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Paul Branston  
Ofgem  
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4 April 2008

Dear Mr Branston,

**Response to consultation on National Grid proposal to commence generating electricity at gas distribution pressure reduction sites**

Thank you for the opportunity to comment on this issue, as described in your open letter of 3 April.

I am responding solely as a consumer, though I do have professional experience in the electricity and gas industries. I also own a small number of shares in National Grid plc.

**Overview**

National Grid's proposed installation of turbo expanders should be welcomed as a technically sound, and economically sensible, way to help reduce emissions.

On the fundamental issue of whether the proposal may create a perverse incentive to set system pressures to the detriment of the gas system, my opinion is that:

- The electricity generated (whilst welcome) is so small as to not present an incentive to mis-operate the system; and
- National Grid, as a respected and prudent network operator, has consistently shown that it recognises the critical importance of its core network management business, and would not jeopardise this.

The installation of turbo-expanders is to be supported. The case for the installation of biomass pre-heaters is less clear – and the two systems could better be assessed on a stand alone basis. However, on the basis that this is a trial, I would support National Grid's proposal.

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I have responded to each of your questions in the annex to this letter.

Yours sincerely

Graham Roberts CEng MIET

*by email*

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Annex to letter from G Roberts, 4 April 2008: Response to Ofgem's stated questions

*Q1: Do respondents agree with NG's proposed environmental benefits associated with this technology?*

A: Yes

*Q2: Are there any potential benefits, costs or risks to consumers that have not been considered in this letter?*

A: There is a risk that the commercial and legal responsibilities between NGG and Blue-ng may create costs at the commercial or site operational level that act as a drain or distraction on NGG resources. However, since what is proposed is a two-phase trial, these risks would seem to be acceptable, provided they are reviewed before commencing phase 2.

*Q3: Are there any other licence conditions that could be affected by NGG's proposal?*

A: No view.

*Q4: Should this kind of arrangement be ruled out as it has the potential to dilute the incentive on NG to operate either the transmission or distribution networks efficiently?*

A: No the arrangement should not be ruled out. National Grid's incentives would not be materially diluted by such a small power generation potential, and in any case, National Grid has proved to be a focussed and competent network operator – I do not believe they would jeopardise that strong reputation.

*Q5: Should NGG be looking at the opportunities to reduce pressures on the National Transmission System to prevent the need for excessive pressure reduction at these sites?*

A: The question seems to be based on the premise that there is "excessive" pressure reduction at the sites. This is not the case, consider the parallel with electricity – the sensible economic solution is to have transmission and distribution at different voltages ("pressures") and equipment (transformers) between these levels.

*Q6: Given that NG ... is not allowed to generate electricity, are there any concerns arising from this proposal from this perspective?*

A: No, for the same reasons as in Q4.

*Q7: Are there any other issues that Ofgem should be considering in reviewing NGG's proposal:*

A: No, the letter covers the important issues.

*Q8: Should Ofgem be considering the proposal to reduce own use gas for pre-heat using biomass generators separately from the proposal to convert the energy lost in depressurisation into electricity using turbo-expanders?*

A: Yes.

The introduction of turbo-expanders is relatively simple when compared to the introduction of a biomass based CHP system on site. The risks associated with the CHP system contribute significantly to the risks I identify in response to Q2.

Fundamentally, a turbo-expander is a “passive” generator – rather like a run of river hydro scheme, and simply takes the prevailing electricity price. A biomass CHP scheme introduces an additional element of market risk and market decision making on electricity sales prices and despatch – and note that even if this is forward contracted, the purchaser must take this into account.

It would be useful to see a comparison of the costs, risks and benefits of:

1. do nothing;
2. install turbo-expander only;
3. install biomass CHP pre-heater only;
4. install turbo-expander and biomass CHP pre-heater.

However, noting again that this is a trial, I would support National Grid’s proposal, subject to a review after Phase 1.

*Q9: Are there any modifications to NGG’s gas transportation licences that would be appropriate to safeguard consumers if the Authority grants the relevant consents?*

A: No, I do not believe the proposal requires licence changes. A light touch approach should be taken to what is, essentially, a positive and sensible trial to attempt to reduce emissions in the economy overall.

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