

Intercast & Forge Pty Ltd

Report Date : 26th February 2019

Activity Title	Advancing Renewables Program – Demand Response
Contract Number	G00921
Recipient	Intercast & Forge Pty Ltd ABN 28 090 515 334
Reference	Knowledge Sharing Report - 1
Time Period	Program Period 2 – 1st June 2018 to 30th November 2018
Payment Instalment applicable	Payment Instalment - 4
Contact Details	Mark Mignone Financial Controller Mark.mignone@intercast.com.au

*This Activity received funding from ARENA as part of ARENA's
Advancing Renewables Programme - Demand Response.*

*The views expressed herein are not necessarily the views of the Australian Government, and the
Australian Government does not accept responsibility for any information or advice contained herein.*

Summary

This report provides an overview of the demand response for Intericast & Forge Pty Ltd for the Demand Response Trial and Knowledge Sharing for Program Period #2 (1st June 2018 to 30th November 2018).

This report describes the technology used by Intericast & Forge to curtail electricity usage at our foundry site in Wingfield SA.

It also outlines the knowledge and experiences gained by Intericast & Forge during the reporting period.

Overview of Demand Response being Provided

Intercast & Forge are a foundry based in Wingfield SA and we use a direct curtailment of energy use at our site.

Intercast & Forge have developed an internal procedure in the event of load curtailment which enables us to quickly reduce our consumption.

As shown in the diagram below, we have installed an Electricity Monitoring system which assists in our capability of load curtailment.

This system allows us to control shutdown of key high usage equipment centrally and promptly following AEMO request to demand curtail.

This is achieved by turning our furnaces off and other key equipment using the switches as shown in the picture below.



Technology used for demand response activation

Intercast & Forge uses an extensive email list to ensure any notification from AEMO is identified as soon as possible and acted upon.

A written procedure is then followed to ensure the business can comply with the AEMO request and fulfil its obligations in accepting the request in a timely manner.

(see attached procedure in appendix 1).

Business model and pricing structure

Since we are a single site user of power there is no requirement for a business model and pricing structures/incentives to be employed to recruit capacity outside of our business.

Customer types and geographic location

Similarly as noted above Intercast & Forge is a user of power not an on-seller or retailer which is unlike other participants in the program. Therefore, its reliance on demand curtailment rests on its own ability to curtail power quickly and efficiently.

Analysis of performance based on six-monthly test data and any real activation data

Intercast & Forge were not called by AEMO to tender for a live event during the period.

Under the ARENA program we were required to run a test for a demand response curtailment event before 31/5/18. In between the request for a test and the actual test, significant orders were received that would make losing production time detrimental to the deliveries required by our customers.

At the time of the notification to curtail, our process was followed (see appendix 1) and it was decided that we would not curtail our power usage. For the sake of the test we “accepted” via the portal the curtailment even though we were not going to successfully curtail.

What we wanted to test in effect is that communication between different departments could still be undertaken within the required timeframe to determine an acceptance or rejection of this request.

The results of the physical test showed that we curtailed 0.6166MW during that period. This was merely generated through the average usage calculation as opposed to any true curtailment.

Per the program we elected for a retest in June where we could assess our actual curtailment of power. On the 28th June we received the request for a curtailment test and again following the procedure, we accepted the request within the time allowed.

Once actual notification was received to curtail we set in motion our power curtailment procedure. The results were extremely encouraging see below.

DateTime	Furnace power	All other equipment	Total
28/06/18 15:30	5,732.54	1,297.00	7,029.54
28/06/18 16:00	4,318.35	1,280.00	5,598.35
28/06/18 16:30	5,229.67	1,207.00	6,436.67
28/06/18 17:00	2,262.36	993.00	3,255.36
28/06/18 17:30	13.63	338.00	351.63
28/06/18 18:00	4.17	337.00	341.17
28/06/18 18:30	4.17	346.00	350.17
28/06/18 19:00	4.14	344.00	348.14
28/06/18 19:30	3,370.48	865.00	4,235.48
28/06/18 20:00	2,134.22	1,125.00	3,259.22
28/06/18 20:30	5,559.51	1,274.00	6,833.51
28/06/18 21:00	4,089.69	1,281.00	5,370.69

Unfortunately, the base line used for this test was during a period of non-production in between our two shifts meaning the base was 7.3MWh as opposed to an average of 10-12 MWh. Our usage during the test was 0.7MWh. This is why we saw our test being very successful.

Summary of most recent lessons learnt from the development and operation of the project

Intercast & Forge feel that our systems and procedures work effectively allowing us to curtail our usage when required.