ECONOMIC IMPACT OF LOCALISATION FOR THE NUCLEAR EXPANSION PROGRAMME

Technical Presentation at Briefing Session for Tender:

DOE/024/2013/14

energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA

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Disclaimer

This presentation is only meant to assist at explaining the contents of the Terms of Reference.

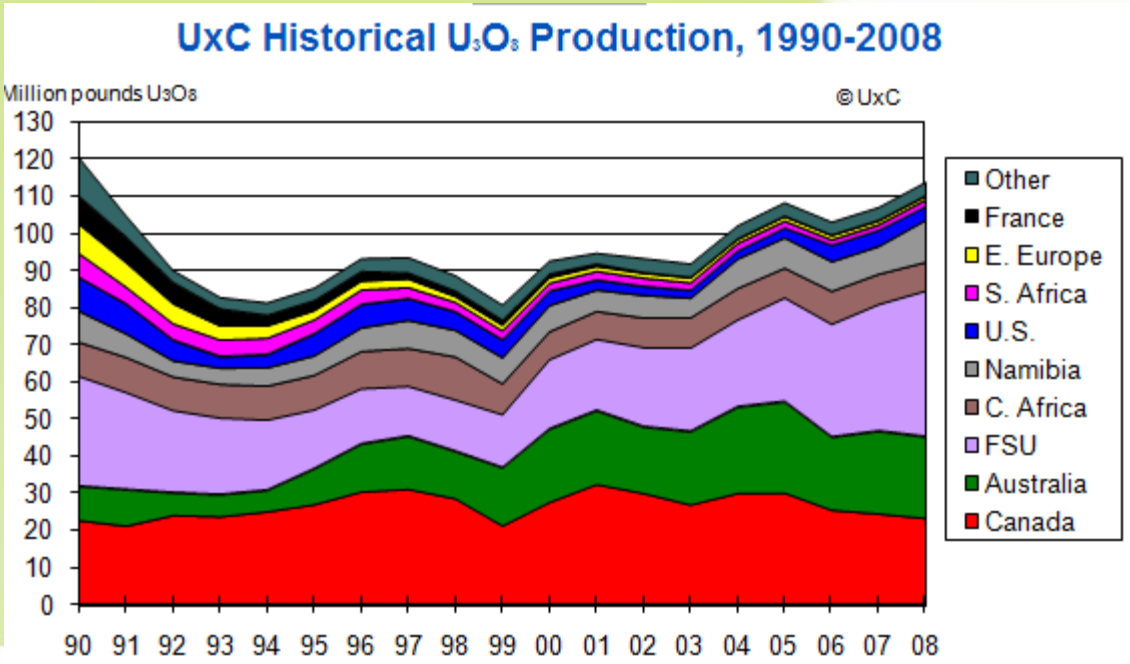
In the event of any discrepancy between this presentation and the advertised Terms of Reference, the Terms of Reference would take precedence.

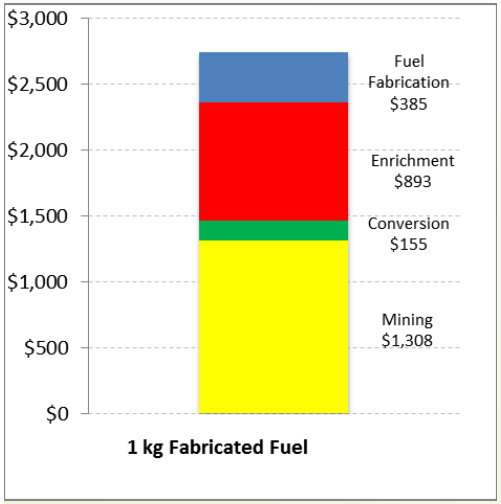
QUESTIONS AT THE END OF PRESENTATION

Background

Localisation of Nuclear is a key strategic objective the Nuclear Energy Policy of 2008:

- Increase in Uranium production (4th largest resource)
- Beneficiation of Uranium mined





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Background

Localisation of Nuclear is a key strategic objective the Nuclear Energy Policy of 2008:

- Become leader in supply of nuclear products and services
- Job creation (National Development Plan)
- Build Knowledge Economy
- Self-sufficient in all aspects of the nuclear fuel cycle
- Energy security
- Manufacturing is engine of economic growth (National Industrial Policy Framework)

Background

- The South African Power Project (TSAPRO) study – 2008
- Localization Study for First Two Units of the South African Nuclear New-Build Programme (WorleyParsons study) – 2011
- SA Nuclear Industry Localisation Gaps and Opportunities (NIASA study) - 2012
- Study to determine the feasibility of manufacturing heavy nuclear components in South Africa (WorleyParsons study) – 2012
- Market Sounding Exercises with local manufacturers 2012
- Outward and Inward Investment Missions to nuclear vendor countries – France, Russia, China, Japan, South Korea 2011-12

Background

- From all these studies, we have targets!
  - Not based on Socioeconomic impact or benefit, but microeconomic factors

Objectives

- The role of nuclear localisation as socio-economic development driver through a cost benefit analysis;
- the optimum localisation targets for the nuclear new build programme and
- the prioritisation of components to be localised for the nuclear programme and its associated services across the entire value chain for the optimum localisation targets

Scope of Work – International Benchmarking

At least the following country programmes must be studied: Turkey, Russian Federation, South Korea, Japan, China, Vietnam, France, Brazil, India, Finland, Poland, Lithuania, Czech Republic, Canada, Switzerland and Spain.

- A definition of local content or localisation per country, if different from the commonly accepted definition.
- A description of the strategy adopted for increasing localisation from a national policy perspective.
- Time evolution of localisation from inception of a nuclear programme in a country.
- Lessons learned, successes and failures and the reasons thereto with regards to localisation.

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Scope of Work – Data Collection

- Input-Output Tables of relevance to South Africa and nuclear industry
- Capital and operations cost data for various “component capabilities”
- Development timelines for various “component capabilities”
- Direct employment figures
- Market prices for components (present and future trends)
- Socio-economic indicators (history and forecast) for SA
- Leakage, Displacement, Substitution, and Additionality factors
- Local capability for supply of nuclear goods and services
- **Complete life cycle – not just construction phase**

Scope of Work – Model Development

- Quality Assured
- MS Excel Based
- 80 year lifetime, 60 year plant operations
- Variety of inputs as per TOR
- Outputs:
  - Additionality factors as per TOR
  - Prioritization of “component capabilities”
  - Excess capability
  - Errors for mismatch
- Department of Energy access to all model calculation methods, as well as training on the use of the model.

Scope of Work – Calculation and Analysis

- Base Case – defined in TOR
- Additional scenarios :
  - increasing local content
  - larger size programme
  - Export potential increase
  - Extended implementation time
- ALL OF THESE CASES ARE FOR STUDY PURPOSE TO OBSERVE TRENDS – THE BASE CASE IS NOT THE “PREFERRED SCENARIO”

Scope of Work – Results and Recommendations

- Illustrate the simplicity of solutions in graphs and tables within 10 slides.
- Optimum localisation Target
- Implementation Plan
- Risks
- Accuracy of Model
- Suggestions for future work/improvement

Technical Evaluation Criteria

Criterion	Weight
Company Experience	15
Team Leader and Team Members Qualifications and Experience	20
Global Experience	10
Fundamental Understanding	10
Project Plan and Adherence to Scope of Work	**45**

Take note of up to 2 weeks logistics time will be evaluated as part of project plan. Less time = better

Evaluation Matrix

DOE-NTD-5284

- **Project Plan and Adherence to Scope of Work will be evaluated as per the table below.**
- "□" is the score from 0 to 5 that the evaluator gives for each matrix cross element.

	Detailed Project Plan (0.10)	**Explanation of how work will be done (0.75)**	**Statements on which parts of Scope of Work will not be done (0.10)**	**Declaration for adherence to scope of work (0.05)**	**Final Scores out of respective breakdown**
International Benchmarking (5)	(□/5)*0.10 +	(□/5)*0.75 +	(□/5)*0.10 +	(□/5)*0.05 =	**Result***5 (score out of 5)
Data Collection (10)	(□/5)*0.10 +	(□/5)*0.75 +	(□/5)*0.10 +	(□/5)*0.05 =	**Result***10 (score out of 10)
Calculation Model Development (15)	(□/5)*0.10 +	(□/5)*0.75 +	(□/5)*0.10 +	(□/5)*0.05 =	**Result*15** (score out of 15)
And so forth….	…	…	…	…	…

RESPONSE TEMPLATE

USE THE RESPONSE TEMPLATE AS FAR AS POSSIBLE

Reporting and Progress

With successful bidder the following progress meetings will be held as per the proposed project plan – note reports and presentations to be supplied 3 working days prior to presentation date.

- Inception meeting for Kickoff and Inception Report
- Benchmark Studies Draft Report (>90% complete) and Presentation
- Data Collection Draft Report (>90% complete)
- Calculation Model Draft Report (>90% complete) and Presentation
- Calculation and Analysis (>90% complete)
- Results and Recommendations (All previous 100% complete)
- Final Report and Presentation (All previous 100% complete)
- Venue of meetings: Johannesburg or Pretoria

Documentation

Databank and clear logical filing of

- calculation sheets;
- correspondence;
- copies of minutes of meetings; and
- copies of all memoranda produced

Copyright shall vest with Department of Energy and Logo will be the Department of Energy Logo on all records

Only information stated that will be supplied in the TOR will be provided by DOE – no further information – do not make such requests in Bid, and do not build dependencies on other information from the DOE.

Thank You!!!

Questions?