



**FILED**

02-03-09

03:54 PM

# ATTACHMENT A

<b>Table 1: Distributed Generation Cost-Benefit Methodology Inputs</b>				
<b>Category</b>	<b>Participant Test</b>	<b>RIM Test</b>	<b>Societal (TRC) Test</b>	<b>PA Cost Test</b>
<b>Benefits</b>				
Avoided Line Losses		✓	✓	✓
Avoided purchase of energy commodity and Resource Adequacy costs		✓	✓	✓
Avoided Transmission and Distribution (T&D) costs (T&D Investment Deferrals)		✓	✓	✓
Combined heat and power (CHP) efficiency adder	✓		✓	
CHP gas and electric bill savings	✓		✓	
Environmental benefits (CO <sub>2</sub> , NO <sub>x</sub> , and Particulate Matter Emissions)		✓	✓	
Increased revenue from fuel transportation for gas-fired DG		✓		✓
Market price impacts/elasticity		✓	✓	
Market transformation benefits			✓	
Rebates/Incentives	✓			
Reduced electricity bills	✓			
Reliability benefits (both system and customer ancillary services/VAR support)	✓	✓	✓	✓
Standby charge exemption	✓			
Tax credits/depreciation	✓			
Utility interconnection not charged to DG customer	✓			
<b>Costs</b>				
Customer Interconnection Costs	✓			
DG system and emission controls purchase, emission offset purchases	✓		✓	
Increased IOU fuel transportation costs for gas-fired DG		✓		✓
Nonbypassable charges (PGC, DWR, Nuclear decomm, WDAT)	✓			
Operation maintenance, fuel, ongoing emission offset purchases	✓		✓	
Program Administration		✓	✓	✓
Reduced commodity revenue due to reduced demand		✓		✓
Reduced revenue from standby charge exemptions		✓		✓
Reduced T&D revenues		✓		
Reliability costs (cust. and system cost of additional ancillary services/VAR support)	✓	✓	✓	✓
Removal costs (less salvage)	✓		✓	
Utility incentives		✓		✓
Utility interconnection not charged to DG customer		✓	✓	✓

<b>Table 2: Participant Test</b>							
<b>Category</b>	<b>Input Variables</b>	<b>Source</b>	<b>Support</b>	<b>Oppose</b>	<b>SPM</b>	<b>Itron</b>	<b>Adopted</b>
<b>Benefits</b>							
CHP efficiency adder	Project specific production data (\$/kWh or \$/therm)	DG Facilities Studies (i.e. Itron SGIP Annual Impact Evaluation); Published sources	CCDC		No	Yes	Yes
Combined heat and power gas and electric bill savings	Project Specific DG Production Data/ Applicable Tariff rates (\$/kWh, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets	All		Yes	Yes	Yes
Rebates/Incentives	Actual \$ paid through DG Program (\$/kWh or \$/kW) or Net Energy Metering	CPUC, program administrators, CEC, etc.	All		Yes	Yes	Yes
Reduced electricity bills	IOU DG Production Data/ Applicable Tariff rates (\$/kWh, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets	All		Yes	Yes	Yes
Reliability, backup power, voltage support	Project/Technology specific estimate, based on input from Parties	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); Published sources; Project specific data and estimates	All		N/A	No	Yes
Standby charge exemption	IOU DG Production Data/ Applicable Tariff rates	IOU tariffs	IOUs		N/A	No	Yes
Tax credits/depreciation	Current approved levels	Internal Revenue Service/ Franchise Tax Board	All		Yes	Yes	Yes
<b>Costs</b>							
DG system and emission controls purchase, interconnection, emission offset purchases	Actual charges from manufacturer and installer. Actual IOU interconnection costs.	IOU DG Program data; Installer and Manufacturer data; IOU Interconnection costs	All		Yes	Yes	Yes
Nonbypassable charges (PGC, DWR, Nuclear decomm, WDAT)	IOU rates	IOU tariff sheets	IOUs		Yes	Yes	Yes
Operation and maintenance	Actual charges and historical fuel costs	DG operational data; Published reports	All		Yes	Yes	Yes
Removal costs (less salvage)	Actual values	Installer/Manufacturer data	n/a		Yes	No	Yes

<b>Table 3: Non Participant or Ratepayer Impact Test</b>							
<b>Category</b>	<b>Input Variables</b>	<b>Source</b>	<b>Support</b>	<b>Oppose</b>	<b>SPM</b>	<b>Itron</b>	<b>Adopted</b>
<b>Benefits</b>							
Avoided Line Losses	D.01-01-007 (with possible modification for MRTU)	CPUC; CAISO MRTU			n/a		Yes
Avoided purchase of energy commodity and Resource Adequacy costs	D.06-06-063	E3 Calculator	All		Yes	Yes	Yes
Avoided T&D costs (T&D Investment Deferrals)	1. Site specific. Must meet D.03-02-068 criteria (grid-side DG)  2. E3 calculator as applied by Itron in SGIP Year 6 Impact Report (customer-side)	1. GRC marginal costs, site-specific avoided costs.  2. E3 Calculator	1.IOUs  2.DG Proponents		Yes	Yes	Retain D.03-02-068 criteria for Grid-Side DG and use Itron method for customer-side DG
Environmental benefits (CO2, NOx, and Particulate Matter Emissions)	E3 environmental adder as modified by Itron Framework and D.06-06-063	E3 Calculator	Most	PG&E CCDC	Yes	Yes	Yes
Increased revenue from fuel transportation for gas-fired DG	IOU DG Production Data/ Applicable Tariff rates (\$/therm, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets	IOUs		Yes	Yes	Yes
Market price impacts/elasticity	Price Elasticity Adder (Itron)	Itron/E3 analyses; Consultant studies; published reports	DG Proponents	IOUs	Yes (indirectly)	Yes	Yes
Reliability benefits (ancillary services/VAR support)	D.06-06-063 (E3)	E3 Calculator	All		Yes	Yes	Yes

<b>Costs</b>							
Increased IOU fuel transportation costs for gas-fired DG	DG facility production data/ IOU gas rates	IOU tariffs	IOUs		Yes	Yes	Yes
Program Administration	Actual program administration costs	SGIP and CSI Program Administrator reports to Energy Division	All		Yes	Yes	Yes
Reduced commodity revenue due to reduced demand	IOU DG Production Data/ Applicable Tariff rates (\$/kWh, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets	All		Yes	Yes	Yes
Reduced revenue from standby charge exemptions	IOU DG Production Data/ Applicable Tariff rates	IOU tariffs	IOUs		No	No	Yes
Reduced T&D revenues	IOU DG Production Data/ Applicable Tariff rates (\$/kWh, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets	IOUs	CAC/ EPUC	Yes	Yes	Yes
Reliability costs (cost of additional ancillary services/VAR support)	D.06-06-063 (E3)	E3 Calculator	All		Yes	Yes	Yes
Utility incentives	Actual \$ paid through DG Program (\$/kWh or \$/kW) or Net Energy Metering	CPUC, Program Administrators, CEC, etc	All		Yes	Yes	Yes
Utility interconnection not charged to DG customer	Project-specific data, if available or actual aggregate or program-wide data	Program Administrators and IOUs	All		Yes	Yes	Yes

<b>Table 4: Societal/Total Resource Cost Test</b>							
<b>Category</b>	<b>Input Variables</b>	<b>Source</b>	<b>Support</b>	<b>Oppose</b>	<b>SPM</b>	<b>Itron</b>	<b>Adopted</b>
<b>Benefits</b>							
Avoided Line Losses	D.01-01-007 (with possible modification for MRTU)	CPUC; CAISO MRTU	All		N/A	Yes	Yes
Avoided purchase of energy commodity and Resource Adequacy costs	D.06-06-063 (E3)	E3 Calculator			Yes	Yes	Yes
Avoided T&D costs (T&D Investment Deferrals)	1. Site specific. Must meet D.03-02-068 criteria (grid-side DG) 2. E3 calculator as applied by Itron in SGIP Year 6 Impact Report (customer-side)	1. GRC marginal costs, site-specific avoided costs.  2. E3 Calculator	1. IOUs  2. DG Proponents		Yes	Yes	Retains D.03-02-068 criteria and use Itron method for customer-side DG
CHP efficiency adder	Project specific production data (\$/kWh or \$/therm)	DG Facilities Studies (i.e. Itron SGIP Annual Impact Evaluation); Published sources	CCDC		No	Yes	Yes
Combined heat and power gas and electric bill savings (use of waste heat)	Project Specific DG Production Data/ Applicable Tariff rates (\$/kWh, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets	All		Yes	Yes	Yes
DG customer Reliability, backup power, voltage support (net benefit)	Project/Technology specific estimate, based on input from Parties	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); Published sources; Project specific data and estimates	All		N/A	No	Yes

Environmental benefits (CO2, NOx, and Particulate Matter Emissions)	E3 environmental adder as modified by Itron Framework and D.06-06-063	E3 calculator	Most	PG&E CCDC	Yes	Yes	Yes
Market price impacts/elasticity	Price Elasticity Adder (Itron)	Itron/E3 analyses; Consultant studies; published reports	DG Prop.	IOUs	Yes (indirectly)	Yes	Yes
Market transformation effects	Estimated Market Transformation Adder	Itron Solar Cost Report scenario approach or E3 learning curve approach using published reports and DG program data	PV Now, ASPv, CalSEIA, City of San Diego	SCE; SDG&E/SCG	No	Yes	Yes
System Reliability benefits	D.06-06-063 (E3)	E3 Calculator	All		Yes	Yes	Yes
<b>Costs</b>							
DG system and emission controls purchase, emission offset purchases	Actual charges from manufacturer and installer.	IOU DG Program data; Installer and Manufacturer data	All		Yes	Yes	Yes
Operation maintenance, fuel, ongoing emission offset purchases	Actual and historical market costs	DG operational data; Published reports	All		Yes	Yes	Yes
Program Administration	Actual program administration costs	SGIP and CSI program administrator reports to Energy Division	All		Yes	Yes	Yes
Reliability costs (cost of additional ancillary services/VAR support)	D.06-06-063 (E3)	E3 Calculator	All		Yes	Yes	Yes
Removal costs (less salvage)	Actual values	Installer/Manufacturer data	n/a		Yes	No	Yes
Utility interconnection not charged to DG customer	Project specific data, if available, or actual aggregate or program-wide data	Program Administrator reports until CEC value available	All		Yes	Yes	Yes

<b>Table 5: Program Administrator (PA) Cost Test</b>							
<b>Category</b>	<b>Input Variables</b>	<b>Source</b>	<b>Support</b>	<b>Oppose</b>	<b>SPM</b>	<b>Itron</b>	<b>Adopted</b>
<b>Benefits</b>							
Avoided Line Losses	D.01-01-007 (with possible modification for MRTU)	CPUC; CAISO MRTU			n/a		Yes
Avoided purchase of energy commodity and Resource Adequacy costs	D.06-06-063 (E3)	E3 Calculator			Yes	Yes	Yes
Avoided T&D costs (T&D Investment Deferrals)	1. Site specific. Must meet D.03-02-068 criteria (grid-side DG) 2. E3 calculator as applied by Itron in Year 6 Impact Report (customer-side)	1. GRC marginal costs, site-specific avoided costs. 2. E3 Calculator	1.IOUs 2.DG Prop.		Yes	Yes	Retains D.03-02-068 criteria and use Itron method for customer-side DG
Increased revenue from fuel transportation for gas-fired DG	IOU DG Production Data/ Applicable Tariff rates (\$/therm, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets	IOUs		Yes	Yes	Yes
Reliability benefits (ancillary services/VAR support)	D.06-06-063 (E3)	E3 Calculator	All		Yes	Yes	Yes
<b>Costs</b>							
Increased IOU fuel transportation costs for gas-fired DG	DG facility production data/ IOU gas rates	IOU tariffs	IOUs		Yes	Yes	Yes
Program Administration	Actual program administration costs	SGIP and CSI program administrator reports to Energy Division	All		Yes	Yes	Yes
Reduced commodity revenue due to reduced demand	IOU DG Production Data/ Applicable Tariff rates (\$/kWh, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets	All		Yes	Yes	Yes

Reduced revenue from standby charge exemptions	IOU DG Production Data/ Applicable Tariff rates	IOU tariffs	IOUs		No	No	Yes
Reliability costs (cost of additional ancillary services/VAR support)	D.06-06-063 (E3)	E3 Calculator	All		Yes	Yes	Yes
Utility incentives	Actual \$ paid through DG Program (\$/kWh or \$/kW) or Net Energy Metering	CPUC, program administrators, CEC, etc	All		Yes	Yes	Yes
Utility interconnection not charged to DG customer	Project-specific data, if available, or actual aggregate or program-wide data	Program Administrators and IOUs	All		Yes	Yes	Yes

**(END OF ATTACHMENT A)**