



North American Wholesale Electricity Demand Response Program Comparison

2010 Edition

This document contains summary information for wholesale electricity demand response programs, products and services administered by the ISOs and RTOs in North America, and provides a high-level overview of more in-depth rules and procedures. In no case should this information be used in place of the official documentation. Additionally, Demand Response markets – as well as market rules, tariffs, manuals and protocols – are continually evolving and subject to change. Therefore readers should be aware that the information contained in this document may be out of date.

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service						Product / Service Features							
Region	Acronym	Name	Service Type	Begin Date	End Date	Minimum Eligible Resource Size	Minimum Reduction Amount	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Total Demand Response Contribution Limit (%)
AESO													
AESO	DOS	Demand Opportunity Service	Energy	Active	None	None	None	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
AESO	FLSS	Frequency Load Shed Service	Regulation	Active	None	None	None	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
AESO	SUP	Supplemental Operating Reserves	Reserve	Active	None	5 MW	5 MW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
AESO	VLCP	Voluntary Load Curtailment Program	Energy	Active	None	None	None	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
CAISO													
CAISO	PLP	Participating Load Program	Energy	Active	None	100 kW	10 kW	Yes	Voluntary	Mandatory	Economic	Energy Price > Offer Price	N / A
CAISO	PLP	Participating Load Program	Reserve	Active	None	1 MW	10 kW	Yes	Voluntary	Mandatory	Economic	Capacity Bid and separate Energy Bid > Offer Price	N / A
CAISO	PDR	Proxy Demand Resource Product	Energy	8/10/2010	None	100 kW	10 kW	Yes	Voluntary	Mandatory	Economic	Energy Price > Offer Price	N / A
CAISO	PDR	Proxy Demand Resource Product	Reserve	8/10/2010	None	1 MW	10 kW	Yes	Voluntary	Mandatory	Economic	Capacity Bid and separate Energy Bid > Offer Price	N / A
ERCOT													

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service						Product / Service Features							
Region	Acronym	Name	Service Type	Begin Date	End Date	Minimum Eligible Resource Size	Minimum Reduction Amount	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Total Demand Response Contribution Limit (%)
ERCOT	EILS	Emergency Interruptible Load Service	Capacity	Active	None	1 MW	1 MW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
ERCOT	LaaR (RRS-UFR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	Active	11/30/2010	1 MW	1 MW	Portfolio-Based Bidding	Voluntary	Mandatory	Reliability	Operational Procedure or Automatic Response	50%
ERCOT	Load Resource (RRS-UFR) <i>NODAL MARKET</i>	Non-Controllable Load Resources providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	12/1/2010	None	100 kW	100 kW	No	Voluntary	Mandatory	Reliability	Operational Procedure or Automatic Response	50%
ERCOT	LaaR (RRS-CLR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Controllable Load Resource Type	Reserve	Active	11/30/2010	1 MW	1 MW	Portfolio-Based Bidding	Voluntary	Mandatory	Reliability	Operational Procedure or Automatic Response	N / A
ERCOT	Load Resource (RRS-CLR) <i>NODAL MARKET</i>	Controllable Load Resources providing Responsive Reserve Service	Reserve	12/1/2010	None	100 kW	100 kW	No	Voluntary	Mandatory	Reliability	Operational Procedure or Automatic Response	N / A
ERCOT	LaaR (NSRS) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	Active	11/30/2010	1 MW	1 MW	Portfolio-Based Bidding	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
ERCOT	Load Resource (NSRS) <i>NODAL MARKET</i>	Load Resources providing Non-Spinning Reserve Service	Reserve	12/1/2010	None	100 kW	100 kW	No	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
ERCOT	CLR (Reg) <i>ZONAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	Active	11/30/2010	1 MW	1 MW	Portfolio-Based Bidding	Voluntary	Mandatory	Reliability	Automatic Response	N / A
ERCOT	CLR (Reg) <i>NODAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	12/1/2010	None	100 kW	100 kW	No	Voluntary	Mandatory	Reliability	Automatic Response	N / A

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ISO/RTO Product / Service						Product / Service Features							
Region	Acronym	Name	Service Type	Begin Date	End Date	Minimum Eligible Resource Size	Minimum Reduction Amount	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Total Demand Response Contribution Limit (%)
IESO													
IESO	DL	Dispatchable Load	Energy	Active	None	1 MW	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Bid Price	N / A
IESO	DL	Dispatchable Load (30 minute reserve)	Reserve	Active	None	1 MW	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Offer Price	N / A
IESO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	Active	None	1 MW	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Offer Price	N / A
ISO-NE													
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	Active	5/31/2010	100 kW	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	Active	5/31/2010	100 kW	100 kW	Yes	Voluntary	Mandatory	Economic	Operational Procedure	N / A
ISO-NE	DALRP / RTDR	Day-Ahead Load Response Program for RTDRP	Energy	Active	None	100 kW	100 kW	Yes	Voluntary	Mandatory	Economic	Day-Ahead LMP = or > Offer Price	N / A
ISO-NE	DALRP / RTPR	Day-Ahead Load Response Program for RTPR	Energy	Active	None	100 kW	100 kW	Yes	Voluntary	Mandatory	Economic	Day-Ahead LMP = or > Offer Price	N / A
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	Active	5/31/2010	100 kW	100 kW	Yes	Voluntary	Mandatory	Reliability	Resources in the DRR Pilot are activated to simulate Reserve Activation Events at a frequency similar to the	50 MW

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ISO/RTO Product / Service						Product / Service Features							
Region	Acronym	Name	Service Type	Begin Date	End Date	Minimum Eligible Resource Size	Minimum Reduction Amount	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Total Demand Response Contribution Limit (%)
ISO-NE	RTPR	Real Time Price Response Program	Energy	Active	None	100 kW	100 kW	Yes	Voluntary	Voluntary	Economic	Day-Ahead or Forecast Real-Time LMP = or > \$100/MWh	N / A
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	Quals Active, Delivery starting 2010-06-01	None	100 kW	1 kW	Yes	Voluntary	Mandatory	Reliability	Critical Peak Hours: OP4 Action 6 or higher and Forecast Peak Hours whenever Day-Ahead Forecast = or > 95% of	N / A
ISO-NE	OP	FCM: On-Peak Demand Resources	Capacity	Quals Active, Delivery starting 2010-06-01	None	100 kW	1 kW	Yes	Voluntary	Mandatory	Reliability	On-Peak (hours ending 1800-1900 winter season, 1400-1700 summer season)	N / A
ISO-NE	SP	FCM: Seasonal Peak Demand Resources	Capacity	Quals Active, Delivery starting 2010-06-01	None	100 kW	1 kW	Yes	Voluntary	Mandatory	Reliability	Real time hourly load is > or = to 90% of 50/50 system peak load forecast for the applicable season	N / A
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	Quals Active, Delivery starting 2010-06-01	None	100 kW	1 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A (compensation limited to 600 MW)
ISO-NE	DARD	Dispatchable Asset Related Demand	Reserve	Active	None	1 MW	1 kW	Yes	Voluntary	Mandatory	Economic	Economic Dispatch	N / A

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Region	Acronym	Name	Service Type	Begin Date	End Date	Minimum Eligible Resource Size	Minimum Reduction Amount	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Total Demand Response Contribution Limit (%)
MISO													
MISO	DRR-I	Demand Response Resource Type I	Energy	Active	2010-05-31 (Pending FERC Approval)	1 MW		Yes	Voluntary	Voluntary	Economic	Energy Price > Offer Price	N / A
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Active	2010-05-31 (Pending FERC Approval)	1 MW		Yes	Voluntary	Mandatory	Economic	Energy Price > Offer Price	10% (including DRR-I + DRR-II) for spin
MISO	DRR-II	Demand Response Resource Type II	Energy	Active	2010-05-31 (Pending FERC Approval)	1 MW		No	Voluntary	Voluntary	Economic	Energy Price > Offer Price	N / A
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Active	2010-05-31 (Pending FERC Approval)	1 MW		No	Voluntary	Mandatory	Economic	Energy Price > Offer Price	10% (including DRR-I + DRR-II) for spin
MISO	DRR-I	Demand Response Resource Type I	Energy	2010-06-01 (pending FERC approval)	None	1 MW		Yes	Voluntary	Voluntary	Economic	Energy Price > Offer Price	N / A
MISO	DRR-I	Demand Response Resource Type-I	Reserve	2010-06-01 (pending FERC approval)	None	1 MW		Yes	Voluntary	Mandatory	Economic	Energy Price > Offer Price	10% (including DRR-I + DRR-II) for spin
MISO	DRR-II	Demand Response Resource Type II	Energy	2010-06-01 (pending FERC approval)	None	1 MW		No	Voluntary	Voluntary	Economic	Energy Price > Offer Price	N / A
MISO	DRR-II	Demand Response Resource Type-II	Reserve	2010-06-01 (pending FERC approval)	None	1 MW		No	Voluntary	Mandatory	Economic	Energy Price > Offer Price	10% (including DRR-I + DRR-II) for spin

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ISO/RTO Product / Service						Product / Service Features							
Region	Acronym	Name	Service Type	Begin Date	End Date	Minimum Eligible Resource Size	Minimum Reduction Amount	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Total Demand Response Contribution Limit (%)
MISO	DRR-II	Demand Response Resource Type-II	Regulation	Active	None	1 MW		No	Voluntary	Mandatory	Economic	Energy Price > Offer Price	
MISO	EDR	Emergency Demand Response	Energy	Active	None	100 kW		Yes	Voluntary	Voluntary	Reliability	Operational Procedure	N / A
MISO	LMR	Load Modifying Resource	Capacity	Active	None	100 kW		Yes	Voluntary	Mandatory	Reliability	Operational Procedure	
NBSO													
NBSO	30NSR	30 Minute Non-Spinning Reserves	Reserve	Active	None	100 kW	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
NBSO	10NSR	10 Minute Non-Spinning Reserves	Reserve	Active	None	100 kW	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
NBSO	10SR	10 Minute Spinning Reserve	Reserve	Active	None	100 kW	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
NBSO	LF	Load Following	Regulation	Active	None	100 kW	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure or Automatic Response	N / A
NBSO	REG	Regulation	Regulation	Active	None	100 kW	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure or Automatic Response	N / A

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ISO/RTO Product / Service						Product / Service Features							
Region	Acronym	Name	Service Type	Begin Date	End Date	Minimum Eligible Resource Size	Minimum Reduction Amount	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Total Demand Response Contribution Limit (%)
NBSO	IL	Interruptible Load	Capacity	Active	None	1 MW	1 MW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A
NBSO	BBDR	Bid-Based Demand Response	Energy	Active	None	1 MW	1 MW	Yes	Voluntary	Mandatory	Economic	Energy Price > Offer Price	N / A
NYISO													
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	Active	None	1 MW	1 MW	Yes	Voluntary	Mandatory	Economic	Energy Price > Offer Price (Security Constrained Unit Commitment)	N / A
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	Active	None	1 MW	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Offer Price (Security Constrained Economic Dispatch)	N / A
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	Active	None	1 MW	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Offer Price (Security Constrained Economic Dispatch)	N / A
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	Active	None	1 MW	1 MW	No	Voluntary	Mandatory	Economic	Energy Price > Offer Price (Security Constrained Economic Dispatch)	N / A
NYISO	EDRP	Emergency Demand Response Program	Energy	Active	None	100 kW (per Zone)	100 kW (per Zone)	Yes	Voluntary	Voluntary	Reliability	Operational Procedure	N / A
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy	Active	None	100 kW (per Zone)	100 kW (per Zone)	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A

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<i>ISO/RTO Product / Service</i>						<i>Product / Service Features</i>							
Region	Acronym	Name	Service Type	Begin Date	End Date	Minimum Eligible Resource Size	Minimum Reduction Amount	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Total Demand Response Contribution Limit (%)
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity	Active	None	100 kW (per Zone)	100 kW (per Zone)	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	N / A

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ISO/RTO Product / Service						Product / Service Features							
Region	Acronym	Name	Service Type	Begin Date	End Date	Minimum Eligible Resource Size	Minimum Reduction Amount	Aggregation Allowed	Participation	Response Required	Primary Driver	Trigger Logic	Total Demand Response Contribution Limit (%)
PJM													
PJM	-	Economic Load Response (Energy)	Energy	Active	None	100 kW	100 kW	Yes	Voluntary	Voluntary	Economic	Self-Scheduled, Cleared Day-Ahead Bid, or Real-Time Dispatch	N / A
PJM	-	Economic Load Response (Synchronized reserves)	Reserve	Active	None	500 kW	500 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	25%
PJM	-	Economic Load Response (Day ahead scheduling reserve)	Reserve	Active	None	500 kW	500 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	25%
PJM	-	Economic Load Response (Regulation)	Regulation	Active	None	500 kW	500 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	25%
PJM	-	Emergency Load Response - Energy Only	Energy	Active	None	100 kW	100 kW	Yes	Voluntary	Voluntary	Economic	Operational Procedure	N / A
PJM	-	Full Emergency Load Response (Capacity Component)	Capacity	Active	None	100 kW	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	under discussion
PJM	-	Full Emergency Load Response (Energy Component)	Energy	Active	None	100 kW	100 kW	Yes	Voluntary	Mandatory	Reliability	Operational Procedure	under discussion
SPP													
SPP		Controllable Load	Energy	Active	None	1 MW	1 MW	Aggregation to a single withdrawal point from the	Voluntary	Mandatory	Economic	Energy Price > Offer Price (Security Constrained Economic Dispatch)	N / A

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service							
Region	Acronym	Name	Service Type	Deployment "Overuse" Restriction	"Peak" Hours Only	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
AESO							
AESO	DOS	Demand Opportunity Service	Energy	Biddable Daily Participation	No	Telemetry	http://www.aeso.ca/downloads/OPP_Content.pdf
AESO	FLSS	Frequency Load Shed Service	Regulation	Distribution company rotates the load and frequency blocks after each use	No	Telemetry	http://www.aeso.ca/downloads/OPP_Content.pdf
AESO	SUP	Supplemental Operating Reserves	Reserve	Biddable Daily Participation	No	Telemetry	http://www.aeso.ca/downloads/OPP_Content.pdf
AESO	VLCP	Voluntary Load Curtailment Program	Energy	Biddable Daily Participation	No	Telemetry	http://www.aeso.ca/downloads/OPP_Content.pdf
CAISO							
CAISO	PLP	Participating Load Program	Energy	Biddable Participation + Max Number of Startups	No	Not Monitored unless over 10 MW	http://www.caiso.com/docs/2005/10/05/2005100520280423155.html
CAISO	PLP	Participating Load Program	Reserve	Biddable Participation + Max Number of Startups	No	Telemetry	http://www.caiso.com/docs/2005/10/05/2005100520280423155.html
CAISO	PDR	Proxy Demand Resource Product	Energy	Biddable Participation + Max Number of Startups	No	Not Monitored unless over 10 MW	http://www.caiso.com/1893/1893e350393b0.html
CAISO	PDR	Proxy Demand Resource Product	Reserve	Biddable Participation + Max Number of Startups	No	Telemetry	http://www.caiso.com/1893/1893e350393b0.html
ERCOT							

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ISO/RTO Product / Service							
Region	Acronym	Name	Service Type	Deployment "Overuse" Restriction	"Peak" Hours Only	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
ERCOT	EILS	Emergency Interruptible Load Service	Capacity	2x Deployments or 8 Hours per Contract Period (4-Months)	No	Calculated after the Commitment Period	http://www.ercot.com/services/programs/load/eils/
ERCOT	LaaR (RRS-UFR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	Biddable Daily Participation	No	Telemetry	http://www.ercot.com/services/programs/load/
ERCOT	Load Resource (RRS-UFR) <i>NODAL MARKET</i>	Non-Controllable Load Resources providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	Biddable Daily Participation	No	Telemetry	http://www.ercot.com/services/programs/load/
ERCOT	LaaR (RRS-CLR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Controllable Load Resource Type	Reserve	Biddable Daily Participation	No	Telemetry	http://www.ercot.com/services/programs/load/
ERCOT	Load Resource (RRS-CLR) <i>NODAL MARKET</i>	Controllable Load Resources providing Responsive Reserve Service	Reserve	Biddable Daily Participation	No	Telemetry	http://www.ercot.com/services/programs/load/
ERCOT	LaaR (NSRS) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	Biddable Daily Participation	No	Telemetry	http://www.ercot.com/services/programs/load/
ERCOT	Load Resource (NSRS) <i>NODAL MARKET</i>	Load Resources providing Non-Spinning Reserve Service	Reserve	Biddable Daily Participation	No	Telemetry	http://www.ercot.com/services/programs/load/
ERCOT	CLR (Reg) <i>ZONAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	Biddable Daily Participation	No	Telemetry	http://www.ercot.com/services/programs/load/
ERCOT	CLR (Reg) <i>NODAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	Biddable Daily Participation	No	Telemetry	http://www.ercot.com/services/programs/load/

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ISO/RTO Product / Service							
Region	Acronym	Name	Service Type	Deployment "Overuse" Restriction	"Peak" Hours Only	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
IESO							
IESO	DL	Dispatchable Load	Energy	None	No	Telemetry	http://www.ieso.ca/imoweb/marketsAndPrograms/markets_programs.asp
IESO	DL	Dispatchable Load (30 minute reserve)	Reserve	None	No	Telemetry	http://www.ieso.ca/imoweb/marketsAndPrograms/markets_programs.asp
IESO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	None	No	Telemetry	http://www.ieso.ca/imoweb/marketsAndPrograms/markets_programs.asp
ISO-NE							
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	None	No	Telemetry	http://www.iso-ne.com/rules_proceeds/isonmnl/index.html
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	None	No	Not Monitored	http://www.iso-ne.com/rules_proceeds/isonmnl/index.html
ISO-NE	DALRP / RTDR	Day-Ahead Load Response Program for RTDRP	Energy	None	Yes	Not Monitored	http://www.iso-ne.com/rules_proceeds/isonmnl/index.html
ISO-NE	DALRP / RTPR	Day-Ahead Load Response Program for RTPR	Energy	None	Yes	Not Monitored	http://www.iso-ne.com/rules_proceeds/isonmnl/index.html
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	None	No	Telemetry	http://www.iso-ne.com/rules_proceeds/isonmnl/index.html

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ISO/RTO Product / Service							
Region	Acronym	Name	Service Type	Deployment "Overuse" Restriction	"Peak" Hours Only	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
ISO-NE	RTPR	Real Time Price Response Program	Energy	None	Yes	Not Monitored	http://www.iso-ne.com/rules_proceeds/isone_mnls/index.html
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	None	No	Telemetry	http://www.iso-ne.com/rules_proceeds/isone_mnls/index.html
ISO-NE	OP	FCM: On-Peak Demand Resources	Capacity	None	Yes	Not Monitored	http://www.iso-ne.com/rules_proceeds/isone_mnls/index.html
ISO-NE	SP	FCM: Seasonal Peak Demand Resources	Capacity	None	Yes	Not Monitored	http://www.iso-ne.com/rules_proceeds/isone_mnls/index.html
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	None	No	Telemetry	http://www.iso-ne.com/rules_proceeds/isone_mnls/index.html
ISO-NE	DARD	Dispatchable Asset Related Demand	Reserve	None	No	Telemetry	http://www.iso-ne.com/rules_proceeds/isone_mnls/index.html

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ISO/RTO Product / Service							
Region	Acronym	Name	Service Type	Deployment "Overuse" Restriction	"Peak" Hours Only	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
MISO							
MISO	DRR-I	Demand Response Resource Type I	Energy	Biddable Daily Participation	No	Telemetry	http://www.midwestmarket.org/publish/Document/279a04_11db4d152b9_-7efc0a48324a?rev=4
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Biddable Daily Participation	No	Telemetry	http://www.midwestmarket.org/publish/Document/279a04_11db4d152b9_-7efc0a48324a?rev=4
MISO	DRR-II	Demand Response Resource Type II	Energy	Biddable Daily Participation	No	Telemetry	http://www.midwestmarket.org/publish/Document/279a04_11db4d152b9_-7efc0a48324a?rev=4
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Biddable Daily Participation	No	Telemetry	http://www.midwestmarket.org/publish/Document/279a04_11db4d152b9_-7efc0a48324a?rev=4
MISO	DRR-I	Demand Response Resource Type I	Energy	Biddable Daily Participation	No	Availability based on offers	http://www.midwestmarket.org/publish/Document/279a04_11db4d152b9_-7efc0a48324a?rev=4
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Biddable Daily Participation	No	Availability based on offers	http://www.midwestmarket.org/publish/Document/279a04_11db4d152b9_-7efc0a48324a?rev=4
MISO	DRR-II	Demand Response Resource Type II	Energy	Biddable Daily Participation	No	Availability based on offers	http://www.midwestmarket.org/publish/Document/279a04_11db4d152b9_-7efc0a48324a?rev=4
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Biddable Daily Participation	No	Availability based on offers	http://www.midwestmarket.org/publish/Document/279a04_11db4d152b9_-7efc0a48324a?rev=4

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Region	Acronym	Name	Service Type	Deployment "Overuse" Restriction	"Peak" Hours Only	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
MISO	DRR-II	Demand Response Resource Type-II	Regulation	Biddable Daily Participation	No	Telemetry	http://www.midwestmarket.org/publish/Document/279a04_11db4d152b9_-7efc0a48324a?rev=4
MISO	EDR	Emergency Demand Response	Energy	Biddable Daily Participation	No	Daily Update	http://www.midwestmarket.org/publish/Folder/1e1401_118199304fa_-78d10a48324a
MISO	LMR	Load Modifying Resource	Capacity	Minimum use 5x	No	Daily Update	http://www.midwestmarket.org/publish/Document/2c41ee_1200f54a695_-7ff30a48324a
NBSO							
NBSO	30NSR	30 Minute Non-Spinning Reserves	Reserve	None	No	Not Monitored	http://www.nbso.ca/Public/en/op/market/default.aspx
NBSO	10NSR	10 Minute Non-Spinning Reserves	Reserve	None	No	Not Monitored	http://www.nbso.ca/Public/en/op/market/default.aspx
NBSO	10SR	10 Minute Spinning Reserve	Reserve	None	No	Not Monitored	http://www.nbso.ca/Public/en/op/market/default.aspx
NBSO	LF	Load Following	Regulation	None	No	Not Monitored	http://www.nbso.ca/Public/en/op/market/default.aspx
NBSO	REG	Regulation	Regulation	None	No	Not Monitored	http://www.nbso.ca/Public/en/op/market/default.aspx

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ISO/RTO Product / Service							
Region	Acronym	Name	Service Type	Deployment "Overuse" Restriction	"Peak" Hours Only	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
NBSO	IL	Interruptible Load	Capacity	None	No	Not Monitored	http://www.nbso.ca/Public/en/op/market/default.aspx
NBSO	BBDR	Bid-Based Demand Response	Energy	None	No	Not Monitored	http://www.nbso.ca/Public/en/op/market/default.aspx
NYISO							
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	None	No	Not Monitored	http://www.nyiso.com/public/webdocs/products/demand_response/day Ahead/dadrp_mnl.pdf
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	None	No	Telemetry	http://www.nyiso.com/public/webdocs/services/market_training/workshops_courses/other/demand_side_ancilsvcs.pdf
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	None	No	Telemetry	http://www.nyiso.com/public/webdocs/services/market_training/workshops_courses/other/demand_side_ancilsvcs.pdf
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	None	No	Telemetry	http://www.nyiso.com/public/webdocs/services/market_training/workshops_courses/other/demand_side_ancilsvcs.pdf
NYISO	EDRP	Emergency Demand Response Program	Energy	None	No	Not Monitored	http://www.nyiso.com/public/webdocs/products/demand_response/emergency_demand_response/edrp_mnl.pdf
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy	None	No	Not Monitored	http://www.nyiso.com/public/webdocs/products/demand_response/special_case_resources_icap_program/icap_mnl.pdf

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>							
Region	Acronym	Name	Service Type	Deployment "Overuse" Restriction	"Peak" Hours Only	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity	None	No	Not Monitored	http://www.nyiso.com/public/webdocs/products/demand_response/special_case_resources_icap_program/icap_mnl.pdf

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service							
Region	Acronym	Name	Service Type	Deployment "Overuse" Restriction	"Peak" Hours Only	Demand Resource Availability Measurement	Transparency of Requirements (Demonstrated through ISO/RTO Web Link)
PJM							
PJM	-	Economic Load Response (Energy)	Energy	Biddable Daily Participation	No	Availability based on offers	http://www.pjm.com/markets-and-operations/demand-response/~media/markets-ops/dsr/20090106-demand-response-reference-sheet.ashx
PJM	-	Economic Load Response (Synchronized reserves)	Reserve	Biddable Hourly Participation	No	Availability based on offers	http://www.pjm.com/markets-and-operations/demand-response/~media/markets-ops/dsr/20090106-demand-response-reference-sheet.ashx
PJM	-	Economic Load Response (Day ahead scheduling reserve)	Reserve	Biddable Hourly Participation	No	Availability based on offers	http://www.pjm.com/markets-and-operations/demand-response/~media/markets-ops/dsr/20090106-demand-response-reference-sheet.ashx
PJM	-	Economic Load Response (Regulation)	Regulation	Biddable Hourly Participation	No	Telemetry	http://www.pjm.com/markets-and-operations/demand-response/~media/markets-ops/dsr/20090106-demand-response-reference-sheet.ashx
PJM	-	Emergency Load Response - Energy Only	Energy	None	No	Availability based on offers	http://www.pjm.com/markets-and-operations/demand-response/~media/markets-ops/dsr/20090106-demand-response-reference-sheet.ashx
PJM	-	Full Emergency Load Response (Capacity Component)	Capacity	10 days up to 6 hours per day	Yes	Annual test	http://www.pjm.com/markets-and-operations/demand-response/~media/markets-ops/dsr/20090106-demand-response-reference-sheet.ashx
PJM	-	Full Emergency Load Response (Energy Component)	Energy	10 days up to 6 hours per day	Yes	Annual test	http://www.pjm.com/markets-and-operations/demand-response/~media/markets-ops/dsr/20090106-demand-response-reference-sheet.ashx
SPP							
SPP		Controllable Load	Energy	Biddable Daily Participation	No	ICCP	http://www.spp.org/section.asp?group=327&pageID=27

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Deployment Type			Market Participant Roles [See Acronyms Tab]				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Service Provider (SP)	Load Serving Entity (LSE)	Scheduling Entity (SE)	Designated Dispatch Entity (DDE)	Transmission / Distribution Service Provider (TDSP)
AESO											
AESO	DOS	Demand Opportunity Service	Energy	✓			Market Participant	LSE	N / A	Market Participant	DFO / TFO
AESO	FLSS	Frequency Load Shed Service	Regulation			✓	Market Participant	LSE	N / A	N/A	DFO / TFO
AESO	SUP	Supplemental Operating Reserves	Reserve			✓	Market Participant	LSE	Market Participant	Market Participant	DFO / TFO
AESO	VLCP	Voluntary Load Curtailment Program	Energy	✓			Market Participant	LSE	N / A	Market Participant	DFO / TFO
CAISO											
CAISO	PLP	Participating Load Program	Energy	✓			DRP	LSE (bundled customers) ESP (unbundled cust.)	SC	DRP	UDC
CAISO	PLP	Participating Load Program	Reserve	✓			DRP	LSE (bundled customers) ESP (unbundled cust.)	SC	DRP	UDC
CAISO	PDR	Proxy Demand Resource Product	Energy	✓			DRP	LSE (bundled customers) ESP (unbundled cust.)	SC	DRP	UDC
CAISO	PDR	Proxy Demand Resource Product	Reserve	✓			DRP	LSE (bundled customers) ESP (unbundled cust.)	SC	DRP	UDC
ERCOT											

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Deployment Type			Market Participant Roles [See Acronyms Tab]				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Service Provider (SP)	Load Serving Entity (LSE)	Scheduling Entity (SE)	Designated Dispatch Entity (DDE)	Transmission / Distribution Service Provider (TDSP)
ERCOT	EILS	Emergency Interruptible Load Service	Capacity		✓		QSE	Competitive Retailer or Non-Opt-In Entity (not relevant to DR)	QSE	QSE	TDSP
ERCOT	LaaR (RRS-UFR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	✓	✓	✓	Resource Owner	Competitive Retailer or Non-Opt-In Entity (not relevant to DR)	QSE	QSE	TDSP
ERCOT	Load Resource (RRS-UFR) <i>NODAL MARKET</i>	Non-Controllable Load Resources providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	✓	✓	✓	Resource Owner	Competitive Retailer or Non-Opt-In Entity (not relevant to DR)	QSE	QSE	TDSP
ERCOT	LaaR (RRS-CLR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Controllable Load Resource Type	Reserve	✓	✓	✓	Resource Owner	Competitive Retailer or Non-Opt-In Entity (not relevant to DR)	QSE	QSE	TDSP
ERCOT	Load Resource (RRS-CLR) <i>NODAL MARKET</i>	Controllable Load Resources providing Responsive Reserve Service	Reserve	✓	✓	✓	Resource Owner	Competitive Retailer or Non-Opt-In Entity (not relevant to DR)	QSE	QSE	TDSP
ERCOT	LaaR (NSRS) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	✓	✓		Resource Owner	Competitive Retailer or Non-Opt-In Entity (not relevant to DR)	QSE	QSE	TDSP
ERCOT	Load Resource (NSRS) <i>NODAL MARKET</i>	Load Resources providing Non-Spinning Reserve Service	Reserve	✓	✓		Resource Owner	Competitive Retailer or Non-Opt-In Entity (not relevant to DR)	QSE	QSE	TDSP
ERCOT	CLR (Reg) <i>ZONAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation		✓	✓	Resource Owner	Competitive Retailer or Non-Opt-In Entity (not relevant to DR)	QSE	QSE	TDSP
ERCOT	CLR (Reg) <i>NODAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation		✓	✓	Resource Owner	Competitive Retailer or Non-Opt-In Entity (not relevant to DR)	QSE	QSE	TDSP

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Deployment Type			Market Participant Roles [See Acronyms Tab]				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Service Provider (SP)	Load Serving Entity (LSE)	Scheduling Entity (SE)	Designated Dispatch Entity (DDE)	Transmission / Distribution Service Provider (TDSP)
IESO											
IESO	DL	Dispatchable Load	Energy	✓			Market Participant	LSE (Not Involved)	Market Participant	Market Participant	Transmitter (Not Involved)
IESO	DL	Dispatchable Load (30 minute reserve)	Reserve	✓			Market Participant	LSE (Not Involved)	Market Participant	Market Participant	Transmitter (Not Involved)
IESO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	✓			Market Participant	LSE (Not Involved)	Market Participant	Market Participant	Transmitter (Not Involved)
ISO-NE											
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity		✓		Lead Market Participant	Competitive Retailer (not relevant to DR)	Lead Market Participant	IBCS Provider	TDSP
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy		✓		Lead Market Participant	Competitive Retailer (not relevant to DR)	Lead Market Participant	IBCS Provider	TDSP
ISO-NE	DALRP / RTDR	Day-Ahead Load Response Program for RTDRP	Energy	✓			Lead Market Participant	Competitive Retailer (not relevant to DR)	Lead Market Participant	IBCS Provider	TDSP
ISO-NE	DALRP / RTPR	Day-Ahead Load Response Program for RTPR	Energy	✓			Lead Market Participant	Competitive Retailer (not relevant to DR)	Lead Market Participant	IBCS Provider	TDSP
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve		✓		Lead Market Participant	Competitive Retailer (not relevant to DR)	Lead Market Participant	IBCS Provider	TDSP

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Deployment Type			Market Participant Roles [See Acronyms Tab]				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Service Provider (SP)	Load Serving Entity (LSE)	Scheduling Entity (SE)	Designated Dispatch Entity (DDE)	Transmission / Distribution Service Provider (TDSP)
ISO-NE	RTPR	Real Time Price Response Program	Energy		✓		Lead Market Participant	Competitive Retailer (not relevant to DR)	Lead Market Participant	IBCS Provider	TDSP
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	✓			Lead Market Participant	Competitive Retailer (not relevant to DR)	Lead Market Participant	DDE	TDSP
ISO-NE	OP	FCM: On-Peak Demand Resources	Capacity			✓	Lead Market Participant	Competitive Retailer (not relevant to DR)	N/A	N/A	TDSP
ISO-NE	SP	FCM: Seasonal Peak Demand Resources	Capacity			✓	Lead Market Participant	Competitive Retailer (not relevant to DR)	N/A	N/A	TDSP
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	✓			Lead Market Participant	Competitive Retailer (not relevant to DR)	Lead Market Participant	DDE	TDSP
ISO-NE	DARD	Dispatchable Asset Related Demand	Reserve	✓			Lead Market Participant	Competitive Retailer (not relevant to DR)	Lead Market Participant	DDE	TDSP

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Deployment Type			Market Participant Roles [See Acronyms Tab]				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Service Provider (SP)	Load Serving Entity (LSE)	Scheduling Entity (SE)	Designated Dispatch Entity (DDE)	Transmission / Distribution Service Provider (TDSP)
MISO											
MISO	DRR-I	Demand Response Resource Type I	Energy	✓		✓	Market Participant	LSE	Market Participant or designated agent	Market Participant	Not Involved; however LBA is informed.
MISO	DRR-I	Demand Response Resource Type-I	Reserve	✓		✓	Market Participant	LSE	Market Participant or designated agent	Market Participant	Not Involved; however LBA is informed.
MISO	DRR-II	Demand Response Resource Type II	Energy	✓		✓	Market Participant	LSE	Market Participant or designated agent	Market Participant	Not Involved; however LBA is informed.
MISO	DRR-II	Demand Response Resource Type-II	Reserve	✓		✓	Market Participant	LSE	Market Participant or designated agent	Market Participant	Not Involved; however LBA is informed.
MISO	DRR-I	Demand Response Resource Type I	Energy	✓		✓	Market Participant	LSE	Market Participant or designated agent	Market Participant	Not Involved; however LBA is informed.
MISO	DRR-I	Demand Response Resource Type-I	Reserve	✓		✓	Market Participant	LSE	Market Participant or designated agent	Market Participant	Not Involved; however LBA is informed.
MISO	DRR-II	Demand Response Resource Type II	Energy	✓		✓	Market Participant	LSE	Market Participant or designated agent	Market Participant	Not Involved; however LBA is informed.
MISO	DRR-II	Demand Response Resource Type-II	Reserve	✓		✓	Market Participant	LSE	Market Participant or designated agent	Market Participant	Not Involved; however LBA is informed.

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Deployment Type			Market Participant Roles [See Acronyms Tab]				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Service Provider (SP)	Load Serving Entity (LSE)	Scheduling Entity (SE)	Designated Dispatch Entity (DDE)	Transmission / Distribution Service Provider (TDSP)
MISO	DRR-II	Demand Response Resource Type-II	Regulation	✓		✓	Market Participant	LSE	Market Participant or designated agent	Market Participant	Not Involved; however LBA is informed.
MISO	EDR	Emergency Demand Response	Energy	✓			Market Participant	LSE	Market Participant	Market Participant	Not Involved; however LBA is informed.
MISO	LMR	Load Modifying Resource	Capacity	✓			Market Participant	LSE	Market Participant	Market Participant	Not Involved; however LBA is informed.
NBSO											
NBSO	30NSR	30 Minute Non-Spinning Reserves	Reserve	✓			Market Participant	Market Participant (for the Load Facility)	Market Participant	Market Participant	Transmitter
NBSO	10NSR	10 Minute Non-Spinning Reserves	Reserve	✓			Market Participant	Market Participant (for the Load Facility)	Market Participant	Market Participant	Transmitter
NBSO	10SR	10 Minute Spinning Reserve	Reserve	✓			Market Participant	Market Participant (for the Load Facility)	Market Participant	Market Participant	Transmitter
NBSO	LF	Load Following	Regulation	✓			Market Participant	Market Participant (for the Load Facility)	Market Participant	Market Participant	Transmitter
NBSO	REG	Regulation	Regulation	✓			Market Participant	Market Participant (for the Load Facility)	Market Participant	Market Participant	Transmitter

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Deployment Type			Market Participant Roles [See Acronyms Tab]				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Service Provider (SP)	Load Serving Entity (LSE)	Scheduling Entity (SE)	Designated Dispatch Entity (DDE)	Transmission / Distribution Service Provider (TDSP)
NBSO	IL	Interruptible Load	Capacity	✓			Market Participant	Market Participant (for the Load Facility)	Market Participant	Market Participant	Transmitter
NBSO	BBDR	Bid-Based Demand Response	Energy	✓			Market Participant	Market Participant (for the Load Facility)	Market Participant	Market Participant	Transmitter
NYISO											
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	✓			DRP	LSE	DRP	DRP	TO
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	✓			N/A	LSE	TO	TO	TO
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	✓			N/A	LSE	TO	TO	TO
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	✓			N/A	LSE	TO	TO	TO
NYISO	EDRP	Emergency Demand Response Program	Energy		✓		CSP	LSE	CSP	CSP	TO
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy		✓		RIP	LSE	RIP	RIP	TO

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Deployment Type			Market Participant Roles [See Acronyms Tab]				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Service Provider (SP)	Load Serving Entity (LSE)	Scheduling Entity (SE)	Designated Dispatch Entity (DDE)	Transmission / Distribution Service Provider (TDSP)
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity		✓		RIP	LSE	RIP	RIP	TO

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Deployment Type			Market Participant Roles [See Acronyms Tab]				
Region	Acronym	Name	Service Type	Resource-Specific	Bulk	Self	Service Provider (SP)	Load Serving Entity (LSE)	Scheduling Entity (SE)	Designated Dispatch Entity (DDE)	Transmission / Distribution Service Provider (TDSP)
PJM											
PJM	-	Economic Load Response (Energy)	Energy	✓		✓	CSP	LSE	CSP	CSP	TO or EDC
PJM	-	Economic Load Response (Synchronized reserves)	Reserve		✓		CSP	LSE	CSP	CSP	TO or EDC
PJM	-	Economic Load Response (Day ahead scheduling reserve)	Reserve	✓			CSP	LSE	CSP	CSP	TO or EDC
PJM	-	Economic Load Response (Regulation)	Regulation	✓			CSP	LSE	CSP	CSP	TO or EDC
PJM	-	Emergency Load Response - Energy Only	Energy		✓		CSP	LSE	CSP	CSP	TO or EDC
PJM	-	Full Emergency Load Response (Capacity Component)	Capacity		✓		CSP	LSE	CSP	CSP	TO or EDC
PJM	-	Full Emergency Load Response (Energy Component)	Energy		✓		CSP	LSE	CSP	CSP	TO or EDC
SPP											
SPP		Controllable Load	Energy	✓			Market Participant	LSE	-	Market Participant	LSE

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Communications Technologies & System References [See Acronyms Tab]					
Region	Acronym	Name	Service Type	Metering Authority (MA)	Enrollment & Qualification	Forward Scheduling & Award Notification	Deployment	Real-Time Communications	(After-The-Fact) Measurement & Performance Evaluation
AESO									
AESO	DOS	Demand Opportunity Service	Energy	Market Participant	Paper Forms	N / A	Verbal Dispatch Instruction	ICCP	Electronic File Submission [CDMS]
AESO	FLSS	Frequency Load Shed Service	Regulation	Market Participant	Paper Forms	N / A	Under-Freq. Relay Trip	ICCP	Electronic File Submission [CDMS]
AESO	SUP	Supplemental Operating Reserves	Reserve	Market Participant	Paper Forms	Web Page [NGX]	Internet Dispatch [ADAMS]	ICCP	Electronic File Submission [CDMS]
AESO	VLCP	Voluntary Load Curtailment Program	Energy	Market Participant	Paper Forms	N / A	Verbal Dispatch Instruction	N / A	Electronic File Submission [CDMS]
CAISO									
CAISO	PLP	Participating Load Program	Energy	SC Metered Entity	Paper Forms	Web Page	Web Service [ADS]	ICCP or DNP3	Web Service [OMAR]
CAISO	PLP	Participating Load Program	Reserve	SC Metered Entity	Paper Forms	Web Page	Web Service [ADS]	ICCP or DNP3	Web Service [OMAR]
CAISO	PDR	Proxy Demand Resource Product	Energy	SC Metered Entity	Web Page	Web Page	Web Service [ADS]	ICCP or DNP3	Web Service [DRS]
CAISO	PDR	Proxy Demand Resource Product	Reserve	SC Metered Entity	Web Page	Web Page	Web Service [ADS]	ICCP or DNP3	Web Service [DRS]
ERCOT									

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Communications Technologies & System References [See Acronyms Tab]					
Region	Acronym	Name	Service Type	Metering Authority (MA)	Enrollment & Qualification	Forward Scheduling & Award Notification	Deployment	Real-Time Communications	(After-The-Fact) Measurement & Performance Evaluation
ERCOT	EILS	Emergency Interruptible Load Service	Capacity	TDSP or QSE	Electronic File Submission	Electronic Form via Email	Verbal Dispatch Instruction	N / A	EDI Transaction or Form submission (Multiple Formats)
ERCOT	LaaR (RRS-UFR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	TDSP	Electronic File Submission	Web Page [MIS] / XML Notification [MIS]	Verbal Dispatch Instruction / Under-Freq. Relay Trip	ICCP	EDI Transaction
ERCOT	Load Resource (RRS-UFR) <i>NODAL MARKET</i>	Non-Controllable Load Resources providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	TDSP	Electronic File Submission	Web Page [MIS] / XML Notification [MIS]	Verbal Dispatch Instruction / Under-Freq. Relay Trip	ICCP	EDI Transaction
ERCOT	LaaR (RRS-CLR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Controllable Load Resource Type	Reserve	TDSP	Electronic File Submission	Web Page [MIS] / XML Notification [MIS]	Governor-type Response / Automatic System Dispatch / Verbal Dispatch Instruction	ICCP	EDI Transaction
ERCOT	Load Resource (RRS-CLR) <i>NODAL MARKET</i>	Controllable Load Resources providing Responsive Reserve Service	Reserve	TDSP	Electronic File Submission	Web Page [MIS] / XML Notification [MIS]	Governor-type Response / Automatic System Dispatch / Verbal Dispatch Instruction	ICCP	EDI Transaction
ERCOT	LaaR (NSRS) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	TDSP	Electronic File Submission	Web Page [MIS] / XML Notification [MIS]	Verbal Dispatch Instruction	ICCP	EDI Transaction
ERCOT	Load Resource (NSRS) <i>NODAL MARKET</i>	Load Resources providing Non-Spinning Reserve Service	Reserve	TDSP	Electronic File Submission	Web Page [MIS] / XML Notification [MIS]	Verbal Dispatch Instruction	ICCP	EDI Transaction
ERCOT	CLR (Reg) <i>ZONAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	TDSP	Electronic File Submission	Web Page [MIS] / XML Notification [MIS]	Governor-type Response / Automatic System Dispatch	ICCP	EDI Transaction
ERCOT	CLR (Reg) <i>NODAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	TDSP	Electronic File Submission	Web Page [MIS] / XML Notification [MIS]	Governor-type Response / Automatic System Dispatch	ICCP	EDI Transaction

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Communications Technologies & System References [See Acronyms Tab]					
Region	Acronym	Name	Service Type	Metering Authority (MA)	Enrollment & Qualification	Forward Scheduling & Award Notification	Deployment	Real-Time Communications	(After-The-Fact) Measurement & Performance Evaluation
IESO									
IESO	DL	Dispatchable Load	Energy	MSP	Electronic File Submission or Paper-Based Form	Web Page / File Upload [MIM/MPI]	Web-Based Message Exchange System	Web-Based Message Exchange System + SCADA Metering	MV90
IESO	DL	Dispatchable Load (30 minute reserve)	Reserve	MSP	Electronic File Submission or Paper-Based Form	Web Page / File Upload [MIM/MPI]	Web-Based Message Exchange System	Web-Based Message Exchange System + SCADA Metering	MV90
IESO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	MSP	Electronic File Submission or Paper-Based Form	Web Page / File Upload [MIM/MPI]	Web-Based Message Exchange System	Web-Based Message Exchange System + SCADA Metering	MV90
ISO-NE									
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	IBCS Provider	Web Page [CAMS]	N / A	Web Service [IBCS OS] / E-Mail	Web Service [IBCS OS]	Web Service [IBCS OS]
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	IBCS Provider	Web Page [CAMS]	N / A	Web Service [IBCS OS] / E-Mail	Web Service [IBCS OS]	Web Service [IBCS OS]
ISO-NE	DALRP / RTDR	Day-Ahead Load Response Program for RTDRP	Energy	IBCS Provider	Web Page [CAMS]	Web Page [EMarket]	Web Service [IBCS OS] / E-Mail	Web Service [IBCS OS]	Web Service [IBCS OS]
ISO-NE	DALRP / RTPR	Day-Ahead Load Response Program for RTPR	Energy	MA	Web Page [CAMS]	Web Page [EMarket]	N / A	N / A	Web Service [MRUI]
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	IBCS Provider	Web Page [CAMS]	N / A	Web Service [IBCS OS] / E-Mail	Web Service [IBCS OS]	Web Service [IBCS OS]

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Communications Technologies & System References [See Acronyms Tab]					
Region	Acronym	Name	Service Type	Metering Authority (MA)	Enrollment & Qualification	Forward Scheduling & Award Notification	Deployment	Real-Time Communications	(After-The-Fact) Measurement & Performance Evaluation
ISO-NE	RTPR	Real Time Price Response Program	Energy	MA	Web Page [CAMS]	N / A	E-Mail [ISO-NE List Server]	N / A	Web Service [MRUI]
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	DDE	Resources: Web Page + PDF Upload [FCTS] Assets: Web Page [CAMS]	Web Page [DRMUI]	DNP3 [CFE]	DNP3 [CFE]	Web Service [DRMUI]
ISO-NE	OP	FCM: On-Peak Demand Resources	Capacity	MA	Resources: Web Page + PDF Upload [FCTS] Assets: Web Page [CAMS]	N / A	N / A Non-Dispatchable	N / A	Web Service [CAMS]
ISO-NE	SP	FCM: Seasonal Peak Demand Resources	Capacity	MA	Resources: Web Page + PDF Upload [FCTS] Assets: Web Page [CAMS]	N / A	N / A Non-Dispatchable	N / A	Web Service [CAMS]
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	DDE	Resources: Web Page + PDF Upload [FCTS] Assets: Web Page [CAMS]	Web Page [DRMUI]	DNP3 [CFE]	DNP3 [CFE]	Web Service [DRMUI]
ISO-NE	DARD	Dispatchable Asset Related Demand	Reserve	MA	Paper Forms / Web Page [CAMS]	Web Page [eMarket]	DNP3 [CFE]	DNP3 [CFE]	Web Service [MRUI]

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Communications Technologies & System References [See Acronyms Tab]					
Region	Acronym	Name	Service Type	Metering Authority (MA)	Enrollment & Qualification	Forward Scheduling & Award Notification	Deployment	Real-Time Communications	(After-The-Fact) Measurement & Performance Evaluation
MISO									
MISO	DRR-I	Demand Response Resource Type I	Energy	Market Participant or designated agent	Paper Forms	Web Page / File Upload [DART]	e-mail / Web Services	XML	Web Page / File Upload [DART]
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Market Participant or designated agent	Paper Forms	Web Page / File Upload [DART]	e-mail / Web Services	XML	Web Page / File Upload [DART]
MISO	DRR-II	Demand Response Resource Type II	Energy	Market Participant or designated agent	Paper Forms	Web Page / File Upload [DART]	e-mail / Web Services	ICCP	Web Page / File Upload [DART]
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Market Participant or designated agent	Paper Forms	Web Page / File Upload [DART]	e-mail / Web Services	ICCP	Web Page / File Upload [DART]
MISO	DRR-I	Demand Response Resource Type I	Energy	Market Participant or designated agent	Paper Forms + WebPage [DRT]	Web Page / File Upload [DART]	e-mail / Web Services	XML	Web Page / File Upload [DART]
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Market Participant or designated agent	Paper Forms + WebPage [DRT]	Web Page / File Upload [DART]	e-mail / Web Services	XML	Web Page / File Upload [DART]
MISO	DRR-II	Demand Response Resource Type II	Energy	Market Participant or designated agent	Paper Forms + WebPage [DRT]	Web Page / File Upload [DART]	e-mail / Web Services	ICCP	Web Page / File Upload [DART]
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Market Participant or designated agent	Paper Forms + WebPage [DRT]	Web Page / File Upload [DART]	e-mail / Web Services	ICCP	Web Page / File Upload [DART]

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Communications Technologies & System References [See Acronyms Tab]					
Region	Acronym	Name	Service Type	Metering Authority (MA)	Enrollment & Qualification	Forward Scheduling & Award Notification	Deployment	Real-Time Communications	(After-The-Fact) Measurement & Performance Evaluation
MISO	DRR-II	Demand Response Resource Type-II	Regulation	Market Participant or designated agent	Paper Forms + WebPage [DRT]	Web Page / File Upload [DART]	e-mail / Web Services	ICCP	Web Page / File Upload [DART]
MISO	EDR	Emergency Demand Response	Energy	Market Participant or designated agent	Paper Forms	N / A	e-mail / Web Services	XML	Web Page / File Upload
MISO	LMR	Load Modifying Resource	Capacity	Market Participant or designated agent	Paper Forms	N / A	e-mail / Web Services	XML	Web Page / File Upload
NBSO									
NBSO	30NSR	30 Minute Non-Spinning Reserves	Reserve	Transmitter	Paper Forms	Web Page [MIS] / Upload (Web Service)	Verbal Dispatch Instruction	SCADA	Web Page [MIS] / Upload (Web Service) / Polled Meter
NBSO	10NSR	10 Minute Non-Spinning Reserves	Reserve	Transmitter	Paper Forms	Web Page [MIS] / Upload (Web Service)	Verbal Dispatch Instruction	SCADA	Web Page [MIS] / Upload (Web Service) / Polled Meter
NBSO	10SR	10 Minute Spinning Reserve	Reserve	Transmitter	Paper Forms	Web Page [MIS] / Upload (Web Service)	Verbal Dispatch Instruction	SCADA	Web Page [MIS] / Upload (Web Service) / Polled Meter
NBSO	LF	Load Following	Regulation	Transmitter	Paper Forms	Web Page [MIS] / Upload (Web Service)	Automatic System Dispatch / Verbal Dispatch Instruction	SCADA	Web Page [MIS] / Upload (Web Service) / Polled Meter
NBSO	REG	Regulation	Regulation	Transmitter	Paper Forms	Web Page [MIS] / Upload (Web Service)	Automatic System Dispatch	SCADA	Web Page [MIS] / Upload (Web Service) / Polled Meter

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Communications Technologies & System References [See Acronyms Tab]					
Region	Acronym	Name	Service Type	Metering Authority (MA)	Enrollment & Qualification	Forward Scheduling & Award Notification	Deployment	Real-Time Communications	(After-The-Fact) Measurement & Performance Evaluation
NBSO	IL	Interruptible Load	Capacity	Transmitter	Paper Forms	N / A	Verbal Dispatch Instruction	N / A	Web Page [MIS] / Upload (Web Service) / Polled Meter
NBSO	BBDR	Bid-Based Demand Response	Energy	Transmitter	Paper Forms	Web Page [MIS] / Upload (Web Service)	Web Page [MIS] / Upload (Web Service)	SCADA	Web Page [MIS] / Upload (Web Service) / Polled Meter
NYISO									
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	TO or MSP or MDSP	Web Page	Web Page [MIS]	Non-Dispatchable / Fixed Schedule	N / A	Web Page [MIS] / Upload [Web Service]
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	TO or MSP or MDSP	Web Page	Web Page [MIS]	Automatic System Dispatch	ICCP	Web Page [MIS] / Upload [Web Service]
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	TO or MSP or MDSP	Web Page	Web Page [MIS]	Automatic System Dispatch	ICCP	Web Page [MIS] / Upload [Web Service]
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	TO or MSP or MDSP	Web Page	Web Page [MIS]	Automatic System Dispatch	ICCP	Web Page [MIS] / Upload [Web Service]
NYISO	EDRP	Emergency Demand Response Program	Energy	TO or MSP or MDSP	Web Page	Automated Voice Message / e-Mail	Automated Voice Message / e-Mail	N / A	Web Page [MIS] / Upload [Web Service]
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy	TO or MSP or MDSP	Web Page	Automated Voice Message / e-Mail	Automated Voice Message / e-Mail	N / A	Web Page [MIS] / Upload [Web Service]

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>				<i>Communications Technologies & System References</i> [See Acronyms Tab]					
Region	Acronym	Name	Service Type	Metering Authority (MA)	Enrollment & Qualification	Forward Scheduling & Award Notification	Deployment	Real-Time Communications	(After-The-Fact) Measurement & Performance Evaluation
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity	TO or MSP or MDSP	Web Page	Automated Voice Message / e-Mail	Automated Voice Message / e-Mail	N / A	Web Page [MIS] / Upload [Web Service]

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Communications Technologies & System References [See Acronyms Tab]					
Region	Acronym	Name	Service Type	Metering Authority (MA)	Enrollment & Qualification	Forward Scheduling & Award Notification	Deployment	Real-Time Communications	(After-The-Fact) Measurement & Performance Evaluation
PJM									
PJM	-	Economic Load Response (Energy)	Energy	CSP or EDC	Web Page / Webservice [eLRS]	Web Page / Webservice [eMarket]	Web Page / Webservice / email [eLRS]	see deployment	Web Page / Webservice [eLRS]
PJM	-	Economic Load Response (Synchronized reserves)	Reserve	CSP or EDC	Web Page / Webservice [eLRS]	Web Page / Webservice [eMarket]	Web Page / Webservice / email / phone / DNP3 [eLRS]	see deployment	Web Page / Webservice [eLRS]
PJM	-	Economic Load Response (Day ahead scheduling reserve)	Reserve	CSP or EDC	Web Page / Webservice [eLRS]	Web Page / Webservice [eMarket]	Web Page / Webservice / email [eLRS]	see deployment	Web Page / Webservice [eLRS]
PJM	-	Economic Load Response (Regulation)	Regulation	CSP or EDC	Web Page / Webservice [eLRS]	Web Page / Webservice [eMarket]	DNP3	see deployment	work in progress
PJM	-	Emergency Load Response - Energy Only	Energy	CSP or EDC	Web Page / Webservice [eLRS]	Web Page / Webservice [eMarket]	Web Page / Webservice / email / phone [eLRS]	see deployment	Web Page / Webservice [eLRS]
PJM	-	Full Emergency Load Response (Capacity Component)	Capacity	CSP or EDC	Web Page / Webservice [eLRS]	Web Page / Webservice [eRPM]	Web Page / Webservice / email / phone [eLRS]	see deployment	Web Page / Webservice [eLRS]
PJM	-	Full Emergency Load Response (Energy Component)	Energy	CSP or EDC	Web Page / Webservice [eLRS]	Web Page / Webservice [eRPM]	Web Page / Webservice / email / phone [eLRS]	see deployment	Web Page / Webservice [eLRS]
SPP									
SPP		Controllable Load	Energy	Market Participant or Meter Agent	Electronic File Submission	Web Page & API	XML [Web Service] ?	ICCP	Web Page & API

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Event Timing				Telemetry			
Region	Acronym	Name	Service Type	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements
AESO											
AESO	DOS	Demand Opportunity Service	Energy	None	- 7 Minutes (Term & 7 Minute Service) - 1 Hour (1 Hour Service) - Standard - immediate	8 Hours (Minimum)	Based on Resource Parameters	Yes	± 5%	4 Seconds (or on threshold crossing)	Quality check on all points from site
AESO	FLSS	Frequency Load Shed Service	Regulation	None	Effectively Instantaneous	As Scheduled / Dispatched	N / A	Yes	± 5%	4 Seconds (or on threshold crossing)	Quality check on all points from site
AESO	SUP	Supplemental Operating Reserves	Reserve	None	10 Minutes	1 Hour (Minimum)	Based on Resource Parameters	Yes	± 5%	4 Seconds (or on threshold crossing)	Quality check on all points from site
AESO	VLCP	Voluntary Load Curtailment Program	Energy	None	one hour, unless customer declines dispatch	As Scheduled / Dispatched	Based on Resource Parameters	Limited	± 5%	4 Seconds (or on threshold crossing)	Quality check on all points from site
CAISO											
CAISO	PLP	Participating Load Program	Energy	Day-Ahead Market Clearing (~ 1:00 PM)	up to 1 Hour	1 hour or resource's min run time	Based on Resource Parameters	No, unless over 10 MW	N / A	N / A	N / A
CAISO	PLP	Participating Load Program	Reserve	Day-Ahead Market Clearing (~ 1:00 PM)	10 Minutes	2 Hours (Maximum)	Based on Resource Parameters	Yes	± 2 %	1 Min Load to eDAC; 4 sec eDAC to CAISO EMS (resource to eDAC 4-Second	None
CAISO	PDR	Proxy Demand Resource Product	Energy	Day-Ahead Market Clearing (~ 1:00 PM)	up to 1 Hour	1 hour or resource's min run time	Based on Resource Parameters	No, unless over 10 MW	N / A	N / A	N / A
CAISO	PDR	Proxy Demand Resource Product	Reserve	Day-Ahead Market Clearing (~ 1:00 PM)	10 Minutes	2 Hours (Maximum)	Based on Resource Parameters	Yes	± 2 %	1 Min Load to eDAC; 4 sec eDAC to CAISO EMS (resource to eDAC 4-Second	None
ERCOT											

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Event Timing				Telemetry			
Region	Acronym	Name	Service Type	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements
ERCOT	EILS	Emergency Interruptible Load Service	Capacity	None	10 Minutes	As Scheduled / Dispatched	10 Hours	No	N / A	N / A	N / A
ERCOT	LaaR (RRS-UFR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	Day-Ahead Market Clearing (~ 13:30)	10 Minutes (Phone) 30 Cycles (Relay)	As Scheduled / Dispatched	3 Hours	Yes	± 3 %	2 Seconds	UFR Status Breaker Status Data Quality Status
ERCOT	Load Resource (RRS-UFR) <i>NODAL MARKET</i>	Non-Controllable Load Resources providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	Day-Ahead Market Clearing (~ 13:30)	10 Minutes (Phone) 30 Cycles (Relay)	As Scheduled / Dispatched	3 Hours	Yes	± 3 %	2 Seconds	UFR Status Breaker Status Data Quality Status
ERCOT	LaaR (RRS-CLR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Controllable Load Resource Type	Reserve	Day-Ahead Market Clearing (~ 13:30)	Continuous, similar to governor action by a generator; and 10 min response for remaining obligation to electronic	As Scheduled / Dispatched	3 Hours	Yes	± 3 %	2 Seconds	Breaker Status Data Quality Status
ERCOT	Load Resource (RRS-CLR) <i>NODAL MARKET</i>	Controllable Load Resources providing Responsive Reserve Service	Reserve	Day-Ahead Market Clearing (~ 13:30)	Continuous, similar to governor action by a generator; and 10 min response for remaining obligation to electronic	As Scheduled / Dispatched	3 Hours	Yes	± 3 %	2 Seconds	Breaker Status Data Quality Status
ERCOT	LaaR (NSRS) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	Day-Ahead Market Clearing (~ 13:30)	30 Minutes	As Scheduled / Dispatched	N/A	Yes	± 3 %	2 Seconds	Breaker Status Data Quality Status
ERCOT	Load Resource (NSRS) <i>NODAL MARKET</i>	Load Resources providing Non-Spinning Reserve Service	Reserve	Day-Ahead Market Clearing (~ 13:30)	30 Minutes	As Scheduled / Dispatched	N/A	Yes	± 3 %	2 Seconds	Breaker Status Data Quality Status
ERCOT	CLR (Reg) <i>ZONAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	Day-Ahead Market Clearing (~ 13:30)	Effectively Instantaneous	As Scheduled / Dispatched	N / A	Yes	± 3 %	2 Seconds	Breaker Status Data Quality Status
ERCOT	CLR (Reg) <i>NODAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	Day-Ahead Market Clearing (~ 13:30)	Effectively Instantaneous	As Scheduled / Dispatched	N / A	Yes	± 3 %	2 Seconds	Breaker Status Data Quality Status

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Event Timing				Telemetry			
Region	Acronym	Name	Service Type	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements
IESO											
IESO	DL	Dispatchable Load	Energy	5 Minutes (Minimum)	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored	Yes	± 2 %	2 Seconds	None
IESO	DL	Dispatchable Load (30 minute reserve)	Reserve	5 Minutes (Minimum)	30 Minutes (Minimum)	As Scheduled / Dispatched	Not Monitored	Yes	± 2 %	2 Seconds	None
IESO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	5 Minutes (Minimum)	10 Minutes (Minimum)	As Scheduled / Dispatched	Not Monitored	Yes	± 2 %	2 Seconds	None
ISO-NE											
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	None	10 Minutes/ 30 Minutes	As Scheduled / Dispatched	Not Monitored	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	5 Minutes	None
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	None	10 Minutes/ 30 Minutes	As Scheduled / Dispatched	Not Monitored	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	5 Minutes	None
ISO-NE	DALRP / RTDR	Day-Ahead Load Response Program for RTDRP	Energy	Day-Ahead Market Clearing (~4:00 PM)	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored	No	N / A	N / A	N / A
ISO-NE	DALRP / RTPR	Day-Ahead Load Response Program for RTPR	Energy	Day-Ahead Market Clearing (~4:00 PM)	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored	No	N / A	N / A	N / A
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	None	30 Minutes	As Scheduled / Dispatched	Not Monitored	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	5 Minutes	None

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Event Timing				Telemetry			
Region	Acronym	Name	Service Type	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements
ISO-NE	RTPR	Real Time Price Response Program	Energy	None	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored	No	N / A	N / A	N / A
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	10 PM on the day prior to the call for DR Forecast Peak Hours, in each hour for RT DR Dispatch Hours	30 Minutes	As Scheduled / Dispatched	Not Monitored	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	5 Minutes	None
ISO-NE	OP	FCM: On-Peak Demand Resources	Capacity	None	Effectively Instantaneous	On-Peak - June, July, August hours ending 1300 to 1700, December and January hours ending 1700 to 1900. Seasonal Peak -	Not Monitored	No	N / A	N / A	N / A
ISO-NE	SP	FCM: Seasonal Peak Demand Resources	Capacity	None	Effectively Instantaneous	On-Peak - June, July, August hours ending 1300 to 1700, December and January hours ending 1700 to 1900. Seasonal Peak -	Not Monitored	No	N / A	N / A	N / A
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	None	30 Minutes	As Scheduled / Dispatched	Not Monitored	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	5 Minutes	None
ISO-NE	DARD	Dispatchable Asset Related Demand	Reserve	None	As Scheduled / Dispatched	As Scheduled / Dispatched	As Scheduled / Dispatched	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	10 Seconds	None

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Event Timing				Telemetry			
Region	Acronym	Name	Service Type	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements
MISO											
MISO	DRR-I	Demand Response Resource Type I	Energy	Day-Ahead Clearing (~5:00)	5 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored	No	N / A	N / A	N / A
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Day-Ahead Clearing (~5:00)	10 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored	No	N / A	N / A	N / A
MISO	DRR-II	Demand Response Resource Type II	Energy	Day-Ahead Clearing (~5:00)	5 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored	yes	Consistent with other ICCP Data	4 Seconds	None
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Day-Ahead Clearing (~5:00)	10 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored	yes	Consistent with other ICCP Data	4 Seconds	None
MISO	DRR-I	Demand Response Resource Type I	Energy	Day-Ahead Clearing (~5:00)	5 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored	No	N / A	N / A	N / A
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Day-Ahead Clearing (~5:00)	10 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored	No	N / A	N / A	N / A
MISO	DRR-II	Demand Response Resource Type II	Energy	Day-Ahead Clearing (~5:00)	5 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored	No	N / A	N / A	N / A
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Day-Ahead Clearing (~5:00)	10 Minutes	As Scheduled / Dispatched with 1 Hour (Minimum)	Not Monitored	No	N / A	N / A	N / A

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Event Timing				Telemetry			
Region	Acronym	Name	Service Type	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements
MISO	DRR-II	Demand Response Resource Type-II	Regulation	Day-Ahead Clearing (~5:00)	Effectively Instantaneous	As Scheduled / Dispatched with 1 Hour (Minimum)	N / A	Yes	Consistent with other ICCP Data	4 Seconds	None
MISO	EDR	Emergency Demand Response	Energy	None	Resource-Specific (Biddable Parameter)	As Scheduled / Dispatched	Not Monitored	No	N / A	N / A	N / A
MISO	LMR	Load Modifying Resource	Capacity	None	-	As Scheduled / Dispatched with 4 Hours (Minimum)	Not Monitored	No	N / A	N / A	N / A
NBSO											
NBSO	30NSR	30 Minute Non-Spinning Reserves	Reserve	None	30 Minutes	1 Hour (Maximum)	Not Monitored	Yes	± 3 %	2 Seconds	None
NBSO	10NSR	10 Minute Non-Spinning Reserves	Reserve	None	10 Minutes	1 Hour (Maximum)	Not Monitored	Yes	± 3 %	2 Seconds	None
NBSO	10SR	10 Minute Spinning Reserve	Reserve	None	10 Minutes	1 Hour (Maximum)	Not Monitored	Yes	± 3 %	2 Seconds	None
NBSO	LF	Load Following	Regulation	10 Minutes (Minimum)	As Scheduled / Dispatched	As Scheduled / Dispatched	Not Monitored	Yes	± 3 %	2 Seconds	None
NBSO	REG	Regulation	Regulation	None	Effectively Instantaneous	As Scheduled / Dispatched	Not Monitored	Yes	± 3 %	2 Seconds	None

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Event Timing				Telemetry			
Region	Acronym	Name	Service Type	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements
NBSO	IL	Interruptible Load	Capacity	1 Hour (Minimum)	As Scheduled / Dispatched	As Scheduled / Dispatched	Not Monitored	No	N / A	N / A	N / A
NBSO	BBDR	Bid-Based Demand Response	Energy	None	As Scheduled / Dispatched	As Scheduled / Dispatched	Not Monitored	Yes	± 3 %	2 Seconds	None
NYISO											
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	Day-Ahead by 11 am	-	As Scheduled	Not Monitored	No	N / A	N / A	N / A
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	Day-Ahead by 11 am Real-time: 75 minutes	10 Minutes	As Scheduled / Dispatched	Not Monitored	Yes	Digital data: Maximum error of +0.1 percent of reading	6 Seconds	Regulation Flag, Base Load Interval, Calc Response MW, Breaker Status
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	Day-Ahead by 11 am Real-time: 75 minutes	10 minutes/ 30 minutes	As Scheduled / Dispatched	Not Monitored	Yes	Digital data: Maximum error of +0.1 percent of reading	6 Seconds	Regulation Flag, Base Load Interval, Calc Response MW, Breaker Status
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	Day-Ahead by 11 am Real-time: 5 minutes	Effectively Instantaneous	As Scheduled / Dispatched	N / A	Yes	Digital data: Maximum error of +0.1 percent of reading	6 Seconds	Regulation Flag, Base Load Interval, Calc Response MW, Breaker Status
NYISO	EDRP	Emergency Demand Response Program	Energy	Day-ahead advisory Day- of: 120 minutes	2 Hours	4 Hours (Minimum)	Not Monitored	No	N / A	N / A	N / A
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy	Day-ahead advisory Day- of: 120 minutes	2 Hours	4 Hours (Minimum)	Not Monitored	No	N / A	N / A	N / A

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>				<i>Event Timing</i>				<i>Telemetry</i>			
Region	Acronym	Name	Service Type	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity	Day-ahead advisory Day- of: 120 minutes	2 Hours	4 Hours (Minimum) [or 1 Hour for Test]	Not Monitored	No	N / A	N / A	N / A

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Event Timing				Telemetry			
Region	Acronym	Name	Service Type	Advance Notification(s)	Ramp Period	Sustained Response Period	Recovery Period	Telemetry Requirement	Telemetry Accuracy	Telemetry Reporting Interval	Other Telemetry Measurements
PJM											
PJM	-	Economic Load Response (Energy)	Energy	Day-Ahead Clears 4pm prior to operating day, RT dispatch up to 2 hours	Resource Specific	As Scheduled / Dispatched	N / A	No	N / A	N / A	N / A
PJM	-	Economic Load Response (Synchronized reserves)	Reserve	real time	10 Minutes	As Scheduled / Dispatched	N / A	No	N / A	N / A	N / A
PJM	-	Economic Load Response (Day ahead scheduling reserve)	Reserve	up to 2 hours	30 Minutes	As Scheduled / Dispatched	N / A	No	N / A	N / A	N / A
PJM	-	Economic Load Response (Regulation)	Regulation	None	Effectively Instantaneous	As Scheduled / Dispatched	N / A	Yes	± 2 %	2-4 Seconds	None
PJM	-	Emergency Load Response - Energy Only	Energy	2 Hours (Maximum)	1 Hour or 2 Hours (Participant Selected)	As Scheduled / Dispatched	N / A	No	N / A	N / A	N / A
PJM	-	Full Emergency Load Response (Capacity Component)	Capacity	2 Hours (Maximum)	1 Hour or 2 Hours (Participant Selected)	As Scheduled / Dispatched	N / A	No	N / A	N / A	N / A
PJM	-	Full Emergency Load Response (Energy Component)	Energy	2 Hours (Maximum)	1 Hour or 2 Hours (Participant Selected)	As Scheduled / Dispatched	N / A	No	N / A	N / A	N / A
SPP											
SPP		Controllable Load	Energy	5 Minutes (Maximum)	5 Minutes	5 Minutes	5 Minutes	Yes	Consistent with all other ICCP Data	4 Seconds	Breaker Status

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service						
Region	Acronym	Name	Service Type	Communication Protocol	Governor Control Equivalent	On-Site Generation Telemetry Requirement
AESO						
AESO	DOS	Demand Opportunity Service	Energy	ICCP	N / A	Yes
AESO	FLSS	Frequency Load Shed Service	Regulation	ICCP	No	No
AESO	SUP	Supplemental Operating Reserves	Reserve	ICCP	N / A	Yes
AESO	VLCP	Voluntary Load Curtailment Program	Energy	ICCP	N / A	Yes (Selected Sites)
CAISO						
CAISO	PLP	Participating Load Program	Energy	N / A	N / A	N / A
CAISO	PLP	Participating Load Program	Reserve	DNP3 or ICCP	N / A	No
CAISO	PDR	Proxy Demand Resource Product	Energy	N / A	N / A	N / A
CAISO	PDR	Proxy Demand Resource Product	Reserve	DNP3 or ICCP	N / A	No
ERCOT						

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>						
Region	Acronym	Name	Service Type	Communication Protocol	Governor Control Equivalent	On-Site Generation Telemetry Requirement
ERCOT	EILS	Emergency Interruptible Load Service	Capacity	N / A	N / A	N / A
ERCOT	LaaR (RRS-UFR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	ICCP	N / A	No
ERCOT	Load Resource (RRS-UFR) <i>NODAL MARKET</i>	Non-Controllable Load Resources providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	ICCP	N / A	No
ERCOT	LaaR (RRS-CLR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Controllable Load Resource Type	Reserve	ICCP	Yes	No
ERCOT	Load Resource (RRS-CLR) <i>NODAL MARKET</i>	Controllable Load Resources providing Responsive Reserve Service	Reserve	ICCP	Yes	No
ERCOT	LaaR (NSRS) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	ICCP	N / A	No
ERCOT	Load Resource (NSRS) <i>NODAL MARKET</i>	Load Resources providing Non-Spinning Reserve Service	Reserve	ICCP	N / A	No
ERCOT	CLR (Reg) <i>ZONAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	ICCP	Yes	No
ERCOT	CLR (Reg) <i>NODAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	ICCP	Yes	No

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service						
Region	Acronym	Name	Service Type	Communication Protocol	Governor Control Equivalent	On-Site Generation Telemetry Requirement
IESO						
IESO	DL	Dispatchable Load	Energy	SCADA	N / A	No
IESO	DL	Dispatchable Load (30 minute reserve)	Reserve	SCADA	N / A	No
IESO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	SCADA	N / A	No
ISO-NE						
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	Internet (IBCS Protocol)	N / A	No
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	Internet (IBCS Protocol)	N / A	No
ISO-NE	DALRP / RTDR	Day-Ahead Load Response Program for RTDRP	Energy	N / A	N / A	N / A
ISO-NE	DALRP / RTPR	Day-Ahead Load Response Program for RTPR	Energy	N / A	N / A	N / A
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	Internet (IBCS Protocol)	N / A	No

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>						
Region	Acronym	Name	Service Type	Communication Protocol	Governor Control Equivalent	On-Site Generation Telemetry Requirement
ISO-NE	RTPR	Real Time Price Response Program	Energy	N / A	N / A	N / A
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	DNP3	N / A	Yes
ISO-NE	OP	FCM: On-Peak Demand Resources	Capacity	N / A	N / A	N / A
ISO-NE	SP	FCM: Seasonal Peak Demand Resources	Capacity	N / A	N / A	N / A
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	DNP3	N / A	Yes
ISO-NE	DARD	Dispatchable Asset Related Demand	Reserve	DNP3	N / A	N/A

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>						
Region	Acronym	Name	Service Type	Communication Protocol	Governor Control Equivalent	On-Site Generation Telemetry Requirement
MISO						
MISO	DRR-I	Demand Response Resource Type I	Energy	N / A	N / A	N / A
MISO	DRR-I	Demand Response Resource Type-I	Reserve	N / A	N / A	N / A
MISO	DRR-II	Demand Response Resource Type II	Energy	ICCP	N / A	Yes
MISO	DRR-II	Demand Response Resource Type-II	Reserve	ICCP	N / A	Yes
MISO	DRR-I	Demand Response Resource Type I	Energy	N / A	N / A	N / A
MISO	DRR-I	Demand Response Resource Type-I	Reserve	N / A	N / A	N / A
MISO	DRR-II	Demand Response Resource Type II	Energy	ICCP	N / A	N / A
MISO	DRR-II	Demand Response Resource Type-II	Reserve	ICCP	N / A	N / A

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>						
Region	Acronym	Name	Service Type	Communication Protocol	Governor Control Equivalent	On-Site Generation Telemetry Requirement
MISO	DRR-II	Demand Response Resource Type-II	Regulation	ICCP	No	Yes
MISO	EDR	Emergency Demand Response	Energy	N / A	N / A	N / A
MISO	LMR	Load Modifying Resource	Capacity	N / A	N / A	N / A
NBSO						
NBSO	30NSR	30 Minute Non-Spinning Reserves	Reserve	SCADA	N / A	Yes
NBSO	10NSR	10 Minute Non-Spinning Reserves	Reserve	SCADA	N / A	Yes
NBSO	10SR	10 Minute Spinning Reserve	Reserve	SCADA	N / A	Yes
NBSO	LF	Load Following	Regulation	SCADA	N / A	Yes
NBSO	REG	Regulation	Regulation	SCADA	Yes	Yes

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service						
Region	Acronym	Name	Service Type	Communication Protocol	Governor Control Equivalent	On-Site Generation Telemetry Requirement
NBSO	IL	Interruptible Load	Capacity	N / A	N / A	N / A
NBSO	BBDR	Bid-Based Demand Response	Energy	SCADA	N / A	Yes
NYISO						
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	N / A	N / A	N / A
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	ICCP	N / A	Yes
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	ICCP	N / A	Yes
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	ICCP	No	Yes
NYISO	EDRP	Emergency Demand Response Program	Energy	N / A	N / A	N / A
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy	N / A	N / A	N / A

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>						
Region	Acronym	Name	Service Type	Communication Protocol	Governor Control Equivalent	On-Site Generation Telemetry Requirement
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity	N / A	N / A	N / A

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service						
Region	Acronym	Name	Service Type	Communication Protocol	Governor Control Equivalent	On-Site Generation Telemetry Requirement
PJM						
PJM	-	Economic Load Response (Energy)	Energy	N / A	N / A	N / A
PJM	-	Economic Load Response (Synchronized reserves)	Reserve	N / A	N / A	N / A
PJM	-	Economic Load Response (Day ahead scheduling reserve)	Reserve	N / A	N / A	N / A
PJM	-	Economic Load Response (Regulation)	Regulation	ICCP or DNP3	No	No
PJM	-	Emergency Load Response - Energy Only	Energy	N / A	N / A	N / A
PJM	-	Full Emergency Load Response (Capacity Component)	Capacity	N / A	N / A	N / A
PJM	-	Full Emergency Load Response (Energy Component)	Energy	N / A	N / A	N / A
SPP						
SPP		Controllable Load	Energy	ICCP	N / A	Yes

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				After-The-Fact Metering							
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement
AESO											
AESO	DOS	Demand Opportunity Service	Energy	Yes	± 0.2 %	Applicable standards	"Industry Canada" and ISO standards	Event Day + 3 Business Days	15 Minutes	VEE described in ISO standards	N/A
AESO	FLSS	Frequency Load Shed Service	Regulation	Yes	± 0.2 %	Applicable standards	"Industry Canada" and ISO standards	Event Day + 3 Business Days	15 Minutes	VEE described in ISO standards	N/A
AESO	SUP	Supplemental Operating Reserves	Reserve	Yes	± 0.2 %	Applicable standards	"Industry Canada" and ISO standards	Event Day + 3 Business Days	15 Minutes	VEE described in ISO standards	N/A
AESO	VLCP	Voluntary Load Curtailment Program	Energy	Yes	± 0.2 %	Applicable standards	"Industry Canada" and ISO standards	Event Day + 3 Business Days	15 Minutes	VEE described in ISO standards	N/A
CAISO											
CAISO	PLP	Participating Load Program	Energy	Yes	± .25 %	Accuracy of the meter clock must be within 0.02% (2 minutes per week) at ambient	"Local Regulatory Authority" certification or CAISO certified meter standards	T + 5B	5 Minutes	The Scheduling Coordinator is responsible for the Validating, Editing and Estimation of meter data;	N/A
CAISO	PLP	Participating Load Program	Reserve	Yes	± .25 %	Accuracy of the meter clock must be within 0.02% (2 minutes per week) at ambient	"Local Regulatory Authority" certification or CAISO certified meter standards	T + 5B	5 Minutes	The Scheduling Coordinator is responsible for the Validating, Editing and Estimation of meter data;	N/A
CAISO	PDR	Proxy Demand Resource Product	Energy	Yes	± .25 %	Accuracy of the meter clock must be within 0.02% (2 minutes per week) at ambient	"Local Regulatory Authority" certification or CAISO certified meter standards	T + 5B	1 Hour for DA 5 Minuts for RT	The Scheduling Coordinator is responsible for the Validating, Editing and Estimation of meter data;	N/A
CAISO	PDR	Proxy Demand Resource Product	Reserve	Yes	± .25 %	Accuracy of the meter clock must be within 0.02% (2 minutes per week) at ambient	"Local Regulatory Authority" certification or CAISO certified meter standards	T + 5B	5 Minutes	The Scheduling Coordinator is responsible for the Validating, Editing and Estimation of meter data;	N/A
ERCOT											

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				After-The-Fact Metering							
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement
ERCOT	EILS	Emergency Interruptible Load Service	Capacity	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; Guidelines for non-IDR metered Load aggregations posted as separate document at	Contract Period End + 35 Days	15 Minutes	Standard VEE by meter-reading entity	N/A
ERCOT	LaaR (RRS-UFR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; UFRs must be set no lower than 59.7 Hz and must be set to trip for a frequency drop of no more than 20	Monthly	15 Minutes	Standard VEE by meter-reading entity	N/A
ERCOT	Load Resource (RRS-UFR) <i>NODAL MARKET</i>	Non-Controllable Load Resources providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; UFRs must be set no lower than 59.7 Hz and must be set to trip for a frequency drop of no more than 20	Monthly	15 Minutes	Standard VEE by meter-reading entity	N/A
ERCOT	LaaR (RRS-CLR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Controllable Load Resource Type	Reserve	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; Governor-type response requirements described at http://www.ercot.com/services/pro	Monthly	15 Minutes	Standard VEE by meter-reading entity	N/A
ERCOT	Load Resource (RRS-CLR) <i>NODAL MARKET</i>	Controllable Load Resources providing Responsive Reserve Service	Reserve	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; Governor-type response requirements described at http://www.ercot.com/services/pro	Monthly	15 Minutes	Standard VEE by meter-reading entity	N/A
ERCOT	LaaR (NSRS) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12.	Monthly	15 Minutes	Standard VEE by meter-reading entity	N/A
ERCOT	Load Resource (NSRS) <i>NODAL MARKET</i>	Load Resources providing Non-Spinning Reserve Service	Reserve	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12.	Monthly	15 Minutes	Standard VEE by meter-reading entity	N/A
ERCOT	CLR (Reg) <i>ZONAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; AGC and Governor-type response requirements described at http://www.ercot.com/services/pro	Monthly	15 Minutes	Not Applicable to Regulation Service	N/A
ERCOT	CLR (Reg) <i>NODAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	Yes	± 2 %	5% relative to NIST Atomic Clock	MW Accuracy: PUCT Subst. R. 25.121 referencing ANSI C12; AGC and Governor-type response requirements described at http://www.ercot.com/services/pro	Monthly	15 Minutes	Not Applicable to Regulation Service	N/A

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				After-The-Fact Metering							
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement
IESO											
IESO	DL	Dispatchable Load	Energy	Yes	± 0.2 %	± 5 seconds relative to IESO Meter Data collection systems	"Measurement Canada" and IESO Metering standards	Daily	5 Minutes	Standard VEE process by IESO meter-reading	Yes
IESO	DL	Dispatchable Load (30 minute reserve)	Reserve	Yes	± 0.2 %	± 5 seconds relative to IESO Meter Data collection systems	"Measurement Canada" and IESO Metering standards	Daily	5 Minutes	Standard VEE process by IESO meter-reading	Yes
IESO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	Yes	± 0.2 %	± 5 seconds relative to IESO Meter Data collection systems	"Measurement Canada" and IESO Metering standards	Daily	5 Minutes	Standard VEE process by IESO meter-reading	Yes
ISO-NE											
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Event Day + 2.5 Business Days	5 Minutes	VEE described in ISO standards Manual-MVDR	Yes
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Event Day + 2.5 Business Days	5 Minutes	VEE described in ISO standards Manual-MVDR	Yes
ISO-NE	DALRP / RTDR	Day-Ahead Load Response Program for RTDRP	Energy	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Monthly	5 Minutes OR 1 Hour	VEE described in ISO standards Manual-MVDR	Yes
ISO-NE	DALRP / RTPR	Day-Ahead Load Response Program for RTPR	Energy	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Monthly	5 Minutes OR 1 Hour	VEE described in ISO standards Manual-MVDR	Yes
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Daily	5 Minutes	VEE described in ISO standards Manual-MVDR	Yes

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				After-The-Fact Metering							
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement
ISO-NE	RTPR	Real Time Price Response Program	Energy	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Monthly	1 Hour	VEE described in ISO standards Manual-MVDR	Yes
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Daily	5 Minutes	VEE described in ISO standards Manual-MVDR	Yes
ISO-NE	OP	FCM: On-Peak Demand Resources	Capacity	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Monthly	1 Hour	VEE described in ISO standards Manual-MVDR	Yes
ISO-NE	SP	FCM: Seasonal Peak Demand Resources	Capacity	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Monthly	1 Hour	VEE described in ISO standards Manual-MVDR	Yes
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	Yes	± 2 % (± ½ % if meter is used for Distribution billing)	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Daily	5 Minutes	VEE described in ISO standards Manual-MVDR	Yes
ISO-NE	DARD	Dispatchable Asset Related Demand	Reserve	Yes	± 1/2 %	accuracy of +/- 2 minutes, with the National Institute of Standards and Technology	(ANSI) C-12 and Specific ISO-NE Standards (Operating Procedure 18 - Metering and Telemetry Criteria)	Daily	1 Hour	Standard VEE by meter-reading entity	N/A

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				After-The-Fact Metering							
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement
MISO											
MISO	DRR-I	Demand Response Resource Type I	Energy	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead, During Dispatch Day -- next Hour	1 Minute	N/A	Yes
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead, During Dispatch Day -- next Hour	1 Minute	N/A	Yes
MISO	DRR-II	Demand Response Resource Type II	Energy	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead, During Dispatch Day -- next Hour	1 Minute	N/A	Yes
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead, During Dispatch Day -- next Hour	1 Minute	N/A	Yes
MISO	DRR-I	Demand Response Resource Type I	Energy	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	Event Day + 53 Days	1 Hour	N/A	Yes
MISO	DRR-I	Demand Response Resource Type-I	Reserve	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	Event Day + 5 Days	5 Minute	N/A	Yes
MISO	DRR-II	Demand Response Resource Type II	Energy	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	Event Day + 53 Days	1 Hour	N/A	Yes
MISO	DRR-II	Demand Response Resource Type-II	Reserve	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	Event Day + 5 Days	5 Minute	N/A	Yes

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				After-The-Fact Metering							
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement
MISO	DRR-II	Demand Response Resource Type-II	Regulation	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	When Cleared Day-Ahead, During Dispatch Day -- next Hour	1 Minute	N/A	Yes
MISO	EDR	Emergency Demand Response	Energy	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	Event Day + 53 Days	1 Hour	N/A	Yes
MISO	LMR	Load Modifying Resource	Capacity	Yes	Applicable State Jurisdictional Requirements	None	applicable ANSI standards	Event Day + 53 Days	1 Hour	N/A	Yes
NBSO											
NBSO	30NSR	30 Minute Non-Spinning Reserves	Reserve	Yes	± 0.2 %	Applicable standards	ANSI C12.2.0	End-Of-Month + 2 Business Days	5 minutes	VEE described in ISO standards	Yes
NBSO	10NSR	10 Minute Non-Spinning Reserves	Reserve	Yes	± 0.2 %	Applicable standards	ANSI C12.2.0	End-Of-Month + 2 Business Days	5 minutes	VEE described in ISO standards	Yes
NBSO	10SR	10 Minute Spinning Reserve	Reserve	Yes	± 0.2 %	Applicable standards	ANSI C12.2.0	End-Of-Month + 2 Business Days	5 minutes	VEE described in ISO standards	Yes
NBSO	LF	Load Following	Regulation	Yes	± 0.2 %	Applicable standards	ANSI C12.2.0	End-Of-Month + 2 Business Days	5 minutes	VEE described in ISO standards	Yes
NBSO	REG	Regulation	Regulation	Yes	± 0.2 %	Applicable standards	ANSI C12.2.0	End-Of-Month + 2 Business Days	5 minutes	VEE described in ISO standards	Yes

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				After-The-Fact Metering							
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement
NBSO	IL	Interruptible Load	Capacity	Yes	± 0.2 %	Applicable standards	ANSI C12.2.0	End-Of-Month + 2 Business Days	5 minutes	VEE described in ISO standards	Yes
NBSO	BBDR	Bid-Based Demand Response	Energy	Yes	± 0.2 %	Applicable standards	ANSI C12.2.0	End-Of-Month + 2 Business Days	5 minutes	VEE described in ISO standards	Yes
NYISO											
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	Yes	± 2 %	None	±2% of full scale reading (for non-revenue interval metering devices; certified by a Professional Engineer as meeting ANSI C12) (1) Must use certified Meter Service Provider	Event Day + 55 Days	1 Hour	N/A	N/A
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	Yes	± 2 %	None	Revenue Grade: approved by NY Public Service Commission	Instantaneous, plus Scheduled Day + 55 Days	1 Hour	Instantaneous data compared to revenue billing meter after the fact	N/A
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	Yes	± 2 %	None	Revenue Grade: approved by NY Public Service Commission	Instantaneous, plus Scheduled Day + 55 Days	1 Hour	Instantaneous data compared to revenue billing meter after the fact	Must be net metered
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	Yes	± 2 %	None	Revenue Grade: approved by NY Public Service Commission	Instantaneous, plus Scheduled Day + 55 Days	1 Hour	Instantaneous data compared to revenue billing meter after the fact	N/A
NYISO	EDRP	Emergency Demand Response Program	Energy	Yes	± 2 %	None	±2% of full scale reading (for non-revenue interval metering devices; certified by a Professional Engineer as meeting ANSI C12) (1) Must use certified Meter Service Provider	Event Day + 75 Days	1 Hour	N/A	Optional
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy	Yes	± 2 %	None	±2% of full scale reading (for non-revenue interval metering devices; certified by a Professional Engineer as meeting ANSI C12) (1) Must use certified Meter Service Provider	Event Day + 75 Days	1 Hour	N/A	Optional

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				After-The-Fact Metering							
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity	Yes	± 2 %	None	±2% of full scale reading (for non-revenue interval metering devices; certified by a Professional Engineer as meeting ANSI C12) (1) Must use certified Meter Service Provider	Event Day + 75 Days	1 Hour	N/A	Optional

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				After-The-Fact Metering							
Region	Acronym	Name	Service Type	After-the-Fact Metering Requirement	Meter Accuracy	Clock/Time Accuracy	Details of Meter/Equipment Standards	Meter Data Reporting Deadline	Meter Data Reporting Interval	Validating, Editing & Estimating (VEE) Method	On-Site Generation Meter Requirement
PJM											
PJM	-	Economic Load Response (Energy)	Energy	Yes	± 2 %	based on retail regulatory standards otherwise reconcile to NIST	Retail electric service requirements or ANSI C12.1 and c57.13	Event Day + 60 Days	1 Hour	NAESB VEE protocol	option not a requirement
PJM	-	Economic Load Response (Synchronized reserves)	Reserve	Yes	± 2 %	based on retail regulatory standards otherwise reconcile to NIST	Retail electric service requirements or ANSI C12.1 and c57.13	Event Day + 1 Business Day	1 Minute	NAESB VEE protocol	N/A
PJM	-	Economic Load Response (Day ahead scheduling reserve)	Reserve	Yes	± 2 %	based on retail regulatory standards otherwise reconcile to NIST	Retail electric service requirements or ANSI C12.1 and c57.13	Event Day + 1 Business Day	1 Minute	NAESB VEE protocol	N/A
PJM	-	Economic Load Response (Regulation)	Regulation	Yes	± 2 %	based on retail regulatory standards otherwise reconcile to NIST	Retail electric service requirements or ANSI C12.1 and c57.13	Event Day + 1 Business Day	1 Minute	NAESB VEE protocol	N/A
PJM	-	Emergency Load Response - Energy Only	Energy	Yes	± 2 %	based on retail regulatory standards otherwise reconcile to NIST	Retail electric service requirements or ANSI C12.1 and c57.13	Event Day + 60 Days	1 Hour	NAESB VEE protocol	N/A
PJM	-	Full Emergency Load Response (Capacity Component)	Capacity	Yes	± 2 %	based on retail regulatory standards otherwise reconcile to NIST	Retail electric service requirements or ANSI C12.1 and c57.13	End-of-Month + 45 Days	1 Hour	NAESB VEE protocol	option not a requirement
PJM	-	Full Emergency Load Response (Energy Component)	Energy	Yes	± 2 %	based on retail regulatory standards otherwise reconcile to NIST	Retail electric service requirements or ANSI C12.1 and c57.13	Event Day + 60 Days	1 Hour	NAESB VEE protocol	option not a requirement
SPP											
SPP		Controllable Load	Energy	Yes	± 0.2 %	None	ANSI C12.1 & 12.2.0	Event Day + 4 Days (2:00 AM)	1 Hour	Comparison to Telemetry	Yes

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Available Performance Evaluation Methods
Region	Acronym	Name	Service Type	
AESO				
AESO	DOS	Demand Opportunity Service	Energy	AESO-1
AESO	FLSS	Frequency Load Shed Service	Regulation	AESO-1
AESO	SUP	Supplemental Operating Reserves	Reserve	AESO-1
AESO	VLCP	Voluntary Load Curtailment Program	Energy	AESO-1
CAISO				
CAISO	PLP	Participating Load Program	Energy	N/A
CAISO	PLP	Participating Load Program	Reserve	N/A
CAISO	PDR	Proxy Demand Resource Product	Energy	CAISO-10-in-10
CAISO	PDR	Proxy Demand Resource Product	Reserve	CAISO-MBMA
ERCOT				

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Available Performance Evaluation Methods
Region	Acronym	Name	Service Type	
ERCOT	EILS	Emergency Interruptible Load Service	Capacity	ERCOT-Regression / ERCOT-Mid 8 of 10 / ERCOT-Matching Day Pair / ERCOT-Alternate / ERCOT-NIDR Agg
ERCOT	LaaR (RRS-UFR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	ERCOT-Reserves
ERCOT	Load Resource (RRS-UFR) <i>NODAL MARKET</i>	Non-Controllable Load Resources providing Responsive Reserve Service -- Under Frequency Relay Type	Reserve	ERCOT-Reserves
ERCOT	LaaR (RRS-CLR) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Responsive Reserve Service -- Controllable Load Resource Type	Reserve	ERCOT-Reserves
ERCOT	Load Resource (RRS-CLR) <i>NODAL MARKET</i>	Controllable Load Resources providing Responsive Reserve Service	Reserve	ERCOT-Reserves
ERCOT	LaaR (NSRS) <i>ZONAL MARKET</i>	Loads Acting as a Resource providing Non-Spinning Reserve Service	Reserve	ERCOT-Reserves
ERCOT	Load Resource (NSRS) <i>NODAL MARKET</i>	Load Resources providing Non-Spinning Reserve Service	Reserve	ERCOT-Reserves
ERCOT	CLR (Reg) <i>ZONAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	ERCOT-Regulation
ERCOT	CLR (Reg) <i>NODAL MARKET</i>	Controllable Load Resources providing Regulation Service	Regulation	ERCOT-Regulation

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Available Performance Evaluation Methods
Region	Acronym	Name	Service Type	
IESO				
IESO	DL	Dispatchable Load	Energy	N/A
IESO	DL	Dispatchable Load (30 minute reserve)	Reserve	N/A
IESO	DL	Dispatchable Load (10 Spinning / 10 Non-Spinning Component)	Reserve	N/A
ISO-NE				
ISO-NE	RTDRP	Real Time Demand Response Program [Capacity Component]	Capacity	ISO-NE-1, ISO-NE-3, ISO-NE-4
ISO-NE	RTDRP	Real Time Demand Response Program [Energy Component]	Energy	ISO-NE-1, ISO-NE-3, ISO-NE-4
ISO-NE	DALRP / RTDR	Day-Ahead Load Response Program for RTDRP	Energy	ISO-NE-1, ISO-NE-3, ISO-NE-4
ISO-NE	DALRP / RTPR	Day-Ahead Load Response Program for RTPR	Energy	ISO-NE-1, ISO-NE-2, ISO-NE-4
ISO-NE	DRR	Demand Response Reserves Pilot	Reserve	ISO-NE-1, ISO-NE-3, ISO-NE-4

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>				Available Performance Evaluation Methods
Region	Acronym	Name	Service Type	
ISO-NE	RTPR	Real Time Price Response Program	Energy	ISO-NE-1, ISO-NE-3, ISO-NE-4
ISO-NE	RTDR	Real Time Demand Response Resource	Capacity	ISO-NE-5, ISO-NE-6, ISO-NE-7
ISO-NE	OP	FCM: On-Peak Demand Resources	Capacity	ISO-NE-5, ISO-NE-6, ISO-NE-7
ISO-NE	SP	FCM: Seasonal Peak Demand Resources	Capacity	ISO-NE-5, ISO-NE-6, ISO-NE-7
ISO-NE	RTEG	Real Time Emergency Generation Resource	Capacity	ISO-NE-5, ISO-NE-6, ISO-NE-7
ISO-NE	DARD	Dispatchable Asset Related Demand	Reserve	ISO-NE-8

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Available Performance Evaluation Methods
Region	Acronym	Name	Service Type	
MISO				
MISO	DRR-I	Demand Response Resource Type I	Energy	MISO-6
MISO	DRR-I	Demand Response Resource Type-I	Reserve	MISO-6
MISO	DRR-II	Demand Response Resource Type II	Energy	MISO-6
MISO	DRR-II	Demand Response Resource Type-II	Reserve	MISO-6
MISO	DRR-I	Demand Response Resource Type I	Energy	MISO-1, MISO-2, MISO-3, MISO-4, MISO-5
MISO	DRR-I	Demand Response Resource Type-I	Reserve	MISO-5
MISO	DRR-II	Demand Response Resource Type II	Energy	MISO-1, MISO-2, MISO-3, MISO-4, MISO-5
MISO	DRR-II	Demand Response Resource Type-II	Reserve	MISO-5

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>				Available Performance Evaluation Methods
Region	Acronym	Name	Service Type	
MISO	DRR-II	Demand Response Resource Type-II	Regulation	MISO-6
MISO	EDR	Emergency Demand Response	Energy	MISO-1, MISO-2, MISO-3, MISO-4, MISO-5
MISO	LMR	Load Modifying Resource	Capacity	MISO-1, MISO-2, MISO-3, MISO-4, MISO-5
NBSO				
NBSO	30NSR	30 Minute Non-Spinning Reserves	Reserve	NBSO-Baseline
NBSO	10NSR	10 Minute Non-Spinning Reserves	Reserve	NBSO-Baseline
NBSO	10SR	10 Minute Spinning Reserve	Reserve	NBSO-Baseline
NBSO	LF	Load Following	Regulation	NBSO-Regulation
NBSO	REG	Regulation	Regulation	NBSO-Regulation

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>				Available Performance Evaluation Methods
Region	Acronym	Name	Service Type	
NBSO	IL	Interruptible Load	Capacity	NBSO-Baseline
NBSO	BBDR	Bid-Based Demand Response	Energy	NBSO-Baseline
NYISO				
NYISO	DADRP	Day-Ahead Demand Response Program	Energy	NYISO-3
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	NYISO-2
NYISO	DSASP	Demand Side Ancillary Services Program	Reserve	NYISO-2
NYISO	DSASP	Demand Side Ancillary Services Program	Regulation	NYISO-2
NYISO	EDRP	Emergency Demand Response Program	Energy	NYISO-3, NYISO-4 (Small Customer Aggregations), NYISO-5
NYISO	SCR	Installed Capacity Special Case Resources (Energy Component)	Energy	NYISO-3, NYISO-4 (Small Customer Aggregations), NYISO-5

IRC Demand Response: Product Service Definitions

<i>ISO/RTO Product / Service</i>				Available Performance Evaluation Methods
Region	Acronym	Name	Service Type	
NYISO	SCR	Installed Capacity Special Case Resources (Capacity Component)	Capacity	NYISO-1, NYISO-3, NYISO-4 (Small Customer Aggregations), NYISO-5

IRC Demand Response: Product Service Definitions

ISO/RTO Product / Service				Available Performance Evaluation Methods
Region	Acronym	Name	Service Type	
PJM				
PJM	-	Economic Load Response (Energy)	Energy	PJM-1, PJM-2, PJM-3, PJM-8
PJM	-	Economic Load Response (Synchronized reserves)	Reserve	PJM-4
PJM	-	Economic Load Response (Day ahead scheduling reserve)	Reserve	PJM-4
PJM	-	Economic Load Response (Regulation)	Regulation	PJM-5
PJM	-	Emergency Load Response - Energy Only	Energy	PJM-6
PJM	-	Full Emergency Load Response (Capacity Component)	Capacity	PJM-1, PJM-2, PJM-3, PJM-6, PJM-7, PJM-8
PJM	-	Full Emergency Load Response (Energy Component)	Energy	PJM-6
SPP				
SPP		Controllable Load	Energy	SPP-BMG, SPP-Submitted, SPP-Calculated

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Baseline Information				
Cross-Reference	Performance Evaluation	Baseline Window <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>	Calculation Type <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>	Sampling Precision and Accuracy <small>Baseline Type-II Only</small>	Exclusion Rules <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>	Baseline Adjustments <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>
AESO						
AESO-1	Maximum Base Load	N / A	N / A	N / A	N / A	N / A
CAISO						
CAISO-MBMA	Meter Before / Meter After	Meter read before deployment	Single reading	N / A	None	None
CAISO-10-in-10	Baseline Type-II	10 most recent similar, non-event days	Average	NA	Non-event days	Event day load adjustment (scalar based on load point)
ERCOT						
ERCOT-Regression	Baseline Type-I	12+ months of historical data	Model built using historical meter data	N / A	None	Event day adjustment (scalar based on load point)
ERCOT-Mid 8 of 10	Baseline Type-I	10 most recent like days (weekday vs. weekend/holiday)	Average	N / A	Exclude highest and lowest of the 10 most recent like days	Event day adjustment (scalar based on load point)
ERCOT-Matching Day Pair	Baseline Type-I	12 months	Model built using best matching day from prior 12 months	N / A	None	Event day adjustment (scalar based on load point)
ERCOT-Alternate	Maximum Base Load	N / A	N / A	N / A	N / A	N / A
ERCOT-NIDR Agg	Baseline Type-II	12+ months of historical data	Model built using historical meter data	Sample size which produces appropriate accuracy and confidence based on ISO-determined requirements	None	None
ERCOT-Reserves	Meter Before / Meter After	1 to 5 minutes, depending on Ancillary Service	Compare actual telemetered Load to 1-minute or 5-minute average telemetered Load prior to event	N / A	None	None
ERCOT-Regulation	Meter Before / Meter After	4 Seconds	Compare actual telemetered Load to dispatched set point	N / A	None	None

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Baseline Information				
Cross-Reference	Performance Evaluation	Baseline Window Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only	Calculation Type Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only	Sampling Precision and Accuracy Baseline Type-II Only	Exclusion Rules Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only	Baseline Adjustments Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only
IESO						
IESO-1	Baseline Type-I	Data is based on the loss adjusted total metered energy consumption of the past eleven same trading hours on business days immediately preceding the ELRP activation event	Hourly interval load data of qualifying days	N / A	Exclude weekends, holidays and any weekdays where a curtailment event occurred within the Baseline Window	Weather-Sensitive Adjustment (Optional Election by Resource)
IESO-2	Baseline Type-I	Baseline value being the maximum value of the loss adjusted net metered MWh load in the two hours before the activation period for an aggregation of one or more meters measuring a total net load	Hourly interval load data of qualifying days	N / A	Exclude weekends, holidays and any weekdays where a curtailment event occurred within the Baseline Window	Weather-Sensitive Adjustment (Optional Election by Resource)
IESO-3	Baseline Type-II	90% of the prior qualifying baseline + 10% of the previous qualifying day (five minute increment) (similar to a 10 day rolling average)	Five minute interval load data of qualifying days	Accuracy and Precision 90/10	None	None
ISO-NE						
ISO-NE-1	Baseline Type-I	90% of the prior qualifying baseline + 10% of the previous qualifying day (five minute increment) (similar to a 10 day rolling average)	Five minute interval load data of qualifying days	N / A	Exclude weekends, holidays and any weekdays where a curtailment event occurred within the Baseline Window	Weather-Sensitive Adjustment (Asymmetric Positive)
ISO-NE-2	Baseline Type-I	90% of the prior qualifying baseline + 10% of the previous qualifying day (five minute increment) (similar to a 10 day rolling average)	Five minute interval load data of qualifying days	N / A	Exclude weekends, holidays and any weekdays where a curtailment event occurred within the Baseline Window	Weather-Sensitive Adjustment (Asymmetric Positive)
ISO-NE-3	Baseline Type-II	Equivalent of the Baseline Window defined for other resources, as approved on a case by case basis	Equivalent of the Calculation Type defined for other resources, as approved on a case by case basis	Accuracy and Precision 80/20	Equivalent of the Exclusion Rules defined for other resources, as approved on a case by case basis	Equivalent of the Baseline Adjustment defined for other resources, as approved on a case by case basis
ISO-NE-4	Behind-the-Meter Generation	N / A	N / A	N / A	N / A	N / A
ISO-NE-5	Baseline Type-I	90% of the prior qualifying baseline + 10% of the previous qualifying day (five minute increment) (similar to a 10 day rolling average)	Five minute interval load data of qualifying days	N / A	Exclude weekends, holidays and any weekdays where a curtailment event occurred within the Baseline Window	Weather-Sensitive Adjustment (Symmetric)
ISO-NE-6	Baseline Type-II	Equivalent of the Baseline Window defined for other resources, as approved on a case by case basis	Equivalent of the Calculation Type defined for other resources, as approved on a case by case basis	Accuracy and Precision 80/10	Equivalent of the Exclusion Rules defined for other resources, as approved on a case by case basis	Equivalent of the Baseline Adjustment defined for other resources, as approved on a case by case basis
ISO-NE-7	Behind-the-Meter Generation	N / A	N / A	N / A	N / A	N / A
ISO-NE-8	Maximum Base Load	N / A	N / A	N / A	N / A	N / A

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Baseline Information				
Cross-Reference	Performance Evaluation	Baseline Window <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>	Calculation Type <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>	Sampling Precision and Accuracy <small>Baseline Type-II Only</small>	Exclusion Rules <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>	Baseline Adjustments <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>
MISO						
MISO-1	Baseline Type-I	Customer / Resource Specific	Customer / Resource Specific	N / A	Customer / Resource Specific	Customer / Resource Specific
MISO-2	Baseline Type-II	Customer / Resource Specific	Customer / Resource Specific	Customer / Resource Specific	Customer / Resource Specific	Customer / Resource Specific
MISO-3	Behind-the-Meter Generation	N / A	N / A	N / A	N / A	N / A
MISO-4	Maximum Base Load	N / A	N / A	N / A	N / A	N / A
MISO-5	Meter Before / Meter After	Meter read before deployment	Single reading	N / A	None	None
MISO-6	Meter Before / Meter After	Meter read before deployment plus Host Load Zone Forecast	One-minute interval data	N / A	None	None
NBSO						
NBSO-Baseline	Baseline Type-I	11 most recent like days (weekday vs. weekend/holiday)	Average	N / A	Exclude lowest 1 of the 11 most recent like days	Temperature (optional)
NBSO-Regulation	Meter Before / Meter After	N / A	N / A	N / A	N / A	N / A
NYISO						
NYISO-1	Maximum Base Load	CAPACITY ONLY: Contracted Maximum Demand Local Generation: per Capability Period	Average of maximum peak demand (APMD) between the hours of 12 pm and 8 pm for the four months of the previous like capability period determines available capacity Summer: June, July, August, September --- Winter: November, December, January, February Local Generation only: Dependable Maximum Net Capacity	N / A	N / A	N / A
NYISO-2	Meter Before / Meter After	N / A	N / A	N / A	N / A	N / A

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Baseline Information				
Cross-Reference	Performance Evaluation	Baseline Window Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only	Calculation Type Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only	Sampling Precision and Accuracy Baseline Type-II Only	Exclusion Rules Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only	Baseline Adjustments Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only
NYISO-3	Baseline Type-I	WEEKDAY Event: Previous 10 weekdays within the last 30 days, subject to exclusion rules WEEKEND Event: Previous 3 weekends - same day type (e.g. Sat. or Sun.), no exclusions	WEEKDAY Event: Hourly simple average of the 5 highest total event period load days in CBL Window WEEKEND Event: Hourly simple average of the 2 highest total event period load days in CBL Window	N / A	WEEKDAY Events only: Exclude day preceding event, holidays, and any weekdays where a curtailment event occurred within the Baseline Window	Weather-Sensitive Adjustment (Optional), Symmetrical Proportional Adjustment with a maximum of +/- 20%
NYISO-4	Baseline Type-II	Equivalent of the Baseline Window defined for other resources (NYISO-6), as approved on a case by case basis	Equivalent of the Calculation Type defined for other resources (NYISO-6), as approved on a case by case basis	Customer / Resource Specific	Equivalent of the Exclusion Rules defined for other resources (NYISO-6), as approved on a case by case basis	Equivalent of the Baseline Adjustment defined for other resources (NYISO-6), as approved on a case by case basis
NYISO-5	Behind-The-Meter Generation	WEEKDAY Event: Previous 10 weekdays within the last 30 days, subject to exclusion rules WEEKEND Event: Previous 3 weekends - same day type (e.g. Sat. or Sun.), no exclusions	WEEKDAY Event: Hourly simple average of the 5 lowest total event period load days in CBL Window WEEKEND Event: Hourly simple average of the 2 lowest total event period load days in CBL Window	N / A	WEEKDAY Events only: Exclude day preceding event, holidays, and any weekdays where a curtailment event occurred within the Baseline Window	N / A

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Baseline Information				
Cross-Reference	Performance Evaluation	Baseline Window <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>	Calculation Type <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>	Sampling Precision and Accuracy <small>Baseline Type-II Only</small>	Exclusion Rules <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>	Baseline Adjustments <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>
PJM						
PJM-1	Baseline Type-I	45 calendar days which may be extended an additional 15 days based on specific conditions	Hourly average based on high 4 of 5 days for weekdays and high 2 of 3 for Saturday or Sun/Holiday.	N / A	Event days, different day types, event usage threshold < 25%	Weather-Sensitive Adjustment OR Symmetric Additive Adjustment
PJM-2	Behind-the-Meter Generation	N / A	N / A	N / A	N / A	N / A
PJM-3	Baseline Type-II	Approved on case by case basis or may use published deemed savings study	Approved on case by case basis or may use published deemed savings study	Approved on case by case basis or may use published deemed savings study	Approved on case by case basis or may use published deemed savings study	Approved on case by case basis or may use published deemed savings study
PJM-4	Meter Before / Meter After	Deployment - 1 Minute	Single Reading (with special processing)	N / A	None	None
PJM-5	Meter Before / Meter After	4 Seconds Before Signal	Single Reading (with special processing)	N / A	None	None
PJM-6	Meter Before / Meter After	Sustained Response Period - 1 Hour	Single Reading (with special processing)	N / A	CBL substitution if resource already on economic deployment	None
PJM-7	Maximum Base Load	N / A	N / A	N / A	N / A	N / A
PJM-8	Baseline Type-I	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market	N / A	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market
SPP						
SPP-BMG	Behind-the-Meter Generation	N / A	N / A	N / A	N / A	N / A
SPP-Submitted	Baseline Type-I	Customer / Resource Specific	Customer / Resource Specific	N / A	Customer / Resource Specific	Customer / Resource Specific

PERFORMANCE EVALUATION METHODS		
Cross-Reference	Performance Evaluation	Adjustment Window Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only
AESO		
AESO-1	Maximum Base Load	N / A
CAISO		
CAISO-MBMA	Meter Before / Meter After	None
CAISO-10-in-10	Baseline Type-II	4 hours prior to the event excluding the hour immediately prior to the event start
ERCOT		
ERCOT-Regression	Baseline Type-I	Deployment minus 3 Hours (2 Hour Duration)
ERCOT-Mid 8 of 10	Baseline Type-I	Deployment minus 3 Hours (2 Hour Duration)
ERCOT-Matching Day Pair	Baseline Type-I	Deployment minus 3 Hours (2 Hour Duration)
ERCOT-Alternate	Maximum Base Load	N / A
ERCOT-NIDR Agg	Baseline Type-II	None
ERCOT-Reserves	Meter Before / Meter After	None
ERCOT-Regulation	Meter Before / Meter After	None

PERFORMANCE EVALUATION METHODS		
Cross-Reference	Performance Evaluation	Adjustment Window Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only
IESO		
IESO-1	Baseline Type-I	Customer / Resource Specific
IESO-2	Baseline Type-I	Customer / Resource Specific
IESO-3	Baseline Type-II	None
ISO-NE		
ISO-NE-1	Baseline Type-I	Deployment - 2 Hours
ISO-NE-2	Baseline Type-I	Deployment - 2 Hours
ISO-NE-3	Baseline Type-II	Equivalent of the Adjustment Window defined for other resources, as approved on a case by case basis
ISO-NE-4	Behind-the-Meter Generation	N / A
ISO-NE-5	Baseline Type-I	Reduction Deadline - 2.5 Hours (2 Hour Duration)
ISO-NE-6	Baseline Type-II	Equivalent of the Adjustment Window defined for other resources, as approved on a case by case basis
ISO-NE-7	Behind-the-Meter Generation	N / A
ISO-NE-8	Maximum Base Load	N / A

PERFORMANCE EVALUATION METHODS		
Cross-Reference	Performance Evaluation	Adjustment Window <small>Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only</small>
MISO		
MISO-1	Baseline Type-I	Customer / Resource Specific
MISO-2	Baseline Type-II	Customer / Resource Specific
MISO-3	Behind-the-Meter Generation	N / A
MISO-4	Maximum Base Load	N / A
MISO-5	Meter Before / Meter After	None
MISO-6	Meter Before / Meter After	None
NBSO		
NBSO-Baseline	Baseline Type-I	Customer / Resource Specific
NBSO-Regulation	Meter Before / Meter After	N / A
NYISO		
NYISO-1	Maximum Base Load	N / A
NYISO-2	Meter Before / Meter After	N / A

PERFORMANCE EVALUATION METHODS		
Cross-Reference	Performance Evaluation	Adjustment Window Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only
NYISO-3	Baseline Type-I	Advance Notification - 2 Hours
NYISO-4	Baseline Type-II	Customer / Resource Specific
NYISO-5	Behind-The-Meter Generation	N / A

PERFORMANCE EVALUATION METHODS		
Cross-Reference	Performance Evaluation	Adjustment Window Meter Before / Meter After, Baseline Type-I, Baseline Type-II Only
PJM		
PJM-1	Baseline Type-I	3 Hour Window Ending 1 Hour prior to Deployment
PJM-2	Behind-the-Meter Generation	N / A
PJM-3	Baseline Type-II	Approved on case by case basis or may use published deemed savings study
PJM-4	Meter Before / Meter After	None
PJM-5	Meter Before / Meter After	None
PJM-6	Meter Before / Meter After	None
PJM-7	Maximum Base Load	N / A
PJM-8	Baseline Type-I	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in the market
SPP		
SPP-BMG	Behind-the-Meter Generation	N / A
SPP-Submitted	Baseline Type-I	Customer / Resource Specific

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Event Information				Special Processing	
Cross-Reference	Performance Evaluation	Use of Real-Time Telemetry	Use of After-The-Fact Metering	Performance Window	Measurement Type	Highly-Variable Load Logic <small>ALL EXCEPT Behind-The-Meter Generation</small>	On-Site Generation Requirements <small>ALL EXCEPT Behind-The-Meter Generation</small>
AESO							
AESO-1	Maximum Base Load	Yes	Yes	Sustained Response Period	SCADA or Meter Data if compliance appears to be an issue	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
CAISO							
CAISO-MBMA	Meter Before / Meter After	No	For SC Metered Entities: Interval meter data is collected and submitted by a SCADA	Sustained Response Period	5-Minute Interval Load	None	None
CAISO-10-in-10	Baseline Type-II	No	Yes	Sustained Response Period	Hourly or 5-min metered load	None	None
ERCOT							
ERCOT-Regression	Baseline Type-I	No	Yes	Sustained Response Period	15-minute Interval Data Recorder compared to model	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-Mid 8 of 10	Baseline Type-I	No	Yes	Sustained Response Period	15-minute Interval Data Recorder compared to model	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-Matching Day Pair	Baseline Type-I	No	Yes	Sustained Response Period	15-minute Interval Data Recorder compared to model	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-Alternate	Maximum Base Load	No	Yes	Sustained Response Period	15-minute Interval Data Recorder compared to model	This model is specifically designed for highly variable loads	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-NIDR Agg	Baseline Type-II	No	Yes	Sustained Response Period	Model based on statistical sample consistent with industry best practices and approved by ISO Staff is compared to the model	None	None
ERCOT-Reserves	Meter Before / Meter After	Yes	Yes	Sustained Response Period	Telemetry (2-second) backed by 15-minute IDR meter data	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
ERCOT-Regulation	Meter Before / Meter After	Yes	No	Sustained Response Period	Telemetry (2-second)	None	None

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Event Information				Special Processing	
Cross-Reference	Performance Evaluation	Use of Real-Time Telemetry	Use of After-The-Fact Metering	Performance Window	Measurement Type	Highly-Variable Load Logic <small>ALL EXCEPT Behind-The-Meter Generation</small>	On-Site Generation Requirements <small>ALL EXCEPT Behind-The-Meter Generation</small>
IESO							
IESO-1	Baseline Type-I	No	Yes	Event-dependent, as specified in Notification instructions	Hourly metered load	None	None
IESO-2	Baseline Type-I	No	Yes	Event-dependent, as specified in Notification instructions	Hourly metered load	None	None
IESO-3	Baseline Type-II	No	No	Event-dependent, as specified in Notification instructions	Statistical equivalent of 5 minute or hourly metered load	None	None
ISO-NE							
ISO-NE-1	Baseline Type-I	Yes	Optional	Sustained Response Period	5-Minute Interval Load	M&V alternative subject to ISO-NE approval	None (On-site generation is not prohibited but performance is measured via Load reduction)
ISO-NE-2	Baseline Type-I	No	Yes	Event-dependent, as specified in Notification instructions	Hourly metered load	M&V alternative subject to ISO-NE approval	None (On-site generation is not prohibited but performance is measured via Load reduction)
ISO-NE-3	Baseline Type-II	Yes	Optional	Sustained Response Period	Statistical equivalent of 5 minute or hourly metered load	M&V alternative subject to ISO-NE approval	None (On-site generation is not prohibited but performance is measured via Load reduction)
ISO-NE-4	Behind-the-Meter Generation	Yes	Optional	Sustained Response Period	5-Minute Interval Load	N / A	N / A
ISO-NE-5	Baseline Type-I	Yes	Optional	Sustained Response Period	5-Minute Interval Load	M&V alternative subject to ISO-NE approval	None (On-site generation is not prohibited but performance is measured via Load reduction, On-site generation with push back requires special metering configuration per ISO-NE M)
ISO-NE-6	Baseline Type-II	No	Yes	Sustained Response Period	Statistical equivalent of 5 minute metered load	M&V alternative subject to ISO-NE approval	None (On-site generation is not prohibited but performance is measured via Load reduction, On-site generation with push back requires special metering configuration per ISO-NE M)
ISO-NE-7	Behind-the-Meter Generation	Yes	Optional	Sustained Response Period	5-Minute Interval Load	N / A	N / A
ISO-NE-8	Maximum Base Load	Yes	Yes	Sustained Response Period	5-minute Interval Load	N/A	N/A

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Event Information				Special Processing	
Cross-Reference	Performance Evaluation	Use of Real-Time Telemetry	Use of After-The-Fact Metering	Performance Window	Measurement Type	Highly-Variable Load Logic <small>ALL EXCEPT Behind-The-Meter Generation</small>	On-Site Generation Requirements <small>ALL EXCEPT Behind-The-Meter Generation</small>
MISO							
MISO-1	Baseline Type-I	No	Yes	Sustained Response Period	Customer / Resource Specific	None	None
MISO-2	Baseline Type-II	No	Yes	Sustained Response Period	Customer / Resource Specific	None	None
MISO-3	Behind-the-Meter Generation	No	Yes	Sustained Response Period	Customer / Resource Specific	N / A	N / A
MISO-4	Maximum Base Load	No	Yes	Sustained Response Period	Customer / Resource Specific	None	None
MISO-5	Meter Before / Meter After	No	Yes	Sustained Response Period	Customer / Resource Specific	None	None
MISO-6	Meter Before / Meter After	Yes	Yes	Sustained Response Period	Host Load Forecast - integrated one-minute meter data	None	None
NBSO							
NBSO-Baseline	Baseline Type-I	No	Yes	Sustained Response Period	5-Minute Interval Load	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
NBSO-Regulation	Meter Before / Meter After	Yes	Yes	Sustained Response Period	Instantaneous metered load	None	None
NYISO							
NYISO-1	Maximum Base Load	No	Yes	Event-dependent, as specified in Advance Notification instructions	Hourly interval meter data is collected by a NY PSC-approved Meter Data Service Provider (MDSP)	None	None
NYISO-2	Meter Before / Meter After	Yes (with interconnection to Transmission Owner)	Yes	Sustained Response Period	Instantaneous metered load	None	None

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Event Information				Special Processing	
Cross-Reference	Performance Evaluation	Use of Real-Time Telemetry	Use of After-The-Fact Metering	Performance Window	Measurement Type	Highly-Variable Load Logic <small>ALL EXCEPT Behind-The-Meter Generation</small>	On-Site Generation Requirements <small>ALL EXCEPT Behind-The-Meter Generation</small>
NYISO-3	Baseline Type-I	No	Yes	As scheduled (DADRP) or Event-dependent, as specified in Advance Notification instructions	Hourly interval meter data is collected by a NY PSC-approved Meter Data Service Provider (MDSP)	None	No local/backup generators permitted in DADRP
NYISO-4	Baseline Type-II	No	As approved on a case by case basis (for EDRP Service) or Equivalent of After-The-Fact	Event-dependent, as specified in Advance Notification instructions	Statistical equivalent of hourly metered load	None	None
NYISO-5	Behind-The-Meter Generation	No	Yes (if unit is not net metered)	Event-dependent, as specified in Advance Notification instructions	Hourly metered output	None	No base load generators permitted in EDRP

IRC Demand Response: Performance Evaluation Methods

PERFORMANCE EVALUATION METHODS		Event Information				Special Processing	
Cross-Reference	Performance Evaluation	Use of Real-Time Telemetry	Use of After-The-Fact Metering	Performance Window	Measurement Type	Highly-Variable Load Logic <small>ALL EXCEPT Behind-The-Meter Generation</small>	On-Site Generation Requirements <small>ALL EXCEPT Behind-The-Meter Generation</small>
PJM							
PJM-1	Baseline Type-I	No	Yes	Sustained Response period or optionally Deployment Period (Participant Selection)	Hourly Meter relative to CBL	Based on specific resource	None (On-site generation is not prohibited but performance is measured via Load reduction)
PJM-2	Behind-the-Meter Generation	No	Yes	Sustained Response Period	Settlement on Hourly Meter Read	N / A	N / A
PJM-3	Baseline Type-II	No	Yes	Sustained Response period or optionally Deployment Period (Participant Selection)	Hourly Meter relative to CBL	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
PJM-4	Meter Before / Meter After	No	Yes	Sustained Response Period	Average over Performance Window	Specific rules for facilities with batch processing	None (On-site generation is not prohibited but performance is measured via Load reduction)
PJM-5	Meter Before / Meter After	Yes	Yes	Sustained Response Period	Average over Performance Window	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
PJM-6	Meter Before / Meter After	No	Yes	Sustained Response Period	Average over Performance Window	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
PJM-7	Maximum Base Load	No	Yes	Sustained Response Period	Average over Performance Window	None	None (On-site generation is not prohibited but performance is measured via Load reduction)
PJM-8	Baseline Type-I	No	Yes	Sustained Response period or optionally Deployment Period (Participant Selection)	Hourly Meter relative to CBL	Alternative calculations available as appropriate based on specific load conditions as long as it will significantly improve accuracy compared to standard method & can be effectively administered in	None (On-site generation is not prohibited but performance is measured via Load reduction)
SPP							
SPP-BMG	Behind-the-Meter Generation	Yes	Yes	5 Minutes & Hourly	Actual vs. Setpoint	N / A	N / A
SPP-Submitted	Baseline Type-I	Yes	Yes	5 Minutes & Hourly	Actual vs. Setpoint	None	None

Acronym	Term	Region
Market Participant Roles (Column Headings, Taken from NIST PA		
DDE	Designated Dispatch Entity	N / A
LSE	Load Serving Entity	N / A
MA	Metering Authority	N / A
SE	Scheduling Entity	N / A
SP	Service Provider	N / A
TDSP	Transmission / Distribution Service Provider	N / A
Market Participant Roles (Regional Terms found in rows for indi		
CSP	Curtailment Service Provider	NYISO & PJM
DDE	Demand Designated Entity	ISO-NE
DFO	Distribution Facility Owner	AESO
DRP	Demand Reduction Provider	CAISO & NYISO
EDC	Electric Distribution Company	PJM
ESP	Electric Service Provider	CAISO
LBA	Local Balancing Authority	MISO
MA	Meter Authority	ISO-NE
MDSP	Meter Data Service Provider	NYISO
MSP	Meter Service Provider	IESO
MSP	Meter Service Provider	NYISO
NIM	Market Information Management	IESO
QSE	Qualified Scheduling Entity	ERCOT
RIP	Responsible Interface Party	NYISO
SC	Scheduling Coordinator	CAISO
TFO	Transmission Facility Owner	AESO
TO	Transmission Owner	NYISO & PJM
UDC	Utility Distribution Company	CAISO
System References		

ADAMS	Automated Dispatch and Messaging System	AESO
ADS	Automated Dispatch System	CAISO
CAMS	Customer & Asset Management System	ISO-NE
CDMS		AESO
CFE	Communications Front End	ISO-NE
DART	Day-Ahead Real-Time	MISO
DNP3	Distributed Network Protocol	N / A
DRMUI	Demand Response Market User Interface	ISO-NE
DRS	Demand Response System	CAISO
DRT	Demand Response Tool	MISO
EDI	Electronic Data Interface	ERCOT
eLRS	Electronic Load Response System	PJM
eRPM	Electronic Reliability Pricing Model	PJM
FCTS	Forward Capacity Tracking System	ISO-NE
IBCS-OS	Internet-Based Communication System - Open Solution	ISO-NE
ICCP	Inter-Control Center Communications Protocol	N / A
MIM	Market Information Management	IESO
MIS	Market Information System	ERCOT
MIS	Market Information System	NBSO
MIS	Market Information System	NYISO
MPI	Market Participant Interface	IESO
MRUI	Meter Reader User Interface	ISO-NE
NGX	Natural Gas Exchange	AESO
OMAR	Operational Meter Analysis and Reporting	CAISO

<http://www.aeso.ca/market/19376.html>

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<http://www.iso-ne.com/support/training/courses/cams/>

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http://www.iso-ne.com/support/user_guides/dr_ui_ug_apr1410.pdf

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<http://webstore.iec.ch/webstore/webstore.nsf/mysearchajax?Openform&key=IEC%2060870-6&sorting=&start=1>

http://www.ieso.ca/imoweb/pubs/ti/MP_Submissions/it_idkManual.pdf

http://www.ieso.ca/imoweb/pubs/ti/MP_Submissions/IMO_GDE_0003_MPGUI-guide.pdf

<http://www.watt-ex.com/index.html>

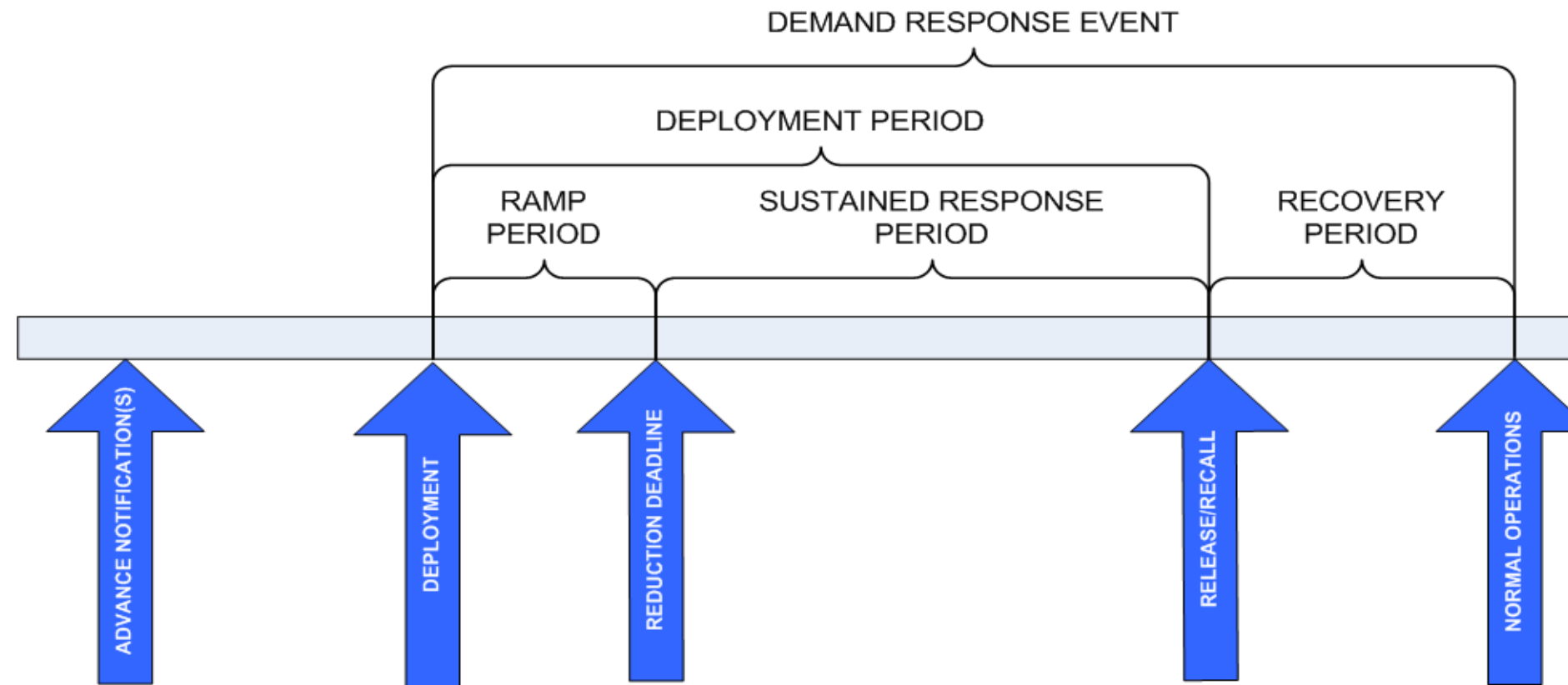
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Terms used in this document are taken from the **Business Practices for Measurement and Verification of Wholesale Electricity Demand Response** available to NAESB members via the following hyperlink:

http://www.naesb.org/member_login_form.asp?doc=fa_weq_2008_api5a.doc

Clarification of other terms utilized:

Resource-Specific Deployment	The System Operator issues dispatch instructions to one or more discrete unique resources designated to provide the demand response service. A defined communication channel is required. Real-time two-way communication is optional.
Bulk Deployment	The System Operator issues dispatch instructions to a group or block of resources designated to provide the demand response service. A defined communication channel is required. Real-time two-way communication is optional.
Self Deployment	Deployment of resources is automatic or initiated by the resource or aggregator and not initiated by the System Operator via a defined communication channel. Rather, the resource responds to signals such as real-time electrical system conditions, real-time economic conditions, or market outcomes. Real-time communication is optional.



			Advance Notification(s)	Deployment	Ramp Period	Reduction Deadline
1	Day-Ahead Energy	The ISO/RTO notifies a CSP at 4:00 the day before an event to begin ramping down at 2:00 with the load required to be off the system at 2:30	4:00 (day before)	2:00	30 Minutes	2:30
2	Emergency Energy or 30-Minute Reserve	The ISO/RTO calls a CSP at 2:00 and states that load must be off the system by 2:30	-	2:00	30 Minutes	2:30
3	Day-Ahead Energy	The ISO/RTO clears a resource at 4:00 the day before for a 2:00 event.	4:00 (day before)	2:00	-	2:00
4	10-Minute Reserve	The ISO/RTO calls a resource enrolled for 10-minute reserve from the control room at 2:15 to responds to a reduction request	-	2:15	10 Minutes	2:25
5	Balancing Energy	The ISO/RTO uses a powerflow algorithm to calculate setpoints and sends these new targets to the demand resource every 5 minutes, beginning at 1:55.	-	1:55, 2:00, 2:05...	5 Minutes	2:00, 2:05, 2:10...
6	Day-Ahead Energy	A 10 MW demand resource can be curtailed to 5 MW under a price-responsive bid. The resource clears for the 2:00 hour in day-ahead at 8 MW and is notified through the DA final schedule at 4:00 (day-ahead). The resource has 30 minute startup time and a ramp limitation of 0.2 MW/min. (Detailed example of #3)	4:00 (day before)	2:00	-	2:00
7	Balancing Energy	Same scenarios as above, however the remaining 3 MW of potential load drop is offered as real-time imbalance energy and, in real-time, the ISO/RTO selects the imbalance bid and dispatches the resource to 5 MW.	4:00 (day before for day schedule) & 1:30 (for imbalance)	2:00	15 minutes	2:15