

By email

FAO: Andrew Self
Targeted Charging Review, Energy Systems Transition
OFGEM
10 South Colonnade
Canary Wharf
London
E14 4PU

4th February 2019

Dear Sirs

Re: Targeted Charging Review: minded to decision and draft impact assessment

Please find below a response to the consultation "Targeted charging review: minded to decision and draft impact assessment", submitted by INEOS Infrastructure (Grangemouth) Limited (IIGL) on behalf of itself and its customers supplied at the Grangemouth site with steam, power and other utilities:

- INEOS Chemicals Grangemouth Limited (ICGL);
- Petroineos Manufacturing Scotland Limited (PIMSL); and
- INEOS FPS Limited (IFPSL)

ICGL is a wholly owned subsidiary of INEOS, one of the world's largest chemicals companies, with extensive operating activities across Europe and the UK. At Grangemouth, ICGL's KG cracker processes gases produced by IFPSL, arising from North Sea oil and gas production, and ethane imported from the United States of America, to produce ethylene, a fundamental building block of the petrochemical industry. Polyethylene and synthetic ethanol production plants consume some of this ethylene, with the balance exported by pipeline to sites in Runcorn and Hull, or Teesside, where ethylene is exported to mainland Europe. A polypropylene plant is also located at Grangemouth, using a combination of propylene produced in the ethylene cracking process and imports.

PIMSL is a joint venture between INEOS and Petrochina. It operates the only fuels producing refinery in Scotland at Grangemouth, supplying much of Scotland, the North of England and the Northern Ireland, making the refinery of strategic importance to the UK and generates around 4% of Scotland's GDP.

IFPSL is a wholly owned subsidiary of INEOS, and operates the Kinneil Terminal at Grangemouth, part of the Forties Pipeline System that transports 30-40% of the UK's North Sea oil production and liquids enabling 30-40% of the UK's North Sea gas production. The Kinneil Terminal separates oil and gas from the pipeline fluids to produce stabilised crude oil and gas products. These can be used in PIMSL's refinery, ICGL's KG cracker or exported from Grangemouth.

All three businesses have substantial demands for steam and power, in addition to fuel that they have directly fired in their processes themselves. The steam and power is supplied by IIGL, from steam and power that it has both generated itself and purchased from Grangemouth CHP Limited (GCHPL).

GCHPL is also a wholly owned subsidiary of INEOS. It operates a gas-fired combined heat and power plant that was built and commissioned in 2001 by Fortum, the previous owners of the asset. The CHP plant was built at a cost of over £100m (2001) based on there being sufficient demand on site for steam and power to support its operation and:

- allowing a move of demand away from grid supplies of power and steam generated in fuel gas / fuel oil fired boilers, resulting in:
 - a reduction in carbon emissions to satisfy the same steam and power demand
 - a reduction in fuel consumption due to the higher efficiency of on-site gas fired CHP plant versus boilers and central generation (e.g. CCGT) with distribution losses.
- reducing the exposure of the site's critical manufacturing processes to issues with grid power supplies by having on-site generation (that can operate in "island mode")
- reducing the commercial exposure to market power prices – spark spreads and other costs to take a supply from the grid, that have since risen

At the time of sanctioning the CHP project, in collaboration with the site's operators at the time, there were many policy measures to support the deployment of cogeneration, albeit that many of these have since eroded. The proposals being made under this TCR as we understand them are likely to significantly increase our site costs. They will also undermine existing investments, like the Grangemouth CHP, a highly efficient generation asset, and will undermine future investments on site, like the New Energy Plant project that we are currently executing.

It should also be noted that with the reduction of thermal generation on the grid in Scotland, Grangemouth CHP Limited is now the second largest thermal generator in Scotland (behind Peterhead Power Station). This means that it has a potentially important role to provide stability for the grid (including mandatory ancillary services) and even could be important in "black start" scenarios.

We believe that OFGEM must give greater recognition to on site CHP technologies, acknowledging the role they have to play in providing efficient, lower carbon steam and power to energy intensive industries to help protect their international competitiveness. They should be regarded as completely different to embedded "peaking" generation plant that have a completely different set of business drivers.

We have attempted to provide some general comments and responses to some of the consultation questions; however, as we note this subject matter is complicated and not in our normal domain of expertise. We would therefore be happy to discuss the proposals and our thoughts with you directly, especially as we are continuing our work to better understand the impact on our operations.

Yours faithfully,



Colin Pritchard
Energy Business Manager

General Comments

- While we understand that the Significant Code Review looking at forward charges may reduce costs, we have no visibility of this as the SCR is not being carried out in the same timescales as the TCR. We believe these must be carried out simultaneously. In any case, we find it difficult to believe that any benefits arising from the SCR could compensate for the potential cost increases we face;
- There are unintended consequences for embedded CHP / embedded generation, especially where this operates under high utilisation and / or dispatch is set by heat load. In the mode of high utilisation CHP and embedded generation keeps demand off the grid and should not be discriminated against.
- There is no acknowledgement that CHP is more efficient than CCGTs with heat provided by separate boilers. Energy intensive industries have deployed CHP, with support from Government, to capture these benefits; this review seems to ignore the credentials of this technology by grouping with small-scale “peaking” generation.
- If, as a result of this review, there is a move to centralised CCGT (as the Impact Assessment implies there should be), then the review does not consider the level of costs associated with reinforcing the Transmission system to manage these increased flows.
- We believe that Ofgem have made flawed assumptions about the consequences of companies not bothering to re-act to TRIADs and have not considered the costs or impact of this change of behaviour.
- Ofgem's Impact Assessment is not nuanced enough to consider the true impact on energy intensive industrial sites. We have reviewed within INEOS and discovered that three sites have three dramatically different impacts (although all with increased costs); this one approach to charging does not fit all and will have potentially further reaching unintended consequences.

Responses to selected consultation questions

2 Do you agree with how we have assessed the impacts of the changes we have considered against the principles/ If you disagree with our assessment, please provide assessment of your reasoning?

The Targeted Charging Review Consultation and the proposals set out are too complicated for even the most informed industrial users to properly assess the potential impacts on their operation; however we would observe that:

- we estimate that in either of the lead scenarios described we will face an increase in costs that partially undermine previous investment decisions.
- the treatment of large energy intensive industrial sites is not sufficiently addressed in the impact assessment – the size of connection is not representative of very large users and there is no consideration of the range of utilisation of capacity, for example:
 - a site with “peaking” plant could import power 90-95% of the time; whereas,
 - a site with large CHP (normally exporting) could import power 5-10% of the time.
- Large-scale CHP has been regarded “equally” with small scale “peaking” generation in terms of environmental impact and efficiency; this is incorrect and is against the previous policy support mechanisms that encouraged energy intensive industry to invest in large scale CHP.

There is also considerable regulatory uncertainty (Ofgem's Network Access Project, DNO-DSO transition, Brexit, suspension of the Capacity Market and Ofgem plans to change charges on the NTS) that make it difficult / impossible to assess the overall impact on industrial competitiveness.

5 Do you agree that similar customers with and without on-site generation should pay the same residual charges? Should both types of users face the same residual charge for their Line Loss Factor Class (LLFC)?

The distinction between with and without on-site generation is not subtle enough to distinguish between the different types of on-site generation and the different operational and commercial drivers that exist behind these:

- We would agree that small-scale generation installed for the purpose of reducing consumption during Triads is effectively making the same demands on the grid as a site without generation. Logically, you would expect to pay the same / similar for effectively the same service / demands.
- Large-scale on-site CHP generation, intended to allow energy intensive industry to be internationally competitive operates differently. They operate to satisfy the heat demand of the industrial processes and vary load based on this. Typically, they can be differentiated by a much higher utilisation / on-line time – for example, only planned outages are in the summer and rate is only reduced when there is insufficient steam demand.

The pattern and nature of demand from large-scale on-site CHP is very different to that of small-scale “peaking” generation and it is not appropriate to treat them in the same manner.

Generally, sites that are able to meet most / all of their demand from on-site generation or co-location will increasingly look at “islanding”, where this is possible:

- If attractive, it is likely that the marginal generation technology to balance supply / demand in the island will be high carbon, low efficiency generation.
- Where sites actually export to the grid, the attractiveness of islanding will actually reduce the amount of electricity available to the grid

We feel that paragraphs 4.77-4.81 “Issues related to Onsite generation and generation sites with significant demand” are insufficiently developed to address these issues and therefore it is not possible to pass comment on this incomplete proposal and the issues that directly impact our site.

6 Do you know any reasons why the expected consumer benefits from our leading options might not materialise?

Ofgem’s assumption that investor confidence will not be affected by these changes is simplistic; it is probable that at the very least there will be a period of time during which investors assess the impact of these changes on the market.

We are concerned that Ofgem does not understand the benefits of CHP deployment in the energy intensive industries and that this will risk investor confidence. CHP is an economic and efficient technology to satisfy the co-incident demands for heat and power in these industries; it is far superior to centralised electricity generation and separate heat generation in terms of its efficiency and therefore environmental impact. It is of great concern that CHP is being regarded by Ofgem as being the same as small-scale inefficient “peaking” plants, which does not acknowledge its environmental benefits or its different mode of operation (i.e. dispatch rates driven by heat demand).

16 For our preferred option do you think there are practical considerations or difficulties that we have not taken account of? Please provide evidence to support your answer.

4.77 states the intent to place the residual on “final demand”, which we assume to mean the demand at the connection to the transmission system as measured by the relevant Balancing Mechanism Unit (BMU) settlement meter or meters for such sites. We would be grateful if Ofgem could clarify this as soon as possible.

Our concern is because large industrial sites may consist of one large-user (which the TCR appears to assume is the case) or multiple users. Either arrangement may have multiple sub-meters behind the main settlement meter.

- If Ofgem means “final demand” based on the number of users or sub-meters we believe that this could create serious inequities in the allocation of the residual. For example, a site with a 50MW connection agreement and multiple users could end up paying significantly more than a site with a 50MW connection agreement and only one user despite both sites placing the same demands on the network.
- We therefore believe that the most equitable means of determining final demand is by reference to the number of settlement meters, as these meters reflect the actual demands placed on the network by a site.
- This would, in effect, extend the “grid” on to the private wire network; this would be inappropriate and inequitable.