

Electronic Notifications for Economically Dispatched Demand Response Under Order 745

DRS

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Alex Habre, Demand Response Operations



- PJM currently uses emails to notify Economic DR participants when they are dispatched.
- email notifications have not been a reliable method of communication.
- Comply with Order 745 filing.



- PJM needs a more robust notification and acknowledgement method for dispatching economic DR, under Order 745.
- During this session we will update you on the progress we have made so far, solicit your feedback and answer any questions you have.



- Initially the new notification method will apply only to Economically Dispatched DR.
- In the Future the same approach could apply to Synch Reserve Events and Emergency Events as well.
- Email Notification may stay as a secondary notification method during a transition period.
- All Call will still be the default method for Emergency Event Notifications.

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- A solution to replace email notifications.
- Easily implemented, reliable, scalable and platform independent.
- Polled periodically for availability.
- Message based, with embedded dispatch instructions that provide for:
 - A simple message delivery confirmation.
 - Allow confirmation of DR capabilities.
- A sample client implementation with source code.



- Message syntax is already in eLRS under events.
- Minor changes to existing Web Services "Get Events" functionality (MarketType, MarketProduct, TimeStamp, MarketParticipant, etc.)
- Implement a polling mechanism.
- Implement a simple message delivery confirmation and a feedback mechanism.



Sample Economic Dispatch Message

Draft - Subject to Change

Where each Dispatch record

Attribute	Field Name	Type	Req?	Description
System Operator	SO	String	Υ	Usually market operator name – eg 'PJM'
Time Stamp	TS	DateTime	Υ	GMT Timestamp for dispatch – usually the modified time
Market Participant	MP	String	Υ	Recipient – ie, CSP
Market Resource	MR	String	Y	String version of registration id, resource, or zone name – may depend on market and/or dispatch type
Market Product Type	МТ	String	Y	DA, HA, RT, SS, DASR, SR, EMER, LM, REGUP, REGDN, etc]
Event Id	ED	Long	Υ	Unique event id
Instruction Id	ID	Long	Υ	Unique event dispatch instruction id
Status	ST	String	Υ	Status of dispatch [SCH, ACT, END, CXD]
Notify Time	NX	DateTime	Υ	GMT Notification time
Start Time	SX	DateTime	Υ	GMT Start of event
Deploy Time	DX	DateTime		GMT expected deployment time=start time + deployment (ramp) minutes
Release Time	RX	DateTime		GMT minimum release time = start time + min down time
End Time	EX	DateTime		GMT End time - release time + ramp (may not be available until end of event)
Set Point	AMT	Float		Base/Target/set point level usually in MW
Amount				
Awarded Price	RATE	Float		Awarded price rate usually in \$/MW
Message	MSG	String		Optional text message
Test Flag	TEST	T/F		Default=F

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Sample Economic Dispatch Message

Draft - Subject to Change

Where each Response record

Attribute	Field Name	Туре	Req?	Description
Market Participant	MP	String	Υ	Recipient – ie, CSP
Time Stamp	TS	DateTime	Υ	GMT Timestamp for dispatch – usually the modified time
System Operator	SO	String	Υ	Usually market operator name – eg 'PJM'
Market Resource	MR	String	Y	String version of registration id or resource name – may depend on market and/or dispatch type
Market Product Type	MT	String	Y	[DA, HA, RT, SS, DASR, SR, EMER, LM, REGUP, REGDN, etc]
Event Id	ED	Long	Y	Unique event id
Instruction Id	ID	Long		Optional event dispatch instruction id to opt out or record participation – if no id then this is a general feedback
Status	ST	String	Y	Status of response [ACK, AVL, SCH, ACT, OUT, OFF]
Start Time	SX	DateTime		GMT Start of current event or availability
End Time	EX	DateTime		GMT End of current event or availability
Availability Amount	AVL	Float		Availability level usually in MW
Set point Amount	AMT	Float		Current event target/set point level usually in MW
Generation Amount	GEN	Float		Current generation equivalent output level if available usually in MW
Load Amount	LOAD	Float		Current metered load level if available usually in MW
Price Rate	RATE	String		Price rate usually in \$/MW
Message	MSG	String		Optional text message
Test Flag	TEST	T/F		Default=F

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- Current users of eLRS Web Services, will have minimal changes.
- New Users of eLRS should get familiar with the existing eLRS Web Services.

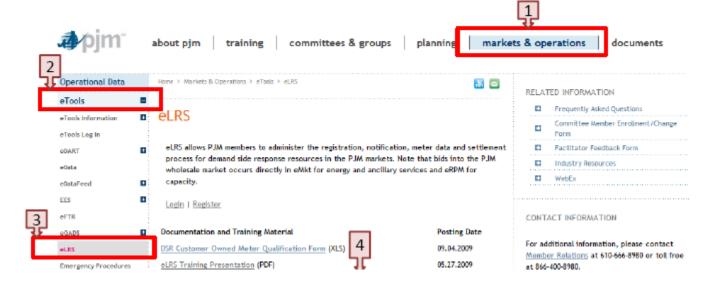
http://www.pjm.com/markets-and-operations/etools/elrs/elrs-xml-docs.aspx

- Have the infrastructure necessary to poll PJM servers periodically to ensure that you can receive Dispatch Instructions.
- PJM will make a beta version of the client as soon as feasible.



http://www.pjm.com/markets-and-operations/etools/elrs.aspx

For more details....eLRS



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- PJM will schedule future meetings to keep you up to date.
- email any questions to <u>DSR_Ops@pjm.com</u>.
- Questions?