TOTAL</b>		<b>595</b>	<b>652</b>	<b>660</b>	<b>682</b>	<b>850</b>	<b>1,329</b>	<b>1,406</b>	<b>1,406</b>	<b>1,393</b>	<b>844</b>	<b>636</b>	<b>563</b>

**Table E-2:  
2012 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	102	126	122	124	117	125	123	127	130	138	134	112
	BIP-30	393	425	417	437	472	425	417	416	419	448	405	353
	AP-I	21	23	37	43	48	45	42	41	42	43	29	22
	SDP COM-B	-	-	-	-	-	12	15	22	19	-	-	-
	SDP COM-E	-	-	-	-	-	24	36	47	37	-	-	-
	<b>SUB-TOTAL</b>	<b>515</b>	<b>574</b>	<b>575</b>	<b>604</b>	<b>638</b>	<b>632</b>	<b>634</b>	<b>654</b>	<b>648</b>	<b>629</b>	<b>568</b>	<b>487</b>
Price Responsive	SDP RES-B	0	27	38	35	65	102	124	117	121	72	55	0
	SDP RES-E	0	109	151	139	258	403	486	460	460	270	201	0
	CPP-L	26	28	27	24	25	27	27	24	23	26	23	30
	CPP-M	47	47	47	47	47	47	47	47	47	47	47	47
	CPP-S	14	14	14	14	14	14	14	14	14	14	14	14
	DBP	58	62	65	71	73	72	72	73	72	73	63	57
	<b>SUB-TOTAL</b>	<b>145</b>	<b>287</b>	<b>342</b>	<b>331</b>	<b>482</b>	<b>665</b>	<b>770</b>	<b>735</b>	<b>737</b>	<b>502</b>	<b>404</b>	<b>148</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	17	18	19	19	18	18	-	-
	DRC-DA	-	-	-	-	23	24	25	25	24	24	-	-
	DRC-DO	-	-	-	-	76	77	79	80	78	78	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>118</b>	<b>120</b>	<b>123</b>	<b>126</b>	<b>121</b>	<b>120</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	4	0	9	20	5	20	20	11	-1	-1
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>4</b>	<b>0</b>	<b>9</b>	<b>20</b>	<b>5</b>	<b>20</b>	<b>20</b>	<b>11</b>	<b>-1</b>	<b>-1</b>
SmartConnect Enabled	SPD	332	332	332	332	332	332	332	332	332	332	332	332
	<b>SUB-TOTAL</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>	<b>332</b>
<b>PORTFOLIO TOTAL</b>		<b>993</b>	<b>1,193</b>	<b>1,254</b>	<b>1,267</b>	<b>1,579</b>	<b>1,768</b>	<b>1,865</b>	<b>1,866</b>	<b>1,859</b>	<b>1,594</b>	<b>1,304</b>	<b>967</b>

**Table E-3:  
2013 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	104	128	124	126	119	127	125	129	132	140	136	114
	BIP-30	399	433	424	444	481	433	424	423	427	456	412	359
	AP-I	23	26	40	47	52	48	46	45	46	46	32	24
	SDP COM-B	-	-	-	-	-	14	16	24	21	-	-	-
	SDP COM-E	-	-	-	-	-	25	39	50	40	-	-	-
	<b>SUB-TOTAL</b>	<b>526</b>	<b>586</b>	<b>588</b>	<b>618</b>	<b>652</b>	<b>647</b>	<b>650</b>	<b>671</b>	<b>665</b>	<b>642</b>	<b>580</b>	<b>497</b>
Price Responsive	SDP RES-B	0	33	48	45	85	135	165	158	160	96	71	0
	SDP RES-E	0	116	158	145	267	415	500	471	472	277	207	0
	CPP-L	28	29	25	24	28	24	26	23	26	26	22	30
	CPP-M	161	161	161	161	161	161	161	161	161	161	161	161
	CPP-S	35	35	35	35	35	35	35	35	35	35	35	35
	DBP	63	67	71	77	79	78	79	79	78	79	69	62
	<b>SUB-TOTAL</b>	<b>288</b>	<b>441</b>	<b>498</b>	<b>488</b>	<b>655</b>	<b>848</b>	<b>966</b>	<b>927</b>	<b>932</b>	<b>674</b>	<b>565</b>	<b>288</b>
Aggregator Managed	CBP-DA	-	-	-	-	1	1	1	1	1	1	-	-
	CBP-DO	-	-	-	-	18	19	20	20	19	19	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>21</b>	<b>20</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-1	-1	6	-1	12	28	8	30	31	15	-1	-2
	<b>SUB-TOTAL</b>	<b>-1</b>	<b>-1</b>	<b>6</b>	<b>-1</b>	<b>12</b>	<b>28</b>	<b>8</b>	<b>30</b>	<b>31</b>	<b>15</b>	<b>-1</b>	<b>-2</b>
SmartConnect Enabled	SPD	371	371	371	371	371	371	371	371	371	371	371	371
	<b>SUB-TOTAL</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>	<b>371</b>
<b>PORTFOLIO TOTAL</b>		<b>1,183</b>	<b>1,396</b>	<b>1,463</b>	<b>1,475</b>	<b>1,710</b>	<b>1,915</b>	<b>2,016</b>	<b>2,021</b>	<b>2,019</b>	<b>1,723</b>	<b>1,515</b>	<b>1,154</b>

**Table E-4:  
2014 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	105	130	125	128	121	129	127	131	134	143	139	116
	BIP-30	406	440	432	452	489	440	431	431	434	464	419	365
	AP-I	24	28	43	51	57	52	49	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	18	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	28	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>536</b>	<b>598</b>	<b>601</b>	<b>632</b>	<b>667</b>	<b>664</b>	<b>667</b>	<b>689</b>	<b>681</b>	<b>656</b>	<b>591</b>	<b>506</b>
Price Responsive	SDP RES-B	0	42	58	54	101	158	192	183	181	107	79	0
	SDP RES-E	0	120	165	152	281	438	528	497	498	291	216	0
	CPP-L	26	26	27	22	28	26	23	25	23	27	19	31
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	76	80	86	92	92	89	90	90	88	89	82	75
	<b>SUB-TOTAL</b>	<b>176</b>	<b>342</b>	<b>410</b>	<b>394</b>	<b>576</b>	<b>784</b>	<b>907</b>	<b>869</b>	<b>864</b>	<b>588</b>	<b>470</b>	<b>180</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	9	-2	16	38	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>9</b>	<b>-2</b>	<b>16</b>	<b>38</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,066</b>	<b>1,294</b>	<b>1,376</b>	<b>1,381</b>	<b>1,636</b>	<b>1,865</b>	<b>1,964</b>	<b>1,978</b>	<b>1,964</b>	<b>1,641</b>	<b>1,416</b>	<b>1,041</b>

**Table E-5:  
2015 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	76	80	86	92	92	89	90	90	88	89	82	75
	<b>SUB-TOTAL</b>	<b>181</b>	<b>349</b>	<b>421</b>	<b>402</b>	<b>582</b>	<b>792</b>	<b>913</b>	<b>867</b>	<b>864</b>	<b>589</b>	<b>471</b>	<b>181</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,081</b>	<b>1,310</b>	<b>1,398</b>	<b>1,397</b>	<b>1,652</b>	<b>1,883</b>	<b>1,975</b>	<b>1,980</b>	<b>1,968</b>	<b>1,644</b>	<b>1,418</b>	<b>1,042</b>

**Table E-6:  
2016 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	76	80	86	92	92	89	90	90	88	89	82	75
	<b>SUB-TOTAL</b>	<b>181</b>	<b>349</b>	<b>421</b>	<b>402</b>	<b>582</b>	<b>792</b>	<b>913</b>	<b>867</b>	<b>864</b>	<b>589</b>	<b>471</b>	<b>181</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,081</b>	<b>1,310</b>	<b>1,398</b>	<b>1,397</b>	<b>1,652</b>	<b>1,883</b>	<b>1,975</b>	<b>1,980</b>	<b>1,968</b>	<b>1,644</b>	<b>1,418</b>	<b>1,042</b>



**Table E-7:  
2017 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	76	80	86	92	92	89	90	90	88	89	82	75
	<b>SUB-TOTAL</b>	<b>181</b>	<b>349</b>	<b>421</b>	<b>402</b>	<b>582</b>	<b>792</b>	<b>913</b>	<b>867</b>	<b>864</b>	<b>589</b>	<b>471</b>	<b>181</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,081</b>	<b>1,310</b>	<b>1,398</b>	<b>1,397</b>	<b>1,652</b>	<b>1,883</b>	<b>1,975</b>	<b>1,980</b>	<b>1,968</b>	<b>1,644</b>	<b>1,418</b>	<b>1,042</b>

**Table E-8:  
2018 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	76	80	86	92	92	89	90	90	88	89	82	75
	<b>SUB-TOTAL</b>	<b>181</b>	<b>349</b>	<b>421</b>	<b>402</b>	<b>582</b>	<b>792</b>	<b>913</b>	<b>867</b>	<b>864</b>	<b>589</b>	<b>471</b>	<b>181</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,081</b>	<b>1,310</b>	<b>1,398</b>	<b>1,397</b>	<b>1,652</b>	<b>1,883</b>	<b>1,975</b>	<b>1,980</b>	<b>1,968</b>	<b>1,644</b>	<b>1,418</b>	<b>1,042</b>

**Table E-9:  
2019 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	76	80	86	92	92	89	90	90	88	89	82	75
	<b>SUB-TOTAL</b>	<b>181</b>	<b>349</b>	<b>421</b>	<b>402</b>	<b>582</b>	<b>792</b>	<b>913</b>	<b>867</b>	<b>864</b>	<b>589</b>	<b>471</b>	<b>181</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,081</b>	<b>1,310</b>	<b>1,398</b>	<b>1,397</b>	<b>1,652</b>	<b>1,883</b>	<b>1,975</b>	<b>1,980</b>	<b>1,968</b>	<b>1,644</b>	<b>1,418</b>	<b>1,042</b>

**Table E-10:  
2020 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	76	80	86	92	92	89	90	90	88	89	82	75
	<b>SUB-TOTAL</b>	<b>181</b>	<b>349</b>	<b>421</b>	<b>402</b>	<b>582</b>	<b>792</b>	<b>913</b>	<b>867</b>	<b>864</b>	<b>589</b>	<b>471</b>	<b>181</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,081</b>	<b>1,310</b>	<b>1,398</b>	<b>1,397</b>	<b>1,652</b>	<b>1,883</b>	<b>1,975</b>	<b>1,980</b>	<b>1,968</b>	<b>1,644</b>	<b>1,418</b>	<b>1,042</b>

**Table E-11:  
2021 Program Specific Aggregate Ex Ante Load Impact Estimates for 1-in-10 System Conditions**

Program Type	Program	Monthly System Peak											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Emergency Response	BIP-15	107	132	127	130	122	131	128	132	135	143	139	116
	BIP-30	413	447	438	458	494	445	435	434	437	466	420	366
	AP-I	26	29	45	53	58	53	50	49	49	50	34	25
	SDP COM-B	-	-	-	-	-	14	19	26	23	-	-	-
	SDP COM-E	-	-	-	-	-	29	41	54	42	-	-	-
	<b>SUB-TOTAL</b>	<b>546</b>	<b>608</b>	<b>610</b>	<b>640</b>	<b>675</b>	<b>672</b>	<b>673</b>	<b>693</b>	<b>685</b>	<b>658</b>	<b>593</b>	<b>507</b>
Price Responsive	SDP RES-B	0	44	61	56	104	161	194	183	181	107	79	0
	SDP RES-E	0	124	170	156	285	443	531	497	498	291	216	0
	CPP-L	31	27	30	24	27	26	24	23	24	27	20	32
	CPP-M	61	61	61	61	61	61	61	61	61	61	61	61
	CPP-S	13	13	13	13	13	13	13	13	13	13	13	13
	DBP	76	80	86	92	92	89	90	90	88	89	82	75
	<b>SUB-TOTAL</b>	<b>181</b>	<b>349</b>	<b>421</b>	<b>402</b>	<b>582</b>	<b>792</b>	<b>913</b>	<b>867</b>	<b>864</b>	<b>589</b>	<b>471</b>	<b>181</b>
Aggregator Managed	CBP-DA	-	-	-	-	2	2	2	2	2	2	-	-
	CBP-DO	-	-	-	-	20	21	21	21	21	20	-	-
	DRC-DA	-	-	-	-	-	-	-	-	-	-	-	-
	DRC-DO	-	-	-	-	-	-	-	-	-	-	-	-
	<b>SUB-TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>23</b>	<b>22</b>	<b>22</b>	<b>0</b>	<b>0</b>
Non-Event Based	RTP	-2	-2	11	-2	17	40	11	40	40	19	-2	-2
	<b>SUB-TOTAL</b>	<b>-2</b>	<b>-2</b>	<b>11</b>	<b>-2</b>	<b>17</b>	<b>40</b>	<b>11</b>	<b>40</b>	<b>40</b>	<b>19</b>	<b>-2</b>	<b>-2</b>
SmartConnect Enabled	SPD	356	356	356	356	356	356	356	356	356	356	356	356
	<b>SUB-TOTAL</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>	<b>356</b>
<b>PORTFOLIO TOTAL</b>		<b>1,081</b>	<b>1,310</b>	<b>1,398</b>	<b>1,397</b>	<b>1,652</b>	<b>1,883</b>	<b>1,975</b>	<b>1,980</b>	<b>1,968</b>	<b>1,644</b>	<b>1,418</b>	<b>1,042</b>