Table 1: Distributed Generation Cost-Benefit Methodology Inputs					
Category	**Participant Test**	**RIM Test**[1]	**TRC Test**	**Societal Test**	**PA Cost Test**
Benefits					
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) plant specific benefits	✓		✓	✓	
CHP gas and electric bill savings	✓				
Environmental benefits (CO2, NOx, and Particulate Matter Emissions)		✓		✓	✓
Increased revenue from fuel transportation for gas-fired DG		✓			
Market transformation effects[2]					
Net Energy Metering bill credits	✓				
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	✓				
Costs					
Costs of DG system, interconnection, emission controls and offset purchases	✓		✓	✓	
Increased IOU fuel transportation costs for gas-fired DG		✓			✓
Net Energy Metering costs		✓			✓
Nonbypassable charges (PGC, DWR, Nuclear decommissioning)	✓	✓			
Operation maintenance, fuel, ongoing emission offset purchases	✓		✓	✓	
Program Administration		✓	✓	✓	✓
Reduced revenue from standby charge exemptions		✓			
Reduced Transmission, distribution and non-fuel generation revenues		✓			
Reliability costs (system cost of additional ancillary services/VAR support)		✓	✓	✓	✓
Removal costs (less salvage)	✓		✓	✓	
Utility interconnection		✓	✓	✓	✓
Utility Rebates/Incentives (non-NEM)		✓			✓

[1] The RIM test is not a required DG cost-benefit test, but it is shown here in the event it is performed for other purposes.

[2] Market transformation is not listed in the tables that follow as an input variable with specific data sources because market transformation effects will be analyzed qualitatively after a first set of cost-benefit tests are conducted. See Section 5.7 of this decision where a methodology for market transformation assessment is discussed, based on the Itron Solar Cost Report and an E3 draft methodology.

Table 2: Participant Test		
Category	**Input Variables**	**Source**
Benefits		
CHP gas and electric bill savings	Project Specific DG Production Data/ Applicable Tariff rates ($/kWh, etc.)	IOU DG Program Impact Evaluation Studies (i.e., SGIP Annual Impact Evaluation); IOU Tariff sheets
CHP plant specific characteristics	Project specific production data ($/kWh or $/therm)	DG Facilities Studies (i.e., Itron SGIP Annual Impact Evaluation); Published sources
Net energy metering (NEM) bill credits	Fully bundled credit (or generation credit only for biogas, fuel cells, and wind > 50 kW)	IOU Tariffs, NEM data
Rebates/Incentives (non-NEM)	Actual $ paid through DG Program ($/kWh or $/kW)	CPUC, IOU/PAs, CEC, etc.
Reduced electricity bills	IOU DG Production Data/ Applicable Tariff rates ($/kWh, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets
Reliability benefits (ancillary services/VAR support)	E3 Reliability Adder	E3 Avoided Cost Methodology/Calculator
Standby charge exemption	IOU DG Production Data/ Applicable Tariff rates	IOU tariffs
Tax credits/depreciation	Current approved levels	IRS/FTB
Utility Interconnection costs not charged to DG customer	IOU tariffs	IOUs
Costs		
Costs of DG system and emission controls purchase, customer interconnection, and emission offset purchases	Actual charges from manufacturer and installer and customer data.	IOU DG Program data; Installer and Manufacturer data; IOU Interconnection costs
Nonbypassable charges (PGC, DWR, Nuclear decommissioning)	IOU rates	IOU tariff sheets
Operation and maintenance	Actual charges and historical fuel costs	DG operational data; Published reports
Removal costs (less salvage)	Actual values	Installer/Manufacturer data

Table 3: Ratepayer Impact Measure (RIM)Test[3]		
Category	**Input Variables**	**Source**
Benefits		
Avoided Line Losses	D.01-01-007	CPUC
Avoided purchase of energy commodity and Resource Adequacy costs	D.06-06-0063 (E3), as updated with current inputs used to evaluate energy efficiency programs	E3 Calculator and Commission decisions and rulings on energy efficiency evaluation inputs
Avoided T&D costs (T&D Investment Deferrals)	1. Grid-Side DG: Site specific. Must meet D.03-02-068 criteria 2. Customer Side DG: E3 Avoided Cost Methodology/Calculator	1. GRC marginal costs, site-specific avoided costs. 2. Itron Year 6 SGIP Impact Report
Environmental benefits (CO2, NOx, and Particulate Matter Emissions)	E3 environmental adder with current energy efficiency evaluation inputs	E3 Avoided Cost Methodology/ Calculator
Increased revenue from fuel transportation for gas-fired DG	IOU DG Production Data/ Applicable Tariff rates ($/therm, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets
Reliability benefits (ancillary services/VAR support)	D.06-06-063 (E3)	E3 Avoided Cost Methodology/ Calculator
Costs		
Increased IOU fuel transportation costs for gas-fired DG	DG facility production data/ IOU gas rates	IOU tariffs
Net Energy Metering costs (bill credits)	Fully bundled retail rate of electricity (or generation component only for biogas, fuel cells, and wind > 50 kW)	IOU Tariffs, NEM data
Nonbypassable charges (PGC, DWR, Nuclear decommissioning)	IOU rates	IOU tariff sheets
Program Administration,	Actual PA costs	CSI and SGIP PA databases and reports
Reduced revenue from standby charge exemptions[4]	IOU DG Production Data/ Applicable Tariff rates	IOU tariffs
Reduced T&D and non-fuel generation revenues	IOU DG Production Data/ Applicable Tariff rates ($/kWh, etc.)	IOU DG Program Impact Evaluation Studies (i.e. SGIP Annual Impact Evaluation); IOU Tariff sheets
Reliability costs (cost of additional ancillary services/VAR support)	D.06-06-063 (E3)	E3 Avoided Cost Methodology/Calculator

[3] The RIM Test is not a required DG cost-benefit test.
[4] To the extent standby charge exemptions are already captured as reduced T&D and non-fuel generation revenues, they should not be counted twice.

Utility Rebates/Incentives (non-NEM)	Actual $ paid through DG Program ($/kWh or $/kW) or Net Energy Metering	CSI and SGIP PAs,
Utility interconnection not charged to DG customer	IOU tariffs	IOUs

Table 4: Total Resource Cost Test		
Category	**Input Variables**	**Source**
Benefits		
Avoided Line Losses	D.01-01-007	CPUC;
Avoided purchase of energy commodity and Resource Adequacy costs	D.06-06-0063 (E3) as updated with current inputs used to evaluate energy efficiency programs	E3 Avoided Cost Methodology/Calculator and Commission decisions and rulings on energy efficiency evaluation inputs
Avoided T&D costs (T&D Investment Deferrals)	1. Grid-side DG: Site specific. Must meet D.03-02-068 criteria 2. Customer-side DG: E3 Avoided Cost Methodology/Calculator	1. GRC marginal costs, site-specific avoided costs. 2. Itron Year 6 SGIP Impact Report
CHP plant specific benefits	Project specific production data ($/kWh or $/therm)	DG Facilities Studies (i.e. Itron SGIP Annual Impact Evaluation); Published sources
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
Reliability benefits (ancillary services/VAR support)	D.06-06-063 (E3)	E3 Avoided Cost Methodology/ Calculator
Tax Credits/Depreciation	Federal tax credits only (State tax credits are considered a transfer)	IRS/FTB
Costs		
DG system and emission controls purchase, emission offset purchases	Actual charges from manufacturer and installer.	IOU DG Program data; Installer and Manufacturer data
Operation maintenance, fuel, ongoing emission offset purchases	Actual and historical market costs	DG operational data; Published reports
Program Administration	Actual PA Costs	CSI and SGIP PA databases and reports
Reliability costs (cost of additional ancillary services/VAR support)	D.06-06-063 (E3)	E3 Avoided Cost Methodology/ Calculator
Removal costs (less salvage)	Actual values	Installer/Manufacturer data
Utility interconnection	IOU tariffs	IOUs

Table 5:Societal Test (variant of the TRC Test)		
Category	**Input Variables**	**Source**
Benefits		
Avoided Line Losses	D.01-01-007	CPUC
Avoided purchase of energy commodity and Resource Adequacy costs	D.06-06-0063 (E3) as updated with current inputs used to evaluate energy efficiency programs	E3 Avoided Cost Methodology/ Calculator and Commission decisions and rulings on energy efficiency evaluation inputs
Avoided T&D costs (T&D Investment Deferrals)	1. Grid-side DG: Site specific. Must meet D.03-02-068 criteria 2. Customer-side DG: E3 Avoided Cost Methodology/Calculator	1. GRC marginal costs, site-specific avoided costs. 2. Itron Year 6 SGIP Impact Report
CHP plant specific benefits	Project specific production data ($/kWh or $/therm)	DG Facilities Studies (i.e. Itron SGIP Annual Impact Evaluation); Published sources
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
Environmental benefits (CO2, NOx, and Particulate Matter Emissions)	E3 environmental adder with current energy efficiency evaluation inputs	E3 Avoided Cost Methodology/ Calculator
System Reliability benefits	D.06-06-063 (E3)	E3 Avoided Cost Methodology/ Calculator
Tax Credits/Depreciation	Federal tax credits only (State tax credits are considered a transfer)	IRS
Costs		
DG system and emission controls purchase, emission offset purchases	Actual charges from manufacturer and installer.	IOU DG Program data; Installer and Manufacturer data
Operation maintenance, fuel, ongoing emission offset purchases	Actual and historical market costs	DG operational data; Published reports
Program Administration	Actual PA Costs	CSI and SGIP PA databases and reports
Reliability costs (cost of additional ancillary services/VAR support)	D.06-06-063 (E3)	E3 Avoided Cost Methodology/ Calculator
Removal costs (less salvage)	Actual values	Installer/Manufacturer data
Utility interconnection	IOU tariffs	IOUs

Table 6: Program Administrator (PA) Cost Test		
Category	**Input Variables**	**Source**
Benefits		
Avoided Line Losses	D.01-01-007	CPUC
Avoided purchase of energy commodity and Resource Adequacy costs	D.06-06-0063 (E3) as updated with current inputs used to evaluate energy efficiency programs	E3 Avoided Cost Methodology/ Calculator and Commission decisions and rulings on energy efficiency evaluation inputs
Avoided T&D costs (T&D Investment Deferrals)	1. Grid-side DG: Site specific. Must meet D.03-02-068 criteria 2. Customer-side DG: E3 Avoided Cost Methodology/Calculator	1. GRC marginal costs, site-specific avoided costs. 2. Itron Year 6 SGIP Impact Report
Environmental benefits (CO2, NOx, and Particulate Matter Emissions)	E3 environmental adder with current energy efficiency evaluation inputs	E3 Avoided Cost Methodology/ Calculator
Reliability benefits (ancillary services/VAR support)	D.06-06-063 (E3)	E3 Avoided Cost Methodology/ Calculator
Costs		
Increased IOU fuel transportation costs for gas-fired DG	DG facility production data/ IOU gas rates	IOU tariffs
Program Administration	Actual PA Costs	CSI and SGIP PA databases and reports
Net Energy Metering bill credit	Fully bundled retail rate of electricity (or generation component only for biogas, fuel cells, and wind > 50 kW,)	Utility tariffs, NEM data
Reliability costs (cost of additional ancillary services/VAR support)	D.06-06-063 (E3)	E3 Avoided Cost Methodology/ Calculator
Utility Rebates/Incentives (non-NEM)	Actual $ paid through DG Programs ($/kWh or $/kW)	CSI and SGIP PAs
Utility interconnection not charged to DG customer	IOU tariffs	IOUs

(END OF ATTACHMENT A)