



Request for Information

Issued to

**Interested parties for the purpose of expressing an interest in
participating in the development of strategies for demand
response and/ or distributed generation initiatives by the
Department of Energy**

DECEMBER 2014

Responses are due on or before 17h00 on Monday, 2 February 2015.

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1. Introduction and Background

1.1 Balancing supply and demand

The South African power system has been constrained over the past few years and will remain constrained even after significant new generation capacity has been added by new build projects. The existing generation plants are no longer operating at optimum capacity and are in need of major maintenance. The tight power system makes it extremely challenging to do the required maintenance. The effect of major maintenance backlogs can be seen from the rapid escalation in breakdowns. It will take time to restore the current low level of available plant capacity to normal.

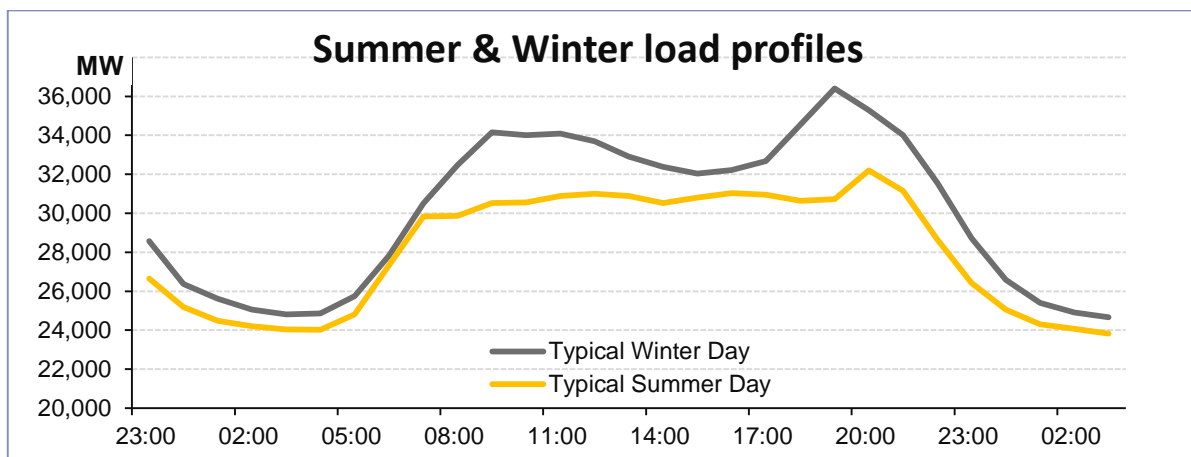
From 2011, the Department of Energy (the “Department”), through the Independent Power Producer Office (the “IPP Office”), has procured by way of its renewable energy IPP procurement programme some 3 922MW of new generation capacity from renewable energy technologies. In addition, it has recently commenced with its baseload coal IPP procurement programme and intends to commence with a similar co-generation programme shortly. Eskom has, at the same time, offered various demand-side management and energy efficiency programmes together with strong tariff signals to incentivise customers to permanently shift load away during historically constrained periods. These programmes do not, however, deal with the short- and medium-term load reductions which are required to allow the system operator to effectively manage the reserve margin.

The IPP Office is investigating strategies to further reduce or shift demand and/or secure distributed generation capacity so as to relieve the pressure on the national power grid during constrained periods of supply and demand and offer monetary compensation in exchange. Such demand response and/or distributed generation strategies are absolutely critical in providing the

necessary reserves to enable the system operator to better utilise available generating capacity whilst allowing the required maintenance to be completed.

The power system has differing seasonal requirements and the response required during summer months differs from that required during winter months. The requirements during summer months (September-April) are typically for between eight and twelve hours a day from 09h00 until 21h00. The requirements during winter months (May-August) are typically for between two and three hours a day from 17h00 until 20h00. The anticipated capacity shortfall during both winter and summer months is expected to be in the order of 3 000 – 5 000 MW per day until such time as plant capacity has been restored to normal.

Typical winter and summer load profiles are shown below.



1.2 Objective of the RFI

The objective of this RFI is to gather information on the potential for more and innovative demand reduction/shifting and/or supply initiatives. The immediate focus is on rapid implementation of “demand response” capabilities. The national medium to longer term objective is to have available a range of supply/demand options that will ensure a “more economic grid” and

consequently assist in containing electricity prices whilst ensuring security of supply.

This RFI is a stand-alone information-gathering and market-testing exercise to solicit information from providers of demand response and/or distributed generation solutions (the “Respondent”) and is intended to inform and assist the IPP Office with further deliberation and development of a national demand response strategy.

2. Design of any procurement programmes for demand response and/or distributed generation initiatives

The Department is committed to designing and implementing one or more procurement process/es which comply with the requirements of, amongst other things, section 217 of the Constitution of the Republic of South Africa, 1996 and the Public Finance Management Act, 1999 (Act No. 1 of 1999).

In designing appropriate procurement processes, the Department will have regard to relevant legislation which may provide for tendering processes, direct negotiation with one or more providers of potential solutions, or other procurement procedures.

In the design of the Department’s renewables and baseload energy procurement programmes, the Department relied on, amongst other things, the responses it received from the market in response to various requests for information, relevant to the various procurement programmes, solicited between 2011 and 2014.

Accordingly, in designing appropriate procurement processes for the demand response and/or distributed generation initiatives there is a need for the Department to ensure that it has the most up-to-date information available. Respondents are therefore requested to provide information relevant to their proposed solutions or (if applicable) each phase of each of their solutions, by

submitting completed Response Forms (see Annexure A (*Response Form 01*) and B (*Response Form 02*)) for each proposed solution.

This RFI is intended to generate information to assist the Department to assess the size, type and nature of the possible solutions available to enable it to develop appropriate strategies, as well as the options with solutions to implement such strategies. In formulating the options and solutions, the Department may consider an appropriate procurement process for the particular circumstances of the possible solutions and the needs of the South African grid. In this regard, Respondents should be realistic information in sufficient detail regarding their solutions.

3. Effect of Response and Use of Information

The Department will use the information received from Respondents for the development of a strategy in contribution towards sustainable energy supply in South Africa.

While due care will be taken by the Department in considering the responses received, the Department shall not be obliged to consider any particular response or group of responses in designing any procurement process or programme and the process or programme/s so designed may not suit or be applicable to any one or more Respondent/s. Responding to the RFI shall not confer any rights on a Respondent, and receipt of a response does not bind or commit the Department to any obligation or decision-making process whatsoever.

Any procurement process or programme which the Department designs to procure potential solutions may provide a further opportunity for registration solutions or of participants in each procurement process or programme, and a failure to submit a response to this RFI will not necessarily preclude a party from participating in any such process or programme. There are also likely to

be future opportunities for providers of solutions to register their solutions with the Department.

However, for purposes of designing and implementing procurement process or programmes that may arise as an outcome of this RFI, the Department may rely solely on the information provided in response to this RFI and may approach one or more Respondents directly for participation in the relevant procurement process or programme without soliciting further responses from the open market. Providers of solutions should accordingly ensure that they register all relevant proposed solutions and provide the appropriate level of detail or information to enable the Department to make informed decisions regarding the design of appropriate procurement process or programme/s.

The Department may invite certain Respondents or categories of Respondents to engage in further discussions or to make further submissions following the submission of the Response Form to enable the Department to understand (for example) information in the response and the readiness of the proposed solutions.

This RFI is not intended to impede, amend or replace any current or future procurement process that the IPP Office has engaged in or will engage in

4. Timing of any Procurement Process or Programme

The urgent need to procure power in the short-to-medium term in South Africa has been widely recognised. This is likely to influence the design of any procurement process or programme for any energy available in the short-to-medium term.

Given the urgent need to procure this energy, Respondents indicating that they have potential solutions ready for immediate procurement may, subject to the Department's further approval, be approached in the short term to enter into an arrangement that the Department deems appropriate.

5. Who should Respond

At this stage, the RFI is purposefully not specific in terms of structure, details of participation and/or the type of person/company that may respond so as to elicit the broadest possible range of potential solutions. This RFI seeks initiatives for potential remedial actions in the form of any one of the following demand side options:

- dispatchable demand response;
- demand side management which may include energy efficiency, load management and/or fuel switching proposals;
- distributed generation.

This RFI seeks information on intended participation in a variety of possible forms, including but not limited to the following:

- independent demand response aggregators to assist the system operator;
- innovative demand side management initiatives targeted at reducing overall levels of electricity consumption;
- distributed generation proposals; and
- partnerships between generators and retailers (e.g. municipalities) and other parties in one or more of the roles of equipment funding, commercialisation, deployment, customer engagement, etc.

Responses received from Respondents will guide the IPP Office to design appropriate procurement processes and/or programmes for short-, medium- and long-term contracts for the provision of demand response and/or distributed generation or other partnering arrangements. Such procurement processes and/or programmes may differ according to customer classes/sectors, products, structures and/or specific load reduction to be provided to the system operator.

It should be noted that this RFI will not be used as a basis for prequalification. A procurement process arising pursuant to this RFI will, with terms and conditions appropriate to such procurement process. It is, however, important that all interested parties respond to this RFI.

6. How to Respond

Respondents should complete all sections of the Response Forms (see Annexures A (*Response Form 01*) and B (*Response Form 02*)). These forms should be printed out, completed and submitted to the Department in hard copy. An identical soft copy form should also be saved to a compact disc (CD) and submitted to the Department.

Separate Response Forms should be submitted for each proposed solution and for each distinct phase of such solution. Additional pages should be attached to the Response Forms if necessary to provide all information requested.

Any part of the Response Forms which is not applicable to an individual solution should be clearly indicated as “Not Applicable”.

The Response Forms should be signed by an authorised signatory in the form of Appendix B (*Response Form 02*).

The Response Forms may be accompanied by such supporting information (which is directly relevant to the response provided) as the Respondent wishes to provide, but no such supporting information is required, unless specifically requested.

The language for submission of the Response Forms and all supporting documentation (if any) is English.

All costs incurred by a Respondent in connection with the RFI and its response hereto shall be borne by the Respondent.

7. Contact Policy

All queries and requests for clarification in respect of this RFI are to be addressed, in writing, to the Project Officer. The contact details of the Project Officer are the following:

The Project Officer

E-mail: query@ipp-dsgprog.co.za

8. Submission of the Response Forms

The completed Response Forms must be printed out and returned as a hard copy (in a file) and as a soft copy on a CD to the address below:

The Department of Energy:

The Project Officer

c/o IPP Office

Block D, Eco 1 Office Park

339 Witch-hazel Avenue

Centurion

Respondents may submit their Response Forms at the above-mentioned address from Tuesday, 6 January 2015 within office hours (between 09h00 and 16h00). The last date for submission of the Response Forms is **17h00 (SA Standard Time) Monday 2 February 2015**.

9. Confidentiality of the Response

Respondents must mark as confidential any commercially sensitive information submitted in response to this RFI. The Department will endeavour to maintain confidentiality in respect of all such commercially sensitive information and will only share it with its advisors and the government departments and institutions

assisting with the design of the relevant procurement programmes, including relevant personnel from the National Energy Regulator of South Africa, the National Treasury, Department of Trade and Industry, Eskom and related institutions.

All information provided in response to the questions below shall be considered public information once submitted, unless such information is specifically marked to be “Confidential”. The Respondent understands that it will have no claim in terms of confidentiality, nor will it be able to seek any compensation of whatsoever nature in respect of the IPP Office using this information to decide or formulate future strategies, procurement processes and/or programmes as indicated in this RFI.

10. Amendment of the RFI

The Department may, at its sole discretion, before the last date for submission of the Response Forms, modify this RFI by issuing an addendum thereto. Potential Respondents should therefore visit the IPP website (www.ipp-dsgprog.co.za) on a regular basis for possible updates of this RFI.

The Department may extend the last date for submission of responses to allow potential Respondents further time to consider any amendment to this RFI and to amend its Response Forms.

APPENDIX A: RESPONSE FORM 01

QUESTIONNAIRE

The Respondent must provide a comprehensive response to each of the questions below.

Demand Response and Distributed Generation Structure/Programme

1. Provide detail regarding your understanding of, and experience in, dispatchable demand response, demand side management or distributed generation;
2. Provide a description of suitable demand response and distributed generation structures and/or programmes that you believe might be of use in the SA context; to assist with the unique requirements mentioned in section **Error! Reference source not found.** of this RFI. Please indicate where such structure and/or programmes are currently used, where applicable. You are encouraged to *inter alia* make use of a diagram to explain such structure;
3. Give a description of the processes and systems which will need to be put in place in order for the system operator or any other entity to operate your proposed programme, and be able to request a load reduction. This description is particularly relevant for dispatchable demand response and distributed generation;
4. The existing capacity constraints are envisaged to continue for at least five years; whereafter demand reductions might still be needed but with lower usage. Please indicate a typical contract period required to ensure financial viability under your proposed demand reduction programme. Please motivate your answer;
5. How would the proposed market structure and/or programme ensure/promote the Department's economic development objectives, as set out in the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003) and the codes promulgated thereunder;
6. Provide an estimate of the cost/cost components of your proposed structure/programme(s), including but not limited to payments to end-use

customers (loads), market oversight, cost of aggregation and/or any other players in the market; and

7. Please make any further suggestions or recommendations in terms of the structure or future of demand reduction programmes in South Africa.

Own participation in your suggested programme

1. Describe your intended role in the proposed demand reduction structure and/or programmes;
2. What partnership options with energy industry players would you propose, and what roles would you propose to play in these;
3. Describe the target market (industry, commerce or residential) and types of loads that will be targeted by your company and/or structures assisting your company with the provision of the required load reduction;
4. Give an indication of the technologies and systems that will be employed by your company to implement the required demand reductions and whether these are locally available and/or manufactured;
5. Give an indication of the percentage of load reductions that will most likely be achieved by load shifting, shedding of non-essential loads or by utilising alternate energy forms (including electricity generation options);
6. Describe any constraints or foreseen risks that may impact on the availability of load reduction contracted, either on a seasonal basis and/or the number of hours for which the load may be available; in reference to seasonal availability (winter, summer or both) and your proposed structure or programme;
7. Give a realistic estimate of load reduction envisaged to be made available (load reduction in MW). Indicate the capacity and the profile that could be made available within the first twelve months of a contract;

Please provide a high scenario, as well as a low scenario

Start Time	Summer <u>high</u> scenario (MW)	Summer <u>low</u> scenario (MW)
7:00 – 8:00		
8:00 – 9:00		

9:00 – 10:00		
10:00 – 11:00		
11:00 – 12:00		
12:00 – 13:00		
13:00 – 14:00		
14:00 – 15:00		
15:00 – 16:00		
16:00 – 17:00		
17:00 – 18:00		
18:00 – 19:00		
19:00 – 20:00		
20:00 – 21:00		

Start Time	Winter <u>high</u> scenario (MW)	Winter <u>low</u> scenario (MW)
7:00 – 8:00		
8:00 – 9:00		
9:00 – 10:00		
10:00 – 11:00		
11:00 – 12:00		
12:00 – 13:00		
13:00 – 14:00		
14:00 – 15:00		
16:00 – 17:00		
17:00 – 18:00		
18:00 – 19:00		
19:00 – 20:00		
20:00 – 21:00		

8. Give an indication of foreseen restrictions (if any) on potential usage of the envisaged demand reduction resources;

Max. number of consecutive days per week	
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Max. number of days per year	
Notice period required for load reduction	

9. Provide an indication as to how quickly the load reduction (MW) might be made available/ramped up; and

3 months after contract signature (% of indicated load in 13)	
6 months after contract signature (% of indicated load in 13)	
9 months after contract signature (% of indicated load in 13)	
12 months after contract signature (% of indicated load in 13)	

10. Please make any further suggestions or recommendations in terms of the structure or future of load reduction programmes in South Africa.

APPENDIX B: RESPONSE FORM 02

DECLARATION OF RESPONDENT TO SUBMIT INFORMATION ON BEHALF OF THE COMPANY

[Letterhead of the Respondent's representative, including registration number, full postal address, telephone, fax, and e-mail addresses]

Date: [●]

Department of Energy
c/o IPP Office
Block D, Eco 1 Office Park
339 Witch-hazel Avenue
Centurion
0137

For the attention of: The Project Officer

Dear Sirs

THE REPUBLIC OF SOUTH AFRICA - DEPARTMENT OF ENERGY

FOR:

REQUEST FOR INFORMATION: DEMAND RESPONSE AND/OR DISTRIBUTED GENERATION

1. In submitting the Response in respect of the RFI, the Respondent:
 - 1.1 agrees to abide by the terms of the RFI issued by the Department of Energy ("the Department") on 15 December 2014 under and, insofar as obligations are imposed on the Respondents;
 - 1.2 confirms that it has studied the RFI's rules and requirements and all documentation forming part of the RFI and the Response and that such Response is factually correct and true and is hereby accepted by the Respondent;

- 1.3 agrees that the objective of the RFI is to gather information from Respondent, which will guide the Department to decide and then engage in specific Requests for Proposals;
- 1.4 confirms that the Respondent is fully acquainted with the laws of South Africa (including without limitation all statutes and regulations (on a national, provincial and municipal level)) in relation to procurement and that the Respondent's Response to the RFI will not be evaluated and adjudicated for the purposes of prequalifying or appointing a successful Respondent.

Yours faithfully

For and on behalf of [●]

Name:

Designation:

Who warrants its authority hereto