

6 Overlap Between DR-3 and GAM High-5

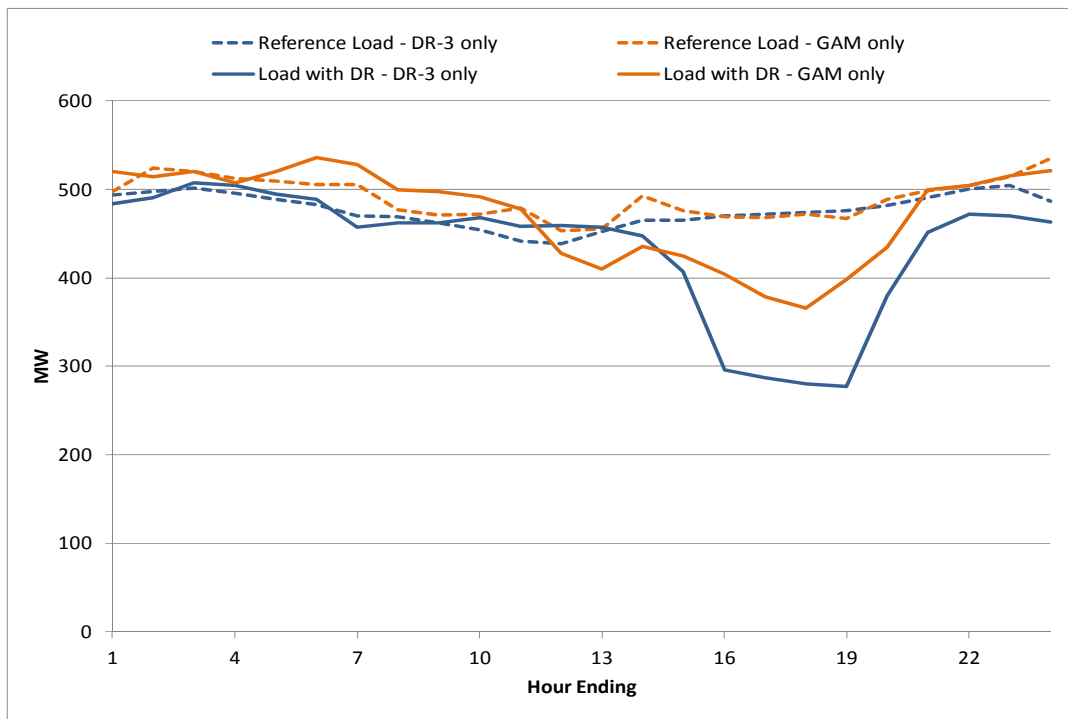
In 2011, OPA changed the way GAM charges were calculated for customers with average peak demand over 5 MW. As noted earlier, the rules provide customers an incentive to reduce peak demands during high system load days. It raises two important questions: would large customers reduce loads in the absence of DR-3; and, what is the amount of overlap between DR-3 and GAM High-5 demand response?

In total, 37 contributors qualified for GAM High-5 and accounted for approximately 65% of DR-3 contracted MW. Due to the 2011 event and system load patterns, we can make a comparison between days when DR-3 alone was dispatched, and GAM High-5 days, when DR-3 was not dispatched. This allows us to directly compare DR-3 gross impacts to GAM High-5 impacts and determine the net impact from DR-3 for these customers.

6.1 GAM Impacts in Relation to DR-3 Impacts

Figure 6-1 compares the DR-3 and GAM High-5 impacts for GAM eligible customers using the same set of customers. For DR-3, we included only events when all participants were dispatched. The starting times for DR-3 events varied slightly, starting at 3 PM or 4 PM, and were standardized to reflect impacts assuming all events started at 3 PM.¹³ On the three GAM-only days, the hour that was considered in the GAM adjustment was either 3 to 4 PM or 4 to 5 PM. However, the demand reductions related to GAM peak was between 5 PM and 6 PM.

Figure 6-1: Average Total Load for DR-3 GAM Eligible Customers



¹³ For the days when events did not begin at 3 PM, each hour in the day was shifted by the number of hours required to make the event begin at 3 PM. For example, on May 31 the event actually began at 4 PM; in the standardized dataset, each hour was shifted backwards by one hour – 1 PM became noon, 2 PM became 1 PM, etc.

Table 6-1 shows the breakdown of event and GAM High-5 day impacts by hour, for DR-3 customers who are eligible for GAM. Additionally, the event start time was standardized assuming all DR-3 events started at 3 PM (as described in the paragraph above). The table shows the impact from DR-3, the impact from GAM and impacts from GAM as a percent of impacts from DR-3. DR-3 impacts peaked from 6 to 7 PM and GAM impacts peaked from 5 to 6 PM. On average across the 4 hours, GAM impacts were equal to 44% of DR-3 event impacts.

Table 6-1: Event and GAM High-5 Day Impacts by Hour for DR-3 GAM Eligible Customers

Hour	Contracted MW	Event-day Impact (MW)	GAM-only Impact (MW)	GAM-only Impact as % of Event-day Impact
3-4 PM	253.0	174.2	64.9	37%
4-5 PM	253.0	184.2	89.3	48%
5-6 PM	253.0	193.7	106.3	55%
6-7 PM	253.0	198.5	69.3	35%
Average	253.0	187.7	82.4	44%

Although DR-3 and GAM impacts overlap, they are not identical. In comparison to GAM High-5, during DR-3 events customers provide deeper demand response over more hours. In addition, DR-3 can be dispatched, providing system operators more flexibility. While both programs reduce the need for capacity, DR-3 customers are not getting paid twice for the same demand reduction because the response to DR-3 and GAM High-5 is different. However, the overlap is substantial for GAM High-5 eligible DR-3 participants. Their GAM High-5 impacts equaled 44% of their DR-3 demand reductions across the 4-hour event window. In other words, with GAM High-5 in place, eligible customers reduce loads in the absence of DR-3, but by a significantly smaller amount. On a program-wide basis, in 2011, GAM High-5 impacts from eligible customers were equivalent to 29% of the DR-3 program load reduction capability.

The implementation of GAM High-5 and its overlap with DR-3 participants introduces the need to avoid double-counting impacts. Load impacts from GAM eligible customers cannot be counted in full by both programs. In other jurisdictions, such as California, participants are allowed to participate in multiple DR programs but the overall impacts are attributed to programs that require firm commitments and have enforceable penalties for non-performance, such as DR-3. It is also the case that most DR-3 customers eligible for GAM High-5 enrolled in DR-3 prior to the introduction of the GAM High-5 programs – that is, DR-3 commitments preceded the GAM High-5 program.

6.2 GAM Effects when Overlapping with DR-3 Events

In addition to DR-3 only event days and GAM only days, there were two days where both a DR-3 event and GAM day were in effect. Just as in the analysis above, the hours have been standardized so all DR-3 events begin at 4 PM. Figure 6-2 shows the comparison of DR-3 only events to DR-3 and GAM overlapping events. Three DR-3 only events (May 31, June 7 and August 2) were included. Winter events were excluded as they are not necessarily comparable to summer events and the June 7 event was excluded because Option C was not called. Only GAM-eligible customers with twenty four hours of data for each of the five event days were included in this analysis.

Table 6-2 shows that the impacts on DR-3 only days are very similar to impacts on DR-3 event days that overlapped with GAM. There red and blue dotted lines in the lower portion of the graph show the impacts are nearly identical during event hours, with the DR-3 only event days have slightly higher impacts.

Figure 6-2: Average Total Load for DR-3 GAM Eligible Customers for DR-3 Events and DR-3 & GAM Overlapping Events

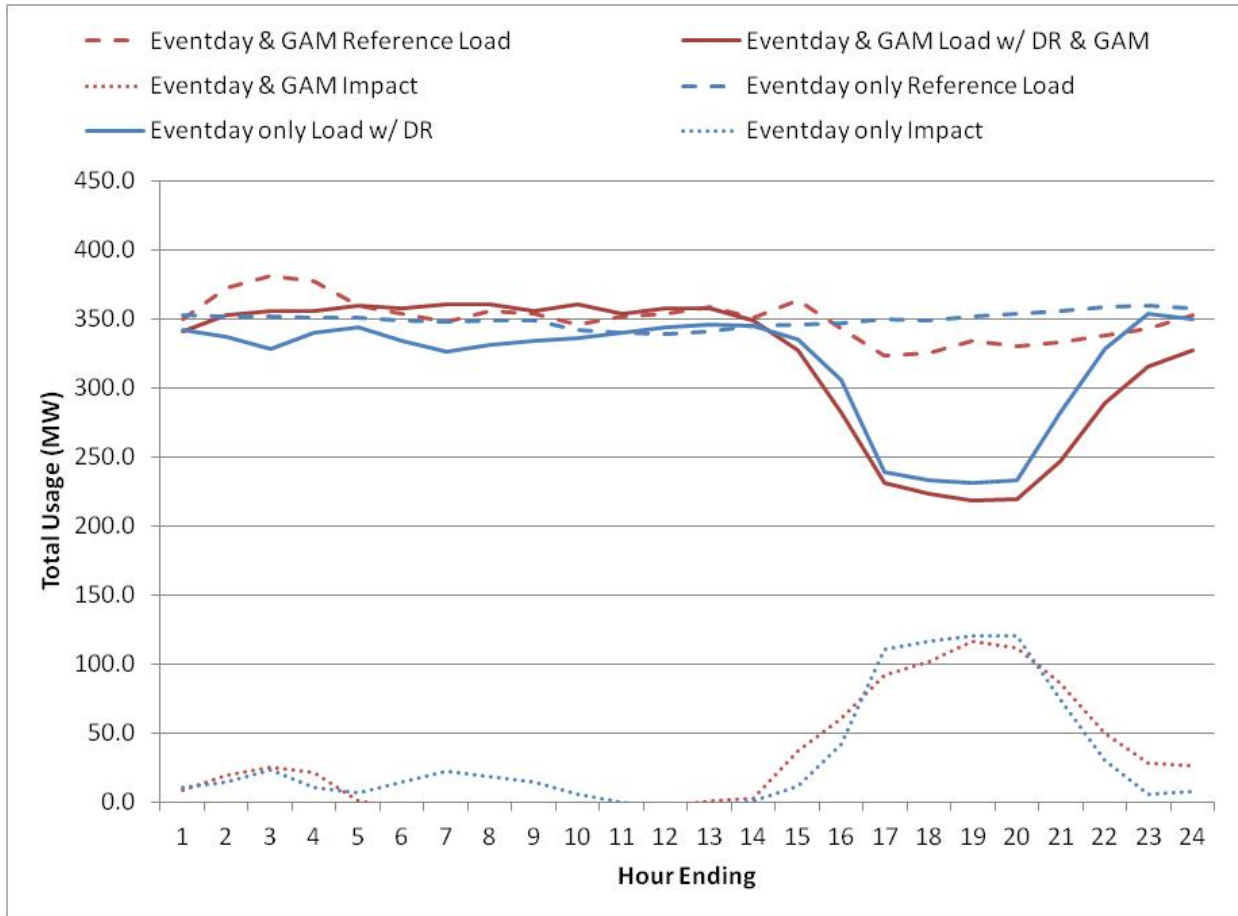


Table 6-2 shows the impacts for each of the five days and the average for each day type. Additionally, the table includes information about how the Ontario system peak ranked compared to the other days in the year (with 1 being the annual peak day). The DR-3 event days rank between 11th and 52nd place in terms of peak system load for the year compared to 1st and 5th for the DR-3 event and GAM days. On average, this set of customers gave impacts of 117 MW on DR-3 only event days compared to 105 MW on overlapped DR-3 and GAM days. Although slightly different, this numbers do not represent a significant difference between impacts on the two types of days.

Table 6-2: Event and GAM High-5 Day Impacts by Hour for DR-3 GAM Eligible Customers

Date	Event type	Impact (MW)	Contracted MW	% Delivered	Rank by Peak System Load
5/31/2011	Event day only	126.8	119.4	106%	43
6/7/2011	Event day only	127.8	119.4	107%	52
7/21/2011	Event day & GAM	109.7	119.4	92%	1
7/22/2011	Event day & GAM	100.9	119.4	85%	5
8/2/2011	Event day only	96.8	119.4	81%	11
Average Event day only		117.1	119.4	98%	N/A
Average Event day & GAM		105.3	119.4	88%	N/A

6.3 Recommendations

Key recommendations resulting from the evaluation include:

- Separate report impacts for customers that are and are not eligible for GAM High-5. Also, separately report program-specific and portfolio impacts. Portfolio impacts avoid double counting of impacts from customers that participate in multiple programs such as DR-3 and GAM High-5;
- Modify the program rules so that large customers are not paid more for DR-3 demand reduction than smaller customers. This can be accomplished in one of two ways: decreasing the DR-3 payments to GAM-eligible customers or adjusting the maximum event duration for these customers so they provide more value (at the same price); and
- Consider developing a different DR product for large customers that better utilizes demand reductions for operations and does not rely on settlement baselines (which are inherently less accurate for individual customers).