Load Management and PRD performance proposed solution

MIC

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Considerations

- Customer choices – is it worth it to curtail? If yes, should it be through the wholesale market or self-directed peak saving (PLC)
  - PLC typically based on 5 summer CP days
  - Customer (or their consultant) must forecast peak days – potentially need to curtail ~10 summer days for 3 hours a day.
- Minimize the timing between the event and the incentive and/or penalty and associated billing.
- Performance compliance aggregation helps diversify risk across the dispatched customers

PAI event (Registrations dispatched by PJM)

PAI penalty
(~$2,300 MWh, RTO, 27/28
Stop-loss 1.5 BRA LDA price)

+ PAI Bonus
+ Energy $ (strike price)
+Potential energy cost reduction
(depends on retail rate)
+ No Test penalties

Conservative estimated incentive
$3,725 MWh = $2,300 (avoided penalty) + $1,425 (short lead strike price)

Non-PAI event (Registrations dispatched by PJM)

+ Energy $ (strike price)

+ Potential energy cost reduction (depends on retail rate)

+Option to substitute event performance for test performance

Conservative estimated incentive
$1,425 MWh (short lead strike price) or ~62% less than a PAI event

Total Capacity Revenue ($/MWh) based on capacity prices and dispatch hours

	ELCC		92%										
		Dispatch Hours											
		0	5	10	20	30	40	50	60	70	80	90	100
Price ($/ MW-day UCAP)	**$50**	**$16,790**	$3,358	$1,679	$840	$560	$420	$336	$280	$240	$210	$187	$168
	$100	**$33,580**	$6,716	$3,358	$1,679	$1,119	$840	$672	$560	$480	$420	$373	$336
	$150	**$50,370**	$10,074	$5,037	$2,519	$1,679	$1,259	$1,007	$840	$720	$630	$560	$504
	$200	**$67,160**	$13,432	$6,716	$3,358	$2,239	$1,679	$1,343	$1,119	$959	$840	$746	$672
	$250	**$83,950**	$16,790	$8,395	$4,198	$2,798	$2,099	$1,679	$1,399	$1,199	$1,049	$933	$840
	$300	**$100,740**	$20,148	$10,074	$5,037	$3,358	$2,519	$2,015	$1,679	$1,439	$1,259	$1,119	$1,007
	$350	**$117,530**	$23,506	$11,753	$5,877	$3,918	$2,938	$2,351	$1,959	$1,679	$1,469	$1,306	$1,175
	$400	**$134,320**	$26,864	$13,432	$6,716	$4,477	$3,358	$2,686	$2,239	$1,919	$1,679	$1,492	$1,343

Estimated Customer Capacity Revenue ($/MWh) based on capacity prices and dispatch hours to reduce capacity cost - low case

	Customer share of savings				50%								
		Dispatch Hours											
		0	5	10	20	30	40	50	60	70	80	90	100
Price ($/ MW-day UCAP)	$50	$8,395	$1,679	$840	$420	$280	$210	$168	$140	$120	$105	$93	$84
	$100	$16,790	$3,358	$1,679	$840	$560	$420	$336	$280	$240	$210	$187	$168
	$150	$25,185	$5,037	$2,519	$1,259	$840	$630	$504	$420	$360	$315	$280	$252
	$200	$33,580	$6,716	$3,358	$1,679	$1,119	$840	$672	$560	$480	$420	$373	$336
	$250	$41,975	$8,395	$4,198	$2,099	$1,399	$1,049	$840	$700	$600	$525	$466	$420
	$300	$50,370	$10,074	$5,037	$2,519	$1,679	$1,259	$1,007	$840	$720	$630	$560	$504
	$350	$58,765	$11,753	$5,877	$2,938	$1,959	$1,469	$1,175	$979	$840	$735	$653	$588
	$400	$67,160	$13,432	$6,716	$3,358	$2,239	$1,679	$1,343	$1,119	$959	$840	$746	$672

In the low case, a customer may reduce 50% of their capacity cost which equates to $1,399 MWh if the Capacity Price is $250 MW-day and they successfully reduce load for 30 hours

Estimated Customer Capacity Revenue ($/MWh) based on capacity prices and dispatch hours to reduce capacity cost - high case

	Customer share of savings				90%								
		Dispatch Hours											
		0	5	10	20	30	40	50	60	70	80	90	100
Price ($/ MW-day UCAP)	**$50**	**$15,111**	$3,022	$1,511	$756	$504	$378	$302	$252	$216	$189	$168	$151
	$100	**$30,222**	$6,044	$3,022	$1,511	$1,007	$756	$604	$504	$432	$378	$336	$302
	$150	**$45,333**	$9,067	$4,533	$2,267	$1,511	$1,133	$907	$756	$648	$567	$504	$453
	$200	**$60,444**	$12,089	$6,044	$3,022	$2,015	$1,511	$1,209	$1,007	$863	$756	$672	$604
	$250	**$75,555**	$15,111	$7,556	$3,778	$2,519	$1,889	$1,511	$1,259	$1,079	$944	$840	$756
	$300	**$90,666**	$18,133	$9,067	$4,533	$3,022	$2,267	$1,813	$1,511	$1,295	$1,133	$1,007	$907
	$350	**$105,777**	$21,155	$10,578	$5,289	$3,526	$2,644	$2,116	$1,763	$1,511	$1,322	$1,175	$1,058
	$400	**$120,888**	$24,178	$12,089	$6,044	$4,030	$3,022	$2,418	$2,015	$1,727	$1,511	$1,343	$1,209

In the high case, a customer may reduce 90% of their capacity cost which equates to $2,519 MWh if the Capacity Price is $250 MW-day and they successfully reduce load for 30 hours

Proposed Change – an event is an event

- All Load Mgt/PRD events are subject to a penalty and not required to test when dispatched. Penalty Rate and penalty $ allocation different for non-PAI event.
  - Non-PAI event penalty rate = 50% * PAI penalty rate (~$1,150 MWh based on 27/28 RTO)
  - Non-PAI and PAI events subject to same aggregation rules for compliance
  - PAI + Non-PAI penalty subject to existing PAI Stop Loss rules
  - Penalty $ collected allocated on a prorata basis to load based on existing test penalty allocation process.

Make new rules effective for the 28/29 DY

Proposed non-PAI event changes (Registrations dispatched by PJM)

Non-PAI penalty

(~$1,150 MWh, RTO, 27/28

Stop-loss 1.5 BRA LDA price for PAI + Non-PAI events)

+ PAI Bonus

+ Energy $ (strike price)

+Potential energy cost reduction (depends on retail rate)

+ No Test penalties

Conservative estimated incentive
$2,575 MWh = $1,150 (avoided penalty) + $1,425 (short lead strike price)

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Load Management & Price Responsive Demand Event Performance

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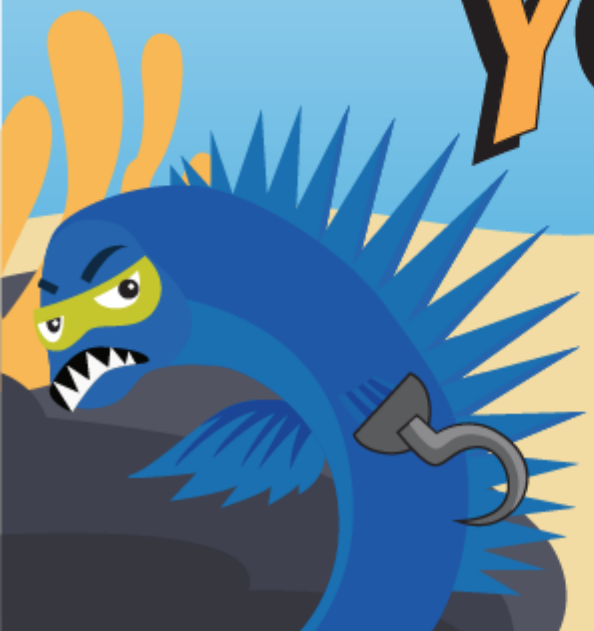

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