

Transitional Demand Response Program

Feedback Discussion and Response – April 16, 2004

This document summarises, and responds to feedback received from stakeholders (shown in italics below) regarding the Transitional Demand Response Program (TDRP) formerly known as the Economic Demand Response Pilot Program. The IMO continues to welcome all feedback and is holding a workshop to further discuss the proposed eligibility criteria and program design on April 22, 2004 at the Toronto Congress Centre, 650 Dixon Road.

Objectives of Program

- *Suggestion that the objective of the program should be to pay loads to curtail and get the most demand response (MWs) per dollar spent.*
- *Suggestion that large industrial loads are best positioned to provide the most megawatts at the least cost.*

At this time the objectives of the TDRP are not to obtain the most MWs possible but are to:

- build demand response (DR) capability and infrastructure,
- “kick start” DR, and
- overcome barriers to (“natural”) price responsiveness in Ontario’s competitive electricity market.

If the objective of the TDRP was to obtain the most MWs for a payment then targeting large industrial customers would be appropriate. However, there are other sectors who should be able to provide demand response (i.e. alter consumption) with little or no economic loss. If a large industrial customer stops consuming then they stop wealth creation (i.e. the production of their goods and services). This approach may not be the best long-term solution. Targeting discretionary retail level consumption may prove to be the better alternative.¹

Market Participants and stakeholders are supportive of the IMO having a role that enables and supports demand response. In developing the TDRP the IMO is attempting to balance the interests of all sectors and stakeholders in the electricity market. There is a fundamental division between those that support payments to loads to curtail demand and those who do not. In setting the objectives for the TDRP the IMO was cognizant of this division and

¹ See the Blueprint for Demand Response in Ontario, pp. 40 and 41 - http://www.theimo.com/imoweb/consult/mac_dr-Blueprint.asp.

although payments will be made to loads for curtailing demand the TDRP is not a “pay to go away” program.

- *Suggestion made that early adopters of DR should be able to participate in TDRP but that the requirement to show that the DR is incremental excludes them.*

The IMO is trying to improve price responsiveness in the market for the benefit of all participants and stakeholders. If a participant has already undertaken activities to respond to price they have already overcome one or more barriers. Paying loads for DR that they are already providing would not meet the program objectives nor would it enable the participants to overcome the stated barriers.

Initial 100 MW cap

- *Recommendations received that there should be no cap on the program.*

IMO staff have determined that about 100 MW can be accommodated without potentially impacting market operations and reliability determinations. Implementation of a program of greater than 100 MW may require tool changes in order to allow the demand reduction to be incorporated into subsequent pre-dispatch calculations. Tool changes are complex and expensive and cannot be made in time for a summer 2004 implementation and additional manual processes cannot be accommodated at this time.

250 kW Minimum bid size

- *A suggestion was received to lower the minimum bid size from 250 kW to 100 kW.*

The minimum project size was reduced from 500 kW to 250 kW in the second draft proposal for the program. The IMO is trying to balance the benefits of a greater number of projects with the costs of verifying results and administering the program. The 250 kW minimum is considered to be a good compromise to allow some smaller projects to participate without overburdening program administration.

5 MW cap per project

- *Recommendations received that there should be no cap on the projects.*
- *Questions received as to whether the 5 MW cap applies to an aggregator or a project.*

In order to meet the objectives of the program, participants should come from a variety of market segments and encompass a variety of end uses and technologies. Because the program is to be initially limited to 100 MW total, individual projects must be limited in size in order to obtain a diverse sample of participants and project types.

To further ensure a diverse sample of participants and project types the IMO is considering portioning the 100 MW by market segments such as residential, commercial and industrial.

Concern has been expressed that the 5 MW limit may prohibit large industrial customers from participating. Unfortunately, this may happen, but it is not the intention to exclude any loads that would otherwise meet the eligibility criteria.

The IMO is working to define what constitutes a project. Current thinking is that a multi-site company would be considered a project. An aggregator could have more than one project and each project would be separately subject to the 5MW limit.

Hours of operation limited to peak hours (07:00 to 23:00 on weekdays)

- *Recommendation received to allow TDRP to be activated whenever price exceeds the threshold*

Opportunities and the need for DR is expected to be limited during the off-peak hours. In addition it is anticipated that the program will involve manual processes (at least in the early stages) for both the IMO and program participants. Twenty-four by seven coverage may not be feasible for manual processes. In addition, as the program moves forward the IMO may leverage processes used in the HADL program that is also only available to participants in peak hours.

Threshold price of \$120

- *Suggestion made that the threshold price is too high (\$70 and \$60 per MWh were suggested as alternatives.)*
- *Suggestion made that participants should be able to select their own threshold price.*
- *Suggestion made that TDRP bids be stacked thus allowing the IMO to choose least cost bids.*
- *Suggestion made to consider the amount of demand as well as price (i.e. no TDRP activation when demand is equal to or lower than 18,000 MWs).²*

² This suggestion was made in the context of an uncapped program that would pay load to reduce demand.

The IMO recognises that some loads would be willing to curtail at a lower threshold price. However, in balancing the needs of all market participants we believe that a threshold price is required in order to control the timing of DR provision by those participating in the TDRP. In addition, by setting a threshold the IMO will have some indication of the number and duration of events that will result in the provision of DR and will be able to determine an estimate of the potential pay-out under the program (on a per MW basis). By establishing a threshold price the IMO is limiting the impact of the TDRP to those periods when DR is required the most, during times of high prices that correspond to the times when the system is under strain.

The IMO suggested the threshold price based on demand response experience in other jurisdictions and supply offering experience in the Ontario market. Program participants are not required to participate when the three-hour pre-dispatch price reaches \$120. They may elect to participate at any price above \$120. Because the objective of the program is demand response to price a minimum system demand was not considered.

Eligibility criteria

- *Suggestion made that a clear definition of an aggregator is required.*

The role of aggregator is no different than any other market participant that may be participating in the program. There is no need to specify downstream roles and responsibilities and we would expect these to develop and evolve as participants and the IMO gain experience with the program. Discussions are underway with the OEB to clarify the role and licence requirements for an aggregator. Currently an aggregator could be any market participant that has the ability to provide and verify load reductions.

- *Suggestion made that it is unclear whether a LDC can act as an aggregator.*

This issue has been raised and the IMO is seeking to clarify the situation.

- *Non-dispatchable portions of a dispatchable load facility should be able to participate in the TDRP.*

In the second draft of the proposed program only dispatchable loads were excluded. The objectives of the TDRP are to overcome barriers that inhibit price responsiveness. The IMO is open to altering this aspect of the program if it is demonstrated that allowing these facilities to participate will meet the objectives of the program. One of the key barriers to demand response to price is the lack of a price signal. Participants with dispatchable facilities have already demonstrated their ability to receive and respond to prices.

Exclusion of embedded diesel generators

- *Suggestion made that embedded diesel generators be excluded from the program*

This is currently under discussion. Participants in the program will have to ensure that they meet all environmental and other regulations relating to their provision of demand response.

Requirement that TDRP participants be a market participant

- *Suggestion made that there is a need for a simplified process for retail loads and aggregators to interact with the IMO*

Participants must be authorised (i.e. be a market participant) in order to provide the IMO with notification of intent to participate in a given trading hour, submit requests for payment and retrieve settlement statements and invoices. The authorisation process provides the IMO with the required customer information and provides the participant with the digital certificate required to securely access the IMO systems.

Notification Period

- *Suggestion made to allow a longer bid in time (i.e. more than the proposed 3 hours ahead) – the IMO has capability to accept bids up to 33 hours in advance*

Pre-dispatch runs are started 36 hours in advance. However, the pre-dispatch to dispatch price correlation is closer nearer to the dispatch hour as there is no requirement for participants to submit bids or offers more than two hours in advance. Until such time as a day-ahead market is established a participant can take action in response to price signals with greater certainty closer to the dispatch hour. The three-hour pre-dispatch price was also selected as the IMO was able to leverage some procedures already in place for HADL.

Payments to Participants

- *Concern has been expressed that the proposed payment methodology (three-hour pre-dispatch price X MW reduced) may provide too long or too short of a payback period depending on the project.*
- *Suggestion made that the payment should be based on the HOEP rather than three-hour pre-dispatch price (or the greater of the three-hour pre-dispatch price or HOEP).*

- *Concern expressed that if the TDRP is successful it would reduce the number of events and therefore reduce the payment stream.*
- *Suggestion made to provide funding directly for infrastructure improvements rather than through the payment stream proposed under the TDRP.*
- *Suggestion made that there is a need for a complete cost/benefit analysis – especially to determine if targeting retail loads is economically efficient.*
- *Suggestion made that additional/separate funding is needed for interval meters.*

The payments made to program participants under the proposed TDRP are intended to offset costs incurred to overcome barriers. The IMO is attempting to balance the benefits and costs and is reviewing all of the alternatives proposed above. This will be a key issue to be discussed at the April 22, 2004 workshop and further details and analysis will be provided to stakeholders in the next iteration of the proposed TDRP.

The following data is provided for information purposes only. This data should not be relied upon by participants as an indication of the frequency of future events or of potential payments made under the program:

3 Hour Pre-Dispatch Prices & Frequency of Events

	May 1, 2002 - Jul 31, 2002		Aug 1, 2002 - Oct 31, 2002		Nov 1, 2002 - Jan 31, 2003		Feb 1, 2003 - Apr 30, 2003	
	All Hours	Peak Hours	All Hours	Peak Hours	All Hours	Peak Hours	All Hours	Peak Hours
Total # of hours	148	138	157	140	96	80	516	313
Total # of events	26	24	27	19	36	26	79	54
# of events >= 2 hours	15	15	18	15	22	17	48	36
# of events >= 4 hours	12	12	13	12	9	9	31	26
# of events >= 6 hours	10	10	10	10	6	6	23	17
# of events >= 8 hours	8	8	9	9	1	0	18	14
# of events >= 10 hours	7	7	9	9	0	0	16	14
# of events >= 12 hours	5	5	7	7	0	0	14	11
# of events >= 14 hours	4	4	3	3	0	0	12	10
# of events >= 16 hours	3	1	1	0	0	0	10	8

Maximum Potential Revenue

Total	\$78,426	\$76,791	\$84,402	\$81,783	\$26,551	\$22,612	\$87,616	\$55,695
Events >= 2 hours	\$73,474	\$72,159	\$79,960	\$78,518	\$17,816	\$16,769	\$75,827	\$47,143
Events >= 4 hours	\$59,466	\$58,151	\$72,321	\$71,663	\$6,101	\$5,949	\$61,291	\$35,275
Events >= 6 hours	\$43,966	\$42,651	\$59,048	\$58,526	\$1,547	\$1,395	\$52,128	\$26,855
Events >= 8 hours	\$29,582	\$28,267	\$42,871	\$42,349	\$152	\$0	\$44,922	\$20,818
Events >= 10 hours	\$15,329	\$14,014	\$24,626	\$24,104	\$0	\$0	\$39,233	\$16,239
Events >= 12 hours	\$7,032	\$5,718	\$8,871	\$8,349	\$0	\$0	\$33,868	\$11,616
Events >= 14 hours	\$3,483	\$2,168	\$3,658	\$3,135	\$0	\$0	\$29,153	\$7,138
Events >= 16 hours	\$1,309	\$146	\$293	\$0	\$0	\$0	\$23,909	\$3,049

Note: 1. Data excludes blackout period of August 14, 2003 Hour 16 to August 22, 2003 Hour 24.

2. Threshold Price = \$120 / MWh

3. Initial analysis and should not be relied upon for business planning.

	May 1, 2003 - Jul 31, 2003		Aug 1, 2003 - Oct 31, 2003		Nov 1, 2003 - Jan 31, 2004	
	All Hours	Peak Hours	All Hours	Peak Hours	All Hours	Peak Hours
Total # of hours	33	32	3	3	143	117
Total # of events	8	7	1	1	36	27
# of events >= 2 hours	4	4	1	1	25	22
# of events >= 4 hours	3	3	0	0	16	15
# of events >= 6 hours	2	2	0	0	8	7
# of events >= 8 hours	2	2	0	0	7	3
# of events >= 10 hours	2	2	0	0	2	1
# of events >= 12 hours	0	0	0	0	1	1
# of events >= 14 hours	0	0	0	0	1	1
# of events >= 16 hours	0	0	0	0	0	0

Maximum Potential Revenue

Total	\$9,665	\$7,665	\$372	\$372	\$25,833	\$21,334
Events >= 2 hours	\$6,551	\$6,551	\$250	\$250	\$20,969	\$17,603
Events >= 4 hours	\$5,036	\$5,036	\$0	\$0	\$11,313	\$9,018
Events >= 6 hours	\$3,079	\$3,079	\$0	\$0	\$5,730	\$3,722
Events >= 8 hours	\$1,613	\$1,613	\$0	\$0	\$3,228	\$1,549
Events >= 10 hours	\$687	\$687	\$0	\$0	\$1,640	\$890
Events >= 12 hours	\$0	\$0	\$0	\$0	\$589	\$589
Events >= 14 hours	\$0	\$0	\$0	\$0	\$262	\$262
Events >= 16 hours	\$0	\$0	\$0	\$0	\$0	\$0

Note: 1. Data excludes blackout period of August 14, 2003 Hour 16 to August 22, 2003 Hour 24.

2. Threshold Price = \$120 / MWh

3. Initial analysis and should not be relied upon for business planning.

Provision of financial incentives to retail loads (subject to the fixed price)

- *Suggestion made that incentives need to be provided to retail customers subject to the fixed price.*

The proposed program is intended to provide market participants with a source of revenue (which is dependent on the 3 hour-ahead price and the amount of load they are able to reduce). How an aggregator obtains and compensates the retail load that it aggregates is not within the purview of the program. The aggregator and retail load will have to enter into an agreement based on their respective interests. Both parties should be aware of the provisions of Bill 210, especially sections 79.4(5) and (6). If the arrangement constitutes a "service transaction request" this would trigger section 79.4(5). If the payment is a "reduction in the commodity charge for electricity" this would trigger section 79.4(6). It is incumbent on the aggregator and retail load to enter into an agreement that takes into consideration all of the relevant laws to which their transaction may be subject.

Duration of Program

- *Suggestion made that the program duration should be longer or permanent.*
- *Start up times vary by segment – retail segment will take longer than commercial and industrial and may be effectively cut out of the program.*
- *Concern expressed that the program may not be temporary and suggestion that there should be an annual review.*

The proposed program has a duration of two to three years. The original rationale was to develop infrastructure to enable consumers to be more price responsive prior to the removal of the \$0.043 fixed price for designated consumers that was to occur in 2006.³ Two to three years was thought to be sufficient time for price responsive behaviour to become established in the target market.

Working Group

- *The suggestion was made that the IMO should establish a working group of participants and stakeholders to develop the TDRP (working groups could be based on market segments)*

The IMO believes that stakeholder involvement is very important and that the current processes for stakeholdering the TDRP ensures that all interested parties are able to contribute to the development of this program. Given the very short time lines for implementation of the TDRP a working group

³ The most recent legislation has the capped prices expiring in 2005 to be replaced by a pricing regime to be developed by the Ontario Energy Board (OEB).

approach was not seen as being feasible. However, other demand response initiatives will arise and the IMO will consider this feedback when developing future programs.

Monitoring and Evaluation

- *Concern was expressed that there is a need to define and set out verification processes.*

The IMO is committed to both the verification of demand reduction on a project basis as well as the evaluation of the overall program. Both processes will be clearly defined prior to approval of the program.

Other comments and issues

The IMO is aware of these issues that have been raised by market participants and stakeholders. The nature of these issues is such that their resolution is either not within the purview of the IMO or of the TDRP.

- *DR impact on LDC revenues*

This issue is very important and the IMO has raised it with the OEB. The resolution of this issue is beyond the scope of the TDRP.

- *Look at small peaking generators as an alternative to TDRP*

The IMO is continuing to develop approaches and solutions for long term resource adequacy that includes examining distributed and peaking generation. The resolution of this issue is also beyond the purview of the TDRP.

- *Look at improving HADL as an alternative to TDRP*

HADL was implemented to provide loads that are price responsive with a method of hedging the risk of real time prices being lower than pre-dispatch prices and continues to have a role in the market. The TDRP is aimed at those loads who are currently not price responsive and its objective is to overcome the barriers that are inhibiting these loads from actively participating in the market. Specific recommendations regarding improvements to HADL should be sent to the IMO through Client Services. Contact information is available on the IMO Web site.