

# RSA GRID CODE INDUSTRY EXPERTS TEAM MEETING

## MINUTES OF MEETING HELD ON 05 February 2013 Diamond Boardroom, National Control Building, Simmerpan

### ATTENDANCE:

NAME	REPRESENTING	TELEPHONE	EMAIL
Bernard Magoro	Grid Code Secretariat	011-871 2774 083 292 2876	<a href="mailto:magorotb@eskom.co.za">magorotb@eskom.co.za</a>
Target Mchunu	Eskom SO	011-871 3076	<a href="mailto:mchunut@eskom.co.za">mchunut@eskom.co.za</a>
Machiel Viljoen	Eskom . Generation	016-457 5630	<a href="mailto:vilmac@eskom.co.za">vilmac@eskom.co.za</a>
Mike Hadingham	Hatch	072 176 3734	<a href="mailto:MHadingham@hatch.co.za">MHadingham@hatch.co.za</a>
Lucky Ngidi	NERSA	012 401 4716	<a href="mailto:lucky.ngidi@nersa.org.za">lucky.ngidi@nersa.org.za</a>
Themba Khoza	Eskom- Grid Code	082 400 7510	<a href="mailto:KhozaTR@eskom.co.za">KhozaTR@eskom.co.za</a>
Werner Engelbrecht	SAWEA	082 566 8965	<a href="mailto:WEngelbrecht@biothermenergy.com">WEngelbrecht@biothermenergy.com</a>
Camintha Moodley	Eskom . Regulatory	011-800 5164	<a href="mailto:Camintha.Moodley@eskom.co.za">Camintha.Moodley@eskom.co.za</a>
Charles Geldard	NERSA	082 772 0711	<a href="mailto:Charles.geldard@nersa.org.za">Charles.geldard@nersa.org.za</a>
Adam Bartylak	Eskom . System Operator	082 802 3942	<a href="mailto:Adam.Bartylak@eskom.co.za">Adam.Bartylak@eskom.co.za</a>
Clinton Carter-Brown	Eskom Group Technology	083 630 0626	<a href="mailto:cartercg@eskom.co.za">cartercg@eskom.co.za</a>
Mobolaji Bello	Eskom Group Technology	011-851 6311	<a href="mailto:Bellomm@eskom.co.za">Bellomm@eskom.co.za</a>
Kobus Babst	SAIPPA	082 876 3569	<a href="mailto:Kobus.Babst@gmail.com">Kobus.Babst@gmail.com</a>
Dave Krumm	EIUG	072 270 4873	<a href="mailto:dave.krumm@bhpbilliton.com">dave.krumm@bhpbilliton.com</a>
Doug Kuni	SAIPPA	082 417 5608	<a href="mailto:Doug.kuni@gmail.com">Doug.kuni@gmail.com</a>
Juan La Grange	TNSP	011 800 4829	<a href="mailto:LGrangJH@eskom.co.za">LGrangJH@eskom.co.za</a>
Roger Martin	EBM	082 554 0853	<a href="mailto:roger@ebm.co.za">roger@ebm.co.za</a>
Michele Annese	Vestas	+39 347 2401 040	<a href="mailto:mie@vestas.com">mie@vestas.com</a>
Philip Koning	Hatch	082 822 1374	<a href="mailto:pkoning@hatch.co.za">pkoning@hatch.co.za</a>
Ignacio Leon	Vestas		<a href="mailto:Alile@vestas.com">Alile@vestas.com</a>
Kevin Minkoff	Innowind	072 959 2915	<a href="mailto:kminkoff@innowind.com">kminkoff@innowind.com</a>
Roy Estment	Grid Planning	011 800 4930	<a href="mailto:Roy.Estment@eskom.co.za">Roy.Estment@eskom.co.za</a>
Monique Le Roux	Eskom Distribution	082 928 9972	<a href="mailto:Lrouxm@eskom.co.za">Lrouxm@eskom.co.za</a>
Frikkie De Vries	Eskom . Generation	082 855 9527	<a href="mailto:DVriesFJ@eskom.co.za">DVriesFJ@eskom.co.za</a>

**MEETING CHAIRPERSON:** Bernard Magoro

**SECRETARIAT:** Target Mchunu

### APOLOGIES

NAME	REPRESENTING	TELEPHONE	EMAIL
Ronald Chauke	NERSA	082 666 0704	<a href="mailto:Ronald.chauke@nersa.org.za">Ronald.chauke@nersa.org.za</a>
Stuart Van Zyl	Eskom . Distribution	012-421 4713	<a href="mailto:Vzylst@eskom.co.za">Vzylst@eskom.co.za</a>
Teresa Carolin	SAPP	082 806 2376	<a href="mailto:Teresa.carolin@eskom.co.za">Teresa.carolin@eskom.co.za</a>
Hennie Nel	Eskom Gx	016-457 5105	<a href="mailto:henniehj.nel@eskom.co.za">henniehj.nel@eskom.co.za</a>
Gerhard Botha	Research QOS	011 629 5514	<a href="mailto:Gerhard.botha@eskom.co.za">Gerhard.botha@eskom.co.za</a>
Paul van Niekerk	SAIPPA	082 927 4506	<a href="mailto:Paul@vqw.co.za">Paul@vqw.co.za</a>
Danie Conradie	Eskom Dx (Main Member)	031-710 5411	<a href="mailto:conradj@eskom.co.za">conradj@eskom.co.za</a>
Vijay Batohi	AMEU (Main Member)	031 311 9224	<a href="mailto:batohiVB@elec.durban.gov.za">batohiVB@elec.durban.gov.za</a>

### VERSION CONTROL:

Version	Changes	Author	Date
00	First draft by Secretariat	Target Mchunu	05 February 2013

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## 1 WELCOME

The Chairman welcomed everyone to the meeting. A safety including evacuation procedure briefing was done by the Chairman.

## 2 APOLOGIES

Apologies were noted as indicated on the attendants register above.

## 3 FINALISATION OF THE AGENDA

Secretariat requested that item 5.2 “**Transmission connection charges rules**” be removed from the agenda and will be discussed at the next scheduled IET meeting. The applicant was still working on the next revision of the document.

## 4 APPROVAL OF THE PREVIOUS MINUTES

The minutes of the previous meeting were accepted without changes by the committee.

## 5 MATTERS ARISING

### 5.1 2012DCAMD002: NERSA Amendment to Dx Code Tariff Code 11(3)

**Previously:** Mr L Ngidi reported that the Distribution use of System document is up for review and amendment will be tabled once the document has been reviewed. Mr L Ngidi will be reporting on the progress of the process with the committee.

**This Meeting:** Mr L Ngidi gave a brief background of the amendment to the committee and then reported that there was no progress made since the past meeting. There is a new project planned to review the Distribution Use of System document starting 1<sup>st</sup> March 2013. This will be an internal review by NERSA, however, normal channels for public consultation will also be followed. Progress of the review project will be reported to the IET and GCAC from time to time.

**Action:** Mr L. Ngidi

### 5.2 Exempting Distributors from paying transmission connection charges.

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**Previously:** NERSA was not in a position to respond due to other commitment. EIUG raised a concern with regard to the exemption of distributors and the Chairman insisted that NERSA should look at the issue as it might raise serious concern.

**This Meeting:** Mr C. Geldard reported that so far NERSA has not been able to establish the basis for this exemption and that this issue will be addressed as part of the Transmission connection charges rules subject.

**Action:** C. Geldard (NERSA)

### 5.3 GCEXE12016: A.2.3.3(Large Signal Test)

**Previously:** IET could not make up of the requested exemption and recommended that the exemption be presented at the next meeting by the subject matter expert from the power station so it can be clearly explained for IET to understand.

**This Meeting:** It was noted that the revised exemption was received late and not circulated to IET members; however the applicant was allowed to go ahead with the presentation. Mr M. Viljoen presented the revised exemption from Camden Power Station. He explained that the main area of code violation is with regard to the reduction of testing from 1.6 x rated current as required by the grid code to 1.1x rated current. After a brief discussion, the applicant was advised to redraft the exemption request again and to give assurance that:

- Nothing has changed since the last successful test done at 1.6 x rated current
- The test will still be conducted as per the grid code requirements at 1.1 x rated current.

No final decision was taken on the exemption until the revised exemption is presented at the next IET meeting scheduled for the 26<sup>th</sup> February 2013.

**Action:** Mr M. Viljoen

### 5.5 GCEXE12018: clause 3.1.7 (restart after station blackout)

**Previously:** IET did not support the exemption request due to lack of motivation. Generation requested more time to review their exemption request. To be presented on the next meeting.

**This Meeting:** Mr F De Vries presented the exemption. He indicated that Camden units are not able to meet this as a result of the inherent design of the turbine. He explained that the turbine rotor is not put on the barring gear immediately after the unit trip under station blackout conditions. This process takes about 8 hours and hand barring facility does not exist. After a

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brief deliberation, the IET recommended that the applicant should redraft the exemption request and include the following:

- Risk associated with the unit being granted permanent exemption
- Cost-benefit analysis that modification is not an economic option
- Also reflect that the existing restart procedures and achievable timelines will be officially communicated to the System Operator.

EIUG also recommended that some input will be needed from SO when deciding on such request in terms of impact this will have on the overall system restart process.

The final decision on the revised exemption application will be taken at the next IET meeting scheduled for the 26<sup>th</sup> February 2013.

**Action: Mr H. Nel/ M. Viljoen**

### **6 NEW SUBMISSIONS**

#### **6.1 Amendment GCAMD12005: Network Code, clause 7.6.5 (5) Integration of power stations**

Mr J. La Grange presented the amendment on behalf of Mr. R Estment. The committee was happy with the amendment but the debate went around on whether to keep the reference number of %single largest contingency+(SLC) 1000MW or empower System Operator to manage the number.

The committee concluded by recommending that Roy need to redraft the amendment to;

- Include statement that avoid losing a unit on a certain threshold unit size, and
- Reflect the upper limit of the SLC and that number will be reviewed by System Operator from time to time.

No final decision taken on the amendment until the revised amendment is presented at the next IET meeting scheduled on the 26th February 2013.

**Action: Mr R. Estment**

#### **6.2 Exemption: Chaba Wind Farm, Clause 4.4.2: Reactive Power Control Requirements**

Mr K. Minkoff made a presentation to the committee which outlined the basis of the exemption request (presentation attached). The presentation indicated that the reactive power capability

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cannot be fulfilled at Thornlands switching station where the PCC is defined for extreme Voltage ranges of  $\pm 10\%$  since OLTC facility is not available and the range is too wide for turbines directly connected to the distribution system. However, it was indicated that Chaba Wind Farm is fully compliant with grid code for voltage range of  $0.93\text{pu} \text{ - } 1.08\text{pu}$  at PCC.

Dr C. Carter-Brown queried what would have to be technically done to ensure that the wind Farm is compliant with the grid code. The applicant responded that OLTC was needed at Thornland station and the feasibility of compensation devices was not viable as there were at the end of the radial feed. Indications were that a SVC may solve the problem. Dr Carter-Brown emphasized that the wind farm should have been designed with full capability as the future network could change significantly, and future operating scenarios may require the full capability prescribed by the Code.

As the discussion proceeded it was evident that Eskom could not guarantee voltages within the restricted range, and that the risk of non-compliance should not be transferred to Eskom. A comment raised by SAWEA that the grid code rules were not in place during award of the bid was corrected. The chairman reminded the committee that wind grid code was already approved and in force at the time the first round of REBID bids were awarded.

It was also noted that having a Wind farm of such size (Category C) connected at MV network was unusual, and that the Code intended for such sized plant to be connected at Sub-transmission voltage levels.

Mr K. Minkoff indicated that if the Wind Farm were to curtail active power production at the voltage extremes, the wind farm would comply with the reactive power requirements. However there were cautioned that any curtailment would mean a loss of revenue as there would be no compensation. The Applicant also enquired whether they would be allowed to run the plant in voltage control mode to try to stay away from curtailment. The committee advised that was a possibility and would need to be verified in conjunction with System Operator and Distribution Network Operator. However the wind farm should be able to be called anytime to meet the full QV requirements of the grid code.

EIUG also emphasized that if technical requirement (i.e. wind grid code) were clear from the beginning then it was unacceptable that the risk is passed into the distributor by allowing a plant that that is not compliant to connect to the network.

Mr Ngidi proposed that maybe a temporary exemption be granted to facilitate the financial close. Ms C Moodley raised concern that financial close should not be used as support for granting an

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exemption. In addition, while this connection was a cheaper option, we must also bear in mind that another bidder that may have been unsuccessful due to price may have been fully Grid Code compliant. She also raised a concern that to grant the exemption would set a precedent and open the door to a flurry of exemptions from other developers.

SAWEA raised concern on the process of applying for exemption and it remain unclear under which conditions will the exemption be granted. The Chairman acknowledged the comment from SAWEA and reiterated that the Wind Code like all other codes were subject to amendment and exemption requests, however these could not be granted on an individual merit. The Wind Code is the minimum standard for network connection. If during the implementation of the Wind Code, it is evidenced that there is generally (a number of wind generators) a problem with specific clauses, these would have to be addressed.

As a way forward, Mr P Koning (also representing the applicant) proposed that they will sit with regional planners with updated network information and perform studies to assess the possible frequency and duration of voltages outside of the 0.93 to 1.08 range. It was noted that the wind farm must be able to fulfill the required QV capability whereby the Eskom supply point is modeled as an infinite bus such that the supplied reactive power impacts on the supply point voltage are not modeled.

The decision of the IET committee was that the exemption application is rejected on the basis that (also see the discussion above):

- requirements of the code were clear at the time the applicant submitted the bid for the government REBID programme,
- granting this exemption may set a wrong precedent,
- requirements are still considered reasonable,
- the distributor concerned was not supportive of the exemption being granted,
- there are technical solutions available to make the applicant's RPP compliant. Some of the technical options to consider as discussed at the meeting such as (it should be noted that these are not verified as viable solutions and therefore do not represent of an official position of the IET committee):
  - Incorporating compensation devices such as an SVC or STATCOM
  - Installation of a transformer at Thornland substation,
  - Curtailment of exported active power (below rated capacity) during periods of voltage extremes such that the QV capability can be provided. It is noted that should the developer pursue this option the risk of voltage outside of the 0.93 to 1.08 range will reside with the developer and there will be no compensation for any curtailment of active power when operating in this manner. Furthermore the full QV capability must

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be maintained across the 0.9 to 1.1 voltage range such that all of the power factor and voltage control modes dictated by the code are complied with.

### **7 GENERAL**

None

### **8 CLOSURE**

The meeting was closed at 12h20.

I hereby certify that these minutes are a true reflection of the proceedings of the meeting held on 5 February 2013.

Signature of the Chairman:

Date: