To: Members of the Technical Advisory Group

From: John Etherington, TAG Chair

Technical Advisory Group Meeting 26 April 2016 MINUTES

Attendees: John Etherington (Chair), Andrew Barrett, Jan Bygdevoll, Roger Dixon, Alistair

Jones, Dominique Salacz and Alexander Shpilman

Apologies: Santosh Adhikari, John Barry, Vera Bratkova, Maksim Saakian, Danny Trotman,

Harikrishnan Tulsidas; Charlotte Griffiths and David MacDonald (Observers)

Approval of Draft Agenda

1. The draft agenda was approved as submitted.

Minutes of TAG meeting of 10 March 2016

2. The draft minutes of the 10 March 2016 meeting were approved and can be posted on the UNECE website.

Status Update: GKZ Petroleum Classification Bridging Document – John Etherington

- 3. The GKZ submitted an updated RF2013 and UNFC-2009 Bridging Document on 15 April for distribution (English and Russian version) to the EGRC 7th session on 27 April. This draft was discussed in a TAG and GKZ work session in Geneva on 25 April resulting in suggested amendments to better match the E/F matrix as presented in the PRMS Bridging Document. There remains discussion regards the G-axis representation. A detailed meeting summary was issued to the TAG on 26 April
- 4. It is expected that a revised Bridging Document will be recommended to the Bureau by 30 May and thereafter, assuming approval, submitted for a 60 day public review. After incorporating public feedback and additional TAG review, the document will be recommended for Bureau approval by 15 August. The final document in English and Russian will be submitted to the Committee on Sustainable Energy by 9 September for consideration at its annual meeting in late September 2016. While the timetable is aggressive, it is achievable based on the diligence of the GKZ and TAG as demonstrated to date.

Status Update: Chinese Petroleum Classification Bridging Document – Dominique Salacz

- 5. A work session between the Chinese delegation and the TAG was held in Geneva on 25 April prior to the EGRC seventh session. The Chinese agency delegated to manage the bridging project is the "Research Institute for Petroleum Exploration and Development" (RIPED). This followed up a prior work session on 2–3 February 2016 where Dominique Salacz met with Yang Hua and four RIPED colleagues in China.
- 6. The Chinese delegation submitted two documents: "Classification for Petroleum Resources/Reserves" and "Regulation of Petroleum Reserves Estimation". The TAG emphasized that the final document should follow the format as used in the PRMS Bridging

document as contained in UNECE Energy Series 42 Annex IV. The discussion focused on defining a project-based system with projects maturing from exploration through appraisal to development phases. Similar to the Russian system, the Chinese approach does not define a range of uncertainty but rather a single best estimate of in-place and recovery efficiency for each segment. RIPED committed to developing a draft bridging document by September, 2016 for TAG review with a target to delivering a final document by year-end 2016.

Status Update: Bridging Document to Chinese Solid Minerals Classification – Roger Dixon

7. A TAG-MLR (Ministry of Land and Resources) work session was held on 26 April in Geneva prior to the EGRC 7th session. The MLR delivered a document entitled "Classification for Resources/Reserves of Solid Fuels and Mineral Commodities" that explained the Chinese system and provided a draft mapping to UNFC-2009. Again it was emphasized that the final document should follow the format as used in the CRIRSCO Template Bridging document as contained in UNECE Energy Series 42 Annex II. A final bridging document will be available for the 8th session of the EGRC in April 2017

Status Update: Renewables, Geothermal and Bioenergy Projects – Alistair Jones and Andrew Barrett

- 8. The updated draft generic specifications for application of UNFC-2009 to renewable energy resources was approved.
- 9. The Geothermal Working Group issued a draft of the Geothermal Specifications for review by the TAG and the Bureau on 7 March. TAG provided feedback on 24 March. The final draft including 12 case studies was issued to the EGRC 7th session on 28 April. Pending minor updates, the document will be made available for 60 days of public comment and then submitted to the Committee on Sustainable Energy for consideration at its annual meeting in late September 2016.
- 10. The Bioenergy Working Group met with a TAG sub-group in Geneva on 26 April to review progress in the area of Access and Entitlement. TAG comments will be provided by 27 May.

Status Update: Specifications for the Application of UNFC-2009 to Injection Projects for the Purpose of Geological Storage – Jan Bygdevoll

11. The draft Specifications Document completed its public comment period in late 2015. The document was recommended by the TAG for Bureau approval on 15 March. An outstanding issue was use of the term "storage potential" which has now been replaced with the term "geological storage". The TAG also raised an issue regarding leaks/losses that will be considered by the Task Force. The final document was presented at the 7th session of the EGRC and will be submitted to the Committee on Sustainable Energy for consideration at its annual meeting in late September 2016.

Status Update: Uranium/Thorium Guidelines and Case Studies – Harikishnan Tulsidas

12. The three case studies on application of UNFC-2009 for uranium projects (Mongolia, Paraguay and Egypt) were distributed as official documents at the 7th Session of the EGRC.

13. A work session on a 'best practices' document was held in Geneva on 25–26 April.

TAG Annual Report and Presentation to EGRC 7th Session

14. The TAG annual report was delivered to the Bureau in their 11 April meeting and will be available on the website. A Power Point summary of the report was previewed for the TAG at its 26 April meeting and presented to the EGRC 7th session on 27 April (see Item 8 on the EGRC-7 documents page).

TAG Membership

15. At its 11 April 2016 meeting, the Bureau approved the following to serve an additional two year term on the TAG: John Barry, Roger Dixon, John Etherington, Alistair Jones and Harikrishnan Tulsidas. John Etherington was approved to continue as TAG chair. The Bureau also approved the appointment to the TAG of Vera Bratkova from the Russian Federation GKZ. Three members will leave the TAG at the end of their two year term effective 29 April 2016: Santosh Adhikari, Maksim Saakian and Danny Trotman. A list of current and past members of the TAG are provided in the slide shown below. The Bureau thanked current and former TAG members for their contribution.

Current Members	<u>Affiliations</u>	Country	Representing
Andrew Barrett	Geoscience Australia	Australia	Minerals & National Reporting
John Barry	Irus Consulting Ltd	Ireland	Solid Minerals
Vera Bratkova	State Commission (GKZ)	Russia	Petroleum & National Reporting
Jan Bygdevoll	Norwegian Petroleum Directorate	Norway	Petroleum & National Reporting
Roger Dixon	SRK Consulting	South Africa	CRIRSCO
John Etherington (chair)	PRA International Ltd	Canada	SPE PRMS
Alistair Jones	BP Exploration	UK	Petroleum Industry, Renewables
Dominique Salacz	Evolution Resources	Switzerland	Petroleum Industry
Alexander Shpilman	Analytical Center for Subsoil Use	Russia	Petroleum & National Reporting
Harikrishnan Tulsidas	International Atomic Energy Agency (IAEA)	Austria	Nuclear Fuel Resources
Observers			
David Macdonald	BP Exploration	UK	
Charlotte Griffiths	Sustainable Energy Division	Switzerland	
Members completing a	two year term and have volunteered for a 2 nd tw	o year term	
Former Members:			

Next Meeting

16. While not discussed, it is proposed to schedule the next TAG meeting in the week of 13 June 2016 (later revised to 20 June).