

PRESENTATION BY SAIPPA
Johannesburg IRP Public Consultation
Workshop

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Birchwood Hotel &OR Tambo Conference Centre



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Mission

The goals of the Independent Power Producers Association of South Africa are to promote the collective interests of IPP's in South Africa, to assist with public policy formation and implementation, and to serve as a platform for information dissemination to its members.

We seek to pro-actively engage with legislators, government officials, planners and regulators as part of our initiatives to achieve energy security in South, as well as Southern Africa.

SAIPPA - Membership (52)

- Project developers
- Equipment suppliers
- Contractors
- Service providers
- Consultants
- Industrial IPP's including: Pulp & Paper, Chemical, Biogas, Sugar and Food
- Energy lawyers
- Funding institutions
- Employees

SAIPPA IS TECHNOLOGICALLY AGNOSTIC!!!

CURRENT TECHNOLOGIES AND SYSTEMS:

- ✓ Renewables
- ✓ Gas
- ✓ Coal
- ✓ Small Scale Embedded Generation
- ✓ Cogeneration including: Pulp & Paper, Chemical, Sugar, Food, Etc.
- ✓ Small hydro
- ✓ Hydrogen Fuel Cell
- ✓ Underground Coal Gasification
- ✓ Finance
- ✓ Legal and related services

BACKGROUND AND RATIONALE FOR PRESENTATION

- SAIPPA and other IPP formations put considerable effort into submitting comments on 2010 IRP
- Government through the Department of Energy created an expectation to the public – **intensive consultation**
- Taking cognisance of the dramatically changing power market
- Inclusion of power technologies and systems “unknown” to SA
- Exploitation of our strengths and advantages in the power industry as a country
- Expectations: IRP to serve as a consolidation of determinations particularly Special Determinations hitherto

THE IRP REVIEWAL PROCESS

SAIPPA is concerned about the following aspects of the IRP Process:

- There is a requirement to update the IRP every 2 years.
- The gazetting of IRP 2010 took place in May 2011 – 6,5 years ago.
- Update Report 2013 was issued in November 2103:
 - ✓ It pointed out the trends that were already in place:
 - ✓ *“...electricity demand outlook has changed markedly from that expected in 2010”*
 - ✓ It was comprehensive viz.:
 - IRP 2010: 80 pages
 - IRP 2013 Update: 113 pages **BUT**
 - IRP 2016: 28 pages.
- Current draft IRP 2016 - poor basis for major national decision making with likely unintended consequences and incorrect decisions.

CONCERNS ABOUT ASSUMPTIONS

- IRP Update talks about a “path of least regret” & “flexibility” yet DoE seems to commit to procurement which has a long lead times with uncertain costs.
- Use of sugar bagasse data from the sugar industry [used as a proxy] to represent the whole of the Cogeneration Sector in SA is an incorrect assumption.
- Exchange rates used in base case is too low (R11.66 = 1\$) yet bagasse modelling is done on current ZAR costs.
- The result is that Cogeneration is excluded from the base case due to these incorrect assumptions.

COGENERATION MODELLING ANOMALIES

- IEP & IRP assumptions about non Eskom generation and current installed Cogeneration capacity are incorrect.
- The table 2.5 “Non-Eskom Plant” has left out Paper and Sugar industry cogeneration.
- DFIC- GIZ report indicated over 1379 MW of currently installed cogeneration.
- Ministerial Determinations for Cogeneration (1800MW) as required in IRP 2010 have been excluded from the base case. This despite 2 bidding rounds for Cogeneration procurement having been initiated.

- The use of sugar bagasse data limited to sugar industry Cogeneration only and does not represent the general wood, biomass and other renewable cogeneration technologies.
- Forex exchange rates used in base case too low (R11.66 = 1\$) yet bagasse modeling done on current rand based costs.
- LCOE for Biomass woodchip cogeneration : EPRI calculation of R2.00/kwh high when compared to NERSA COFIT 2011 calculation of 76c/kWh.

GAS TECHNOLOGY

- Misalignment:
 - IPP Office → 2020
 - DoE/IRP → 2024
- 600MW special determination not considered vs IRP reviewal
- Confining Gas to Power to CCGT, OCGT , ICE too limiting!
- Gas is an enabler for more renewable energy onto the power system
- Role of gas is to provide flexibility and rapid response.

- The impact of this sector appears not to have been catered for in the modelling
- ± 300 MW/pa of new installations are likely
- SSEG likely to decrease power demand and sales in next decade (~ 3 GW by 2026).
- Significant positive impact on jobs and local development.
- SSEG is local to loads so reducing power losses.
- Will have an impact on taxes and levies, so increasing the impact on a decreasing pool of electricity consumers from the grid.

COAL TECHNOLOGY

- Cleaner Coal especially High Efficiency Low Emission
- Timing (too late) for 2nd coal Bid Window is not sustainable for private investors.
- Total MW Allocation of Coal is fair, but timing needs to be reviewed.
- Developers need more flexibility in coal technology choices
- 70/30 allocation coal in the IRP between SOE and IPP should be reviewed

Coal technology (Continued...)

- Coal cost needs further analysis in light of the Global and South African Cleaner coal requirements.
- Concerns regarding the life span of existing coal plants
- Impact of trucking coal into some Eskom Plants must be considered in relation to safety and environment issues.

Policy Adjusted IRP Objectives

vis-a-vis Regional Development Opportunities:

- No clarity on whether energy needs of SADC are included in the base case energy forecast vis-à-vis SADC regional integration
- SADC power shortage ± 6 GW (peak) energy - This is before the large electrification needs of SADC countries.
- Cross border sales and bilaterals could represent a significant opportunity for Eskom and SA IPPs.
- SADC Countries where diesel power generation is used, pay at least 20 US c/kWh. (\sim R2,80/kWh) vs healthy margins for SA generators.
- R100 bn/a export opportunity at these levels.

GENERAL COMMENTS ON IRP

- Demand forecast and Eskom Generation plant availability needs to be tested independently.
- More background information and assumptions need to be released including the schedules referred to in 1st draft of IRP 2016.
- More time is needed for meaningful analysis and comment from the public.

PRELIMINARY RECOMMENDATIONS

- Extend consultation and public hearings to March 2017
- Modelling inputs need more visibility
- Provide detail as done in IRP 2010 and IRP 2013 draft
- IRP to reflect the changing power market in South Africa
- Consider allocations on cogeneration, hydrogen fuel cell and Underground Coal Gasification technologies as well as factoring power storage favourably
- EPRI report modeling data should be verify against other independent source (e.g Fieldstone)
- IRP 2016 needs to allow for SA and International bilaterals without the need for Ministerial Determinations
- The Technology Pricing also needs to be done and tested independently
- Gas to Power technology to be defined broadly

CONCLUSION

- Regression of the consultation process and public hearings has been observed inspite evolution of tradition of consultation
- The risk of a compromised quality of the current “hurried” process of consultation is very possible
- Notwithstanding what SAIPPA regards as a less than perfect process a commitment to engage is hereby attested
- Such includes participation in the public hearings in 2017
- The preliminary recommendations will be confirmed in detail during the public hearings in 2017

**NGIYABONGA
NANRI
SHALOM
NAMASTE
SHUKRAAN
NAMASKARE
ENKOSI
THANK YOU
NDAA**