To: Members of the Technical Advisory Group

From: John Etherington, TAG Chair

Technical Advisory Group Meeting 25 April 2017 MINUTES

Attendees: John Etherington (Chair), Jan Bygdevoll, Steve Griffiths Alistair Jones, Alexander Shpilman, Brad Van Gosen, Dominique Salacz, Roger Dixon, Andrew Barrett, Vera Bratkova and Harikrishnan Tulsidas.

Apologies: Charlotte Griffiths and David MacDonald.

Approval of Draft Agenda

1. The draft agenda was approved with deletion of a report on Competent Person Study and the addition of updates on TAG reviews completed through March 31.

Minutes of TAG meeting of 23 March 2017

2. The draft minutes of the 23 March 2017 meeting were approved and can now be posted on the website.

Status Update: Chinese Petroleum Classification Bridging Document: Dominique Salacz

- 3. On Tuesday the 25 April 2017, the Chinese delegation, coordinated by Yang Hua, provided a detailed presentation of the CCPR2004 guidelines, and their latest understanding of the potential bridging to UNFC. The presentation included several small but relevant case studies. Although the TAG still requires some clarification and minor adjustment to the terminology (e.g. use of G1+G2 instead of G2 for a mid-case etc.) the document was well received and we believe that a fully approved bridging document can still be provided in the short term.
- 4. In order to deliver the result under the tight deadlines, we have agreed to:
 - Allow the TAG to review one last time to confirm that we have full internal alignment and common understanding of CCPR2004. (Completed 8 May 2017)
 - Review the draft document based on the collated TAG comments to ensure that the document is simple enough to be understood by non-experts of CCPR. (due 11 May 2017)
 - Run it through a native English speaker from the TAG.
 - Coordinate with the Chinese team for one last review and confirm that the English vocabulary remains correct and is not confusing
 - Validate with the MLR

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

- 5. A workshop with the TAG was held in Geneva on 24 April 2017 to discuss the bridging document. A follow-up meeting was also held on 27th April 2017. Roger Dixon and Alistair Jones represented TAG. As a result of this meeting:
 - It was agreed that Ji Liang will provide via Yang Hua an example report, and perhaps guidelines, which contain examples of the use of "industrial index" in technical studies to demonstrate why he considers the Chinese version of "Intrinsic Economic" maps to E2F2. This will enable TAG to decide if this is appropriate. The urgency of providing this information was stressed by the TAG.
 - It was agreed to do some rewriting in order to make the documents clearer, and the Chinese delegation will aim to provide this in 2 weeks i.e. by the end of Friday 12 May.
 - The Chinese delegation will agree on the final bridging documents with the MLR and send to Hari by end May.
 - At that point, TAG is hopefully in agreement and can send the formal TAG recommendation to the Bureau.
 - Bridging documents will go out for 60 days public comment period. Assuming no significant issues raised, minor updates can be agreed, and documents go to Committee on Sustainable Energy for September meeting.
 - The China objective is to present the Bridging Document at China Mining in September 2017

Status Update: Bioenergy Project: Alistair Jones

6. The TAG completed its reviews of the five case studies on 29 March 2017. Overall the conclusion was that this was a clear and useful set of cases. TAG identified a few issues for modification or clarification and suggested some updates. The Bioenergy SG responded to each of the TAG comments and accepted the suggestions. The case studies have been updated accordingly.

Renewable Energy Classification Project - Phase Three [2017 – 2020] - Terms of Reference: Alistair Jones

- 7. The TAG completed its review of REN Phase 3 TOR on 31 March 2017. This document lays out a work plan on three additional Renewable Energy projects.
- 8. The TAG noted that the ToR calls for each specification document to issue guidance on estimating and reporting which goes beyond basic classification. We note the original bridged systems (PRMS and CRIRSCO Template) did not provide guidance on estimating or reporting quantities or value but deferred to the commodity-specific aligned system. In the case of Renewables, there are no existing commodity specific systems to provide these estimating and reporting guidelines. This issue was further addressed in the TAG Annual Report and will be presented for discussion in the TAG presentation to the EGRC on 26 April.

Status Update: Solar Project: Alistair Jones

- 9. The TAG has completed its review of the Solar Sub-group Progress Report on 31 March 2017. The report provides a clear and useful update of the status of work on developing Solar Specifications. It also identifies the next steps towards preparing the Specifications.
- 10. The Solar Sub-group has started developing a discussion paper on the application of renewable specifications (including Solar). This is seen as an important step in developing and agreeing on the specifications. The TAG has had some correspondence with the chair of the Solar Sub-group, Jeremy Webb, and with Frank Denelle on the paper. It will come to TAG for comment once drafted.

Status Update: Wind and Hydro: Andrew Barrett

11. No further update.

Status Update: Anthropogenic Resources: Roger Dixon

12. Received draft specification document for TAG review on 15 March. The TAG completed its reviews and forwarded comments to the Bureau and the working group on 31 March 2017.

Status Update: Nuclear Fuel Resources Projects: Brad Van Gosen

- 13. At its 24-25 April 2017 meeting in Geneva, the working group has committed itself to the preparation of an entirely new product, provisionally titled: "Best Practices in the Application of the United Nations Framework Classification for Resources (UNFC) for Planning and Implementing Uranium Projects".
- 14. The working group submitted the following case study entitled "Uranium mineralization in the Nigerian Basement and Sedimentary Basins: A Case study of North-Eastern Nigeria—Application of UNFC- 2009 as a Standard for Sustainable Energy in Nigeria". Based on a review by the TAG representative, this case study is recommended to the Bureau for approval and posting to the UNEC website.

Other Projects/TAG Coordinator

G-axis Working Group: John Etherington

- 15. The working group submitted their draft G-axis report to the Bureau/TAG for review on 16 March. TAG completed its review and forwarded comments to the Bureau on 30 March 2017.
- 16. We understand that proposed new definitions for G-axis categories are more generic and should better accommodate renewables where the focus is on uncertainty in the sales commodity. However, by deleting reference to the level of geologic knowledge the definitions are less applicable to solid minerals.
- 17. We also noted that many petroleum evaluators also use the deterministic incremental approach which does in effect segregate accumulations into discrete segments based primarily

on geological knowledge. An additional issue is that recent specification documents apply the terms P90/P50/P10 to estimates based on the deterministic scenario approach whereas the more appropriate labels are low/best/high.

Oil and Gas Case Studies: Jan Bygdevoll

- 18. A second case study from Russia is under study by this TAG sub-group. Part of the feedback was a recommendation to address chance of discovery. An amended report is in preparation.
- 19. A third case study from Russia is under development. It is planned to include a comparison of assessments using RF2013 and PRMS.

Nordic UNFC Project: John Etherington

20. A draft document was received by the TAG on 9 March 2017. Extensions to UNFC-2009 include an expanded E-axis and additional guidance on economic evaluations. While this is not an "official" bridging document", the TAG provided feedback to the working group and the Bureau on 30 March 2017.

UNFC-2009 Update Project: John Etherington

- 21. The Bureau has established a working group to examine potential changes to UNFC-2009 to be presented for discussion in 2018. Many of the changes will focus on accommodating the inclusion of renewables that may impact category definitions. A draft terms of reference for the project was distributed to the TAG on 26 January.
- 22. John Etherington has collated issues identified by the TAG since its inception. Rather than create a separate report, the issues/comments are included in the TAG Annual Report (See below).

TAG Annual Report: John Etherington

- 23. A draft of the 2016-17 TAG Annual Report was distributed for review by the members on 15 March, and a final version was submitted to the UN Secretariat on 10 April 2017. Minor edits were suggested and accepted to produce a final version on 20 April 2017
- 24. The report includes a section on "Issues and Recommendations to Improve UNFC-2009" that will summarizes our feedback to the Bureau on UNFC-2009 updates.
- 25. A draft slide presentation summarizing key issues form the Annual Report to the EGRC was reviewed by the TAG, and a final version was distributed on 19 April.
- 26. John Etherington had to cancel his attendance at the Geneva 8th session, and Alistair Jones volunteered to present a summary of the Annual Report to the EGRC on 26 April 2017.

Changes to TAG Membership and Assignments

27. John Etherington officially submitted his resignation from the TAG due to health issues on 21 April 2017. In prior correspondence, Bernard Seiller (SPE OGRC Chair) was advised

to nominate a replacement representative from the SPE and David Macdonald was advised to nominate a new TAG Chair. This goal is to select nominees by mid-May.

- 28. With the resignation of John Etherington and John Barry, there are two vacancies on the TAG.
- 29. On April 25, Steve Griffiths volunteered to replace John Etherington as the TAG liaison with the E-axis working group.

TAG Process Issues

- 30. As discussed in the TAG Annual Report, we need to look at the overall TAG review process to see if we can generate efficiencies. We have decided that it may not be necessary for the full TAG to review all case studies. Rather we can focus on the initial studies but then defer such later reviews to the sponsoring working groups.
- 31. It has been noted that the case studies should really be developed and reviewed prior to the development of the final specification or bridging documents. Also, white papers on key issues as used in the Bioenergy project and the Solar project may be a better approach than trying to combine it all into a final document.
- 32. We still need to come up with a work plan that avoids the last minute deluge of papers to review leading up to the annual EGRC sessions. Hari has discussed an option to distribute EGRC approvals over the full year where approvals are obtained electronically.

Next Meeting

33. It was proposed to schedule the next TAG conference call the week on June 19. Hari will issue a doodle poll to select a firm date.
