



Interstate Renewable Energy Council (IREC) “Connecting to the Grid” Project Interconnection Standards for Distributed Generation

(Updated November 2007)

State (or Utility) ¹	Year of Original Implementation	Application Cost	Separate Rules for Small DG & Renewables ²	Breakpoint for Small Systems (Simplified Rules)	Eligible Technologies	System Size Limit	Standard Agreement	Additional Insurance	External Disconnect Switch Required	Technical Screens for Interconnection Studies	Network Inter-connection Permitted	Authority
Arizona - Salt River Project	2002		No	50 kW	All DG	No limit specified	Yes	Yes	No	Yes	No	Salt River Project
Arizona - Arizona Public Service	2002		No	50 kW	All DG	No limit specified	Yes	Yes	No	Yes	Yes	Arizona Public Service
Arizona - Tucson Electric Power	2002		No	50 kW	All DG	No limit specified	Yes	Yes	No	Yes	No	Tucson Electric Power
California	2000	\$800 (+ \$600 for supp. review)	Yes	10 kW	All DG	No limit specified	Yes	No	Required for systems > 1 kW ³	Yes	No	CA PUC
Colorado	2005	Not specified	Yes	10 kW	All DG	10 MW	Yes	No	No	Yes	Permitted for systems ≤ 300 kW	CO PUC
Connecticut <i>(review in progress)</i>	2004	Yes	Yes	10 kW	All DG	25 MW	Yes	Yes	Yes	Yes	Yes	CT DPUC
Delaware (Delmarva; DEC) <i>(review in progress)</i>	2000	None	Yes	25 kW	All DG	Delmarva: 1 MW; DEC: not specified	Yes (Delmarva)	Yes (DEC)	Yes (systems 25 kW and over)	No	No	DE PSC, Utilities

¹ Some utilities have created their own interconnection guidelines in the absence of statewide interconnection standards.

² Many states and utilities have a separate set of interconnection standards for very small renewable and DG systems. These standards often apply to net-metered systems.

³ PG&E abandoned its requirement for an external AC disconnect switch for most small DG systems in November 2006. SMUD abandoned its requirement in February 2007.

Sources: IREC “Connecting to the Grid” Project (www.irecusa.org/index.php?id=31) and the Database of State Incentives for Renewables and Efficiency (DSIRE) (www.dsireusa.org). Both projects are managed by the N.C. Solar Center at N.C. State University. Additional information, including statutory and regulatory authority citations, is available on the projects’ web sites.



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Hawaii	2003		Yes	50 kW	All DG	No limit specified	Yes	Yes	Yes	No	Does not apply	HI PUC
Illinois - ComEd	1999		Yes	25 kW (40 kW for net-metered systems)	All DG	NA	Yes	No	Yes (systems > 40 kW)	No	No	Utility
Indiana	2005	10 kW: none; up to 2 MW: \$50+\$1/kW; other: \$100+\$2/kW	Yes	10 kW	All DG	None specified	Yes	No	Yes	Yes	Yes	IURC
Massachusetts	2004	\$3 per kW; \$2,500 max	Yes	10 kW	All DG	None specified	Yes	No	Utility discretion	Yes	Yes	MA DPU
Michigan (review in progress)	2003	\$0.50 per kW; \$500 max	Yes	30 kW	All DG	None specified	Yes	No	Yes	No	No	MI PSC
Minnesota	2004	Varies by system size and type	Yes	40 kW	All DG	10 MW	Yes	Yes (systems < 40 kW)	Yes	Yes	No	MN PUC
Nebraska Public Power District	2007	Not specified	Yes	50 kW	All DG	20 MW	Yes	Not specified	Yes	Yes	Not specified	Utility
Nevada	2003		No		All DG	20 MW	No	No	No			NV PUC
New Jersey	2001	10 kW: none; up to 2 MW: \$50+\$1/kW; other: \$100+\$2/kW	Yes	10 kW	All DG	2 MW	No	No	No	Yes	Yes	NJ BPU
New York	2000	Varies by system size	Yes	10 kW	All DG	2 MW	Yes	No	Yes	Yes	Yes	NY PSC

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North Carolina <i>(review in progress)</i>	2005	\$100 residential; \$250 non-residential	No		All DG	20 kW residential; 100 kW non-residential	Yes	No	Yes	No	Does not apply	NCUC
Ohio	2000	Varies by system size	Yes	10 kW	All DG	20 MW	Yes	No	Yes	Yes	Yes	PUCO
Oregon <i>(review in progress, may extend to 10 MW)</i>	2007	Varies by system size	Yes	25 kW	All renewables	2 MW (varies by utility type and customer class)	Yes	No	Yes <small>(certain small, inverter-based systems are exempt)</small>	Yes	Yes (limitations apply)	OR PUC
Pennsylvania <i>(review in progress)</i>	2006	Varies by system size	Yes	10 kW	All DG	None specified	Yes	No	Yes	Yes	Yes (limited)	PA PUC
South Carolina	2006	\$100 residential; \$250 non-residential	No		All DG	20 kW residential; 100 kW non-residential	Yes	No	Yes	No	Not addressed	SC PSC
South Dakota – Xcel Energy	2007	Varies by system size and type	No		All DG	10 MW	No	Yes	Yes	Yes	No	PUC
South Dakota – MidAmerican Energy	2007		Yes	500 kW	All DG	20 MW	No	Not addressed	Yes	Not addressed	No	PUC
Texas <i>(review in progress)</i>	2000	Varies	Yes	10 kW	All DG	10 MW	Yes	No	Yes	Yes	Yes	PUCT

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TVA (Distributors to develop compatible rules)	2007					20 MW						
Vermont	2006	\$300	Yes	Depends on technical screens	All DG	None specified	Yes	No	Yes	Yes	Not addressed	VT PSB
Washington	2007		Yes	300 kW	All DG	20 MW	No	Utilities may not require additional insurance for systems eligible for net metering, but may require additional insurance for other systems	Yes (utility may waive requirement)	FERC screens used for systems > 300 kW	Yes (for systems up to 300 kW and with utility approval)	WA UTC
Wisconsin	2004	Varies	Yes	20 kW	All DG	15 MW	Yes	No	Yes	No	Not addressed	WI PSC
<i>IREC Model Rules⁴</i>	<i>N/A</i>	10 kW: \$20; 2 MW: \$50+\$1/kW; 10 MW non-export: \$100+\$1.50/kW; 10 MW: \$2/kW	<i>Yes</i>	<i>10 kW</i>	<i>All DG</i>	<i>10 MW</i>	<i>Yes</i>	<i>No</i>	<i>No</i>	<i>Yes</i>	<i>Yes</i>	<i>State PUC</i>

⁴ IREC’s model interconnection rules are available at www.irecusa.org/index.php?id=87.

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