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Our reference	CER/0201/001
Date	June 29, 2010

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Consultation Paper on Fixed Cost of a Best New Entrant (BNE) Peaking Plant for calendar year 2011

Siemens' view and comments to the Consultation Paper

Dear Sirs,

We refer to the Consultation Paper on BNE Peaker for 2011 published on 28th May 2010 by the Regulatory Authorities.

As you will certainly understand there is a natural interest on our side to understand the shortlisted Technology Options. For our SGT5 - 2000E not being among the shortlisted products the drawn conclusion in your analysis is different from our own. The market also considers the SGT5 – 2000E a very competitive product especially for peak load applications and in markets being supported by peak capacity payments.

Having reviewed the Consultation Paper and the Initial Report by PB Power dated 12 May 2010 we will give our view and comments on the report with the objective to question the conclusion of the shortlisted Technology Options as listed under Section 5.3. of the Consultation Paper. Furthermore we will provide additional information on the SGT5-2000E we feel may not have been considered to the extent necessary in the Initial Report by PB Power.

This letter also highlights the different aspects of your analysis that we suggest to be reviewed and re- evaluated. With the additional information provided PB Power's initial assessment of Technology Options may have to be revisited. In the interest of your and our customers we should be setting the focus on the right Technology Options, giving them the best available solution for their needs.

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1. Data Base

1.1. Performance Figures

As stated in the Initial Report all Technology Options have to meet the Short-listing Criteria. The next step then was provided by the Initial Filter which is basically supported with the information out of the Gas Turbine World 2009 GTW Handbook.

With regard to performance figures as indicated in Figure 3.2. of the Initial Report we believe the figures to be not accurate and enclosed you will find the actual ISO Performance figures which of course have an impact on the specific price:

Output using fuel gas: 171,8 MW

Efficiency using fuel gas: 35,58 %

Output with water injection: additional 20 MW which is limited at 173 MW

Output using fuel oil with water: 173 MW (water/fuel ratio is 1 : 1)

Efficiency using fuel oil with water: due to vaporization, at about 33,7%

Performance data are based on design features which are available and proven technology.

Additional power augmentation can also be achieved by over firing and/or wet compression (WetC).

In Section 3.4.1 of the Initial Report it was not indicated what the fuel / water ratio is when firing oil and for firing gas water injection for the SGT5- 2000E was not even considered. So we suggest for a evaluation on equal terms to consider power augmentation features for the SGT5-2000E as well.

Simply using these performance figures and the stated equipment prices in the GTW 2009 the resulting specific prices should get the SGT5 - 2000E onto the shortlist.

1.2. Equipment Cost

Under Section 3.4. of the Initial Report. it was indicated that in order to further reduce the number of Technology Options equipment cost published in the 2009 GTW Handbook were used.

Using the Gas Turbine World 2009 we find it difficult to establish accurate pricing information (other than rough estimates) with the level of information provided on plant features, scope of supply and specification. The Gas Turbine World Handbook also indicates those numbers to be budgetary prices with a tolerance level of +/- 5% to be applied.

There are further uncertainties if it comes to country specific requirements, costs, exchange rates and market influences. Not all suppliers are necessarily in the same marking at the same time.

Again I would like to reiterate that with the right performance figures (without any power augmentation) and the price indications out of the GTW Handbook 2009 the specific price of the SGT5-2000E should be at 238 \$/kW and therefore should be shortlisted.

2. Operational Flexibility

Not really considered in you short-listing criteria are other features highly regarded by customers such as:

- Fleet Availability of SGT5- 2000E is 99,7%
(based on last two years evaluation on 192 packages including generator)
- start reliability
- start up time/ ramp rate other than the 20 minute criteria
- Fuel Flexibility (e.g. Naphta, Syngases, Crude or Heavy Fuel Oils, etc)
- Service Concepts

In addition to the short listed criteria that have been considered in your analysis the SGT5-2000E shows outstanding performance in the above listed criteria as well.

3. Conclusion of our review

Since such a report gets around we believe for the stated reasons the shortlist of Technology Options has not fully considered the technical capabilities of all the available products. Our view is, that with the explanation given in this letter the SGT5-2000E should be included in the shortlist of Technology Options.

Please also see the attached reference list and you will note that the SGT5-2000E is a established energy solution appreciated by clients around the globe. With more than 330 units in operation (including licensed engines) the SGT5-2000E has accumulated more than **12 Mio. EOHs**. Especially when it comes to peaking plants and special fuel applications the gas turbine has proven its competitiveness consistently which is not being reflected in your Consultation Paper.

So in concluding this letter we trust that with the information provided the Consultation Paper will be reviewed and the Technology Options re-evaluated. I would like to offer our assistance and support for any queries you may have with regard to the Consultation Paper, the Initial Report by PB Power and the evaluation of available technology.

We will also propose a presentation of Siemens products and energy solutions to PB Power in order to ensure that for future evaluations the information required will be available and taken into account.



Michael Kruck

Attachments:
List of SGT5-2000E references