

ALASKA LEGISLATURE SPECIAL COMMITTEE/SUBJECT FILES 8672
2670 SCOM 120 HOUSE SPEC.COMM.UTILITY RESTRUCTURING, 1999-2000

TABLE 6.13

Renewable Provisions in Federal Legislation

RPS=renewable portfolio standard; SBC=system benefits charge; MSW=municipal solid waste

Bill Sponsor	Provision	Basis	Technology Eligibility	Comments
Bumpers & Gorton (S 1401)	RPS – 5% 2003-2007 9% 2008-2012 12% 2009-2019	Retail electricity sales	Solar, wind, biomass, hydro, geothermal, waste/landfill gas	Sunset December 31, 2019. Requirement on retail suppliers. Submit credits to FERC based on percentage of retail sales from preceding year. ½ credit for large hydro (above 80 MW). 1 credit for existing renewables inc. small hydro. 2 credits for new renewables inc. small hydro.
Clinton Administration (S2287)	RPS – 7.5% 2010-2015 (DOE Secretary sets targets for 2000-2004 and 2005-2009) SBC – Public Benefits Fund Net metering (up to 20 kW) NOx cap and trade	Retail electricity sales	Wind, solar, biomass, and geothermal. (not specified whether or not MSW is eligible) SBC funding for low-income, energy efficiency, renewables, consumer education and R&D.	Sunset in 2015. Requirement on retail suppliers. Credit banking allowed. 1.5 c/kWh cost cap, adjusted for inflation. Administered by DOE. Administration costs must be less than 5% of credit value. RPS replaces PURPA "must buy" provision, but honors existing PURPA contracts. SBC matching funds to states, federal portion not to exceed 1 mill/kWh (\$3 billion).
Jeffords (S 687)	RPS – 2.5% in 2000 rising 0.5%/yr 5% in 2005 rising 1%/yr 10% in 2010 20% in 2020 onwards SBC – Public Benefits Fund Emissions cap and trade for SO ₂ , NO _x , and CO ₂ .	All electricity generated for sale except hydro (includes cogeneration sold to utilities and excludes self-gen.)	Solar, wind, biomass, geothermal, waste/landfill gas (excludes incinerated MSW)	Self-sunsetting. Requirement on generator. Submit credits to FERC by July 1 based on generation for sale from preceding year. SBC matching funds to states, federal portion not to exceed 2 mills per kWh.
Kucinich (HR4798)	RPS- Existing baseline plus: 3% by 2005 8% by 2010 increasing by 1% per year thereafter PB fund of 0.7¢ per kWh	Generation	Organic waste biomass (not including municipal solid waste), dedicated biomass energy crops, landfill gas, geothermal, solar, or wind resources	Sunsets when DOE certifies that the administrative costs are no longer justified by the market value or number of credits traded.

Bill Sponsor	Provision	Basis	Technology Eligibility	Comments
Markey (HR 1960)	RPS – 3% in 1998 10% in 2010 (DOE Secretary sets targets in intervening years.) Net metering	All electricity generated for sale (includes cogeneration sold to utilities and excludes self-gen.)	Solar, wind, geothermal, biomass (excludes MSW)	Self-sunsetting. Requirement on generator. Submit credits to DOE based on generation for sale from preceding year. DOE issues, monitors and administers
Schaefer, Palone & Largent (HR 655)	RPS – 2% 2000-2004 3% 2005-2009 4% 2010	All electricity generated for sale except hydro (includes cogeneration sold to utilities and excludes self-gen.)	Organic waste, biomass, dedicated energy crops, landfill gas, geothermal, solar, tidal, wind	Sunset in 2015. Requirement on generator. Submit credits to FERC based on generation for sale from preceding year. Utility purchasing renewables under existing PURPA contract considered generator.
DeFazio (HR 1359)	SBC – Public Benefits Fund			Matching funds to states, federal portion not to exceed 2 mills per kWh.
Pallone (HR 2909)	NOx cap 2 mm tons by 2005 SOx cap 4 mm tons by 2005			Caps for emissions, with higher credits for renewables.

Prepared by the Union of Concerned Scientists
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Timeline for Federal Renewable Portfolio Standard Bills

	Bill #	2000	2003	2005	2008	2010	2013	2015	2020	Applies to:
Bumpers	S1401		5%		9%		12%	12%	sunset	Retailer
Clinton	S2287	existing				5.5%		sunset		Retailer
Jeffords	S687	2.5%	4%	5%	8%	10%	13%	15%	20%	Generator
Kucinich	HR4798	baseline	+1.5%	+3%	+6%	+8%	+11%	+13%	+18%	Retailer
Markey	HR1960	3%				10%	10%	10%	10%	Generator
Schaefer	HR655	2%		3%		4%	4%	sunset		Generator

Notes: Hydro not eligible, except for Bumpers, where large hydro (above 80MW) gets 1/2 credit, existing small hydro (below 80MW) gets 1 credit and new small hydro gets 2 credits.

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TABLE 6.14
State Minimum Renewable Energy Requirements

State	Requirement*	Status	Eligibility	Comments
Arizona	0.2% of sales in 1999 rising to 1% in 2003	Regulation: Decision and Amended Rules On Electric Competition www.cc.state.az.us/rules/elec.htm	In-state solar PV and solar thermal electric	Solar Portfolio Standard: www.cc.state.az.us/rules/ELEC/APP_A/2-1609.HTM Penalty of 30 cents/kWh to solar electric fund
Connecticut	Class I or II technologies 5.5% in 2000; 6% in 2005 7% in 2009 Class I technologies 0.5% in 2000 +0.25%/yr. to 1% by 2002 +0.5%/yr to 3% by 2006 +1%/yr to 6% in 2009	Law H. 5005 www.cga.state.ct.us/ps98/act/pa/pa%2D0028.htm	Class I: solar, wind, hydro, sustainable biomass, landfill gas, fuel cells. Class II: hydro, MSW, other biomass.	Law allows state (Connecticut Public Utilities Commission) to implement credit trading.
Iowa	105 average MW ~ 2.5% of sales	Law Alternate Energy Production Law (1983) revised (1991)	Solar, wind, methane recovery, biomass	Applies to IOUs only.
Maine	30% of sales in 2000 (start of competition)	Law LD1804 and Public Law Chapter 316 http://janus.state.me.us/legis/statutes/35A/title277.htm Draft regulations published Docket 97-584	Fuel cells, tidal power, solar, wind, geothermal, hydro, biomass, MSW and cogeneration (under 100 MW)	Renewables currently 46-51% of generation. PUC makes recommendations for changes to legislature no later than 5 years after beginning of retail competition. No credit trading (draft regulations).
Massachusetts	State to determine existing renewables by 12/31/99 (~7%) +1% from new renewables by 2003 +0.5%/yr. to 4% by 2009 +1% per year thereafter until date determined by Division of Energy Resources.	Law Chapter 164 of the Acts of 1997 www.magnet.state.ma.us/legis/laws/seslaw97/sl970164.htm Legal challenge	Solar, wind, ocean, clean biomass; hydro and MSW qualify as existing, but not as new renewables.	+1% new renewables requirement may start one year after any renewable within 10% of avg. spot market price. Language ambiguous as to whether requires preservation of existing level of renewables. Studies of tradable credits, penalties, state agency minimum purchase requirements. These mechanisms would require new legislative authorization.

State	Requirement*	Status	Eligibility	Comments
Minnesota	550 MW phased in, plus possible 400 MW more wind by 2002 ~4.3% of sales	Law Radioactive Waste Management Facility Authorization (1994)	Wind (425 MW) and biomass (125 MW)	NSP allowed to build temporary dry cask storage of nuclear waste at Prairie Island nuclear plant in exchange for renewable energy development. +400 more MW of wind by 2002 if least cost resource.
Nevada	0.2% in 2001, rising 0.2% biannually to 1% in 2009	Regulatory proceeding underway	50% from solar, 50% from wind, biomass, geothermal in state.	Applies to IOUs and IPPs, but not coops, munis or general improvement districts. Utilities with 9% or more of their electricity coming from renewables in 1997 are deemed to be in compliance until 2005.
Wisconsin	50 MW by 2000	Reliability Act		RPS proposed in SB517

State's considering RPS: Wisconsin (4% by 2009), Kansas (20% by 2020), Nebraska (10% by 2010), New Mexico (10% by 2015), Vermont (15% existing +4%
new by 2007) and Delaware, Texas (3% by 2009)..

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TABLE 6.15
State Public Benefit Funding for Efficiency, Renewables, R&D

State	Efficiency	Renewables	R&D	Status	Renewables Uses and Eligibility	Comments
California	1.2 mills/kWh \$185m/year for 4 years	0.8 mills/kWh \$135 million/year for 4 years Existing renewables = 45% of funds New projects = 30% Emerging techs. = 10% Customer credits = 15%	0.4 mills/kWh \$61.8 million/yr. for 4 years	Law A.B. 1890 www.leginfo.ca.gov/bilinfo.html www.energy.ca.gov	Production incentives, project financing and customer rebates. Separate renewables fund accounts for existing, new, emerging, customer incentives.	Renewables/R&D administered by Cal. Energy Commission Efficiency by utilities/collaborative
Connecticut	3 mills/kWh \$63 million/year	0.5 mills/kWh in 2000 0.75 mills in 2002 1 mill in 2004 1 mill ~ \$21 million per year		Law H 5005 www.cga.state.ct.us/ps98/act/pa/pa%2D0028.htm	Renewables and fuel cells. Economic development and renewables for customers.	Renewables admin. by Connecticut Innovations (econ. development) Efficiency by utilities/collaborative
Illinois	\$3 million/year ~03 mills/kWh 10 years residential DSM	2.5¢/month customer charge ~0.04 mills/kWh matched w/gas co. funding = \$5 million per year for 10 years	\$5 million/year for "clean coal" R&D	Law HB 362, HB 1817, and SB 56 http://www.state.il.us/icc/Dereg/IEDB/	Grants, loans, and other incentives for wind, solar thermal, PV, dedicated biomass crops and organic waste biomass, existing or run-of-river hydropower	Administered by Department of Commerce and Community Affairs

State	Efficiency	Renewables	R&D	Status	Renewables Uses and Eligibility	Comments
Massachusetts	Declines from 3.3 mills/kWh to 2.5 Averages 2.9 mills =\$135 million/ year, 5 years	Averages 0.95 mills/kWh first 5 years = \$45 million per year 0.25 mills dedicated for MSW pollution controls or retirement 0.5 mills thereafter (no MSW) ~\$20-\$25 million/yr.		Law Chapter 164 of the Acts of 1997 www.magnet.state.ma.us/ legis/laws/seslaw97/sl970 164.htm Legal challenge	New solar, wind, ocean, advanced biomass, fuel cells, possibly DSM and distributed generation. Economic development, renewables for customers, education, R&D	Renewables administered by Mass. Tech. Park (Econ. Development). Efficiency by utilities/collaborative IOU customers only. Municipal aggregators can access.
Montana	2.4% of annual retail sales for 1995 (about \$12 million per year)			Law www.psc.state.mt.us/gas elec/mcaelec.htm		
New Mexico		0.5% of revenues		Rate order for Public Service of New Mexico Regulation proposed statewide http://www.puc.state.nm.u s/proceed.htm	50% to solar 50% bidding process for other renewables	Proposed rulemaking on net metering and disclosure.
New York	0.6 – 1.0 mills/kWh per utility; avg. ~0.7 mills (~\$78 million/yr.) Historically DSM = 74.4%; renewables/R&D = 15%; low- income = 10.6%			Case-by-case regulatory review. Order at http://www.dps.state.ny.u s/fileroom/doc4406.t		Administered by NYSERDA state agency
Rhode Island	2.3 mills/kWh about \$15 million per year			Law	Renewables & DSM, including hydro under 100 MW	Administered by utility collaborative
Estimated Total	~\$530 million/yr.	~\$210 million/yr.	~\$70 million/yr.			

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TABLE 6.16
Number of Customers and Retail Sales by Power Marketers in State Pilot Programs, 1997

State/Power Marketer	Residential		Commercial		Industrial	
	Consumers	Sales (MWh)	Consumers	Sales (MWh)	Consumers	Sales (MWh)
California						
National Gas & Electric LP			12	3887		
Idaho						
Cincinnati Gas & Electric Co.					4	8487
Energy Services, Inc.					1	1130350
IGI Resources, Inc.					1	11225
PSI Energy, Inc.					*	8487
Illinois						
Cincinnati Gas & Electric Co.			4	3830		
Enron Power Marketing, Inc.					4	78954
Illinova Energy Partners, Inc.					6	59665
National Gas & Electric LP					3	34443
PSI Energy, Inc.			*	3637		
QST Energy, Inc.	1329	18261	4	17027	9	288699
Rainbow Energy Marketing Corp.	6	98				
Massachusetts						
Working Assets Green Power, Inc.	730	3766				
XENERGY, Inc.				14	218745	
Missouri						
Cincinnati Gas & Electric Co.			1	17938		

State/Power Marketer	Residential		Commercial		Industrial	
	Consumers	Sales (MWh)	Consumers	Sales (MWh)	Consumers	Sales (MWh)
PSI Energy, Inc.			*	20868		
New Hampshire						
Central Maine Power Co.	12	269	3	2922	1	820
Central Vermont Public Service Co.	274	159	237	4586	71	19950
Enron Power Marketing, Inc.	778	7467	315	14729		
Plum Street Energy Marketing Co.	23	146	24	3409		
UNITIL Resources, Inc.	1105	12095	28	11083	4	2073
Working Assets Green Power, Inc.	116	648				
XENERGY, Inc.	33	284	12	4954	2	10345
New York						
National Fuel Resources, Inc.	40	101		65	570	
NEV LLC			300	3935		
Plum Street Marketing Co.	7	642	4	289	3	2135
Oregon						
Energy Services, Inc.					1	948912
Enron Power Marketing, Inc.			205	581		
Pennsylvania						
Bruin Energy, Inc.	35	31				
CNG Retail Services Corp.	**	10274	**	1813		
Dupont Power Marketing, Inc.			1	235	1	18
DTE-CoEnergy LLC			26	1960		
Energis Resources, Inc.	2	11	349	11779	26	18321

State/Power Marketer	Residential		Commercial		Industrial	
	Consumers	Sales (MWh)	Consumers	Sales (MWh)	Consumers	Sales (MWh)
Enron Power Marketing, Inc.	4400	1725	78	105		
GPU Advanced Resources, Inc.	3804	4740	360	9372	6	3709
Horizon Energy Co.	**	33560			**	80863
New Millennium Energy Corp.			1	39		
QST Energy, Inc.	19557	19231	10	541	19	2692
UGI Power Supply, Inc.			10	107		
Rhode Island						
Enron Power Marketing, Inc.					1	5882
NEV LLC			13	45365		
Washington						
Avis'ia Energy, Inc.					2	208798
Cincinnati Gas & Electric Co.					1	1449
Duke Energy Trading & Marketing			3	17518	2	1006190
Dupont Power Marketing, Inc.					1	16256
Energy Services, Inc.					2	963820
Illinova Energy Partners, Inc.					1	271860
IGI Resources, Inc.					9	137583
Montana Power Trading & Marketing					1	697
PSI Energy, Inc.					*	1449
Totals	32251	113508	2000	192509	251	5543447

Source: <http://www.eia.doe.gov/cneaf/electricity/esr/esr.pdf> (Table B1)

TABLE 6.17
Impacts of Renewable Portfolio Standard on Alaska

RPS Set at 7.5% In 2010	UNIT	TOTAL 2000-2015	NPV 2000-2015	1997	2000	2005	2010	2015
Alaska Sales	1,000 kWh	84,263,852		4,840,529	4,957,633	5,159,137	5,368,831	5,587,048
RPS	%			0.00%	0.00%	3.75%	7.50%	7.50%
Renewables	1,000 kWh	4,224,890		0	0	193,468	402,662	419,029
Premium								
@ 0.5¢/kWh	\$	2,112,445	665,442	0	0	96,734	201,331	209,514
@ 1.0¢/kWh	\$	4,224,890	1,330,883	0	0	193,468	402,662	419,029
@ 1.5¢/kWh	\$	6,337,336	1,996,325	0	0	290,201	603,993	628,543
@ 2.0¢/kWh	\$	8,449,781	2,661,767	0	0	386,935	805,325	838,057
@ 2.5¢/kWh	\$	10,562,226	3,327,209	0	0	483,669	1,006,656	1,047,572

Load Growth	0.8%
Discount Rate	12.0%

TABLE 6.18**Example Price Impacts of Public Purpose Program Options**

(In Alaska in 1997, a charge of 1 mill on electricity sold in the Railbelt will collect approximately \$3.7 million/yr. total funds, and cost the average residential customer \$0.67/mo. A charge of 1 mill on electricity sold throughout Alaska will collect approximately \$4.8 million/yr. total funds, and cost the average residential customer \$0.69/mo.)

Program Option	Total Cost/Duration	Average kWh Cost	Cost Impact on Average Residential Customer	MW Impact
Renewable Energy				
Renewable Portfolio Standard – Clinton Administration Proposal	\$2.1 to \$10.6 million/yr. – 15 yr.	\$0.005 to \$0.025/kWh (range of premium costs)	\$0.30 to \$1.40/mo	121 MW added
Energy Efficiency				
Energy Efficiency – (Using Connecticut, Illinois laws)	\$14.5 million/yr.	\$0.003/kWh	\$2.04/mo	N/A
Low Income				
Dedicated Fund for Low Income Energy Assistance (0.5% & 1.0% of revenues)	\$2.44 million/yr. @ 0.5% rev. \$4.88 million/yr. @ 1% rev.	\$0.0005/kWh @ 0.5% \$0.0010/kWh @ 1%	\$0.35/mo @ 0.5% \$0.70/mo @ 1.0%	N/A
Energy Research & Development				
Energy Research & Development – (Using California law - .4 mill/kWh)	\$1.94 million/yr. – 3 yr.	\$0.0004/kWh	\$0.27/mo	N/A

TABLE 6.19
Green Pricing Program Summary

State	Utility Name	Program Name	Type	Size	Start Date	Premium
AZ	Arizona Public Service	Solar Partner Pilot Program	central PV	82 kW	1996	\$3.00/ 100 watts
AZ	Salt River Project	Solar Choice	central PV	100kW	1998	\$3.00/ 100 watts
CA	City of Alameda	New Renewables Program	various	n/a	1998	n/a
CA	Los Angeles Dept. of Water and Power	Green Plan	various	expect 20 MW	1998	\$2-5/month
CA	Los Angeles Dept. of Water and Power	Pure Solar	rooftop PV	up to 2MW	1998	up to 20% premium
CA	Sacramento Municipal Utility District	Greenergy - Community Solar Program	rooftop PV	n/a	1997	1¢/kWh
CA	Sacramento Municipal Utility District	PV Pioneers	rooftop PV	1500 kW	1993	\$4/month
CO	Public Service Company of Colorado	Renewable Energy Trust	various; off-grid PV and schools	40 kW	1993	Contribution
CO	Public Service Company of Colorado	WindSource	wind	13.3 MW	1997	2.5¢/kWh
CO	Colorado Springs Utilities	Green Power	wind from PSCO	0.5 MW	1997	3¢/kWh
CO	Holy Cross Electric Cooperative	Wind Power Program	wind from PSCO	2.75 MW	1997	2.5¢/kWh
CO	Fort Collins Light & Power	Wind Power Pilot Program	wind (2)	1.2 MW	1996	2¢/kWh
CO	Tri-State Generation & Transmission	Green Power Program	small hydro	n/a	1999	2.5¢/kWh
FL	Gainesville Regional Utilities	Green Pricing	utility PV	10 kW	1993	Contribution
FL	Florida Power & Light	Green Pricing	utility PV	10 kW	1997	Contribution
FL	Gulf Power Company	Solar for Schools	PV in schools	n/a	1996	Contribution
FL	City of Tallahassee	PV Green Pricing	PV for public bldgs.	10 kW	1997	\$1.75/month
HI	Hawaiian Electric	Sun Power for Schools	PV in schools	20 kw	1996	Contribution
IN	Indianapolis Power & Light	Green Pricing	geothermal purchase		1997	0.9¢/kWh
MI	Detroit Edison	Solar Currents Solar School	central PV ; rooftop PV	54 kW	1996	\$6.59/ 100 watts
MI	Traverse City Light and Power	Green Rate	wind	0.6 MW	1996	1.58¢/kWh
MN	Moorehead Public Service	Capture the Wind	wind	750 kW	1998	0.5¢/kWh
MN	Northern States Power	EnergyWise Solar Advantage	2 kW rooftop res PV	34 kW	1996	\$2.50/ 100 watts
MN	United Power Association	Wind Power	wind purchase from NSP	n/a	Planning	n/a
MN	Cooperative Power Association	Renewable Energy Option	wind	2 MW	1997	2¢/kWh
MN	Dakota Electric Association	Renewable Energy Service Tariff	wind purchase from CPA	0.8 MW	1997	2¢/kWh
NE	Lincoln Electric System	Wind power program	wind	660 kW	1998	4.3¢/kWh
NM	Southwestern Public Service	Wind Power Program	wind	700 kW	1998	3¢/kWh
NV	Nevada Power Company	Green Pricing	central PV (2)	40 kW	1998	Contribution
OK	Western Resources	Wind Power	wind (2)	1.5 MW	1998	not developed
OR	Bonneville Power Administration	Wholesale Green Rates	wind/ geothermal	n/a	1995	1¢/kWh
TN	Tennessee Valley Authority	Green power RFP	various purchases	up to 300 MW	1998	n/a
TX	Austin Energy/(City of Austin)	PV Friendly Pricing	central PV	32 kW	1997	\$3.50/ 50 watts
TX	West Texas Utilities	Clear Choice	small hydro	1.2 MW	1997	2¢/kWh
WI	Madison Gas & Electric	Green Pricing	wind	11.25 MW	1997	4-5¢/kWh
WI	Wisconsin Electric Power Company	Energy for Tomorrow	wind/wind, hydro	1.2 MW 5.0 MW	1998/1996	2.04¢/kWh
WI	Wisconsin Public Service	Solar Wise for Schools/Public Buildings	PV in schools/public areas	24 kW	1996/1998	Contribution

Revised 1/25/99 by Blair Swezey and Lori Bird, National Renewable Energy Laboratory, Golden, Colorado.

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TABLE 6.20
Stakeholder Identified Impacts and Views Regarding Renewable Energy, Energy Efficiency and Environment

Description of Stakeholder	Impact of Retail Competition Identified	Views Concerning RE, EE & Environment
Independent Power Producer	Properly designed, retail competition will allow customers who want them to buy renewables at market prices. Restructuring should be designed to ensure that the electric industry continues to limit its adverse impacts on air quality.	Targets for RE in generation mix should be designed to hedge the risks of fuel price increases and environmental concerns and to achieve economies of scale continuing to bring down costs. SBC funding, for an appropriate period, of research, development, and demonstration of RE technologies should encourage rural economic development, job creation, and use of local technologies and services. Mechanisms designed to protect environment need to be structured so as not to provide competitive advantages to existing facilities, and might include appropriate and non-discriminatory siting rules for new power plants, as well as consideration of regional emission trading and cap systems.
Labor Representative	Environmental and conservation programs voluntarily implemented by electric power companies could be dropped in a deregulated industry. Emissions from power generation will be geographically redistributed, adversely affecting states and regions currently in compliance with clean air policies. The present balance of environmental concerns associated with electrical energy is threatened, and environmentally beneficial programs may ultimately be dropped. Effective energy-saving programs provide customers with direct financial incentives to invest in measures and equipment to promote energy efficiency. In an environment motivated solely by profits, the electric power supplier will have no reason to conduct these programs.	Environmental protections and conservation programs must not be abandoned for the sake of enhanced profits and competitiveness.
Municipal Utility	Restructuring should have minimal, if any, negative impact on air quality health-based standards. Restructuring could promote more effective use of resources through improved technologies, resulting in reduced emissions of regulated air pollutants.	In a competitive market, renewable resources must stand on their own merits in the marketplace. Whether a customer pays more for RE should be an option, rather than a mandate. Any legislation which opens distribution systems to retail access should provide equal market opportunities to both traditional and renewable resources. Existing environmental rules, regulations and standards should be enforced in a restructured market. Rules and regulations are emerging to address regional haze, global warming, and air quality related values.

Description of Stakeholder	Impact of Retail Competition Identified	Views Concerning RE, EE & Environment
Municipal Utility	If the competitive marketplace results in efficient allocation of resources, renewable energy should not be afforded mandated preferences. Paying more for RE should remain a consumer option.	RE should not be mandated so as to force higher costs on all customers.
Consumer Advocate	Restructuring could cause environmental quality to decline.	The costs of environmental protection should fall on the energy suppliers and consumers who seek to profit from new market opportunities.
Investor Owned Utility	Marketers in competitive markets will seek to provide renewable energy and energy efficiency products in accord with customer demand. Environmental regulations and statutes will provide protection of human health and the environment. Some mechanisms may be appropriate to support renewable energy generation development and energy efficiency market development for a limited period.	Markets should be structured to facilitate offer of "green" power products and energy efficiency services by providers who wish to do so. Mandated set asides or programs should be avoided. System benefits or other charges to support early markets should be applied in a non-discriminatory fashion, and carefully targeted.
Renewable Energy and Environment Advocate	Renewable energy and energy efficiency markets need support in order to be viable in a more competitive environment. Successful RE and EE markets will allow market forces to maintain and improve environmental quality. Environmental laws and regulations should be maintained and strengthened to ensure restructuring does not degrade environmental conditions. Some generation facilities may enjoy competitive advantage based on less stringent environmental regulation.	Many customers have strong preference for "green" power and energy efficiency programs, and any restructured market should provide meaningful opportunities for customer choice. Investments in renewable energy generation and energy efficiency resources, through portfolio standards and/or system benefit charges, are essential to launch these markets. Successful penetration of electric services markets by RE and EE will reduce long term costs and ensure that restructuring provides benefits to all customers. Such measure will also stimulate new business investment and job growth.

TABLE 6.21

Policy Options Relating to Renewables, Efficiency & Environment

RE=renewable energy, SBC=system benefits charge, EE=energy efficiency, ESCO=energy service company

Policy Option	Method of Implementation	Advantages	Disadvantages
Renewable Energy			
Portfolio Standard	Establish minimum renewable energy generation percentage requirements. Requires proof of kWh or tradable credits for RE kWh on annual basis. Install price cap for credits. Increase % requirements to target in future.	Spreads costs broadly. Allow generators to seek most efficient method for meeting standard. Creates incentive for least expensive resources.	Generators uncertain as to cost, except that it will not exceed cap. Favors lower cost over emergent technologies – may require sub-category standards. Perceived as "set aside." Creates separate market for RE. Benefits limited to RE generators.
Production Incentives	Collect funding through SBC and distribute on annual basis (through auction or application) for kWh generated and sold.	Cost certainty. Allows RE market participants to allocate incentive at point in generation/sales chain for maximum effect. Funding only needed for premium price component. No payment for capacity not sold into market – integrates RE into overall market structure.	No guarantee that funds will lead to sustainable amount of capacity. Requires administration mechanism. May require sub-category allocations to fund emergent technologies.
Customer Rebates	Collect funding through SBC and distribute to customers purchasing qualified RE.	Focuses on overcoming cost premium. Limits funding directly to level of customer demand.	May create inequities in collection/distribution – potentially complex administration. May have free-rider problems. May not, by itself, incent new capacity construction. Lack of customer awareness and counter-marketing by non-renewable marketers could limit effectiveness.
Emissions Taxes	Assess tax on generators based on emissions of pollutants and use fund to support RE through incentives or rebates.	Links RE funding to a major problem – internalizes externality costs. Tax is self-liquidating as emissions decrease.	Political opposition from emitters. Potentially complex administration. Correct setting of tax rate may be difficult.

Policy Option	Method of Implementation	Advantages	Disadvantages
Tax Incentives	Enact property tax reform for RE facilities, or production tax credits, or tax exemptions or credits for RE activities.	Creates incentives and benefits attractive to businesses engaged in RE. Remedies perceived tax inequities. Spreads costs broadly through general revenues.	Impact on state, county, local budgets. Potentially difficult to administer.
Green Markets	Rely on green marketing activities and success to set and meet goals.	No adverse impacts on market participants and customers who oppose RE.	Free rider problems. Presumes market liquidity and efficiency that is not likely to appear for several years. Imposes high customer education and acquisition costs on top of RE production costs.

Energy Efficiency (special provisions may be included in each for low income customers)			
Rebates	Collect funding through SBC and distribute as rebates to customers purchasing, installing or initiating EE activities.	Focuses on overcoming cost premium. Limits funding directly to level of customer demand.	May create inequities in collection/distribution – potentially complex administration. May have free-rider problems. May not, by itself, incent emergence of strong ESCO market. Lack of customer awareness and counter-marketing by anti-efficiency marketers could limit effectiveness.
Trust Fund	Collect funding through SBC and distribute through trust fund public agency or quasi-governmental agency to encourage EE.	Provides certainty on funding level. Allows expenditure of funds for installation and market transformation. Centralizes program focus to capture most cost-effective opportunities.	Potentially complex administration. If funds are not large enough, inequities in distribution may result.
Standard Offers	Require all distribution companies to establish "avoided costs" for efficiency and establish periodically updated standard offer to purchase efficiency measures as is cost-effective.	Focuses distribution company on reducing overall costs to customers. Requires no separate funding except for administrative review of standard offers. Incent development of ESCO industry.	Unless distribution company is functionally (and perhaps structurally) separate from generation, it will always have incentive to sell. Administration may be difficult given lack of market already developed in Alaska.
Emissions Taxes	Assess tax on generators based on emissions of pollutants and use fund to support EE through incentives or rebates.	Links EE funding to a major problem – internalizes externality costs. Tax is self-liquidating as emissions decrease.	Political opposition from emitters. Potentially complex administration. Correct setting of tax rate may be difficult.
ESCO Markets	Rely on energy services activities and success to set and meet goals.	No adverse impacts on market participants and customers who oppose EE.	Free rider problems. Presumes market liquidity and efficiency that is not likely to appear for several years. Imposes high customer education and acquisition costs on top of EE business costs.

Environment			
Emissions Taxes	Assess tax on generators based on emissions of pollutants and use fund to support general revenues.	Internalizes externality costs. Tax is self-liquidating as emissions decrease.	Political opposition from polluters. Potentially complex administration. Correct setting of tax rate may be difficult.
Cap and Trade	Establish maximum allowable level of emissions, allocate allowances on basis of historical emissions, allow trading, require emitter to hold sufficient allowances on annual compliance date.	Encourages market participants to seek most cost-effective means for emissions reductions. (Like SO ₂ trading under US Clean Air Act.)	Administrative and enforcement expense. Historical baseline creates windfall benefits for historically high emitters. Setting appropriate cap may be politically difficult.
Cap and Trade with Comparability	Same as cap and trade, but allocates allowances according to a performance standard (pounds per unit of production).	Same as cap and trade, and creates incentives for new cleaner technologies.	Potential political opposition from historically high sources of emissions.
New Source Performance Standards	Require new market participants to meet NSPS, set timetable for incumbent generators to upgrade performance to NSPS.	Ensures that market participants do not use "grandfather" status or other dissimilar regulatory burden to gain competitive market advantage.	Costs for upgrades could be quite high. May stifle market entry, reducing levels of prices savings.

TABLE 6.22
Value Added Products and Services Innovations

Product/Service	Description	Market Estimates	Advantages	Disadvantages
Real Time Pricing	Time-differentiated electricity pricing, with prices corresponding to actual hourly costs of generation and delivery.	No empirical data. Estimate 1-3% of eligible customers.	More closely aligns prices with cost of providing electric energy services. Allows customers opportunity to tailor consumption levels to price signals.	May impose higher costs on customers without discretion to alter consumption patterns. Requires new metering and information technology deployment.
Fixed-Bill Pricing	Pricing offered according to specified fixed terms, e.g. a fixed bill up to a certain level of consumption, or a rate frozen for a fixed period.	No empirical data. Estimate 1-5% of eligible customers.	Enhances electricity budget certainty. Creates incentive for service provider to manage cost of service.	Rates for exceeding consumption level may create financial hardship. May create incentive for wasteful consumption. Partially breaks consumption/bill relationship.
Green Power	Electricity supply products reflecting specified percentages of renewable energy supply	Depending on market structure, ranging from 1 – 15% of eligible market.	Allows customer demand to influence extent to which renewable energy capacity and services are added.	Because many benefits of renewable energy are "public," may create free-rider problems. May weaken case for public policy mandates. Relatively higher costs may exclude some customers from participation.
Energy Efficiency Services	Electricity distribution service providers offer energy efficiency services and equipment in conjunction with energy sales.	Potentially quite large in terms of revenues.	Offers customers opportunity to reduce energy bills. May create system-wide savings through deferral of infrastructure investments. Easy and quick to implement.	Because many benefits of energy efficiency are "public," may create free rider problems. May weaken case for public policy mandates. Up-front costs and small savings potential may exclude some customers from participation.
Electric Appliance and HVAC Sales, Maintenance and Repair	Electricity distribution service providers offer electric end-use equipment for sale, and/or with maintenance and repair warranties and services.	Many rural and cooperative utilities have offered residential appliance sales and services for many years.	Increases availability of products and services. Allows new/related profit centers in electricity distribution service companies. May help deploy of more efficient equipment and improve operating efficiency.	Potential for unfair competition leveraging off utility market power, i.e. cross subsidization. May help deploy less efficient equipment as mechanism for increasing electricity sales.

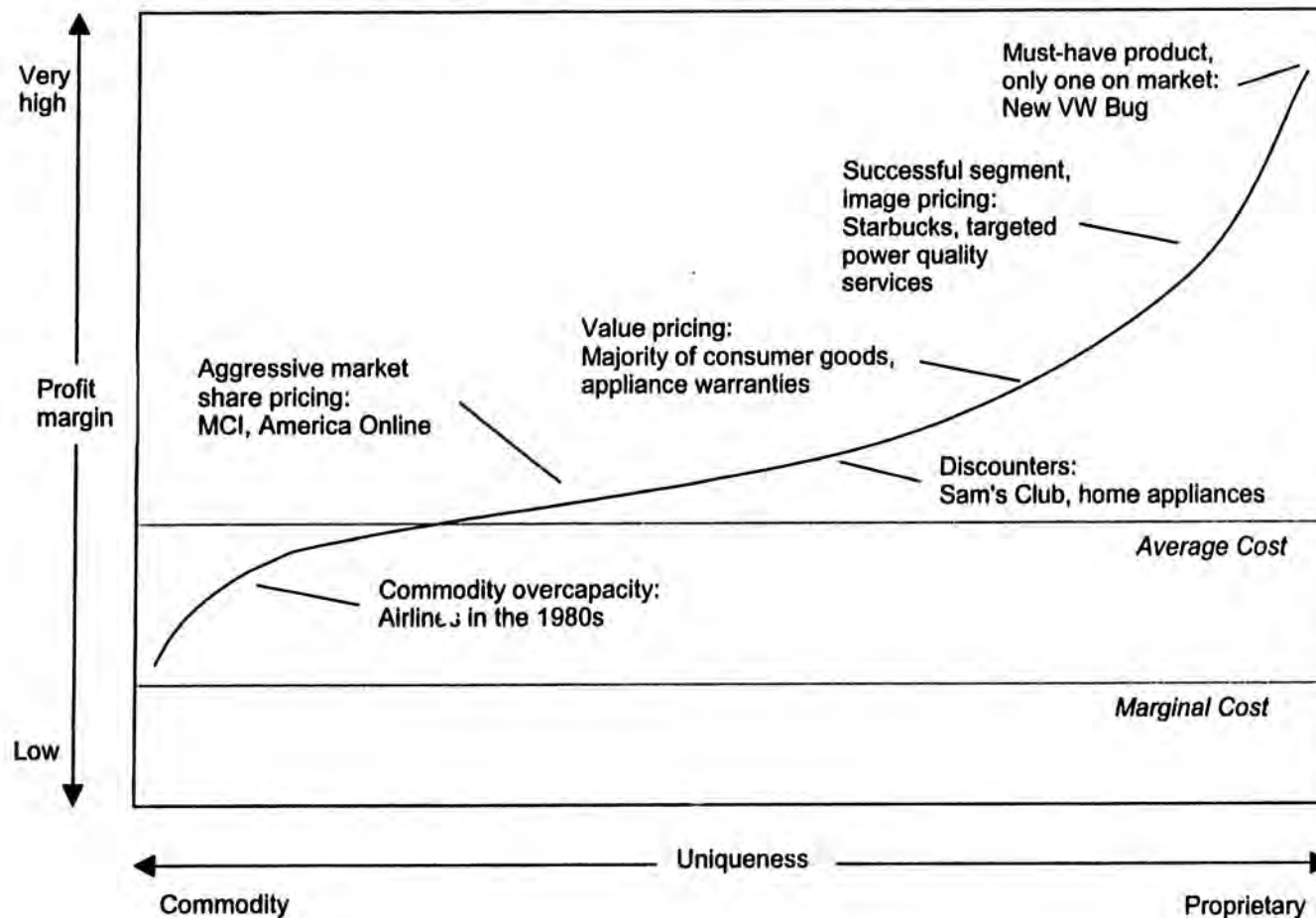
Product/Service	Description	Market Estimates	Advantages	Disadvantages
Other "Bundled" Services and Products	Electricity sold in conjunction with or by a vendor who also sells other services, e.g. internet, home security, long distance telephone, gas, cable, etc.	Wide range of potential services and local nature of markets makes estimation difficult.	May offer customers opportunities to obtain goods and services not otherwise widely available in the market. Allows new profit centers in utility.	May make it more difficult to accomplish cost and service regulation. Customers may find it more difficult to understand electricity use and costs.
Affiliation/Affinity Marketing	Electricity sold through or on behalf of an organization or association, e.g. nonprofit groups, employee benefits packages, credit cards, etc.	Wide range of potential approaches and local nature of markets makes estimation difficult.	A type of aggregation. Enhances bargaining power of customers. Offers opportunity to blend high and low margin businesses to expand availability.	May make it more difficult to accomplish cost and service regulation. Customers may find it more difficult to understand electricity use and costs.

TABLE 6.23
Policy Options Relating to Competition in Non-Electricity Service Markets

Policy Option	Advantages	Disadvantages	Remarks
Detailed Survey – APUC or other appropriate agency conducts detailed survey of current and planned competitive activities by electricity service providers, and the extent to which competitive markets for those services and products exists.	Allows objective assessment of the extent of the issue, likely areas of market entry, and affected markets prior to the formulation of oversight and/or remedial mechanisms.	Does not expressly create oversight and/or remedial mechanism. Creates regulatory burden, requires verification, collation and reporting.	Competitive market products and services offered by electric service providers, whether in regulated or deregulated environment, offer benefits to customers but may raise issues of competitive fairness. Assessment of the scope of the issue allows evaluation of the costs and benefits of oversight and/or remedial mechanisms.
Prohibition – Legislative prohibition of provision of enumerated competitive (non-utility) goods and services by any entity providing electricity distribution service, with mechanism for complaint, enforcement, and/or penalty.	Relatively simple to craft, oversee and enforce. Ensures that electricity distribution service providers cannot use their market position to obtain unfair competitive advantage in other markets.	May deny goods and services to customers not otherwise provided in the marketplace. Precludes fair competition for new products and services by electricity distribution service providers.	To the extent competitive goods and services are currently offered, electricity distribution entities could be allowed to decide whether to terminate activities or structurally separate their organizations.
Legal Complaint and Redress Mechanism – Develop and adopt standards for fair/unfair competition. Create/expand jurisdiction of state attorney general (or other appropriate executive branch agency) and courts to receive, investigate, initiate, and seek legal resolution of complaints of unfair competition.	Allows for uniform treatment of business practices oversight and enforcement. Provides for creation of clearly articulated standards. Clarifies jurisdiction and available mechanisms for oversight and/or remedial actions.	Increases regulation and potential for litigation. Standards must be continually updated for evolving market conditions, and must be tailored to prevent unintended effects (e.g. stifling market innovation).	Requires legal review of state/federal jurisdictional issues. Requires new legislation, regulation, appropriations or fee collection mechanisms.
APUC Oversight – Empower APUC to investigate, make rules, and appropriately regulate non-utility services offered by electricity distribution entities. Require APUC to adopt cost allocation, business practices, reporting and enforcement standards.	Allows APUC, which has experience in electricity regulation, to craft appropriate regulatory mechanisms to determine the existence of and regulate unfair business practices, including cross-subsidization issues.	Creates regulatory, administrative and cost burdens. Subjects otherwise unregulated entities to new regulatory requirements. May result in disclosure of legitimate competitive business strategies. Does not address unfair competition by entities other than electricity distribution service providers.	Could be seen as requiring incumbents to compete with "one hand tied behind their back."

FIGURE 6.1 Pricing for Profits: Where the Margins Are

Source: "E News," E Source, Inc., No. 31, Sept/Oct 1998.



In a "high-pricing IQ" market, products and services show a profit on the basis of their strategic positioning and value-based pricing. For example, Enron is moving aggressively into higher-margin energy service business to offset what are fast becoming razor-thin margins in the commodity market for electricity.

CONSUMER
PROTECTION

Universal Service

Issue

Coordinated national, state, and local economic and regulatory policy has resulted in near-universal connection of customers to electricity supply. The evolving nature of electricity services, however, and the introduction of market-based retail competition, suggests a need to reexamine the nature of universal service policy in Alaska. In more open and competitive markets, the obligation to serve may be replaced with an obligation to connect, and raises the issue of whether competition for customers will improve electric service for every customer, or whether some customers will be left behind. Some have argued that the introduction of competition must be accompanied by specific regulations addressing an expanded concept of universal service, including issues such as disconnection rules, customer service requirements, service quality standards, and access to information necessary to make purchase decisions. Others argue that competitive markets will address these issues without the need for statutory and/or regulatory intervention.

Alaska Dynamic

Alaska's more than 118 independent utilities serve just 600,000 citizens in an environment of enormous geographic and economic diversity. Alaska's electric utilities have established near universal connection to electricity for customers in the Railbelt. Village power systems provide the benefits of electrification for many more. While Alaska statutes articulate clear policies and mechanisms relating to telecommunications services, no similar legislative policy exists regarding electric service. (See, for example, AS§42.05.145 which provides that regulation of telecommunications, utilities shall "seek to maintain and further the efficiency, availability, and affordability of universal basic telecommunications service.") In addition, while both the law and the APUC regulations address virtually every issue embodied in a broad definition of universal service, the APUC has not yet articulated a definition and policy with regard to electric universal service. Though not labeled as such, the State does have a strong policy tradition of universal service for rural Alaska. The Power Cost Equalization program, the numerous programs conducted by the Division of Energy, and other programs such as low income weatherization and the Energy Assistance Program, taken together, reflect a public policy recognition of the benefits of electrification and the essential service character of

electricity today. Measured in dollars, the primary emphasis of these programs is lowering the cost of electricity. Other programs, specifically those conducted by the Division of Energy, also seek to increase the safety and reliability of rural power systems.

The Alaska Village Electric Cooperative, the single largest entity focusing on rural electric service, is no longer subject to APUC regulation. In that situation, the Cooperative addresses universal service issues as an individual entity, though its member village electric systems receive the benefits of the PCE and other state programs.

Most stakeholders agree that providers of last resort or default providers must be established under competition in order to ensure continued access to electric service. Most also agree that some regulatory oversight of marketing practices, service quality, and consumer complaints and relations may be appropriate if multiple service providers are introduced through competition. The APUC enjoys broad authority to regulate matters relating to electric service, but that authority is untested in a competitive regime. As a result, retail competition may require new legislation and regulation to preserve universal values by clarifying the authority of the APUC to reach the activities of, for example, electricity service providers that do not own facilities.

Implications

Any policy decision to ensure universal service values are maintained or enhanced in a more competitive environment flows from a determination that: (1) maintaining universal service benefits is essential, and (2) these benefits are at risk without explicit support. The mechanisms most commonly suggested to support universal service are financial and regulatory in nature. Financial mechanisms include system benefit charges, taxes, high-cost assistance funds, and other mechanisms. Regulatory mechanisms include service quality standards, consumer protection enforcement mechanisms, anti-discrimination rules, and other laws and regulations. In some jurisdictions, it has been suggested that the right to provide default service could be competitively auctioned, under contractual terms and conditions that would guarantee universal service. Because the concept of electricity universal service has not been rigorously defined or articulated in Alaska under a unified policy umbrella, the critical first step facing policy makers is the articulation of a policy definition and framework. The greatest single concern is that public funding mechanisms necessarily have the effect of reducing the overall level of savings made available by electricity restructuring, and that regulatory solutions risk creating impediments to efficient market functioning. Whether these impacts are significant will depend on two factors - the

overall magnitude of savings available under competition, and the scope of the definition of universal service deemed to reflect the best interests of the State of Alaska.

Assessment

The majority of stakeholders believe that universal service benefits must be preserved in a market-based retail competition structure, and that some level of policy support is appropriate. Some feel very strongly that restructuring legislation should incorporate specific funding provisions. However, most also agree that any funding provisions must not operate in a manner that creates competitive advantages or disadvantages in the marketplace.

Any proposal to dramatically alter the utility regulatory environment must take into account the unique characteristics of the Alaska system. Simply stated, the Alaska electricity industry fits into three major categories. First, there is the highly urban area in Anchorage and a few other larger cities. Second are the smaller Railbelt cities and regions. Finally, there are non-interconnected villages in the Alaska bush. Any funding provisions to support universal service must account for the differences in impact, amount of available resources, and costs of program administration in each distinct category.

Key Decisions

- Is preserving or enhancing universal service benefits in the electricity sector an essential component of industry restructuring and the introduction of retail market competition?
- How will Universal Service be defined?
- What policy framework should be constructed for Universal Service in Alaska?
- Will restructured markets ensure that universal service benefits are retained in the absence of legislative, regulatory, or fiscal provisions?
- If such supports are deemed appropriate, what type and level of supports should be adopted?

CORRECTION

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State of Alaska

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Universal Service Overview

Alaska enjoys a strong and successful history of electrification, in spite of the significant challenges inherent in the size, geography, weather, and population of the State. Today the vast majority of Alaskans enjoy the benefits of electricity that is relatively affordable, and service which is reliable. No longer a luxury service, electricity's benefits are, in our modern age, practically essential to everyday life. Many Alaskans have access to a range of other services, including low or no-cost energy audits, energy management advice, customer service facilities, and others. The most pervasive and flexible fuel in human history, electricity provides light, heat, computing, and many more benefits. Electricity makes life in modern society possible. As a result of concerted economic and regulatory policy, customers nearly everywhere in Alaska have access to electricity services from providers operating under an obligation to serve. In return for assuming this obligation to serve, utilities enjoy the exclusive right to serve all customers within certificated territories. Within these territories, customers also have access to averaged rates across customer classes, and generally uniform service quality and reliability. Because of the interconnected nature of the electricity system, facility improvements within even the smallest grid generally operate to the benefit of all customers alike. Without a doubt, the current system of utility operations provides substantial and broad benefits to electricity customers.

The introduction of market forces into the electric system in the Railbelt region has the potential to substantially change these relationships. Most observers share a common belief that competitive forces can be introduced into the generation and transmission sectors of the industry without significantly threatening universal service benefits to Alaska customers in that region. The federal Public Utility Regulatory Policy Act and the subsequent Energy Policy Act of 1992 each led to significant

changes in the electric industry, all aimed at making generation and transmission more competitive. While not all aspects of the regulatory progeny of those laws are applicable in Alaska (notably the comparability provisions of the Federal Energy Regulatory Commission's Order 888), these policy changes have injected a measure of competition in the generation and wholesale power markets in the lower-48 states. These changes in turn are generating learning and experience that theoretically, at least, can be translated to the Railbelt region of Alaska.

PURPA created an opportunity for competitive independent power producers to sell electricity to utilities, diversifying the supply mix throughout the Nation, and spawning regulatory proceedings in Alaska, as well. The Energy Policy Act led directly to the Federal Energy Regulatory Agency's institution of open access provisions for the transmission system, aimed at ensuring that power transfers on the grid move efficiently and competitively. While much work remains to be done, including the resolution of disputes between large generators and transmission owners in the lower-48, experiences with the introduction of competitive market forces to the top tiers of the system have demonstrated the potential for benefits for all customers in a more competitive environment. The Black & Veatch study has already indicated that some steps down that path may hold promise of benefits for Alaska as well.

As Alaska and many other states consider the introduction of retail competition into the electricity sector, many more significant and potentially troubling issues arise. Retail access (a system of allowing customers to choose their electricity suppliers) means a fundamental dismantling of the exclusivity relationship between electric service providers and their customers. While advocates of retail competition envision a world in which savvy marketers aggressively seek to serve all customers with less expensive and more tailored products, there is a concern that in an industry driven by profitability, some customers will be disadvantaged. Moreover, as competitors "segment" the markets they believe they can serve profitably, there is real concern that less "attractive" customers will face rising costs and declining service as they are de-averaged from the larger pool in which they receive services today.

The experience of states dealing with retail electric competition is relatively scarce and highly specific. There is no example available for what would happen to universal service under a model where all aspects of the issue have been left solely to the market. That the states moving to retail competition have all addressed universal service issues in some manner is not surprising given the essential nature of electric service and the political implications of drastic changes in course. As Alaska policy makers address the issue of retail competition in the

electricity industry, they will have an opportunity (and many would say, obligation) to address the universal service issue from Alaska's unique perspective.

A number of mechanisms are available to address the adverse impacts of competition on universal service, but they have costs – both economic and social. The key question facing policy makers is whether any adverse impacts can be avoided or mitigated, and whether the overall result of restructuring will be in the best interests of the people and state of Alaska.

It is important to note that there is another kind of restructuring for which there is no relevant extant experience. That is, there is no experience and very little academic discussion about introducing competition into a system characterized by numerous non-interconnected systems like those in rural Alaska. While a good deal of the discussion about distributed energy systems and regulatory reform for the residual distribution utility could be adapted to rural Alaska, the overwhelming majority of ideas and concepts have been developed under the model of the interconnected grid system. It may be possible in the not-to-distant future to conceive a means for bringing competition to the isolated village systems, or to articulate alternative approaches for introducing competitive concepts into those systems. This discussion of competition, however, is limited to the interconnected Railbelt region and utilities.

Preserving Access under Retail Competition

The concept of universal service derives from the telecommunications industry. The basic policy justification for supporting and subsidizing universal telephone connections is founded in the concept of network externalities – costs and benefits not typically reflected in the cost of providing a service. In telecommunications, the broader social value of connecting all businesses and households to a telecommunications network was seen as exceeding the costs associated with creating high cost assistance and other mechanisms. In fact, the historical precedent of the rural electric cooperatives reflects similar values. When competitive utility providers did not appear interested in extending electrification to rural America, Congress created, supported and funded the Rural Electrification Administration – now the Rural Utility Service. By pooling efforts on a national and regional level, electricity service was extended to today's situation of near total interconnection in the lower-48 and near universal service in Alaska – bringing the benefits of electrification to almost the entire country.

AVEC is a clear example of the approach of pooling effort to reduce costs and increase electrification penetration. A number of rural utilities in Alaska already cooperate to purchase diesel fuel, obtaining

economies of scale in purchasing power. The Alaska Division of Energy is also exploring mechanisms for pooling of administrative functions – a kind of "virtual utility" approach to harvesting system efficiencies.

Just as the "regulatory compact" avoided wasteful economic investment by granting exclusive franchises to urban electric utilities, rural electrification harnessed economies of scale by promoting the development of consumer-owned cooperative associations. As the regulatory landscape has matured, electric utilities have used their exclusive franchises as a way of ensuring that all customers enjoy the price benefits of these scale economies. For regulated utilities, the process of rate setting, and more recently, performance based regulation, has made utilities financially accountable to render non-discriminatory and reliable electric service as rates determined to be in the public interest.

As policy makers contemplate the introduction of market forces into the retail electric industry, the issues of universal service are brought sharply into focus. On the one hand, competitive markets typically operate more efficiently than heavily regulated or monopoly industries. But competitive markets are also less effective in meeting non-economic public interest objectives. By definition, truly competitive markets are impersonal, volatile and tend to create clear winners and losers. As the Virginia public utility commission staff has reported,

The concept of equitable sharing is not the focal point of a competitive market. Those with the most information and the greatest ability to interpret and react to that information tend to win. Those with less information and more limited response capabilities tend to lose. . . . For example, competitive markets experience both capacity excesses and shortages over time. During periods of capacity shortages, the product or service is rationed by increasing prices to what the market will bear. Those customers willing and able to pay the most would receive service. Since the most likely time of generation shortages would be on the coldest days in the winter or the hottest days in the summer, low income residential customers who heat or cool with electricity could face a dilemma.

Equipping all customers with the education and technological capacity to fully participate in markets characterized by changing hourly electricity costs could easily overwhelm any savings likely to result from the introduction of competition into the industry. Impacts of retail competition on universal service are discussed in Table 7.1.

In the face of such issues, several states and congressional bills have articulated a number of alternatives for ensuring that electric service remains both reliable and affordable under competition.

Though most observers believe Congress will be slow to act on electric utility restructuring, a number of bills have been introduced on the subject. A summary of the universal service provisions in proposed federal legislation is included in Table 7.2.

In the New England states and California, restructuring legislation has included provisions for low income benefits and services, including funding for rate discounts and for energy conservation measures. In Pennsylvania, Montana, Oklahoma and Nevada, the state legislatures have directed their respective public utilities commissions to address universal service issues. These directives are often broadly worded, and depend upon detailed implementation through utility-specific cases or generic implementation proceedings.

System Benefits Charges - The most common method of supporting universal service programs is through the implementation of a charge in distribution rates, or through the collection of a set percentage of utility revenues. Such charges, often termed "system benefits charges" spread the cost of program support broadly among all customers that take at distribution level or who buy utility power.

System benefits charges are much like an industry-specific tax or fee. The funds collected are allocated to a specific account or a specific purpose. Distribution of the funds requires some level of administrative and accounting oversight, usually by the utility regulator. System benefits charges have the obvious effect of reducing the overall potential for savings as a result of restructuring. This could be a significant issue affecting the balance of costs and benefits in a state like Alaska, which enjoys relatively low electric rates in the Railbelt area that may not be amenable to significant further reductions through competition. As with taxes and fees, there are important issues raised about the way in which charges are collected. Today, all customers share in the costs of services that are provided to smaller, less profitable groups of customers or the costs associated with quasi-competitive sales and contract transactions. Disconnection rules are an example of the former. Load retention rates and economy sales transactions are examples of the latter. But under a competitive system, if a system benefit charge were collected as a fixed percentage of electricity sold at the distribution meter, large customers that take service at the transmission level may be exempted from the charge.

Rate Discounts - Though not specifically categorized as a universal service mechanism, several states have also implemented mandatory across-the-board rate reductions for residential customers. These reductions, often guaranteed for a set number of years, provide a level of assurance to customers that competition will not result in rate increases during the initial stages of the transition to a full competitive market.

While across the board rate discounts provide certain guarantees to customers, they may also have a chilling effect on competition. If the mandated discount is set too low, competitors may find it unprofitable to enter the market. In addition, if rate discounts are set below the cost to provide service, they may even generate "stranded costs" - costs that are unrecoverable through rates. Some states, like California, have established elaborate mechanisms to both provide customers with discounts and keep service providers economically whole. Many believe that these mechanisms have played a significant part in limiting the robustness of the restructured market in those states.

Standard Offer - An alternative mechanism used in conjunction with rate reductions is the institution of a "standard offer" rate. Under this approach, the regulatory authority, with guidance from the legislature, establishes a rate at which any customer may receive electric service. A standard offer is typically established through a process substantially similar to a rate case, and the offer itself greatly resembles a tariffed rate for electricity under the regulated model.

Standard offers pose similar problems as rate discounts. If the standard offer is set too low, it may stifle market entry by competitive providers and add to stranded costs.

Default provider/service - Finally, a number of states have also instituted a default provider or default service mechanism for customers who do not make an express choice of electricity service provider. Evidence from the long distance telephone market, and from the early experiences in retail electric competition suggests that a great many customers exercise their right to choose by doing nothing. In order to ensure that unaware customers are not adversely impacted by not choosing, a number of states assign non-switching customers to a default service rate and/or to a default service provider.

The default service mechanism raises the same issues as the standard offer or rate discount mechanism because it typically involves a rate set through a regulatory process. In addition, assigning non-switching customer to a default provider raises the issues of strengthening the relative market power of the default provider. In most cases, the default provider is the formerly monopoly utility. There have been some proposals for competitive auction of the right to provider default service, or for the institution of a mechanism that allocates customers among a number of qualified default service providers, but with the exception of the gas deregulation effort in Georgia, this approach has not been instituted anywhere in the United States to date.

Provider of last resort - Finally, a number of commentators have suggested the adoption of a provider of last resort mechanism for use in more mature retail electricity markets. Under this approach, customers would always have the guaranteed option of turning to an approved

provider for service under specified "last resort" terms and conditions. The duty of serving as such a provider could be imposed upon the distribution entity or any other provider of electric service through regulation. Some advocates have suggested that a separate state agency should be established to create a kind of pool for last-resort service.

The institution and oversight of a provider of last resort will create regulatory and administrative burdens. If a provider of last resort mechanism includes a specified rate or service level, the provider may require economic support, which could be collected through a systems benefits charge. As with any such charge, the funding required will have the effect of reducing the overall benefits of competition in the industry. A summary of provider of last resort options is set out at Table 7.3.

Customer protection mechanisms – Regardless of the model chosen for maintaining and ensuring universal access to affordable electric service, most observers agree that some level of oversight of the market will still be required to ensure that marketers do not improperly discriminate in their provision of services. Some consumer advocates advocate particularly strong oversight to prevent a discriminatory practice known as "redlining." Redlining is the practice of refusing to provide service to customers located within the boundaries of a particular geographic region for improper reasons.

In addition, most customer advocates argue for the institution and administration of service standards relating to customer complaint resolution, billing and service dispute resolution, and other activities. Oversight of these issues requires some level of regulatory authority over market participants. If distribution, billing, meter reading or other services remain regulated monopoly functions, the APUC would be well positioned to assume this oversight responsibility. For new market entrants, requirements could be imposed as part of a licensing or registration process. In any event, regulatory oversight will require funding. The oversight agency must either be appropriately funded to perform its mission or be empowered to receive funding through fees collected from market participants.

The nature and extent of regulatory oversight of the business practices of market participants raises the issue of costs, and the question of the extent to which these costs reduce the benefits of competition. In addition, while the oversight role is similar to the current mission of the APUC, the environment in which this regulation will occur is substantially different from today's system. Staff additions and other funding requirements will likely arise, especially during the early stages of the transition to competition.

Cooperative and municipal utilities – The record of Alaska's utilities in providing safe, reliable, and affordable electric service is at least in part

a result of broad reliance on local control mechanisms for utility management oversight. Retail competitive choice introduces a new dynamic to the current state of affairs, and raises important jurisdictional and management issues. The current model of local control for cooperatives and municipal utilities is based on geographical or political boundaries, and, as discussed above, delivers many benefits through scale economies associated with monopoly status. The most significant change that restructuring may introduce is the opportunity for these utilities to compete head to head with other market participants.

Many representatives of cooperative and municipal utilities in the lower-48 advocate an "opt-in" approach to retail competition where the management of these entities enjoys the complete discretion over whether to compete in the restructured markets. This approach is a direct result of a concern that, in the lower-48, most public utilities are far smaller and more vulnerable to competition than their investor-owned counterparts. Of concern to some potential competitors is whether all utilities will be subject to the same fees, charges and regulations as all other competitors if they decide to compete in the marketplace. Simply put, a competitor that does not have to contribute to a system benefits charge, for example, enjoys a competitive advantage over one that does. Resolution of these issues implies significant statutory issues in Alaska, especially regarding the degree to which municipal utility autonomy is reduced or effectively transferred to a statewide oversight agency.

For every potential approach to ensuring the continuation of universal service benefits, there are accompanying costs. Reconciling and balancing these costs and benefits is a significant challenge in designing a restructuring agenda for Alaska that will benefit the state and its citizens.

For example, the Blue Ribbon Committee that studied the Power Cost Equalization program considered a funding mechanism that would operate like a system benefits charge to provide PCE funding support. Collecting such a fund as a percentage of Railbelt electricity use raises issues of wealth transfer, but also recognizes the practical necessity to derive funding from sources outside the PCE-served utility base. Collecting the charge from electricity consumption more closely aligns the funding with the ultimate use. That is, an electric rate support charge is based on electricity consumption. However, this approach creates a risk that PCE funding will have to compete with other public purpose funding objectives integrated into electricity rates.

Conceptual models for universal service in Alaska are set out in Table 7.4. Table 7.5 summarizes selected state approaches to universal service.

Economic Benefits Associated with Universal Service

Electric service means heat, light, connectivity, productivity, safety, security and a host of other benefits now virtually essential to modern life. The electric utility system today, with its combination of regulatory oversight and local control, has made reliable service available at rates that both affordable and stable. In addition, a number of utilities offer a range of additional services to customers.

Affordable electricity is a key component of economic growth and well-being throughout the state. The extant obligation to serve guarantees that new citizens and businesses will have access to that service. The costs of public purpose programs in Alaska, including the costs of regulatory or management oversight are spread broadly over the customer base, and in many cases, over the entire state budget.

As discussed above, retail competition raises a concern that competitive markets will lead to even greater cost disparities among service providers and geographic regions of the state. If costs rise severely in some areas, they could exacerbate local economic problems and stifle economic growth. To the extent that competition increases market and price volatility to unacceptable levels, the impact on economic growth could be seen statewide. Finally, the pressures of competition may force public purpose charges on an ever-shrinking group of customers, as valuable customers are "cherry-picked" by competitors.

On the other hand, competitive markets offer an opportunity for overall reductions in costs for electric service. Innovative market participants, free of the burden of regulatory oversight, may create exciting new electricity products and services to attract new customers and support the State's economic growth. Competition may have the added benefit of stimulating the introduction of new technologies to provide new services and extract greater efficiency from the current system. Finally, new structural and regulatory mechanisms could offer the opportunity for more efficiently addressing public policy goals.

From an overall economic perspective, other states enacting restructuring have committed up to 5% of general electricity revenues to preserving and enhancing public purpose benefits, including universal service, energy efficiency, low income programs, and renewable energy. Funds for low income and universal service programs have averaged in the range of 0.5% to 3% of revenues. Whether these costs are affordable and sustainable depends on the level of savings that competition may bring to the electric system in the Railbelt region of Alaska, and on the level of public policy support.

The first step in determining the costs of universal service benefits is to establish a definition for the concept. Today's statutory and regulatory structure does not contain such a definition, though a number of statutory provisions and government programs establish a kind of outline for universal service policy for Alaska. Even without a commitment to retail competition in the electricity industry, there could be significant public policy benefits from adopting a uniform definition and policy framework for universal service.

One simple definition for universal service describes it as "access to a basic package of affordable and reliable electric services." The idea is that universal service is first about access - all customers should have the opportunity to buy affordable and reliable services. Second, the concept involves a basic package of services - including not just an affordably priced commodity supply, but also accompanying services, such as access to billing dispute resolution mechanisms, clear and understandable bills, low income energy assistance and weatherization programs, and a minimally satisfactory level of service quality. Universal service most importantly contemplates affordability. While this does not mean subsidized electricity for every customer in any amount, it does reflect the notion that electricity is too important a service to be denied or be made unavailable to certain segments of society. Mechanisms to address affordability are discussed below. Lastly, universal service contemplates minimal standards of reliability of service. Again, electricity must be available to customers to meet basic and essential needs.

Based upon such a definition, universal service provisions in any utility restructuring legislation should establish an obligation on some or all providers to make basic, reliable service available at affordable rates. As discussed above, ensuring such a level of service may well require a commitment of funds.

More broadly conceived, universal service policy can become a platform for continuously improving service quality, service options, and efficient use of electricity. With such a model, policy makers can ensure that the benefits emerging from retail competition are widely disseminated throughout the marketplace. For example, as technological improvements and volume of use make sophisticated metering technology more available and affordable, a model of universal service that contemplates continuous service improvement can be used as a basis for encouraging and facilitating the penetration of such technology throughout the electric system. Public policy abounds with examples of this approach. For example, while the automobile manufacturing and sales business is highly competitive, targeted regulatory policy has ensured that new safety options - like seatbelts, airbags, and high-level brake lights - are made universally available in new cars.

An expanding view of universal service standards has supported efforts to improve the data carrying capabilities of telephone lines and the penetration of tone dialing. This broader view of universal service policy implies a more comprehensive and regularized approach to government intervention without necessarily requiring comprehensive regulatory oversight. Table 7.6 sets out a comprehensive review of the consumer protection provisions addressed in nine states. That table addresses the range of issues that could be addressed in a broadly articulated universal service model.

At the other end of the spectrum is a model of universal service which leaves most issues up to the marketplace. This model assumes that economic self-interest on the part of market participants, in conjunction with choice and customer demand, will naturally lead the sector to meeting universal service policy objectives. While unfair discriminatory or other business practices would be subject to oversight, the market model does not involve the setting of standards or rates for electric service.

It is the choice of a working policy definition for universal service that most strongly dictates the nature and level of support or regulatory mechanisms that should be reflected in an electric utility restructuring agenda for Alaska. In addition, resolution of these issue informs the basic question about whether restructuring is in the best interests of the state of Alaska.

Stakeholder Views

Alaska stakeholders in the electric utility restructuring debate hold diverse views about the extent to which universal service policy should be protected in a competitive market.

Some stakeholders feel that universal service benefits will be irretrievably lost under restructuring, and that any mechanisms put in place will ultimately offer less protection and benefit to customers. Others argue that universal service policy is an issue of local control, and that state-wide laws and regulations are especially inappropriate for cooperative and municipal utilities. The majority of stakeholders who support a transition to competition agree that some mechanisms should be established to protect universal service benefits. These stakeholders also insist that to the extent funding support is required, it should be collected in a non-discriminatory fashion that does not give competitive advantage to one entity over another. A summary of stakeholder view regarding universal service is included in Table 7.7.

Legal and Regulatory Framework

A review of the statutory and regulatory provisions relating to electric utilities reveals a broad range of provisions and mechanisms for ensuring the benefits of universal service under regulation. For example, Alaska statutes today require regulated utilities to:

- Pay fees to defray regulatory costs,
- Charge only just and reasonable rates,
- Maintain adequate facilities,
- Provide notice of rate changes,
- Protect customers when offering competitive rates,
- Submit reports,
- Submit to rate investigations,
- Not subsidize competitive activities from regulated rates, and
- Obtain certificates prior to construction of new facilities.

Rules adopted by the APUC implement these statutes and establish the overall regulatory framework. However, as discussed above, neither statutes nor rules provide for a single definition or policy framework for universal service explicitly. The words "universal service" do not appear in the statutes and rules relating to regulated electric utilities.

As a result, a decision to formalize universal service policy in Alaska, either today or as part of restructuring legislation, must address these issues. That is, policy makers must decide whether a universal service policy definition should be expressly set out for Alaska. In addition, as part of the broader decisions about how non-utility competitors are to be impacted by restructuring, policy makers must decide whether any regulatory or fiscal mechanisms relating to universal service should be made applicable these entities. Table 7.8 sets out a legal and regulatory road map of provisions relating to universal service in Alaska.

Policy Options

Alaska policy makers enjoy a broad range of options in deciding whether and how to address universal service issues as part of electric utility restructuring in the Railbelt region. A number of these policy options may be considered alone or in conjunction with others. Each option presents its own set of advantages and disadvantages. The APUC has the authority to begin establishing a comprehensive universal service policy framework for regulated utilities today. Such an approach is limited to utilities falling under the agency's current

regulatory jurisdiction. All other options entail the passage of legislation, as part of broader electric utility restructuring legislation. Such legislation could:

- Establish a state-wide definition of universal service to include access to an affordable block of basic, reliable and quality services for all customers.
- Create a universal service support fund through a non-discriminatory system benefits charge.
- Establish broadly worded obligations on market participants to "ensure universal service," without specific funding or program prescriptions.
- Order the APUC to establish performance based regulation for distribution utilities, with standards addressing universal service and service quality standards.
- Establish registration and service practice requirements for retails, standardize information requirements, and establish customer protection rules.
- Encourage cooperative activities between electric service providers and community service agencies.

The decision about the level and nature of universal service policy mechanism to be implemented requires a careful consideration of the costs - including economic and regulatory costs - associated with that mechanism. Against these costs must be balanced the benefits of ensuring continued universal service for Alaska electricity customers.

A summary of policy options available to Alaska decision makers is set out in Table 7.9.

Affordability of Distribution Service

Issue

Market-based retail competition may lead to lower electricity costs overall, but may fail to create incentives for competitors to offer low-priced electricity supply to residential and small commercial customers, especially low-income and rural customers. Because these customers have higher per-customer costs to serve and less individual market power as purchasers, full rate deregulation may lead to rate de-averaging and cost re-allocation that results in higher rates for these customers. Many national and state-level programs for providing energy assistance have seen declining funding in recent years. Choice-driven markets could be structured to ensure affordability of distribution service, but may require explicit subsidies or establishment of "standard offers" for residential distribution service.

Alaska Dynamic

Concerns over affordability of electric service have been mitigated in Alaska as a result of averaged, regulated rates, and relatively low electricity generation costs in the Railbelt. In rural Alaska, the Power Cost Equalization has been an important mechanism for offsetting the high costs of establishing and operating small village power systems. Much residential heating load is provided by natural gas. In addition, energy assistance programs have been supported by federal and state funds. Public funding is declining, however. Retail competition raises a concern that large, sophisticated customers may be "cherry-picked" by competitors, leaving former incumbent utilities with only high-cost residential customers to bear system costs. This concern is especially great in the Municipality of Anchorage, where commercial loads generate a significant percentage of revenues. In the Railbelt, Alaska does not have any legally mandated affordability programs in place for all electricity customers. The Alaska Home Finance Corporation and the Alaska Division of Energy do operate programs for energy bill assistance, low income weatherization, rural electricity system support, and other purposes.

Implications

Any policy decision to ensure affordability of distribution service in a more competitive environment flows from a determination that: (1) maintaining affordability is a desirable feature of a restructured

electricity industry, and (2) competitive markets will not ensure affordability in the absence of policy and/or structural support. The mechanisms most commonly suggested to support affordability are essentially financial in nature - establishing state-wide assistance funds (perhaps through a "system benefits charge" added to the per-kWh price) or mandating standard offer tariffs at an administratively determined level. Additional structural mechanisms, such as anti-discrimination rules or competitively allocated default provider "franchises" may help address the problem. Some assert that open markets will, by themselves, create incentives for supplies to find ways to ensure affordable electricity service. Others argue that restructuring the electricity industry is both complicated and confusing, and that price savings or the prohibition of price increases are essential to ensuring the political and economic viability of the effort. They assert that affordability is a "public good" and that competitive markets will not, by themselves, allocate a societally optimal level of resources to this "good." Public funding mechanisms to support affordability necessarily have the effect of reducing the overall level of savings made available by electricity restructuring. Whether this impact is significant will depend on the overall magnitude of savings.

Special issues are raised in regard to small utilities in the Railbelt region. Even under an "opt-in" strategy, some cherry-picking or loss of load-growth opportunity could occur. Moreover, statewide funding mechanisms that draw revenues from more populated areas to support other areas have proven politically unpopular. Finally, the price of participating in statewide distribution mechanisms for system benefits charges could require a degree of regulatory oversight not acceptable to some utilities

Assessment

The majority of stakeholders believe that electricity must remain affordable after introduction of market-based retail competition, and that some level of policy support is appropriate. Most agree that any funding mechanism must be non-discriminatory. However, some feel that financial and other supports are inconsistent with market-based retail competition, or that utilities should be free to decide whether or not to provide affordability support to certain customers.

Key Decisions

- How should "affordability" be defined?
- Will retail competition pose a serious threat to short and long-term affordability of electric service?

- Is maintaining affordable electric service (however defined) an essential element of successful introduction of market forces into the electricity industry?
- What mechanisms should be instituted to ensure continued affordability of electric service in any restructuring legislation?
- How should affordability protection mechanisms be structured and funded to address needs in the most efficient manner?

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Current and Projected Affordability

Electricity service providers in Alaska have an excellent record of maintaining low rates for electricity, especially given the difficult conditions under which service must be provided. While overall electricity rates in Alaska are higher than in many parts of the country, Anchorage area customers buy electricity at rates that would be very competitive in many parts of the country. Other characteristics of Alaska energy consumption contribute to affordability, including the fact that many residential customers heat their homes with natural gas. Most observers agree that rates will remain affordable into the future in the Railbelt region, though there is some concern over the long-term viability of the PCE mechanism. A table showing the ranking of costs among major US cities is provided in Table 7.10.

There are differences buried in the averages, of course. Rates vary by as much as a factor of 10 in cents per kilowatt-hour across the state, and by as much as several cents in the Railbelt. In some regions customers depend on electricity for all their heating needs.

Alaska has a significant low income population, with 60,000 or 10 percent of the State's citizens estimated to be living in poverty. For these Alaskans, electricity bills represent twice the economic burden of families with median incomes. There are highly successful low income energy assistance program in Alaska, which have received funding for bill payment assistance, weatherization, and other services from a

variety of sources. Some of these sources, such as federal funds through the LIHEAP program, however, have been declining significantly in recent years. Basic information regarding low income citizens of Alaska and poverty guidelines are included in Table 7.11 and Table 7.12.

In addition to providing affordable electricity, Alaska utilities deliver consistently reliable and high-quality electric service. In support of continued high-quality service, utilities must plan and make investments in infrastructure and customer services.

Costs Associated with Public Purpose Programs

Electric utility restructuring has the effect of making explicit that which was hidden. This is especially true as regards public purpose programs and uneconomic (or "stranded" costs). The costs of these programs must be considered in light of the anticipated savings and other benefits that competition will bring in order to reach a conclusion about whether the process of restructuring is in the best interests of the state and its people.

A number of differing approaches have been adopted and suggested for accomplishing public purpose programs such as low income assistance, energy efficiency, renewable energy, and energy research and development. The net impact on customers is a function of the level of public purpose program support instituted and the potential savings anticipated. In Alaska's Railbelt region, a charge of 1/10th of one cent (one mill) per kilowatt hour will generate approximately \$3.7 million per year. This amount increases by just under \$40,000 per year for each percent of sales growth in the region. The bill impact on the average residential customer in Alaska is approximately 67 cents per month per mill of charge.

Various program approaches offer differing benefits for the amount invested. A 1 percent charge to fund low income assistance programs would generate over \$3 million in annual program funding for an average monthly charge to residential customers of approximately \$0.69.

A summary of the expected price impacts of a wide range of public purpose program options is included in Table 7.13.

Operational Concepts of Affordability

Policy makers have a number of differing options for use in addressing affordability of electric services in Alaska under restructuring. As discussed above, one important issue is the level of public purpose program support to be pursued. A second issue relates to the

competitive benefits sought from restructuring. The level of competitively induced savings benefits is directly related to the level of competition introduced into the industry. Restructuring experience from other jurisdiction demonstrates that limiting the scope of competition or protecting the market share of incumbent providers tends to reduce the amount of savings realized.

There are also available several different conceptual models of affordability that can be reflected in any restructuring plan. At one end of the spectrum is the choice of leaving affordability issues to the markets themselves. This idea is based on the concept that restructuring is supposed to be about allowing market forces to set the appropriate price of electricity, and that affirmative intervention with market prices creates market inefficiencies. This kind of approach offers simplicity of implementation, but may create hardships on some customers, especially low income customers, if market prices rise.

At the other end of the spectrum of policy options is a model that incorporates affordability into a generalized policy of universal service. This approach operates from the premise that all customers should have access to a basic package of affordable and reliable electric services. Under the universal service model, rates for an initial block of electric energy would be maintained at predetermined levels, and funding would be required to ensure additional services such as weatherization for low income customers was also available. While this approach offers greater protection against hardships for customers, it requires the development of regulatory standards and administrative implementation and oversight. Such regulatory costs will have the added effect of diminishing the savings potential from competition.

Table 7.14 provides a summary of the features of alternative conceptualizations of affordability.

Impacts of Restructuring on Affordability

Restructuring of the electric utility industry may support or frustrate the goal of affordable electric service. As discussed above, competitive market efficiencies should translate into overall cost savings. However, whether these savings will be allocated by the market to residential customers will be highly influenced by policy decisions made in the course of developing a restructuring plan.

The potential for price reductions is largely a function of the liquidity and openness of electricity markets. On the other side of the equation are a number of potential negative impacts of restructuring on affordability. Whether restructuring serves the best interests of all the people of Alaska's Railbelt will depend on a careful balance of market

structure issues and the nature and extent of affordability mechanisms introduced.

The most commonly identified potential negative impact is the allocational issue - that the price savings resulting from competition will be cherry-picked by a few large customers. To a large extent, this is a problem inherent in the de-averaging and segmentation of previously homogenous classes of customers. While most observers would welcome the introduction of new services and products to meet customer demands, there is a concern that costs will shift toward customers with smaller discretionary budgets and fewer choices. Several mechanisms exist to counter this impact, though they may have the effect of artificially reducing prices for some customers. These options include default provider or service provisions, provider of last resort systems, or customer aggregation mechanisms.

Customer class segmentation may create another problem for affordability in areas served by smaller utilities. For these utilities, a relatively few customers make up a significant portion of the utilities' revenue base. If these customers are lost to competitive providers, fixed costs are spread over fewer remaining customers and could drive rates upward. In the lower-48, similarly situated utilities have proposed an opt-in approach to retail competition which would allow them to an opportunity to prepare for or avoid entirely the risks of competition. Many observers believe, however, that such opt-in approaches offer only temporary refuge from the threat of competition.

The potential negative impacts of retail competition on affordability are summarized in Table 7.15.

Stakeholder Views

A number of stakeholders, primarily representing cooperative and municipal utilities, expect significant adverse impacts on affordability as a result of restructuring. The vast majority of stakeholders in Alaska envision the adoption of some mechanisms to attempt to ensure affordability of electricity service in a competitive retail environment. While some stress the need for a clearly established affordability goal as part of restructuring, most stakeholders are most concerned with the manner and methods used to address the issue. These stakeholders are concerned that any funding mechanism, such as a system benefits charge, must be imposed in such a manner as to avoid competitive discrimination against certain market participants. Finally, some stakeholders argue for exit fees or other mechanisms for recovering the value of investments made to serve customers switching to new suppliers.

A summary of stakeholder views are contained in Table 7.16.

Policy Options

Policy makers in Alaska have several options for ensuring affordability under industry restructuring in the Railbelt. These options fit into a few broad categories. The first option is to let markets decide the appropriate price for electricity. This approach imposes no direct costs, but may create indirect costs associated with hardships on certain customers if prices for these customers rise or they lose their current benefits. Other mechanisms include funding rate discounts for certain low income customers. While discounts for low income customers target those for whom rising prices pose the greatest threat of hardship, they must be funded through some kind of system benefits fund. This funding has the effect of reducing overall savings from competition.

One option that has been discussed but not implemented to date involves establishing a competitive auction for the right to serve as default provider or provider of last resort. Under this approach, the regulatory authority would periodically conduct a competitive auction or solicitation for suppliers. In return for a commitment to provide service to customers at affordable rates, providers would be granted a right to provide service within designated geographic regions or market segments. This approach could require revenue supplements for high-cost customers, entailing the need for a funding mechanism such as a system benefits charge.

As with most policy options, the key issue is the balance between the benefits of meeting policy goals and the financial or administrative costs associated with implementing remedial mechanisms. Options involving a system benefits charge reduce overall competitive savings, and regulatory oversight mechanisms require agency funding and impose compliance costs on participants.

A range of policy options for addressing affordability issues and impacts is set forth in Table 7.17.

As has been noted by some consumer advocates, there are opportunities to impact affordability throughout the restructuring process. High transaction costs in providing services to small customers can be mitigated through aggregation mechanisms, and through regulatory oversight of distribution, metering and billing practices. Cost allocation processes have a significant potential to create price discrimination among classes of customers, to the detriment of residential and small commercial customers. Unmitigated market power that can be used to charge higher than marginal rates could directly impact affordability. Finally, calculation and allocation of uneconomic or stranded costs will directly impact affordability. It is important to note that, in the end, a number of structural actions or mechanisms instituted to preserve or

enhance affordability also have a direct impact on making a restructured electric industry more competitive.

The policy recommendations of Consumers Union and the Consumer Federation of America regarding these issues are summarized in Table 7.18.

TABLE 7.1
Impacts of Retail Competition on Universal Service

Impact	Likely Effects	Remedial Actions	Statutory Changes Required
Pre-competitive investments by utilities may be "stranded" by customers leaving the utility, imposing rising costs on remaining customers.	Formerly incumbent utilities may face competitive disadvantage vis-à-vis new market entrants.	Determine the extent to which investments have not been recovered or depreciated. Establish exit fees or other lost-revenue mechanisms to hold utilities harmless.	Yes. As part of restructuring legislation, some entity must be empowered to review and adjudge unrecovered investments and to impose collection mechanisms.
Providers of last resort may be required to maintain excess capacity in order to serve returning customers.	Providers of last resort with obligation to serve will face greater fluctuation in numbers of customers served due to customers switching providers and returning.	Limit obligation to serve to either a universally established default service package, or to customers that never switch. Impose more limited obligation to connect for new and returning customers.	Yes. Creation of default service package for all utilities requires broader authority and potential state wide cost-sharing mechanism. Opt-in mechanism for some utilities reduces impact.
Competitive providers seeking profits may "cherry-pick" most attractive customers, imposing rising costs on remaining customers.	Provider of last resort utilities bear highest overall costs, limiting their ability to also profitably compete for customers. Benefits of competition not uniformly distributed.	Impose proportional burdens on all providers to serve all classes of customers (by allocation). Create universal service fund through system benefits charge to offset costs.	Yes. An entity must be empowered to assess and distribute burdens, to collect and distribute funds according to prescribed standards.
Relatively few customers will be in a position to successfully pursue alternative suppliers, due to lack of information, sophistication, or usage level.	Non-switching customers may not receive the benefits of new competitive offers, discounts, and incentives. Costs associated with increasing switching volume may reduce overall level of savings.	Conduct comprehensive customer education. Auction or assign customers to kick-start market churn. Encourage or facilitate aggregation of residential customers.	Yes and No. APUC enjoys broad authority to specify information provided to customers of regulated utilities. Allocation of customers on basis other than certified or franchised territories requires statutory amendment/ authority. Non-geographic aggregation is essentially retail access.

Impact	Likely Effects	Remedial Actions	Statutory Changes Required
Many customers will be customers simply because they never made any choice.	Absent opportunity for significant savings, or in the event of confusing terms and conditions, customers respond with inaction, and may not exercise choice. They may never be approached to switch.	Conduct comprehensive customer education. Auction or assign customers to kick-start market churn. Encourage or facilitate aggregation of residential customers.	Yes and No. APUC enjoys broad authority to specify information provided to customers of regulated utilities. Allocation of customers on basis other than certified or franchised territories requires statutory amendment/ authority. Non-geographic aggregation is essentially retail access.
Costs associated with ensuring universal service reduce the level of system-wide savings available through restructuring.	Lack of clear statutory or regulatory definition of universal service creates uncertainty about likely costs of ensuring universal service. Regulatory and oversight costs could be relatively significant.	Conduct regulatory proceeding to establish universal service definitions and requirements. Estimate costs under various competitive scenarios.	Yes and No. APUC enjoys authority to establish rules and gather information relating to regulated public utilities.
Competitive providers seeking to reduce costs may allow degradation of facility or service quality.	Lack of statutory or regulatory definition of universal service creates uncertainty about relationship with service quality standards.	Conduct regulatory proceeding to establish universal service definitions and requirements. Estimate costs under various competitive scenarios.	Yes and No. APUC enjoys authority to establish rules and gather information relating to regulated public utilities.

TABLE 7.2
Universal and Affordable Service Proposals: Congress 1997

Bill No.	HR 655	HR 1230	HR 1359	HR 1960	S 237/1401	S 687	S 722	S 1276
Sponsor	Rep. Schaefer, R/CO	Rep. Delay, R/TX	Rep. DeFazio, D/CA	Rep. Markey D/MA	Sen. Bumpers D/AR	Sen. Jeffords R/VT	Sen. Thomas R/WY	Sen. Bingamon, D/MN
Definition of Universal or Affordable Service	"adequate electric service is available to all customers served by the retail distribution system concerned"	"continuation of service to residential customers unable to afford electric energy service..."	Universal service program = any that promotes high quality and reliable electric service at just, reasonable and affordable rates for low income consumers and those in rural, insular or high cost areas.	Evolving level of electric services established periodically be states taking into account advances in technology and services.	S 1401: "ensures that all consumers have access to purchase retail electric energy from at least one retail electric energy supplier at a just and reasonable rate."	Lists universal service and affordable service as separate items in list of eligible public benefit programs.		Every consumer should have access to electric energy at reasonable and affordable rates, the Commission and states should ensure competition does not result in loss of service to rural, residential or low income customers.
Mandated?	No	No	No	No, but states must certify action on universal service to qualify for PUHCA exemption.	Program voluntary, but in states with no program suppliers obligated to sell to customers in areas without effective competition and customer has not chosen a supplier.	No	No	No

Bill No.	HR 655	HR 1230	HR 1359	HR 1960	S 237/1401	S 687	S 722	S 1276
Sponsor	Rep. Schaefer, R/CO	Rep. Delay, R/TX	Rep. DeFazio, D/CA	Rep. Markey D/MA	Sen. Bumpers D/AR	Sen. Jeffords R/VT	Sen. Thomas R/WY	Sen. Bingamon, D/MN
State Role	Each state and unregulated utility must consider provisions to ensure supply to all customers.	Retains authority over local distribution service, can provide Lifeline service for "continuation of service to residential customers unable to afford electric energy service."	Propose public benefit programs, pay half the cost. May use federal matching funds only for eligible public benefit programs.	May adopt regulations to advance universal service, ensure universal service at rates that are fair, just, reasonable, consider recommendations of joint board and complete proceeding re implementation within one year.	May establish programs, must enforce service obligations (see above)	Propose public benefit programs, pay half the cost. May use federal matching funds only for eligible public benefit programs.	States have jurisdiction over retail supply and local distribution service, may establish performance standards for reliability, health and safety, protect from unfair business practices.	States shall consider measures to ensure access at affordable rates and prevent loss of service to low income and rural customers, report any measures adopted to FERC.

Bill No.	HR 655	HR 1230	HR 1359	HR 1960	S 237/1401	S 687	S 722	S 1276
Sponsor	Rep. Schaefer, R/CO	Rep. Delay, R/TX	Rep. DeFazio, D/CA	Rep. Markey D/MA	Sen. Bumpers D/AR	Sen. Jeffords R/VT	Sen. Thomas R/WY	Sen. Bingamon, D/MN
Federal Role	None	FERC to provide for Nondiscriminatory prices, terms, conditions of transmission and distribution services.	Sec. Energy Oversees National Electric System Public Benefit Board, which recommends and oversees programs. Appoints non-federal fiscal agent to collect and distribute funds after approval by Sec.	FERC to establish federal-state joint board to institute proceeding to recommend universal service support mechanisms, act on state certifications of competition.		Sec. Energy oversees National Electric System Public Benefit Board which recommends eligibility criteria for programs, established fund, determines and reports to FERC amount needed for programs & admin.		Unbundled service must be provided on non-discriminatory basis. Any state law, regulation or order that results in unbundled service which is unjust, unreasonable or unduly discriminatory or preferential is preempted.

Bill No.	HR 655	HR 1230	HR 1359	HR 1960	S 237/1401	S 687	S 722	S 1276
Sponsor	Rep. Schaefer, R/CO	Rep. Delay, R/TX	Rep. DeFazio, D/CA	Rep. Markey D/MA	Sen. Bumpers D/AR	Sen. Jeffords R/VT	Sen. Thomas R/WY	Sen. Bingamon, D/MN
Funding Mechanism	State may "impose requirements" to ensure all can get service.	State has authority to establish non-discriminatory local distribution access charges on any power delivered sufficient to cover cost of lifeline program.	Owners of generation contribute to fund per kWh. Amount based on 1/2 the cost of eligible programs but cannot be more than 2 mills per kWh. Transmitting utility collects from generator and transfers money to fiscal agent.	Electric utilities providing interstate service shall contribute to specific, predictable and sufficient mechanisms established by states to preserve universal service.	State may impose non-bypassable. Universal Service Charge on all customers of every retail provider to fund all or part of programs.	FERC imposes non-bypassable, Competitively neutral wires charge paid into fund by operator of wires impacting interstate commerce, measured at exit of busbar at generation. Amount collected to be lesser of 2 mills/kWh or sufficient to fund programs.	State OR non-regulated utility may require payment of charge as condition of purchase of electricity for public purpose programs, including assistance to low income customers.	State may assess non-discriminatory charge on unbundled local distribution service, retail sale of electricity or generation for consumption by generator within state.
Who Pays?	Not discussed	Customers	Generation owners	Electric utilities in interstate commerce	Customers	Operators of wires impacting interstate commerce	Customers	Customers
State Share/Match	N/A	100%	50%	0%	100%	50%	100%	100%

Bill No.	HR 655	HR 1230	HR 1359	HR 1960	S 237/1401	S 687	S 722	S 1276
Sponsor	Rep. Schaefer, R/CO	Rep. Delay, R/TX	Rep. DeFazio, D/CA	Rep. Markey D/MA	Sen. Bumpers D/AR	Sen. Jeffords R/VT	Sen. Thomas R/WY	Sen. Bingamon, D/MN
Low Income Share	Not discussed	None stated.	None stated. Must compete with conservation, renewable and R&D.	Universal service fund specific to low income and access in rural and high cost areas, no set shares stated.	In addition to Universal Service Fund, state can also assess charges on customers for efficiency and R&E programs.	None stated. Must compete with conservation, renewable and R&D.	None stated. Must compete with conservation, R&D, renewable energy, reliability, transition costs.	None stated.
Access Requirements	Must consider, and may require, steps so that all customers can get service.	Right to choose cannot be denied or limited.	None stated.	Universal service to include access to "advanced services."	S237: Utilities required to serve any customer that is not offered service from at least two suppliers/ S1401: In states with no universal service program each retail provider has service obligations where no effective competition and choice not exercised.		States can require providers of electricity to serve all classes of customers.	

Bill No.	HR 655	HR 1230	HR 1359	HR 1960	S 237/1401	S 687	S 722	S 1276
Sponsor	Rep. Schaefer, R/CO	Rep. Delay, R/TX	Rep. DeFazio, D/CA	Rep. Markey D/MA	Sen. Bumpers D/AR	Sen. Jeffords R/VT	Sen. Thomas R/WY	Sen. Bingamon, D/MN
Other		Ban on exit fees, penalties for switching	Intent of Congress that public benefits programs not replace existing programs	Customers must have reasonable opportunity to aggregate to get lower rates	S 1401: Any aggrieved person may bring action in federal district court to enforce act	Detailed provisions re: audits and Board process		

SOURCE: http://www.spratley.com/leap/stuff/1998.01.00.02.universal_and_affordable_service_proposals_congress_1997.pdf

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Sources: Electric Power Alert Special Report, June 20, 1997, American Public Power Association Summary, June, 1997, <http://thomas.loc.gov>, National Environmental Trust Bill Summary and Status 105th Congress, Nov. 1997

TABLE 7.3
Provider of Last Resort Options

Policy Option	Method of Implementation	Advantages	Disadvantages
Assign responsibility to incumbent utility or local distribution company.	Maintain current system. Clarify obligations in legislation, including mechanisms to prevent competitive disadvantage.	Most like current system – less confusion to customers. Maximizes opportunity for utilities to recover past investments made on behalf of all customers.	May strengthen incumbency advantage in competitive market. May stifle incentive for efficiency improvements. May create competitive disadvantage for provider.
Require all suppliers in the market to reserve a percentage of revenues to serve last-resort customers.	Legislation – obligation created as a condition of opportunity to compete. Obligations overseen by APUC.	Spreads costs across all competitors. Maximizes potential for development of innovative solutions.	Requires extensive regulatory oversight. Administrative requirements on all suppliers could act as barrier to market entry.
Ensure all customers have a legal right to purchase service at power exchange prices for energy plus regulated rates for transmission, distribution and ancillary services.	Legislation – establish right and mechanism for any customer to obtain service on application. APUC implements creation of market to provide supply & rates for T&D, ancillary services.	Does not impose unwanted burdens on competitors. Provides uniformity across the market.	Requires regulatory setting of rates and oversight. Right must be protected with mechanism for enforcement; provisions made for service during dispute resolution.
Create a new state agency to provide service of last resort.	Legislation & appropriation of funds.	Does not impose unwanted service burdens on competitors. Provides uniformity across the market; and efficient match of resources to need. Creates market benchmark without assigning competitive benefits to incumbents.	Administrative and regulatory burden. Places government directly in competition with private sector for residential service. May stifle innovation in service provision.
Competitively auction the right to serve as provider of last resort to a fixed number of qualified suppliers.	Legislation. APUC implements and oversees auction mechanism, tracks contract performance, imposes other appropriate conditions.	Applies market forces to default service provision. Encourages creation of new class of service provider with market objectives aligned to public purposes.	Requires extensive oversight. May create competitive advantage for selected providers in other markets.
Create a supplier pool or load aggregator.	Legislation. APUC or other agency must create supply pool or aggregator.	Allows for efficient aggregation of demand to reduce need for public benefit supports.	May require supplemental funding support in order to deliver price benefits. Concentrates expensive or difficult to serve customers into high-cost pool.

TABLE 7.4

Universal Service Policy Options Available in Alaska - Conceptual Models

Policy Option	Method of Implementation	Advantages	Disadvantages
Universal Service Facility*	Provider has the option of ceding the risk of customer's account to a universal service facility or retaining the customer in its own portfolio. A ceded customer's payments are collected by the service provider then paid to the service facility. The service provider provides the same service to the customer and offers the same rates. If a ceded customer's account incurs a claim, the costs of paying that claim is borne by the facility. Total costs to the facility are apportioned to all electric generation providers in the state, weighted according to the providers' facility use and market share.	Costs of last resort provider are shared among all providers in the state. Cost apportionment mechanism insures that <i>only</i> the riskiest customers (those who need a provider of last resort) are ceded to the facility, thus avoiding the possibility that the generation provider retains all but the most attractive customers, ceding the rest to the facility (cherry-picking). Transactions are transparent to the customer, and services are provided by generation provider. The utility has absolute right of ceding risk to facility, without regard to any objective criteria.	Difficulty in designing the optimal weighting of facility use and market share to minimize total facility use (excessive ceding of customers to facility).
Joint Provider's Association (JPA)*	All electric generators are required to participate in a joint provider's association who agrees to handle "involuntary" customers whom the competitive market ("voluntary market") does not wish to serve. Risks are borne by association as a whole.	All customers are guaranteed access to adequate electricity service. Customers retain their ability to choose an electricity provider. Costs of last resort provider services are shared among all providers in the state.	No incentive to keep "marginally" attractive customers out of the association. Utility may assign all but the most attractive customers as "involuntary", resulting in overpopulation of the JPA, and consequent rate distortions. Customers in the involuntary market end up paying higher rates than the voluntary market, exactly the opposite of the intended result.
Assigned Last Resort Providers or a Single-Entity Provider of Last Resort*	State regulatory officials promulgate a standard set of rates and terms for customers in the high risk pool. Customers are randomly assigned to electric generation providers to be served with the standard package. In the case of the single provider, high risk customers are assigned to either the incumbent utility or transmission system owner or operator. The provider bears all costs and profits of serving the high risk customer.	All customers are guaranteed access to minimum electricity service.	Customers are not given the freedom to choose their generation service provider. There is a tendency for providers to offer only the bare minimum services to these high risk customers, such that they are often denied the full competitive service offerings.
Competitive Auction	State regulatory officials create mechanism to conduct periodic competitive auction of right to serve as provider of last resort. Rate of return is regulated either under cost of service methodology or performance based regulatory arrangements.	Serves aggregation function to create profitable customer set. Applies well-established regulatory experience and allows introduction of performance-based regulatory approaches. Auction can be structured to recognize value of investments made to serve "captive" customers prior to competition. Focuses funding on customers' needs.	No practical prior experience. Requires on-going regulatory oversight of provider. May require supplemental funding if customer base is too small or shrinks due to choice. Performance-based regulation must be carefully designed to avoid incenting inefficient operation.

*Source: Colton, Roger D. Provider of Last Resort: Lessons from the Insurance Industry. *The Electricity Journal*. December 1998. Pp. 77-84.

TABLE 7.5
Selected State Restructuring Provisions Regarding Universal Service

California	The California Electric Restructuring statute (AB 1890, eff. September 23, 1996) states: "It is the further intent of the Legislature to continue to fund low-income ratepayer assistance programs, ..." Section 1(d). The Legislation authorized the Commission to establish a non-bypassable charge to be collected through the distribution company rates on the basis of usage to fund low income energy efficiency and ratepayer assistance programs. Section 381. A minimum funding level equal to the 1996 authorized spending levels for each utility was established as well. Section 383. California utilities fund and implement both energy efficiency and rate assistance programs to low income customers through their rate structure. The California CARE program provides a 15 percent discount on volumetric gas, electric and monthly customer charges to households with income at or below 150 percent of federal poverty guidelines. For electric low income customers these discount costs were approximately \$106.9 million in 1996. The energy management programs targeted to low income customers totaled approximately \$50 million by investor owned utilities. These programs have a penetration ratio of approximately 56-58 percent of the eligible low income households.
Pennsylvania	The Consumer Choice Act (effective January 1, 1997) in Pennsylvania calls on the Public Utility Commission to address the need for a comprehensive Universal Service program for all electric utilities as a necessary element of the move to electric competition. The General Assembly has declared that, "Electric service is essential to the health and well being of residents...; and electric service should be available to all customers on reasonable terms and conditions." Sec. 2802(9). The Commission has determined that it cannot achieve this objective without a comprehensive program that meets the needs of Pennsylvania's most needy and potentially most vulnerable electric consumers. In the Restructuring Filings from all electric utilities, the Commission was obligated to "ensure that universal service and energy conservation policies, activities and services are appropriately funded and available in each electric distribution territory." Section 2804(9). As part of its Restructuring Plan, the utility must submit an "initial plan that sets forth how it shall meet its universal service and energy conservation obligations." Sec. 2804(15). At a minimum the Commission is required by the Consumer Choice Act to continue the "protections, policies and services that now assist customers who are low income." Section 2802(10). The Consumer Choice Act sets forth the major components of a Universal Service Program for low-income customers: (1) Electric Distribution companies should continue to be the provider of last resort in order to ensure that electric service is available unless another provider of last resort is approved by the Commission. Sec. 2802(16), and (2) Policies, protections and services that help low-income customers maintain electric service. The term includes customer assistance programs, termination of service protections and policies and services that help low-income customers to reduce or manage energy consumption in a cost-effective manner, such as the low-income usage reduction programs (LIURP), application of renewable resources and consumer education. Sec. 2803 The Act directs that these programs and services will be delivered and funded via the electric distribution companies. The Act also requires that the distribution utilities rely on community-based organizations for the delivery of these programs where that is appropriate. Section 2804(9). These programs must be funded by a "non-bypassable" cost recovery mechanism "...which is designed to fully recover the electric utility's universal service and energy conservation costs over the life of these programs." Sec. 2802(17); 2804(8).

Massachusetts	The Massachusetts DPU has required each electric and gas utility to fund low income discounts or rate reduction programs for low income customers for many years as part of their regular revenue requirement reviews. Electric restructuring legislation (Chapter 164, Acts of 1997, eff. November 25, 1997) requires that these programs be continued by the distribution companies "comparable to the low-income discount rate in effect prior to March 1, 1998." (Section 1F(4)) The cost of these programs must be included in the rates charged to all other customers of a distribution company. Further, "Each distribution company shall guarantee payment to the generation supplier for all power sold to low-income customers at said discounted rate." (Ibid.) Eligibility may extend to 175 percent of the federal poverty guidelines. The distribution companies are required to conduct substantial outreach to obtain a high penetration rate for these programs, including the establishment of an automated program to match customer accounts with lists of recipients of means-tested public benefit programs. Prior to the end of the 7-year transition period, the Department must analyze and make recommendations concerning the affordability of electricity and consider modifications for expansion of the program and specifically must consider whether to modify the discount to adopt a sliding scale discount program (thus providing a better match between usage and income). Low-income customers may obtain default service without additional charge at any time. The legislation also requires funding for energy conservation programs via distribution company rates for a five-year period at levels that are the highest in any state. Funding starts at 3.3 mills per kWh in 1998 and phases down to 2.5 mills in 2002, totaling about \$500 million over this period. Included in this program is a permanent set-aside for low income DSM of .25 mills per kWh or 20 percent of each utility's residential conservation program. These programs must be coordinated with the local Weatherization Assistance Program agencies. These programs must conform to statewide standards that will be set by the Division of Energy Resources.
New Hampshire	The New Hampshire electric restructuring legislation calls for, "Programs and mechanisms that enable residential customers with low incomes to manage and afford essential electricity requirements should be included as part of industry restructuring." RSA 374--F:3(V). The New Hampshire PUC's Final Restructuring Order interprets this directive to create a new \$13.2 million bill payment assistance and energy management program, modeled after a Percentage of Income Payment approach. The program will be funded by through usage-based rates charged by all distribution utilities. It is not clear whether this program must include low income energy management programs or whether these programs will be funded separately from the payment assistance program.
Rhode Island	Rhode Island's electric restructuring legislation declares that, "...in a restructured electrical industry the same protections currently afforded to low income customers shall continue." Section 39-1-1, Declaration of Policy. The current programs include special discount rates and Percentage of Income Payment programs. The costs of all these programs must be "...included in the distribution rates charged to all customers." Section 39-2.1.2(b).
Maine	The Maine restructuring legislation states, "In order to meet legitimate needs of electricity consumers who are unable to pay their electricity bills in full and who satisfy eligibility criteria for assistance, and recognizing that electricity is a basic necessity to which all residents of the State should have access, it is the policy of the State to ensure adequate provision of financial assistance." Section 3214. Existing ratepayer assistance programs must continue as a minimum at current expenditure levels, approximately .5 percent of jurisdictional electric utility revenues. The program costs will be included in distribution rates charged to all customers. Future funding will be set based on "aggregate customer need." Section 3214(2)(B). The Legislation also provides for the possible future funding of these programs by the General Fund (i.e., taxes), at which time the PUC must reduce the funding provided through distribution company rates.

Vermont	The Vermont Public Service Board has recommended all-fuels energy assistance program to be funded by a broad-based tax or energy fee. The Board recommends that if the Legislature does not enact the all-fuels tax or fee approach, electric utilities should provide programs to low income customers funded by a non-bypassable charge. In either case, the minimum program should be based on need, as a reflection of the household electric bill in relation to the household's income, and administered statewide by an independent entity separate from the utilities themselves. The assistance program should include energy management services targeted to low income customers as well.
Montana	The Montana electric restructuring legislation mandates a universal service policy, "The public interest requires the continued protection of consumers through: *** (d) continued funding for public purpose programs for: (i) cost-effective local energy conservation; (ii) low-income customer weatherization; (iii) renewable resource projects and applications; (iv) research and development programs related to energy conservation and renewables; (v) market transformation; and (vi) low income energy assistance." Section 2. These mandates will be funded by revenues equal to 2.4 percent of each utility's annual retail sales revenue, of which 17 percent of the fund must be allocated to energy assistance and weatherization. A Transition Advisory Committee will make recommendations for the implementation of a statewide universal service system benefits charge and energy assistance funds prior to 1/99. By 11/98 the Committee must submit recommendations concerning the provision of low income assistance by all energy providers, thus potentially expanding the program from just electric companies to all energy providers in the state.
Oklahoma	The Oklahoma electric restructuring legislation is far less detailed than other state legislation adopted to date and all the future Commission restructuring decisions must be approved by the Legislature. However, the Commission is directed to incorporate key principles in its creation of a framework to achieve retail electric competition: "Minimum residential consumer service safeguards and protections shall be ensured including programs and mechanisms that enable residential consumers with limited incomes to obtain affordable essential electric service, and the establishment of a default provider or providers for any distribution customer who has not chosen an alternative retail electric energy supplier." Section 4(9). The legislation authorizes a distribution access fee to cover the normal costs associated with providing distribution services, and to include social costs. The Commission's final report and recommendations to the Legislature must include an identification of public policy benefits and their funding by 12/98, to be followed by recommendations concerning consumer protection and low-income programs by 12/99.
Nevada	The Nevada PUC is directed to adopt regulations to implement electric restructuring and must, "Provide effective protection of persons who depend upon electric service." Section 2. The legislation does not specifically require or discuss universal service or low income programs. However, the Commission is required to designate an existing utility to provide electric service to customers who are unable to obtain electric service from an alternative provider or who fail to select an alternative provider. This service must operate with a rate cap for at least two years. The Commission may also consider alternative methods of providing this service, including direct assignment of customers to alternative providers or the use of competitive bidding for the generation portion of this service.
New York	The New York Public Service Commission has issued generic policy decisions concerning electric competition and is trying to move forward to implement those policy decisions in individual electric restructuring cases without specific legislative authorization or guidance. The Commission has stated its support for universal service and low income programs, but has deferred to the individual utility cases to determine the program design and funding level. The Commission has stated that such programs must remain the responsibility of the distribution companies as part of their overall obligation to provide "last resort" services to all customers. The first restructuring case to reach the Commission, a negotiated settlement with Consolidated Edison and numerous parties, contains a provision that creates a non-bypassable charge to fund low income assistance and energy management programs. The Commission approved this settlement on September 23, 1997 (Case 96-E-0897).

Illinois	The Electric Service Customer Choice and Rate Relief Law of 1997 (HB0362, eff. December 16, 1997) does not offer residential customers the right to choose an alternative supplier until 2002, but rate reductions (15 percent for the larger utilities) for all residential customers will take effect beginning in August, 1998. The legislation mandates a per customer monthly charge of \$.40/month for residential gas and electric customers which will be included in the monthly customer charge billed by distribution utilities. Other flat monthly fees are also specified for all other non-residential customers. This Supplemental Energy Assistance Fund is estimated to raise \$76 million annually for energy assistance funding for low-income customers and 10 percent of this fund is mandated for energy efficiency measures. The funding will be directed to the State's Energy Assistance Program which currently delivers the LIHEAP and federally-funded Weatherization Assistance Programs. In the short term, the funds will be used to primarily supplement the LIHEAP grants, but the long term plan for this funding includes design and implementation of new programs, particularly those targeted to energy efficiency. This funding source is permanent and marks the first significant state funding for low income energy assistance in Illinois.
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Source: SUMMARY OF STATE ELECTRIC RESTRUCTURING LEGISLATION: UNIVERSAL SERVICE PROVISIONS. Barbara R. Alexander
<http://www.spratley.com/leap/stuff/1998.05.00.01.summary-of-state-electric-restructuring-legislation-universal-service-provisions.html>

TABLE 7.6

Comparison of Consumer Protection Provisions in Selected States, Part 1.

Public Policy Issues	New Hampshire	Massachusetts	Maine	Rhode Island	Pennsylvania
Retail Access Date	1/1/98 (Delayed due to court appeal by largest utility)	3/1/98	3/1/00	3/1/98	Pilots start 9/97; retail access phased in for 1/3 all customers during the 1/1999-1/2001 period.
Standard Offer/Default Service	<u>Default Power Service</u> administered by D&T utility; can use owned generation, but only at market price; must issue competitive bids or use spot market to get additional power; choose minimum of 5 suppliers.	<u>Standard Service:</u> Provided by D&T utility for 7 years; combination of the total bill must reflect 10% rate reduction 3/1/98 and 15% reduction by 9/1/99; must use competitive bid if necessary; available to current customers only or low income customers at any time. <u>Default Service:</u> available to any customer who has entered competitive market; safety net service; competitive bid; priced at market rates with 6-mo. rate stability; no fee or minimum contract period for residential customers who switch at meter read.	<u>Standard Offer</u> service provided to any customer who does not choose or who cannot obtain power in market on reasonable terms; competitive bid process administered by D&T utility; but PUC determination of terms and conditions of standard offer service; affiliates of "large" D&T utilities can bid for no more than 20% of load; small utilities and munis can bid for entire load; rates for this service must reflect rate design of current rates for each customer class; rates must be stable for 2-year period (reflected in bid specifications).	<u>Standard Offer:</u> provided by D&T utility pursuant to its wholesale power supplier; applicable to those who have not chosen competitive supplier; price must not exceed rates in effect in 1996, adjusted by a price cap index; once customers select alternative supplier, D&T utility no longer responsible to supply. <u>Last Resort Power Supply:</u> for customers no longer eligible for Standard Offer and unable to get power at reasonable price in market; D&T utility obtains power by bid from competitive providers.	D&T utilities must provide service to customers who do not choose and who seek to return to regulated service from the competitive market; total generation and D&T rates capped for time periods (up to 9 years) that reflect recovery of stranded costs. After transition period the PUC determines how this service is priced and can consider competitive bids from other than D&T utilities.

Public Policy Issues	New Hampshire	Massachusetts	Maine	Rhode Island	Pennsylvania
Form of Regulation of Distribution Company	Traditional regulation based on 1996 embedded cost of service studies; unbundling by function; PBR possible, but postponed until analysis of studies.	Performance Based Regulation favored, but not mandated; any plan must include comprehensive service quality and reliability provisions with penalty up to 2% of revenues at risk for degradation of service quality. Code of Conduct (regulate transactions between D&T utility and affiliates) mandated with specific legislative directives.	Price cap regulation currently in place until 2000 for 2 of 3 large investor-owned utilities; PUC has discretion to change or continue based on statutory criteria in place prior to this Legislation; current PBR plans have individual service quality index with penalties for degradation from baseline standards. Code of Conduct required with detailed legislative guidance.	Price Cap plan established in Legislation; utilities filed for automatic 2% rate increase in 12/96.	D&T utilities subject to rate caps (with specific exceptions) during transition period. PBR authorized, but not mandated. Code of Conduct authorized by PUC rule.

Public Policy Issues	New Hampshire	Massachusetts	Maine	Rhode Island	Pennsylvania
Definition of Distribution utility obligation; competition for billing and metering services	Must divest of all generation facilities except QF contracts; D&T utilities shall remain responsible for reading meters and transferring data to suppliers; must offer to supply billing services to suppliers; defer unbundling of metering and customer services for small customers (those with less than 100 kW demand), but energy billing services must be unbundled, i.e., suppliers can issue own bills.	Obligation to provide open access; D&T utilities must continue to offer billing and metering services; study of possible competition of these services deferred until 1/1/2000, with report to Legislature by 1/2001. Must address possible impacts on utility employees.	Distribution regulated as monopoly; obligation to connect; exclusive service territories; reliable and safe service obligation; billing and metering must be competitive in 2002 (or earlier) pursuant to PUC rules.	D&T utilities regulated as monopoly with price caps; exclusive service territories; no metering and billing competition provisions	Distribution company obligated to provide same level of customer services and quality of service with retail choice; customer can choose whether to receive one bill from D&T utility or two bills; no legislative mandate for billing and metering competition, but PUC has ruled that statute does not prohibit competition. Go slow approach to be explored in rulemaking.
Licensing of Generation Suppliers	Registration requirements minimal.	Licensing required by DTE; technical ability; financial capability; company form of ownership; fees set by rule; bond authorized.	Licensing by PUC; financial and technical resources to carry out business obligations and customer commitments; disclosure of all pending legal actions and customer complaints at other regulatory bodies; disclosure all affiliates; consider bond.	Registration by PUC; registration requirements to be proposed to Legislature by 1/1/97. PUC rules intended to ensure that suppliers meet the operating and reliability standards of NEPOOL; rely on D&T utility contracts for nondiscriminatory billing, metering and settlement procedures.	Licensing by PUC; standards set by rule; extensive licensing requirements and disclosures; bond; affidavit re compliance with customer service and billing and collection rules.

Public Policy Issues	New Hampshire	Massachusetts	Maine	Rhode Island	Pennsylvania
Application of current consumer protection rules to generation suppliers	No automatic application of current D&T rules to suppliers; minimal consumer protections to protect against abuse in competitive market to be defined by rule: slamming; monitor for redlining; cancel contract on notice	Legislation mandates that current consumer protection rules must be applied to suppliers; DTE to specify by rule which must "retain or make increasingly protective..."	PUC has obligation to adopted new minimum standards for suppliers' conduct: minimum notice provision for change in rates or other terms; conditions for service termination; requirements for change in provider; minimum information and marketing material requirements	PUC granted authority to adopt consumer protection rules applicable to competitive power suppliers.	Legislation requires all suppliers to comply with existing consumer protection, credit, billing and collection regulations. Legislation prohibits any decrease in consumer protection or service quality due to competition. PUC will consider case-by-case request for waiver from rules.
Disclosures	Mandatory price and price components information on bills; fuel mix and environmental characteristics of supplier fuel mix to be developed.	Disclosures required at time of initiation of service (Terms of Service booklet), in advertising, and on customer bills; price; key contract terms; fuel mix and environmental air emissions authorized.	Broad grant of authority to PUC to require "information that enhances consumers' ability to effectively make choices in a competitive electricity market."	No specific discussion.	Legislation authorizes PUC to adopt rules that stimulate consumers' ability to shop and compare in a competitive market. Pending rulemaking proposes uniform price and fuel mix disclosures.
Disconnection for Failure to Pay Supplier/Nonregulated Charges	No disconnection by T&D utility for failure to pay supplier bill except for Default Power Service; D&T utility cannot attempt to collect bill owed to another supplier as condition of providing service.	Only distribution utilities can disconnect from electric grid pursuant to DTE rules.	Disconnection for nonpayment of charges and disputes with power suppliers not allowed; power suppliers may discontinue service to nonpaying customers with minimal notice, but must use same methods to collect their unpaid debts as other competitive businesses.	No specific discussion, but legislation specifically adds reference to "distribution utility" in the disconnection and winter rule provisions of law, suggesting suppliers cannot use disconnection tool.	Although legislation silent, PUC has ruled that suppliers cannot use threat of disconnection to collect; must use minimum notice of contract cancellation.

Public Policy Issues	New Hampshire	Massachusetts	Maine	Rhode Island	Pennsylvania
Unfair Marketing/Slamming	PUC to develop rules; slamming specifically mentioned; more deference to jurisdiction of state A.G.	Detailed legislative guidance to prevent slamming; customer authorization must be in writing or oral verification by independent third party; no negative option or combination with prizes or checks allowed; DTE and state AG authorized to adopt further rules.	PUC granted specific authority to adopt consumer protection standards to prevent fraud and unfair practices by suppliers, including slamming. Customers can prevent telemarketing to their homes with list maintained by PUC.	PUC required to propose consumer protection rules to Legislature by 1/1/97.	PUC jurisdiction to adopt unfair practice rules, including slamming. Legislation requires D&T utility to obtain proof of customer authorization of selection of supplier prior to switch.
Regulation of Supplier Contract Terms	Minimal regulation; reasonable notice prior to cancellation of contract by supplier; bill disclosures.	DTE and state AG authority to adopt rules; a 3-day right of rescission mandated after customer receives Terms of Service booklet.	PUC has authority to require suppliers to file their prices and standard form contracts with the Commission, but emphasis on disclosure and standard bill format; consumers have 5-day right of rescission within reasonable time after agree to contract.	PUC required to propose consumer protection rules to Legislature by 1/1/97.	Supplier terms must comply with minimum billing and collection requirements, including late fees, in existing PUC rules.
Credit/Discrimination	No discussion.	Legislation requires suppliers to comply with existing consumer protection rules; interpreted to prohibit suppliers from charging late fees or requiring deposits from residential customers.	No specific discussion. PUC has authority to adopt consumer protections rules.	No specific discussion.	Suppliers must comply with PUC credit rules that require service without deposit if customer has good payment/utility history; denial/deposit only based on PUC credit rules adopted for utilities.

Public Policy Issues	New Hampshire	Massachusetts	Maine	Rhode Island	Pennsylvania
Consumer Education	Strong endorsement of consumer outreach and education; PUC considering statewide plan developed by consultant with assistance of working group. To be funded via T&D utility rates.	Division of Energy Resources authorized, in consultation with local and state-wide consumer groups, to undertake consumer education activities; funded via appropriation; toll-free hotline; plan to be submitted to DTE for approval; plan must recommend services "only to the extent that the private market cannot or doesn't adequately meet the information needs of retail customers..."	Unbundled bills beginning in 1999. Commission to appoint a Consumer Education Advisory Board to recommend specific education program, funding sources and roles, followed by PUC rules for program by 2/1/98.	No specific discussion; reliance on D&T utility to communicate options available to customers at least 90 days prior to retail access.	Legislative directive requires distribution companies to assume responsibility, "in conjunction with the Commission" for consumer education. Commission has issued recent order to require all D&T utilities to fund a statewide education program under supervision of PUC and Consumer Education Advisory Board.
Dispute Resolution	Commission will retain jurisdiction over disputes; widespread marketing abuse will be referred to A.G.	All suppliers must disclose DTE complaint number to customers; DTE will assume authority to resolve disputes; alternative dispute resolution process mandated for all damage claims by customers for less than \$100.	Commission granted jurisdiction to resolve disputes between customers and competitive providers concerning the consumer protection and licensing rules adopted by the PUC.	PUC has authority to resolve complaints between customers and competitive providers.	PUC has jurisdiction to resolve informal disputes; suppliers must refer customers to PUC if not satisfied; PUC will monitor for licensing criteria and unfair trade practices.

Public Policy Issues	New Hampshire	Massachusetts	Maine	Rhode Island	Pennsylvania
Privacy	No discussion.	Distribution company cannot release customer billing information without permission from customer.	Legislative directive to protect consumer privacy; PUC jurisdiction re rules.	No specific discussion, except that D&T utilities cannot use information that is not available to other competitive providers; D&T utilities must provide customer list to competitive providers, but not customer-specific information.	PUC has mandated that distribution companies provide customer name, address and telephone # with customer written consent for pilot programs; customers can have access to usage data without charge.
Enforcement by commission	Commission will use graduated series of fines, probation, to revocation of registration in response to supplier misconduct.	DTE authority to seek civil penalty up to \$25,000 for each violation per day and up to \$1 million for related violations; license revocation; order customer refunds; AG authorized to obtain restitution, civil penalties, injunctive relief.	PUC authority significantly expanded: license revocation; fines; cease and desist orders; authority to order restitution to customers.	PUC given specific authority for license revocation.	PUC can revoke license; civil and criminal penalties.
Consumer aggregation; cooperatives	No discussion, but clearly an option.	Extensive legislative guidance for municipal and private aggregation; municipal aggregation may occur with approved energy plans; public outreach; minimum bid procedures and contract provisions; residential customers must opt-out to choose alternative supplier, but can do so without penalty.	Consumers may aggregate their purchases of generation service in any manner they choose. A public entity can act as aggregator, but cannot require consumer to purchase from that entity.	Legislation specifically authorizes "purchasing cooperatives", not required to be legal entities and prohibited from re-sale.	No specific discussion.

TABLE 7.6 continued

Comparison of Consumer Protection Provisions in Selected States, Part 2.

Public Policy Issues	California	Montana	Nevada	Illinois
Retail Access Date	1/1/98 [Delayed until 3/31/98]	Pilots start 7/98; retail access phased in beginning with larger customers (over 1,000kW); all customers by 7/2002.	Phase-in and different dates by geographic areas authorized; full retail access no later than 12/31/99 unless PUC determines different date necessary to protect the public interest.	Phase-in beginning with largest non-residential customers on 10/1/99 and including all residential customers by 5/1/2002.
Standard Offer/Default Service	Distribution companies must provide generation service to customers based on market price (set by Power Exchange); service provided automatically to customers who do not choose and upon request, with notice, to those customers who want to return to default supply.	Distribution companies required to propose a method for assigning customers to an electricity supplier in their transition plans; must provide cost-based prices for supply service for those customers who do not choose during transition period.	PUC must designate an electric utility to provide service to customers who are unable to obtain electric service from an alternative seller or who fail to select an alternative seller. Utility authorized to recover costs for this service. Alternative methods authorized if PUC finds in public interest: direct assignment of customers to alternative sellers or process of competitive bidding. Rate cap in effect for 2 years.	Utility has obligation to provide tariffed service to customers who do not choose or who seek to return; market-based price that reflects competitive bid or neutral determination of market value; utility may impose conditions, including reasonable fee and minimum 24-month contract period for those returning to utility service.

Public Policy Issues	California	Montana	Nevada	Illinois
Regulation of Distribution Company	PBR preferred form of regulation; investor-owned utilities will continue current price cap regulation for their distribution function; divestiture preferred, but not mandated; 10% overall rate decrease. Structural separation mandated: affiliate transaction standards mandated.	Rate moratorium during transition period except that rates can increase for universal system benefit programs or costs necessary to implement full customer choice, including metering, billing and technology (latter costs assessed on customers for whom costs incurred); PBR authorized.	Residential rates capped at 7/1/97 levels for 2 years; alternative regulation authorized if alternative [compared with traditional regulation] "...improves the performance of the service or lowers the cost of the service to the customer, or both." Structural separation for conduct of competitive business required: affiliate transaction standards mandated.	15% rate decreases begin 8/98 for most customers, but 5% for one utility's customers. Functional separation only required (not structural); ICC retains authority over cost allocation and establish standards of conduct. PBR authorized; ICC to establish regulations to ensure reliability of delivery services re outages, construction and maintenance expenditures, cust. satis. surveys.

Public Policy Issues	California	Montana	Nevada	Illinois
Distribution Co. Obligation; billing and metering services	Distribution company has obligation to provide access and connection, but metering, billing and customer service functions subject to competition for large customers in 1998 and for customers below 20 kV/ beginning in 1999; working group to report on metering architecture, accuracy and data transmission standards later in 1997; by 1/98 all utilities must offer three billing options: single bill from supplier, single bill from D&T utility, dual bills; utilities must unbundle these charges from current distribution rates.	Distribution company authorized to recover costs for metering, billing and technology for transition to retail access; utilities must maintain "existing customer service requirements"; no reference to possible competition in these areas in Legislation.	PUC authorized to determine which services are competitive. Distribution utilities required to continue to provide all noncompetitive services formerly provided by vertically-integrated utilities.	Delivery service defined to include "standard metering and billing services." Competition in these services may be declared by ICC no earlier than 3 years after retail competition for generation services. Billing experiments, including real-time pricing options offered to non-res. customers first, and then res. cust. beg. 10/1/2000. Utilities must offer a single billing option that allows suppliers to bill for delivery services.

Public Policy Issues	California	Montana	Nevada	Illinois
Licensing of Generation Suppliers	AB 1280 established minimal registration requirements; SB 477 establishes more extensive registration requirements, including financial criteria "...to ensures that residential and small commercial customers have adequate recourse in the event of fraud or nonperformance." Disclosure of civil, criminal or regulatory sanctions or penalties imposed within the past 10 years against co. or officer or director.	PUC granted licensing authority; supplier must identify affiliates and degree of reciprocity in access to distribution facilities of supplier's affiliate; rulemaking to establish standards and may include a requirement that supplier provide standard service offer to small customers.	PUC must establish licensing standards for alternative sellers which must include: safety and reliability of service; financial and operational fitness; and billing practices and customer service, including the initiation and termination of service.	Certification of alternative retail electric suppliers must be obtained from the ICC; sufficient technical, financial and managerial resources and abilities; applicant must comply with informational or reporting requirements; stricter review of access and comparability of pricing for delivery services for affiliates of T&D utilities. Hearings authorized for suppliers who seek to service residential customers; streamlined procedures for suppliers who serve non-res. customers.