UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Demand Response in Wholesale Markets **Docket No. AD07-11-000**

PREPARED STATEMENT OF
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ON BEHALF OF ALCOA, INC

Alcoa appreciates the opportunity to participate in this Technical Conference on Demand Response issues.

I am Walter Brockway, Manager of Regulatory Affairs – Energy for Alcoa and as such, our Energy Regulatory Affairs group has been deeply involved in developing the company's thinking on demand response.

Briefly, as the nation's largest manufacturer of aluminum and aluminum products, Alcoa is one of the largest consumers of electricity on the North American continent. The bulk of this consumption, more than 2,800 Mw in the U.S. alone, occurs at aluminum smelters which consume electricity at a very high load factor 24 hours per day, 7 days per week. We have smelters located throughout the country in a number of reliability regions,

some of which are served by ISOs/RTOs and some of which are not. Over time most of these U.S. smelters have participated in demand response load reductions. We have a demonstrated capability in NYISO, ERCOT and PJM as well as with individual electricity suppliers in regulated markets. In fact most of the power purchase arrangements of Alcoa smelters have some form of curtailment provisions.

The ISOs where we have operating smelters are the New York ISO, ERCOT and the Midwest ISO. We also have a smelter within PJM but it has been shut down since 2005 because of our inability to obtain a power contract that would permit the smelter to operate economically.

In the NYISO our two aluminum smelters in Massena, New York have participated in the Emergency Demand Response Program (EDRP) and the Installed Capacity / Special Case Resource Programs. We have not participated in the Day Ahead Demand Response Program (DADRP) as yet. Our opportunities

to participate in this program are hampered with the exclusion of our bilateral contract energy. Additionally we are awaiting the NYISO implementation of its ancillary service market for load participation scheduled for the 4th quarter of 2007.

Of special note our smelting facilities were recognized in an NPCC report on the 2003 Northeast Blackout for their coordinated efforts with NYPA and NYISO ECC to implement a 60 megawatt rotational load shed program. These actions were cited as helping to prevent additional residential and commercial load shedding.

In MISO, our Warrick Smelter located near Evansville, IN has thus far participated by offering energy in the Day-Ahead and Real-time markets by reducing production to take advantage of the MISO need for energy during high priced hours and tight generation periods.

Depending on the price signals provided by the markets our Warrick smelter can vary its production from 20-90MW for up to a

three hour period. In many instances Alcoa is able to increase its production in lower-priced off peak hours in order to maintain its production targets, despite the energy curtailment. In instances when prices are extremely high, our curtailments are deepest, and we forgo producing aluminum in order to provide energy to the power starved grid. Alcoa is paid the LMP for energy provided thus offsetting the impact of lost aluminum production. These actions benefit the customers in the MISO by avoiding the start of higher cost generating units, thereby moderating prices for all customers.

In the ERCOT region we have arrangements with our supplier to curtail up to 75 MW for system reliability purposes. The duration of curtailment is limited to minimize the impact on production.

At Alcoa we believe that the nation has only begun to tap the considerable potential of demand response to more efficiently use existing energy resources and thereby reduce the human footprint

on the environment. Among the additional steps necessary to realize the potential of demand response are the following:

(1) Access to Programs - Demand response resources should have equal access to the market. Load curtailment, if it is offered, should be given equal consideration as generation in providing the next increment of system capacity. Load aggregation and bilateral contracts should be both permitted and encouraged.

(2) Preserving End User Autonomy - One of the defining principles that should be included in every demand response programs is a principle preserving the autonomy of its participants. While there have to be clearly defined commitments, the decision of customers to reduce their consumption must remain with them. Individual DR Providers need to retain the ability to define the frequency, magnitude, and duration for which they will participate in demand response. Demand response has to be voluntary, with each customer making the decision to participate based upon its individual economic situation. However

once nominated the failure to respond should carry penalties similar to that of a generator. Moreover, the program should be designed to minimize its intrusion on industrial operations, including behind the meter generation, and require resource limiting devices or other automatic controls only to the extent necessary.

(3) **Non-Discriminatory Performance Standards** - The key element in a reliable demand response program is having providers that are capable of responding when called upon. There needs to be objective decision making, subject to regulatory supervision, regarding whether DR resources can actually provide the response they are promising in order to secure the highest levels of reliability and drive down risk associated costs. However, these tests and/or compliance issues should not be unnecessarily rigorous or complicated such that they discourage participants from the program. The tests should be reasonable and nondiscriminatory; derived from the means and risk associated with the type of response being provided.

(4) **Non-Discriminatory Compensation -** The pricing structure in demand response programs should take into consideration the quality of the service provided. Load can respond more quickly than many forms of generation. Since time is a critical element in demand response programs, the speed, precision and consistency should be taken into consideration.

Moreover, load reduction avoids the incremental environmental impact of increased generation. The provider of the highest quality response should be compensated accordingly. Therefore, the compensation for a provider curtailing load should be equivalent if not greater than a generator creating new electricity.

(5) **Program Costs Allocated on a Cost Causative Basis -** Costs arising from the implementation of DR programs should be allocated on a basis that considers the cost to the system, and the benefits derived. Too often costs are simply allocated on a kWh basis without regard to load factor contribution to grid stability. Higher load factor customers create grid stability and lower costs by allowing

base load, less expensive, generating units to run more often thus lowering the costs of power to all customers. These factors should be taken into consideration when allocating the cost of DR programs to consumers.

As to obstacles to demand response program implementation, in addition to what has just been mentioned, one of the obstacles has to be restrictions on resale that are contained in our various supply contracts. Some of these are simply old contracts that go back to the days of the vertically integrated utility monopoly, but in other instances there are some government utilities that still insist on restricting resale. In other words, if we forebear from consuming a kwh of electricity, the supplier says that it owns the right to sell that kwh to someone else and to keep the money it makes doing so. Of course, that removes all economic incentive for us to reduce our consumption in the form of demand response.

Finally, We have been working with The Oak Ridge National Lab on methods and means for our load to act as not only spinning and supplemental reserves but as a regulation resource. What we have envisioned is for our large loads to receive a frequency response signal directly from the system operator and reduce or increase load in small increments to aid in maintaining system frequency.

Thank for the opportunity to offer our views as to these important issues and to participate in this Technical Conference.