
new . york . independent . system . operator



nyiso
Emergency Demand Response
Program Manual

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1.0 Definitions and Acronyms

Capability Period - Six (6) month periods which are established as follows: (1) from May 1 through October 31 of each year (“Summer Capability Period”); and (2) from November 1 of each year through April 30 of the following year (“Winter Capability Period”).

Curtailement Customer Aggregator (or Aggregator) – An organization qualified as a CSP that enters into contracts with EDRP Loads to either interrupt load or start up Local Generation under the EDRP.

Curtailement Program End Use Customer (EUC) – A retail end-user that qualified as a CSP and can either interrupt load or start up Local Generation under the EDRP.

Curtailement Services Provider (CSP) – A qualified provider that can produce real-time, verified reductions in NYCA Load of at least 100 kW, pursuant to the Emergency Demand Response Program (“EDRP”) and related ISO procedures.

Customer Base Load (CBL) – Average hourly energy consumption as calculated in Section 6, used to determine the level of load curtailement provided.

Day-Ahead Zonal LBMP – The price (in \$/MWh) for combined energy, losses, and transmission congestion determined on an hourly basis in the day-ahead electricity market.

EDRP – Emergency Demand Response Program, described in this manual.

EDRP Loads – Retail end-users that provide load reduction and have been registered through a CSP to participate in the Emergency Demand Response Program.

Emergency Condition - Any abnormal system condition as specified by the ISO that requires immediate automatic or manual action to prevent or limit loss of transmission facilities or Generators that could adversely affect the reliability of the electric system.

Emergency Generation - An electrical generator installed to handle emergency outages at a facility, for short periods of time.

In-Day Peak Hour Forecast – Forecasted morning and evening peak loads as determined by the NYISO Shift Supervisor or his assignee, used to evaluate total operating capacity.

Installed Capacity (ICAP) - A Generator or Load facility that complies with the requirements in the Reliability Rules and is capable of supplying and/or reducing the demand for energy in the New York Control Area for the purpose of ensuring that sufficient energy and capacity are available to meet reliability rules. The Installed Capacity requirements, established by the New York State Reliability Council, includes a margin of reserve in accordance with the Reliability Rules.

Interval Metering – An approved metering device which records electricity usage for each fifteen minute period during a billing period.

Load Curtailement (or Reduction) - A reduction in energy usage at a retail end user’s facility that is the result of the retail end user either reducing the energy consumed or operating an on-site generator.

Load Serving Entity (LSE) – Any entity, including a municipal electric system and an electric cooperative, authorized or required by law, regulatory authorization or requirement, agreement, or

contractual obligation to supply Energy, Capacity and/or Ancillary Services to retail end users located within the NYCA, including NYISO Direct Customers..

Local Generator - A generator operated by or on behalf of loads offering load reductions pursuant to the Emergency Demand Response Program. Such generators are not synchronized to a utility's local distribution system or, if synchronized to the local distribution system, support a load that is equal to or in excess of the generator's capacity; *i.e.* when operating, the local generator supplies energy only to the end user whose load it is being operated to serve and does not supply energy to the distribution system.

Locational Based Marginal Price (LBMP) - The price of energy bought or sold in the LBMP Markets at a specific location or zone.

Meter Service Provider (MSP) - An entity that provides meter services, consisting of the installation, maintenance, testing and removal of meters and related equipment.

Meter Data Service Provider (MDSP) – An entity providing meter data services, consisting of meter reading, meter data installation, and customer association, validation, editing and estimation (CAVEE).

New York Independent System Operator (NYISO) - Not for profit organization created to supply New York's electric power needs and to facilitate the power market equitably.

NYCA –The Control Area that is under the control of the NYISO which includes transmission facilities listed in the ISO/TO Agreement Appendices A-1 and A-2, as amended from time-to-time, and Generation located outside the NYS Power System that is subject to protocols which allow the ISO and other Control Area operator(s) to treat some or all of that Generation as though it were part of the NYS Power System.

NYISO Customer – An entity which has complied with the requirements contained in the ISO Services Tariff, including having signed a Service Agreement, and is qualified to utilize the Market Services and the Control Area Services provided by the NYISO under the ISO Services Tariff; provided, however, that a party taking services under the Tariff pursuant to an unsigned Service Agreement filed with the Commission by the NYISO shall be deemed a Customer.

NYISO Direct Customer – An entity which takes or provides service directly from or to the NYISO, and is responsible for bidding, scheduling, and billing functions for their facilities.

NYISO Limited Customer – An entity that joins the NYISO to participate in the EDRP; registration requirements are the same as for a NYISO Customer except that a Limited Customer:

- is not required to satisfy the financial assurance obligations imposed on Customers, and
- their status as a Limited Customer expires at the end of the EDRP program.

NYISO Services Tariff – The document that sets forth the provisions applicable to the services provided by the ISO related to its administration of competitive markets for the sale and purchase of Energy and Capacity and for the payments to Suppliers who provide Ancillary Services to the ISO in the ISO Administered Markets and provision of Control Area Services, including services related to ensuring the reliable operation of the NYS Power System.

NYS DEC – New York State Department of Environmental Conservation.

Operating Reserve Shortage –from NYISO SOP.

Real-Time Zonal LBMP – The price (in \$/MWh) for combined energy, losses, and transmission congestion determined on a roughly five-minute basis in the real-time electricity market.

Remote Metering - Metering equipment which allows for remote collection of metering data.

Special Case Resource - Loads capable of being interrupted upon demand, and distributed generators, rated 100 kW or higher, that are subject to special rules set forth in the NYISO Services Tariff, in order to facilitate their participation in the Installed Capacity market as Installed Capacity Suppliers.

Zone - One of eleven geographical areas located within the NYCA that is bounded by one or more of the fourteen New York State Interfaces. During the implementation of the LBMP Markets, all Loads located within the same Load Zone pay the same Day-Ahead LBMP and the same Real-Time LBMP for Energy purchased in those markets.

2.0 Program Summary

The *Emergency Demand Response Program* (EDRP) provides a mechanism for load reduction during emergency conditions, more specifically defined in this document, thereby facilitating the reliability of the New York State bulk power system.

Retail end users who agree to participate in the EDRP can be accommodated through one of four types of Curtailment Service Providers (CSPs):

- Load Serving Entities (LSEs), either that currently serving the load or another LSE,
- through NYISO-approved Curtailment Customer Aggregators
- as a Customer of the NYISO
- as a NYISO-approved Curtailment Program End Use Customer

CSPs should be able to provide load reduction of at least 100 kW per Zone and be able to respond within two hours of emergency notification.

Participation in the EDRP is voluntary and no penalties attach if a CSP fails to respond to a NYISO notice to reduce load.

Retail end users participating in the EDRP may also participate in the NYISO's Special Case Resources Program if otherwise qualified.

CSPs will be given notice no less than two hours in advance of the time specified to reduce load, pursuant to NYISO emergency operations procedures. CSPs shall be paid the higher of \$500 per MWh or the Real Time Zonal LBMP per MWh of verified load reduction. If the CSP is required by the ISO to reduce load for four hours or less, payment will be the higher of the \$500 per MWh or the Real Time zonal LBMP per MWh of verified load reduction for the first two hours of verified load reduction and the Real Time zonal LBMP per MWh of verified load reduction for the second two hours. If the NYISO extends the load reduction request beyond four hours, all hours will be paid the higher of \$500 per MWh or the Real Time zonal LBMP per MWh of verified load reduction. A detailed explanation of payments can be found in Section 6.

The program will be effective May 1, 2001 and will continue through October 31, 2002. At the end of each Capability Period, the program will be evaluated and changes recommended as necessary.

3.0 Eligibility Criteria / Participant Qualification

3.1 Effective Period of the Program

The program begins on May 1, 2001, and will continue through October 31, 2002. At the end of each Capability Period (May-October and November-April), program performance will be evaluated to see if any rules and procedures need to be modified.

Entities wishing to participate may apply for entry into the program at any time. If you are also planning to qualify as a Special Case Resource you should review the rules and regulations that apply to Installed Capacity (ICAP) suppliers found in [1], or contact NYISO Market Relations.

3.2 Who Can Participate?

The EDRP allows wholesale electricity market participants to subscribe retail end users able to provide Load Reduction (EDRP Loads) when called upon during emergency conditions. Wholesale market participants are grouped into four broad classes of *Curtailment Service Providers* (CSPs):

- *Load-Serving Entities* (LSEs) as defined in [2] that currently serve retail end users capable of load reduction, or an LSE that subscribes another LSE's load solely for the purpose of participating in the NYISO EDRP. LSEs may claim load reductions from their retail end users or the retail end users of another LSE. Load curtailment programs currently in place or under implementation may directly qualify for the EDRP (see 3.4 Restrictions below).
- *Direct Customers* of the NYISO as defined in [2] may claim their own load reductions.
- NYISO-approved *Curtailment Customer Aggregators* (Aggregators) of retail end users capable of load reduction. Aggregators may claim load reductions from EDRP Loads with which they have a contractual arrangement. An Aggregator is required to join the NYISO as a NYISO Limited Customer.
- NYISO-approved *Curtailment Program End Use Customers* (EUC), end-use customers whose load is normally served by an LSE but who wish to participate directly with the NYISO solely for purposes of the EDRP. EUCs must be capable of reducing at least 100 kW of load. An EUC is required to join the NYISO as a NYISO Limited Customer.

Participation in the EDRP is voluntary; no penalties are imposed upon CSPs or EDRP Loads for not responding to load reduction requests.

3.3 Minimum Qualifications for CSPs

To serve as a CSP, you must:

- 1) Be a NYISO Customer (in the case of LSEs and Direct Customers) or a NYISO Limited Customer (in the case of Aggregators and EUCs) of the NYISO and be able to pledge Load Reduction in the NYCA.
- 2) Be able to completely disconnect from the local distribution system and supply required load via local generators¹ or to reduce a measurable and verifiable portion of the load.
- 3) Be capable of reducing at least 100 kW of load per Zone.

¹ These generators either can be non-synchronized to the grid or synchronized to the grid with no net export to the grid while serving load.

- 4) Be capable of responding within two hours of notice from the NYISO.
- 5) Follow the registration procedures defined in Section 4 of this manual.
- 6) CSPs are required to provide hourly interval metering data to validate performance; specific metering requirements are given in Section 6 of this manual.

3.4 Restrictions

To participate in the program, an individual EDRP Load cannot subscribe the same metered load with more than one CSP.

Retail end users under a contract that prevents them from curtailing energy are prohibited from participating in the program. The NYISO will consult with the appropriate LSE and Electric Distribution Company to verify that the load to be reduced is not under any other specific contractual obligation that would prevent participation in the EDRP.

3.5 Requirements for Curtailment Customers With On-Site Generation

Owners of on-site and emergency generators including, but not limited to hospitals, data centers, office buildings, warehouses and industrial locations are eligible to participate in the EDRP. On-site generation will serve all or part of what otherwise would be NYISO load (i.e., the retail end user's specific load delivered from their LSE), thereby reducing the total NYISO load during declared emergencies. The requirements for participation are as follows:

- 1) The generator may operate non-synchronous or synchronous with the grid as long as there is no net electric export while serving the load.
- 2) Be capable of achieving full reduction within 2 hours of a request to reduce load.
- 3) Must have an integrated hourly or permanent recording meter as described in Section 6.1, Metering Requirements.
- 4) Be capable of receiving notification from a Curtailment Service Provider (CSP).
- 5) Be compliant with the appropriate NYS DEC permitting / registration requirements.
- 6) EDRP Loads that will use on-site generators to reduce load and that have load banks for testing purposes must ensure that the load bank is not operating during the hours required by the EDRP.

Nothing in the EDRP expands or reduces the rights or obligations a Local Generator may have to buy or sell energy into the wholesale market.

3.6 Compatibility with ICAP Special Case Resources

The EDRP pays for energy during times of emergency, but does not pay for capacity. The NYISO has a separate program called Special Case Resources (SCR) within the Installed Capacity (ICAP) market that pays for capacity. SCR is available to generators and load reduction providers that meet testing, metering and other requirements. The capacity payments under SCR and the EDRP energy payments are additive. While there are no penalties for non-performance as an EDRP provider, the SCR program will reduce future capacity payments if the NYISO calls for operation and the SCR does not perform. See the ICAP Manual located at www.nyiso.com/markets/icapinfo.html for more details.

3.7 Compatibility with LSE-Sponsored Curtailment Programs

There are curtailment programs in New York State both currently in place and under development that are designed to help the local utility with distribution load management. Each program is aimed at enhancing the reliability of the local electric system during time of high usage or outages. The EDRP is designed to be compatible with these programs.

The EDRP and local reliability programs may ask participants to curtail back to back, concurrently or have times that overlap. During the times when the EDRP and the local reliability programs have requested concurrent or overlapping load reduction the price paid shall be the highest price offered between the two programs.

4.0 CSP Registration Procedures

To qualify as a Curtailment Service Provider (CSP) you must be an LSE, Direct Customer, Curtailment Customer Aggregator or Curtailment Program End Use Customer. The registration form is posted on the NYISO web site (www.nyiso.com) and included in Attachment A to this manual. The general requirements for each CSP class are as follows:

4.1 Load Serving Entities (LSE)

For LSE's that are enrolling a retail end user whose load is served by the LSE:

1. Complete Attachment A of this manual.
2. Register each EDRP Load with the NYISO after signing a contract using the EDRP Certification form provided in Attachment B of this manual.

For LSE's that are enrolling a retail end user whose load is served by a different LSE:

1. Complete Attachment A of this manual.
2. Register each EDRP Load with the NYISO after signing a contract using the EDRP Certification form provided in Attachment B of this manual.
3. Within 2 days after receipt of the EDRP Certification Form, the NYISO will forward the registration to the appropriate LSE and Electric Distribution Company to confirm that the load to be reduced is not under any specific contractual obligation that would prevent participation in the EDRP.
4. The EDRP participant registration is deemed approved in 10 business days after notification is provided to the LSE unless the NYISO contacts the LSE via phone or e-mail to the contrary.

4.2 Direct Customers

Direct Customers of the NYISO should fill out Attachment A and one copy of Attachment B.

4.3 Curtailment Customer Aggregators

Curtailment Customer Aggregators are companies that work with owners of generation and load reduction to make it easier to participate in the NYISO Emergency Demand Response program. They do not require retail end users to become members of the NYISO, will handle all the NYISO administrative activities and may offer other benefits or incentives. To register as a Curtailment Customer Aggregator, you must become a NYISO Limited Customer. If you are applying for NYISO Limited Customer status as a Curtailment Customer Aggregator and will only be a seller to the NYISO:

1. Complete Sections A, B, F, G, H, J and K of the NYISO Registration Packet, available at the NYISO website
2. Sign the Market Services Tariff.
3. Register each EDRP Load with the NYISO after signing a contract using the EDRP Certification form provided in Attachment B of this manual.
4. Within 2 days after receipt of the EDRP Certification Form, the NYISO will forward the registration to the appropriate LSE and Electric Distribution Company to confirm that the load

to be reduced is not under any specific contractual obligation that would prevent participation in the EDRP.

5. The EDRP participant registration is deemed approved in 10 business days after notification is provided to the LSE unless the NYISO contacts the Curtailment Customer Aggregator via phone or e-mail to the contrary.

The application process can take up to 30 days.

4.4 Curtailment Program End Use Customer (EUC)

An EUC is any Local Generation owner or retail end user capable of interrupting load that can reduce at least 100kW in a zone and wants to participate in the EDRP directly with the NYISO. Registration to become an EUC includes:

4. Becoming a NYISO Limited Customer. If you are applying for NYISO Limited Customer status as an EUC and will only be a seller to the NYISO:
 - Complete Sections A, B, F, G, H, J and K of the NYISO Registration Packet, available at the NYISO website
 - Sign the Open Access Transmission and Market Services Tariffs
6. Register each EDRP Load with the NYISO after signing a contract using the EDRP Certification form provided in Attachment B of this manual.
7. Within 2 days after receipt of the EDRP Certification Form, the NYISO will forward the registration to the appropriate LSE and Electric Distribution Company to confirm that the load to be reduced is not under any specific contractual obligation that would prevent participation in the EDRP.
8. The EDRP participant registration is deemed approved in 10 business days after notification is provided to the LSE unless the NYISO contacts the EUC via phone or e-mail to the contrary.

The application process can take up to 30 days.

5.0 Operating Mechanism / Implementation

5.1 When Will the Program be Called?

The EDRP is limited to when called by the NYISO as a part of the In-day Peak Hour Forecast response to an Operating Reserve Peak Forecast Shortage as defined in [3]. The EDRP may be called in conjunction with Special Case Resources in situations where 24-hour advance notice is possible.

The NYISO will invoke the EDRP as one of its emergency procedures in conjunction with the In-day Peak Hour Forecast response to an Operating Reserve Peak Forecast Shortage, as defined in [3], or in response to the Major Emergency state as defined in [4]. Day-ahead notice of a potential operating reserve shortage shall be provided to CSPs when possible. The program is intended to support the New York State power system during emergency periods and the NYISO reserves the right to use its discretion in calling upon EDRP resources to relieve system or zonal emergencies.

The NYISO will declare an Alert State for real-time shortage of Operating Reserve, and activate all available in-state generating resources to re-establish the Operating Reserve. If required levels of real-time Operating Reserves cannot be re-established, the NYISO will utilize the EDRP to re-establish real-time Operating Reserves.

5.2 Procedures for Contacting Participants

Each CSP will designate a contact person responsible for interfacing between the NYISO and the CSP. When the EDRP is invoked, the NYISO will notify each CSP. Each CSP will notify the EDRP loads in accordance with the communications procedures agreed upon between the CSP and the EDRP load.

The message from the NYISO will include an order to reduce load at a specific time. The message will also contain an estimate of the load reduction duration. The NYISO will keep the CSPs updated concerning the status of the load reduction.

If the estimated load reduction period ordered by the NYISO is extended, the NYISO will contact CSPs to provide an updated restoration time.

6.0 Metering, Verification, Billing and Settlement

6.1 Metering Requirements

6.1.1 Metering Device Requirements

CSPs are required to provide hourly interval metering data to validate performance. EDRP participants must have an installed integrated hourly metering device approved for use by the LSE that provides integrated hourly kWh values for market settlement purposes.

6.1.2 Metering Configuration Requirements

Premises participating in the EDRP shall subscribe under one of three configurations: on-site generation only, load only or on-site generation and load. Integrated hourly metering devices shall be required as follows:

- 1) When a premise subscribes only the on-site generation, the hourly interval meter shall be installed to measure the generator's output;
- 2) When a premise subscribes only the load, the hourly interval meter shall be installed to meter the entire facility or for totalized load, an hourly interval meter is required for each participating load; or
- 3) When a premise subscribes both the on-site generation and load, both the on-site generation and the load must be metered separately. Metering of the load can be configured so as to measure only the load, or combined load and generation. Figure 6.1 illustrates examples of acceptable configurations.

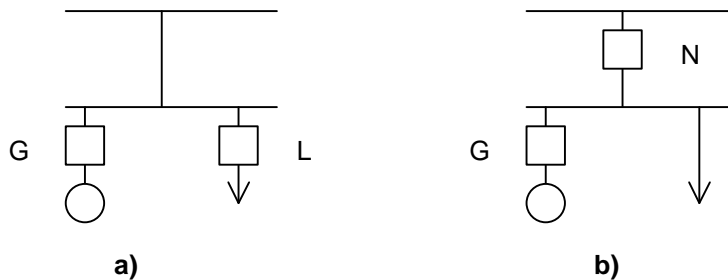


Figure 6.1 – Metering Configurations

Metering equipment must be installed for 10 previous weekdays, excluding holidays and NYISO declared curtailment days.

6.2 Calculation of Customer Baseline

6.2.1 Historical Operating Data

CSPs shall be required to provide historical operating data for each load or on-site generator upon registration for participation in the EDRP. These requirements may be met by:

- 1) For on-site generation, one of the following is required:

- a) For on-site generation participating in the NYISO Special Case Resource (SCR) program, test data supplied to qualify as a Special Case Resource will satisfy the requirement for the EDRP program; or
 - b) For on-site generation that is not participating in the NYISO Special Case Resource program, provide four-hour test results of pledged output, or provide historical operating data for operations within the 6 months prior to participating in the EDRP. Resources that have environmental or operational limitations may qualify by performing a two-hour test or by providing historical operating data for operations within the 6 months prior to participating in the EDRP;
- 2) For loads, provide a minimum of 1 complete billing period of hourly interval data immediately preceding the first Capability Period the load will participate in;
 - 3) For totalized loads, hourly interval data for a minimum of 1 complete billing period is required for all participating loads at the premise; or
 - 4) In the event of a newly installed interval meter, the CSP shall provide the prior three month's monthly billing history.

6.2.2 Baseline Calculation Method

The Customer Baseline (CB) is the average hourly load, rounded to the nearest kWh, for each of the 24 hours in a day. The Customer Baseline type used for computing performance shall be the same day-type as the day-type of the EDRP event. Customer Baseline is required for EDRP metering configurations described in section 6.1.2 whenever load is participating in the EDRP program. For on-site generation, the generator output as metered will be used for performance as defined in section 6.3.

Customer Baselines for the EDRP program shall be calculated as the simple average for each hour, as defined below:

To calculate the **Customer Baseline-Weekday (CB-WD)**, use the previous 10 weekdays, except for exclusion days, ending midnight prior to the emergency event day to compute the simple average for each hour. If due to exclusions less than 7 weekdays are available from the previous 10 weekdays, continue selecting previous weekdays in reverse chronological order until there are 7 weekdays in the simple average.

To calculate the **Customer Baseline-Saturday (CB-SA)**, use the previous 3 Saturdays, except for exclusion days, ending midnight prior to the emergency event day to compute the simple average for each hour. A minimum of 3 Saturdays are required for computing the simple average for CB-SA.

To calculate the **Customer Baseline-Sunday (CB-SU)**, use the previous 3 Sundays, except for exclusion days, ending midnight prior to the emergency event day to compute the simple average for each hour. A minimum of 3 Sundays are required for computing the simple average for CB-SU.

Exclusion provisions:

Three types of exclusions are required when computing the calculation of the simple average: holidays, EDRP event days and shutdown days as defined below:

- a) Six (6) holidays shall be excluded from the average when any of the holidays fall on a weekday, those holidays are: New Year's Day, Memorial Day, Independence Day, Labor

Day, Thanksgiving Day and Christmas Day. Dates for these holidays shall be published by the NYISO prior to each Capability Period in which the EDRP program is available;

- b) If one or more EDRP event days occur within the range of days used to calculate the Customer Baseline for the day of an EDRP event, the previous EDRP event day is eliminated from the simple average. The simple average for each hour is determined from the remaining days following the calculation provisions established above for the appropriate Customer Baseline day-type; and
- c) In the case where a day included in the simple average contains 4 or more consecutive hours with hourly values are less than 75% of the simple average for the corresponding hour, that day is excluded and the simple average is determined from the remaining days following the calculation provisions established above for the appropriate Customer Baseline day-type.

6.3 Performance Measurements and Compliance

6.3.1 Performance

Performance for metering configurations where load reduction is included is measured as the difference between the Customer Baseline and the actual metered usage by hour during the event. The Customer Baseline type used for computing performance shall be the same day-type as the day-type of the EDRP event. For on-site generation, the generator output as metered will be used for performance as defined below. The equations are given for the alternative metering configurations shown in Figure 6.1.

Load Only Configuration

For premises subscribing only the load, performance for each hour shall be calculated as:

$$P_h = (CB-xx)_h - AL_h \text{ (Meter configuration 6.1a)}$$

$$P_h = (CB-xx)_h - AN_h \text{ (Meter configuration 6.1b)}$$

Where P_h = performance for the hour

$CB-xx_h$ = Customer Baseline day-type (weekday – CB-WD, Saturday-CB-SA, or Sunday-CB-SU) for the hour as calculated using the simple average method described above in Section 6.2.2

AL_h = actual load for the hour using meter L in configuration 6.1a

AN_h = actual load for the hour using meter N in configuration 6.1b

On-site Generation Only Configuration

For premises subscribing only on-site generation, performance for each hour shall be calculated as:

$$P_h = OG_h$$

Where P_h = performance for the hour

OG_h = Metered On-site generator output for the hour using meter G in either configuration 6.1a or 6.1b

Load and On-site Generation Configuration

For premises subscribing both the on-site generation and the load and participating in the same EDRP event, performance for each hour shall be the net of on-site generation and load as defined below:

$$P_h = OG_h + [(CB-xx)_h - AL_h] \text{ (Meter configuration 6.1a)}$$

$$P_h = (CB-xx)_h - AN_h \text{ (Meter configuration 6.1b)}$$

Where P_h = performance for the hour

OG_h = Metered On-site generator output for the hour

$CB-xx_h$ = Customer Baseline day-type (weekday – CB-WD, Saturday-CB-SA, or Sunday-CB-SU) for the hour as calculated using the simple average method described above in Section 6.2.2

AL_h = actual load for the hour using meter L in configuration 6.1a

AN_h = actual load for the hour using meter N in configuration 6.1b

6.3.2 Compliance

Initial Compliance

Initial Compliance (IC) is measured as the first event hour in which performance in the hour is greater than zero (actual load is less than baseline).

Final Compliance (Restored Load)

Final Compliance (FC) is measured as the last hour in which performance is greater than zero, following or including an hour in which performance is greater than zero, or the last hour of the EDRP event, whichever is earlier. Final compliance will also occur if the actual load goes above the CBL at any point during the event ($(CB-xx)_h - AL_h$ is less than zero).

Compliance Period

The Compliance Period includes every hour in the EDRP event in which performance was greater than zero, beginning with the Initial Compliance hour and ending with the Final Compliance hour or the end of the EDRP event, whichever is earlier.

Table 6.1 illustrates examples of Initial Compliance and Final Compliance for an event starting at noon and lasting for five hours.

Table 6.1 - Examples of Performance during an EDRP Event

		NYISO EDRP Event									
		10 - 11AM	11- 12 AM	12 - 1 PM	1 - 2 PM	2 - 3 PM	3 - 4 PM	4 -5 PM	5 - 6 PM	6 -7 PM	
Customer 1											
BL	125	125	125	125	150	150	150	150	150	125	
AL	130	120	110	100	100	125	150	160	160	140	
Performance		5	15	25	50	25	0				
			IC	P	P	FC					
Compliance Period											
Customer 2											
BL	200	200	250	250	250	200	200	200	200	200	
AL	200	200	250	225	200	175	175	175	175	200	
Performance			0	25	50	25	25	25	25		
				IC	P	P	FC				
Compliance Period											
Customer 3											
BL	300	300	350	350	350	300	300	300	300	300	
AL	300	300	350	325	325	325	275	275	275	300	
Performance			0	25	25	-25	25	25	25		
				IC	FC						
Compliance Period											
Legend	BL = BaseLine			IC = Initial Compliance				P = Performance			
	AL = Actual Load			FC = Final Compliance							

6.4 Settlement Procedures

CSPs shall provide verification of load reduced within 45 days of the emergency by providing interval billing meter data to the NYISO. Verification of load reduction not received by the NYISO within 45 days of the emergency may not be compensated pursuant to this program. All load reduction is subject to NYISO audit, and market monitoring unit review. The NYISO will be responsible for settlement payment.

6.4.1 Data Submission

A CSP will submit the response(s) of the EDRP Load(s) that participated in the emergency event to the NYISO within 45 days of the event being called. Failure to so provide such data will result in a CSP not receiving payment for its participation in the EDRP. In cases where the CSP is not the Meter Data Service Provider (MDSP), upon receipt of the data by the NYISO, the NYISO will immediately forward the data to the MDSP (in most, if not all, cases the Transmission Owner) for optional review. After 10 business days the NYISO will accept the data as submitted unless challenged by the MDSP. The ISO maintains the ability to subsequently review the data through the Market Monitoring Unit.

6.4.2 EDRP Reporting

The following forms shall be required for reporting performance in an EDRP event:

1. Event Participation Report – One for each load or on-site generation resource participating in a CSP's EDRP program;
2. Zone Detail Report – Records results of individual Event Participation Reports;
3. Zone Recap – Totals all Zone Detail Reports by Zone;
4. CSP Event Participation Summary Report – Reports load reductions and on-site generation by zone for payment.

6.4.3 EDRP Load Reduction Data

A CSP will submit response(s) of the EDRP Load(s) or on-site generation that participated in the emergency event aggregated by hour and by zone.

- c) Where the CSP's EDRP load response is based on individual end-use loads alone or for premises with both participating load and on-site generation, the CSP is required to provide metered hourly interval data for each load and the on-site generation for the entire billing period in which the EDRP event occurred.
- d) Where the CSP's EDRP load response is provided only from on-site generation, the CSP shall provide interval data for the 24-hour period ending midnight of the day of the EDRP event.
- e) If the EDRP event occurs less than 10 days into a billing period for any end-use load or premises with participating load and on-site generation, the prior month's bill period data must also be provided for that end-use load and on-site generation.

6.4.4 Data Format

Individual end-use or on-site generation hourly interval load data for the billing period in which an EDRP event occurred shall be submitted in electronic form to the NYISO in one of the following formats:

- a) MV-90 Row-Day format;
- b) Comma-Separated Variable format with the following minimum entries: meter ID, account number, date, hourly values from hour ending 01:00 through hour ending 24:00 for the entire billing period;
- c) other standardized formats as defined by NYISO.

Electronic data files may be submitted via one of the following methods:

- b) e-mail to: EDRPmgr@nyiso.com
- c) CD-ROM or other electronic medium;
- d) other methods as defined by NYISO.

6.5 Energy Payments

6.5.1 Calculation of Payments

The NYISO will calculate the payment to CSPs using the following formula:

If the Emergency is four hours or longer:

$$P_h * \max(\$500, \text{LBMP}_{\text{RT Zonal, h}}) \text{ for each hour h of the emergency}$$

If the Emergency is less than four hours:

$P_h * \max(\$500, \text{LBMP}_{\text{RT Zonal, h}})$ for each of the first two hours h of the emergency (a minimum two-hour payment for performance)

$P_h * \text{LBMP}_{\text{RT Zonal, h}}$ for hours three and four.

P_h = performance during hour h as defined in Section 6.3.1

$\text{LBMP}_{\text{RT Zonal, h}}$ = Real-time zonal LBMP for hour h

In most cases, NYISO Operators will specify a start and end time for the curtailment event. This information will be provided at least two hours prior to the starting time. EDRP Loads will be expected to begin curtailment at the specified starting time. The four hour minimum run time will begin at the time when the NYISO directs the retail end user to reduce load or, if load reduction is requested as soon as possible, when the retail end user begins his load reduction response.

Participants will only be paid for performance during the event.

CSPs that fail to provide load reduction when requested by the NYISO incur no penalties for failure to respond to the EDRP.

6.5.2 Distribution of Payments

Payments will be made by the NYISO directly to the CSPs.

Payments will be made by the ISO as part of the monthly bill generated by the ISO. The bill will record the payment as an emergency energy payment and will break down the payment by total kWh by zone, hourly zonal price, and total payment. These payments will be made to the CSPs for all emergencies which have had data submitted and approved in accordance with the data policy prior to the end of the month.

6.6 Assessment of Program Charges

6.6.1 Objectives of Cost Allocation

The costs for the program will equal the sum of all payments to customers calculated and paid out under Section 6.5.1.

In general, cost allocations should be designed with fairness and market efficiency (i.e., sending the correct price signals) in mind. If it can be determined that some locations provoke the need for a service and/or benefit from that service, then it is proper (from both a fairness and market efficiency perspective) to charge loads in those locations for the service specifically.

In the case of the EDRP, the cost allocation method should be done on a Zonal rather than statewide (i.e., "all loads - everytime") basis so that price signals will be produced that help encourage reliability improvements **where** reliability needs to be improved.

6.6.2 Causes for EDR Being Invoked

EDR will be invoked during situations in which one or both of the following actually occur or are predicted to occur *within a specific Zone or set of Zones*:

EDRP Condition 1

Internal Load **exceeds** Available (Internal) Generation *plus* Import Capability

Where Import Capability equals the lesser of Transmission Import Capability for that Zone (or set of Zones) **OR**
Supply Available for Import via that Transmission

EDRP Condition 2

Locational Operating Reserve Requirements **exceed** Available Operating Reserves.

6.6.3 EDR Cost Allocation

Based upon the objectives for cost allocation and the causes for initiating the EDRP (i.e., Conditions 1 and 2 as defined above), the following cost allocation method will be used:

Costs associated with EDRP will be allocated to all Loads in Zones for which EDRP will directly help to alleviate Conditions 1 and or 2.

7.0 References

- [1] latest ICAP manual.
- [2] OATT (or Services Tariff) where NYISO members are defined.
- [3] Section 4.4.1 of the NYISO Emergency Operations Manual.
- [4] Section 3.2 of the Emergency Operations Manual.

Attachment A – Curtailment Service Provider (CSP) Registration

Emergency Demand Response Program (EDRP)

The requirements for EDRP suppliers are controlled by the New York Independent System Operator's Services Tariff ("ISO Services Tariff") and the "NYISO Emergency Demand Response Program Manual".

This form must be faxed to **518-356-XXXX** or e-mailed to **xxxxxxxxx attention: Manager EDRP**

All inquires, notices and communications by the NYISO will be sent to the address provided below.

Name: _____
Organization: _____
Address: _____

Phone: _____
Fax: _____
E-mail: _____

Circle Only One – Which type of organization are you?

Aggregator Load Serving Entity Direct Customer End Use Customer

Is your organization a current NYISO Customer? (circle one) Yes No
(If no, you must become either a NYISO Customer or a NYISO Limited Customer to participate in this program. See Manual Section 4 for more application requirements)

Please list all the LBMP zone(s) you plan on providing an EDR: _____

The CSP certifies that it meets the requirements to be an CSP supplier and that the information contained in this form and its attachments is complete and correct.

IN WITNESS WHEREOF, this Curtailment Service Provider's Emergency Demand Response Program Registration has been submitted on this, the _____ day of _____, 20__.

NAME OF CSP SUPPLIER: _____

By: _____

Name: _____

Title: _____

Authorized Representative

Attachment B - Emergency Demand Response Program – End Use Customer Registration

This form can be emailed to _____@nyiso.com

(use one form for each Retail End User Registered by the CSP)

Emergency Demand Response Program (EDRP) Load Certification

Name of Local Distribution Company (LDC): _____

LDC's Electric Account Number (s) for EDRP Load: _____

LBMP Zone of EDRP Load: _____

Capacity Rating of EDRP Load _____.__ MW (rounded to nearest 0.1 MW)

Type of EDR (check one) ____ on-Site Generator ____ Interruptible Load ____ Gen + Int. Load

Type of metering (check all that apply) –

____ Existing utility interval meter Meter ID #: _____

____ Permanent recording meter on generator / interrupted load – attach 15 minute metering data

____ Permanent interval meter on generator, if new date installed or to be installed _____

Curtailment Customer Aggregator (Aggregator) or LSE Information

Name of Aggregator or LSE supplying EDRP Load: _____

Period for which Aggregator or LSE will supply EDRP Load: ____/____/____ to ____/____/____

Contact information for ISO notification of curtailments:

Phone Number (____) ____-____; Pager (____) ____-____; E-Mail _____

Authorized Representative of Curtailment
Customer Aggregator or LSE, if applicable

Attachment C - Example Settlement Calculation

An emergency is issued on July 1, 2001 at 4pm
The customer responds by reducing their demand by 10MW
The emergency lasts for 4 hours
The emergency was activated to relieve a local system emergency in zone J

The market prices are:

Hour ending:
5 PM \$600
6 PM \$600
7PM \$600
8PM \$500

Using the formulas from above the revenues are:
 $(10 * 600) + (10*600) + (10*600) + (10*500) = \$23,000$

Data is submitted to the ISO on July 3rd by the CSP
The ISO sends to data to the TO on July 5th
The TO does not object to the data within 10 business days
On approximately August 8th the bill is sent to the CSP with a credit of \$23,000
The payment is transferred to the CSP on approximately August 26th.

On August 8th a bill is sent out to all LSE with a charge of $\$23,000 * (LSE_{load}/\text{Aggregate Zonal Load})$

On August 16th the LSEs pay \$23,000

Curtailment Incentive Worksheet (per event)
ISO Emergency Program - Energy Only
Event Duration Equals 6 Hours

Customer Name: _____
 Customer Contact: _____
 Customer Phone: _____
 Curtailment Service Provider: _____
 Utility or Meter Service Provider: _____
 Customer Account #: _____

kW Nominated by Customer: 500
 ISO Program Payment per kWh (Emergency): (higher of \$0.50 per kWh or LBMP)
 Emergency Duration and Time Called: 6 hours beginning at 1:00 PM
 Zone Customer is located in: J

<u>Date</u>	<u>Hour</u>	<u>Customer Historic KW/hr</u>	<u>Customer Actual KW/hr</u>	<u>Customer KW - Curtailed per Hr.</u>	<u>Incentive Awarded per kW/hr</u>	<u>Payment</u>	<u>Curtailment Type</u>
07/01/00	01:00 PM	1275	675	600	\$0.5000	\$300.00	ISO Emergency
07/01/00	02:00 PM	1325	700	625	\$0.5000	\$312.50	ISO Emergency
07/01/00	03:00 PM	1211	700	511	\$0.5000	\$255.50	ISO Emergency
07/01/00	04:00 PM	1434	725	709	\$0.6250	\$443.13	ISO Emergency
07/01/00	05:00 PM	1550	900	650	\$0.7515	\$488.48	ISO Emergency
07/01/00	06:00 PM	1500	1050	450	\$0.5000	\$225.00	ISO Emergency
ISO Payment to CSP						\$2,024.60	

Attachment D - Example Customer Base Load Calculations

Customer Baseline Weekday (CB-WD)

Simple average with no exclusions



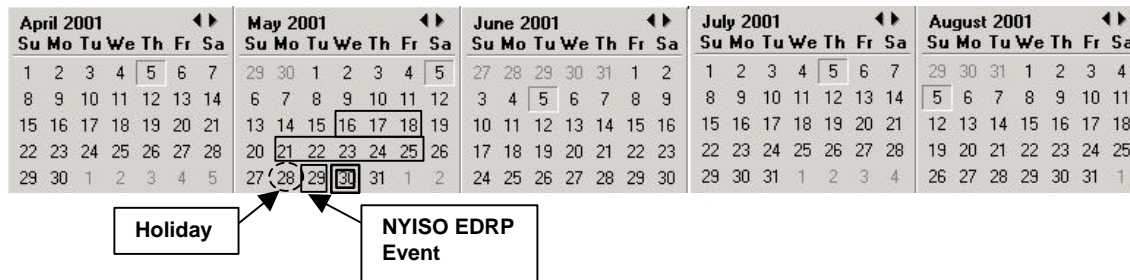
Event occurs on May 3, 2001

Average includes April 19, 20, 23, 24, 25, 26, 27, 30, May 1 and May 2 (10 weekdays prior to day of event)

Time	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00
Day #1 5/2	100	150	200	250	300	350	400	450
Day #2 5/1	150	150	150	150	150	150	150	150
Day #3 4/30	100	100	100	100	100	100	100	100
Day #4 4/27	100	150	200	250	300	350	400	450
Day #5 4/26	150	150	150	150	150	150	150	150
Day #6 4/25	100	100	100	100	100	100	100	100
Day #7 4/24	100	150	200	250	300	350	400	450
Day #8 4/23	150	150	150	150	150	150	150	150
Day #9 4/20	100	100	100	100	100	100	100	100
Day#10 4/19	200	200	200	200	200	200	200	200
Sum	1,250	1,400	1,550	1,700	1,850	2,000	2,150	2,300
Average	125	140	155	170	185	200	215	230
Shutdown Test (avg *.25)	31	35	39	43	46	50	54	58
Date(s) with hourly	none	none	none	none	none	none	none	none

value less than test amount								
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Customer Baseline Weekday (CB-WD)
Simple average with a holiday

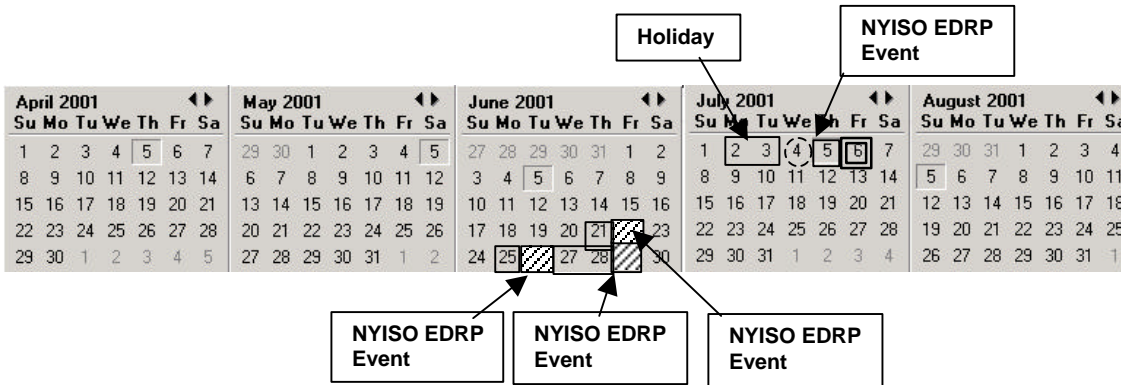


Event occurs on May 30, 2001
 Average includes May 16, 17, 18, 21, 22, 23, 24, 25 and May 29 (9 weekdays prior to day of event – Memorial Day, May 28, 2001 is excluded from average)

Time	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00
Day #1 5/29	100	150	200	250	300	350	400	450
Day #2 5/25	150	150	150	150	150	150	150	150
Day #3 5/24	100	100	100	100	100	100	100	100
Day #4 5/23	100	150	200	250	300	350	400	450
Day #5 5/22	150	150	150	150	150	150	150	150
Day #6 5/21	100	100	100	100	100	100	100	100
Day #7 5/18	100	150	200	250	300	350	400	450
Day #8 5/17	150	150	150	150	150	150	150	150
Day #9 5/16	100	100	100	100	100	100	100	100
Sum	1,050	1,200	1,350	1,500	1,650	1,800	1,950	2,100
Average	117	133	150	167	183	200	217	233
Shutdown Test (avg *.25)	29	33	38	42	46	50	54	58
Date(s) with hourly value less than test amount	none	none	none	none	none	none	none	none

Customer Baseline Weekday (CB-WD)

Simple average with multiple exclusions within the 10 days prior to the EDRP event



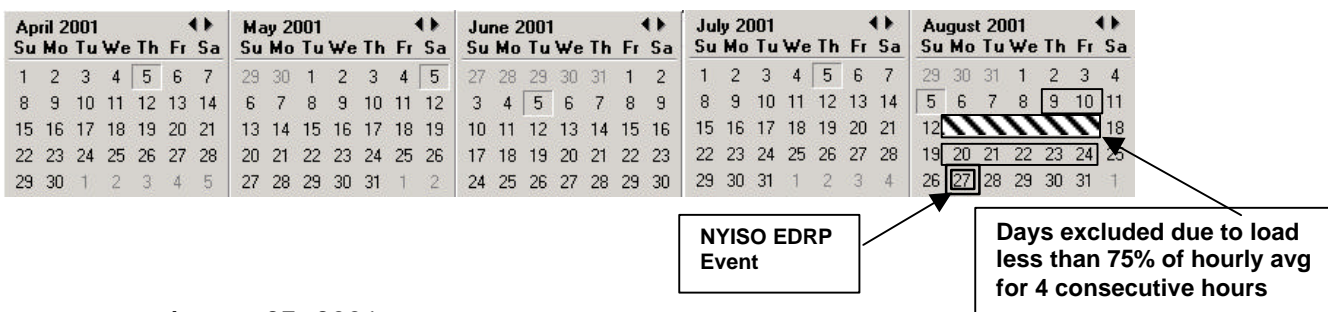
Event occurs on July 6, 2001

Average includes June 21, 25, 27, 28, July 2, 3, and 5 (7 weekdays prior to day of event – Excluded from average: NYISO events of 6/22, 6/26 and 6/29 plus holiday - Independence Day, 7/4)

Time	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00
Day #1 7/5	100	150	200	250	300	350	400	450
Day #2 7/3	150	150	150	150	150	150	150	150
Day #3 7/2	100	100	100	100	100	100	100	100
Day #4 6/28	100	150	200	250	300	350	400	450
Day #5 6/27	150	150	150	150	150	150	150	150
Day #6 6/25	100	100	100	100	100	100	100	100
Day #7 6/21	100	150	200	250	300	350	400	450
Sum	800	950	1100	1,250	1,400	1,550	1,700	1,850
Average	114	136	157	179	200	221	243	264
Shutdown Test (avg * .25)	29	34	39	45	50	55	61	66
Date(s) with hourly value less than test amount	none	none	none	none	none	none	none	none

Customer Baseline Weekday (CB-WD)

Simple average with exclusions for shutdown days



Event occurs on August 27, 2001

Initial average includes August 13, 14, 15, 16, 17, 20, 21, 22, 23, and August 24 (10 weekdays prior to day of event)

Days excluded due to load less than 75% of hourly average for 4 consecutive hours

Revised range of dates included in Customer Baseline-Weekday for this event: August 9, 10, 20, 21, 22, 23, and August 24 (reverse chronological order until minimum of 7 days are included in the average).

Initial average calculation

Time	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00
Day #1 8/24	200	250	300	350	400	450	450	450
Day #2 8/23	200	250	300	350	400	450	450	450
Day #3 8/22	200	250	300	350	400	450	450	450
Day #4 8/21	200	250	300	350	400	450	450	450
Day #5 8/20	150	150	200	200	300	300	300	300
Day #6 8/17	75	70	60	50	45	45	45	45
Day #7 8/16	50	50	50	45	45	45	45	45
Day #8 8/15	50	50	50	45	45	45	45	45
Day #9 8/14	50	50	50	45	45	45	45	45
Day #10 8/13	50	50	50	45	45	45	45	45
Sum	1225	1420	1660	1830	2125	2325	2325	2325
Average	123	142	166	183	213	233	233	233
Shutdown Test (avg * .25)	31	36	42	46	53	58	58	58
Date(s) with hourly value less than test amount	None	None	None	8/16 8/15 8/14 8/13	8/17 8/16 8/15 8/14 8/13	8/17 8/16 8/15 8/14 8/13	8/17 8/16 8/15 8/14 8/13	8/17 8/16 8/15 8/14 8/13

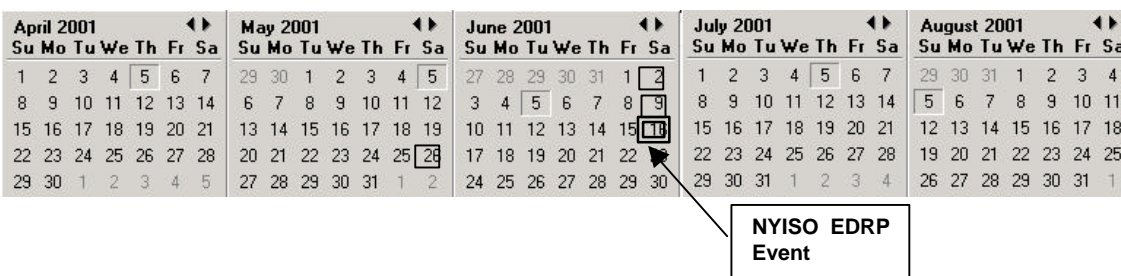
(continued on next page)

Customer Baseline Weekday (CB-WD)
Simple average with exclusions for shutdown days (continued)

Revised average calculation

Time	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00
Day #1 8/24	200	250	300	350	400	450	450	450
Day #2 8/23	200	250	300	350	400	450	450	450
Day #3 8/22	200	250	300	350	400	450	450	450
Day #4 8/21	200	250	300	350	400	450	450	450
Day #5 8/20	150	150	200	200	300	300	300	300
Day #6 8/10	150	150	200	200	300	350	400	450
Day #7 8/9	200	250	300	350	400	450	450	450
Sum	1300	1550	1900	2150	2600	2900	2950	3000
Average	186	221	271	307	371	414	421	429
Shutdown Test (avg *.25)	47	55	77	77	93	104	105	107
Date(s) with hourly value less than test amount	None	None	None	None	None	None	None	None

Customer Baseline Saturday (CB-SA) and Sunday (CB-SU) Simple average calculation for Saturdays



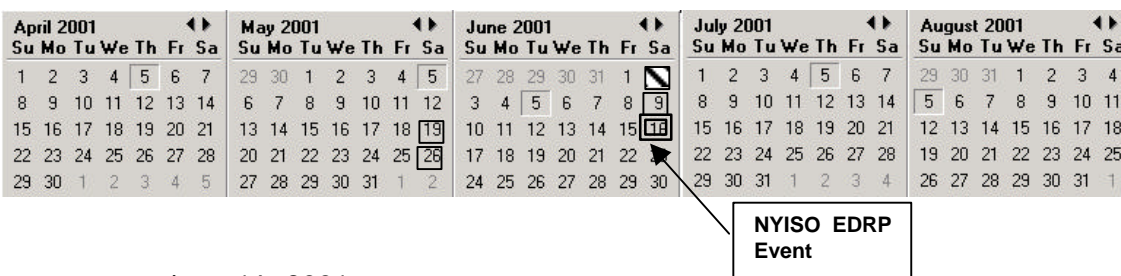
Event occurs on June 16, 2001

Average includes May 26, June 2, and June 9 (3 Saturdays prior to day of event)

Time	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00
Day #1 6/9	100	150	200	250	300	350	400	450
Day #2 6/2	150	150	150	150	150	150	150	150
Day #3 6/26	100	100	100	100	100	100	100	100
Sum	350	400	450	500	550	600	650	700
Average	117	133	150	166	183	200	217	233

For Customer Baseline Sunday (CB-SU), when the EDRP event occurs on a Sunday, follow the same procedure as above, substituting Sundays for the Saturdays shown in the example.

Simple average calculation for Saturdays with an event exclusion



Event occurs on June 16, 2001

Average includes May 19, May 26, and June 9 (3 Saturdays prior to day of event, with June 2 excluded because another EDRP event occurred on that Saturday).

Average calculation for Customer Baseline Sunday would follow the same procedure as above when one of the 3 Sundays prior to the current EDRP event also was another EDRP event.

