

Intercast & Forge Pty Ltd

Report Date : 29th July 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 - 2
Time Period	Program Period 3 – 1st October 2018 to 30th November 2018
Payment Instalment applicable	Payment Instalment - 5
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Advancing Renewables Programme - Demand Response.*

*The views expressed herein are not necessarily the views of the Australian Government, and the Australian
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Summary

This report provides an overview of the demand response for Intercast & Forge Pty Ltd for the Demand Response Trial and Knowledge Sharing for Program Period #3 (1st October 2018 to 30th November 2018).

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

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

Overview of Demand Response being Provided

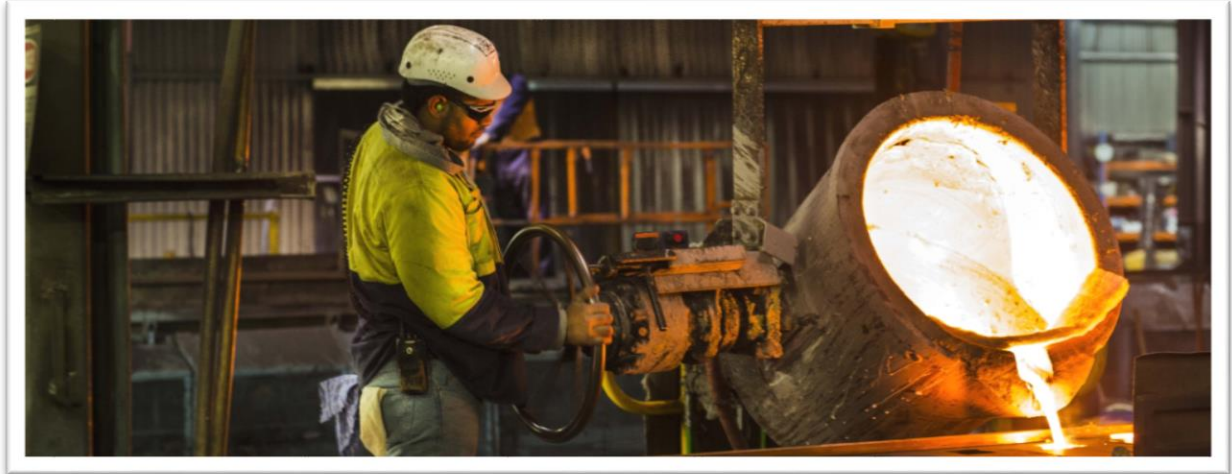
Intercast & Forge are a foundry based in Wingfield SA and we use a direct curtailment of energy use at our site.

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

We have installed an Electricity Monitoring system in our foundry 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.

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 called upon by AEMO to tender for a live event during January however on the phone call we had advised we were already on a rostered day off. Consequently, our usage was already at a minimal level.

On review the improvement opportunity was to ensure the “availability declaration” was up to date and reflective of our demand response availability.

Under the ARENA program we were required to run a test for a demand response curtailment event before 30/11/18. Unfortunately, there was a misunderstanding on this date which caused us to not request a trial.

Through discussions with ARENA and AEMO, there was agreement that a retest could be organised in February.

The retest occurred on the 14th which began when we received the request for a curtailment test. We accepted the request within the time allowed following discussions with all relevant internal parties.

Intercast’s commitment to the demand response curtailment was 8MWh as opposed to 10MWh. This was due to lower production during January and February thereby lowering the formulated electricity usage base level.

Once actual notice 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
14/02/2019 11:30	3,342.80	1,210.00	4552.797
14/02/2019 12:00	3,869.00	1,318.00	5187
14/02/2019 12:30	3,519.37	1,247.00	4766.372
14/02/2019 13:00	3,112.09	1,144.00	4256.086
14/02/2019 13:30	91.80	411.00	502.796
14/02/2019 14:00	89.24	360.00	449.242
14/02/2019 14:30	86.72	362.00	448.715
14/02/2019 15:00	84.99	353.00	437.994
14/02/2019 15:30	897.15	362.00	1259.147
14/02/2019 16:00	3,114.99	379.00	3493.988
14/02/2019 16:30	362.50	363.00	725.504
14/02/2019 17:00	857.50	395.00	1252.499

The end result meant that we reduced from an average base of 9.1MWh down to 0.9MWh. We therefore more than satisfied the full requirement committed of 8MWh.

Review of costs

Cost review following 4 tests including test costs, fixed costs non-recovery during test, set-up of system, project management time, travel costs and time for knowledge sharing, training and education to plant personnel equated to \$137,468.

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

As mentioned earlier, having a more robust system to ensure we keep the “availability declaration” up to date should the need for demand response be required by AEMO.