Attached is a summary of the issue associated with the adoption of "12 x ramp rate" in the calculation of uniform market clearing price. The summary is presented in a format illustrative of what might be adopted for the working group's first deliverable which is a report that assembles an inventory of pricing issues identified by the IMO and market participants along with the nature and potential impacts of those issues on market participants and/or market operations.

Issue B.1 – Use of 12-times Ramp Rate in the Dispatch Unconstrained Algorithm

Date Raised: April 2002

Description
Within the real-time unconstrained (market) schedule sequence, the energy ramping capability of all dispatchable facilities is assumed to 12 times higher than the actual ramping ability. This means that the market schedules for these facilities and the uniform market clearing price for Ontario are set using ramp capability equal to what can be achieved in 60 minutes, rather than 5 minutes.

Background
This feature was implemented via a change to an adjustable input parameter of the dispatch algorithm in April 2002, just prior to market launch. Market Rules appendix 7.5 section 4.13.1 was changed by an urgent market rule amendment to authorize this feature. The need for this was based on results during the last phase of market testing in April of 2002, where there was extreme real-time price volatility during periods of large change in market demand – e.g. morning load pick-up, hour-to-hour changes in intertie transactions. Also observed were significant differences between the pre-dispatch prices and real-time prices. This price volatility resulted from a lack of ramp depth of scheduled lower priced resources in a single interval, so higher priced resources were required to be dispatched to meet the large demand change. Some volatility in prices is to be expected during these periods, however the level of volatility observed during the market testing was judged to be unacceptable.

Why a Pricing Issue
The use of 12 times ramp rate has been an issue since it was first implemented. When approved by the IMO Board, it was approved as a temporary measure and the expectation was that a more efficient long-term solution would be found to replace it. Therefore, there is an expectation that it will be removed at some point. Because the effects of the 12 times ramp rate are largely to reduce the severity of upward spikes in price, different market sectors are divided over the appropriateness of keeping or removing this feature.

Impacts of Issue

Market Impact
Real-time market clearing prices are determined on the basis that the market has 60 minutes of ramping capability in 5 minutes. This has a dampening effect on prices during periods of large demand change. Higher priced resources are still required to be dispatched to meet large demand changes, but these resources are constrained on and are

not reflected in the market clearing prices. This also results in higher congestion management settlement credits due to the increase in constrained resources.

Participant Impact
[To be developed]

IMO Processes and Procedures Impact
No significant impact identified. Requires minor parameter change in existing software.

Final Resolution of Issue
[To be determined]

References
[Links to and listing of available reports and other documents]