



**Economic and Social  
Council**

Distr.  
GENERAL

ECE/ENERGY/GE.3/2009/7  
8 October 2009

Original: ENGLISH

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**ECONOMIC COMMISSION FOR EUROPE**

**COMMITTEE ON SUSTAINABLE ENERGY**

Ad Hoc Group of Experts on Harmonization of  
Fossil Energy and Mineral Resources Terminology

Seventh session  
Geneva, 29-30 October 2009  
Item 3 of the provisional agenda

**UNITED NATIONS FRAMEWORK CLASSIFICATION FOR FOSSIL ENERGY  
AND MINERAL RESERVES AND RESOURCES 2009**

**The Need and/or Desirability to Develop Specifications and Guidelines**

Discussion paper prepared by the Revision Task Force<sup>1,2</sup>

*Summary*

This discussion paper has been prepared by the Revision Task Force (RTF) of the Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology to consider whether it is needed and/or desirable to develop specifications and guidelines for the proposed revised United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources (UNFC-2009). The approach taken by the RTF was to identify and evaluate various options, including the use of mapping modules, as the basis for facilitating application of UNFC-2009. Four options are explored in detail. A number of recommendations are provided.

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<sup>1</sup> In accordance with the terms of reference of the Ad Hoc Group of Experts (Annex to ECE/ENERGY/GE.3/2009/2).

<sup>2</sup> This document was submitted late due to the need for extended negotiations.

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## INTRODUCTION

1. This discussion paper has been prepared at the request of the United Nations Economic Commission for Europe (ECE) Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology (Ad Hoc Group of Experts). The paper has been developed by its United Nations Framework Classification for Fossil Energy and Mineral Resources (UNFC) Revision Task Force (RTF) for the consideration of the Ad Hoc Group of Experts at its seventh session. The RTF consists of the members of the Extended Bureau of the Ad Hoc Group of Experts plus selected experts.

2. The purpose of the paper is to consider whether it is needed and/or desirable to develop specifications and guidelines for the UNFC. The approach taken by the RTF was to identify and evaluate various options, including the use of mapping modules, as the basis for facilitating application of the proposed revised United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources (UNFC-2009). Any documentation that might be developed in association with UNFC-2009, such as specifications, guidelines or mapping modules, is identified herein as “complementary texts”.

3. Although “specifications and guidelines” are discussed below as if comprising a single entity, it should be kept in mind that the RTF is not excluding the possibility that they are handled under different options, i.e. one option is used to provide specifications and a different option is used for guidelines.

## I. BACKGROUND

4. The discussion paper has been prepared in the context of the concurrent development of a UNFC-2009 by the RTF, the comments received on the proposed revisions during and after a public comment period up to and including the sixth session. The current terms of reference of the Ad Hoc Group of Experts states that, should it consider that it is needed and/or desirable to develop specifications and guidelines, such development shall be undertaken through cooperation with the Society of Petroleum Engineers (SPE) for petroleum and the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) for minerals, recognizing that it is useful that they be tailored to meet, to the extent possible, the needs of applications pertaining to energy studies, resources management functions, corporate business processes and financial reporting standards. It should be noted that a Memorandum of Understanding (MoU) exists between ECE and SPE (signed in 2006) whereby SPE's Oil and Gas Reserves Committee agreed, inter alia, to develop *Specifications and Guidelines* for the application of the UNFC, and the SPE/World Petroleum Council (WPC)/American Association of Petroleum Geologists (AAPG) definitions.

5. The proposed revisions to the current UNFC (UNFC-2004), as represented in the Draft UNFC-2009, were developed in response to the Report of the Ad Hoc Group of Experts Mapping Task Force (MTF) (ECE ENERGY SERIES No. 33 and ECE/ENERGY/71) dated 8 April 2008. That report recommended that certain changes be made to the category definitions of the UNFC in order to enhance the alignment between the UNFC, the SPE/WPC/AAPG/Society of Petroleum Evaluation Engineers (SPEE) Petroleum Resources Management System (SPE-PRMS) and the CRIRSCO Template.

6. The MTF report also stated: "It is envisaged that the mapping based on these proposed generic UNFC definitions could form the basis of a harmonised system that allows users to classify commodity quantities and report them within various systems and, using the mapping modules, also present results using UNFC codification. Further, these mapping modules can serve as a "template" such that other national, industrial, and institutional level systems can be similarly mapped into UNFC codes and thus promote international communication and global assessments."

7. It was not part of the MTF mandate to consider whether or not specifications and guidelines were required for the UNFC, but the MTF report did state that: "The Task Force decided to develop generic principle-based definitions for each of the categories and sub-categories and recommends that the differences in application between solid minerals and petroleum are addressed in the form of additional commodity-specific guidelines. These generic definitions have been designed to be as simple as possible, capturing the key principles from the existing (2004) system, but excluding detailed and/or commodity-specific information that could be captured better in the guidelines."

8. Thus, the MTF report clearly identified the need for guidelines, without however indicating whether these guidelines should be at the UNFC level or at the level of the classification which is mapped to the UNFC (or a combination thereof).

## II. OBJECTIVES AND DEFINITIONS

9. For any resource classification system to be useful, it must lead to the development of resource estimates that are meaningful and comparable within the context of that system.

10. The objectives for quality are similar to the relevant requirements that apply to statistical information in general, which are currently being researched by the United Nations Statistics Division in its establishment of the International Recommendation for Energy Statistics (IRES). These requirements include: relevance, reliability, coherence, materiality and ease of preparation and use. Coherence has four important sub-dimensions:

- (a) Within a data set;
- (b) Across data sets (such as recoverable quantities, production forecasts, cash flows);
- (c) Over time;
- (d) Across different preparers and users.

11. In order to consider whether it is needed and/or desirable to develop specifications and guidelines for the UNFC, and to discuss potential options, it is useful to provide some explanation of the distinction between the various forms of possible complementary texts, which are discussed below.

12. Principles establish the basic philosophy behind the definitions. Standards may take the form of general principles, relying on interpretation and judgment by the report preparers before they can be implemented. Alternatively, standards may take the form of a series of functional or prescriptive rules<sup>3</sup> (specifications) facilitating the application of consistent judgement between preparers and over time.

13. Principles-based systems (which will often incorporate some functional rules) are theoretically more flexible with regard to new and changing products and environments and as such should require less maintenance. Rules-based systems might be considered easier to audit for compliance purposes; however, prescriptive systems in particular may include a lack of flexibility to accommodate changing conditions and could require regular maintenance and updates. Actual experience shows that these theoretical characteristics are not always evident. For example, the Canadian petroleum reporting system (NI51-101) is principles-based, but incorporates extensive rules and guidelines and also requires “very considerable ongoing maintenance”. In contrast, the United States Securities and Exchange Commission (SEC) petroleum reporting regulations, which are rules-based, remained unchanged for 30 years, with only very limited additional guidance provided during that period.

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<sup>3</sup> A functional rule will state the function that is to be achieved, while a prescriptive rule will provide a prescription on what is to be done. A rule stating that an estimate shall have a 90 per cent probability of being exceeded is an example of a functional rule. A rule stating how an estimate is to be derived (e.g. by Monte Carlo analysis) is an example of a prescriptive rule.

14. In recent years, there has been a trend towards more principles-based systems. In practice, however, all widely-used classification systems incorporate some rules and guidelines in order to ensure adequate coherence. The SPE-PRMS, for example, is a principles-based system, but it includes extensive guidelines. In addition, a supplementary SPE document is currently in preparation and will contain further guidance and examples.

15. Options for complementary texts to the UNFC-2009 are developed to discuss whether specifications and guidelines should be within the UNFC or within the mapped classifications, or a combination thereof.

16. The possible forms of complementary texts are as follows:

(a) Since the UNFC is a generic classification (see Mapping Task Force Report), which can coexist with existing industry- and country-classification systems and is not intended to replace them, mapping of a classification system to the UNFC can be used to illustrate both the similarities and the differences between them. Where good alignment exists or can be achieved through harmonization of the two systems, a mapping reference document (mapping module) can provide a basis for comparability of estimates made under the different systems, which are mapped to the UNFC;

(b) Specifications set out the basic rules that are considered necessary to ensure an appropriate level of consistency and coherence. They provide additional instructions on how the definitions must be applied in specific circumstances including, where appropriate, commodity-specific rules;

(c) Guidelines provide the underlying detailed guidance that the technical and commercial experts can refer to when undertaking resource estimates in accordance with a classification system. Guidelines are not mandatory rules, but provide guidance on appropriate interpretations of the rules (best or alternative practice) in the context of particular circumstances. Guidelines are particularly appropriate when working under functional specifications and are often usefully supplemented by the provision of actual application examples. However, following the guidelines will not relieve the preparer from the responsibility of complying with the definitions and specifications;

(d) It is generally accepted that classification definitions and rules/specifications should not be modified too frequently, as such changes can lead to a lack of comparability of estimates over time, whereas guidelines can and should be updated more regularly to address the development of new technologies, provision of additional application examples, etc. For this reason, it is appropriate to consider documenting the guidelines and application examples separately from the definitions and rules/specifications;

(e) Guidelines need not be considered or recommended by the keeper of the classification. If they are “approved” they are likely to become specifications rather than guidelines.

17. The words “specifications” and “guidelines” are not always used with the meanings assigned to them above. Commonly, “guidelines” are used to mean specifications, guidelines or a combination of both. This may also be the case in this document when reference is made to

pre-existing documents. This document discusses primarily specifications since it follows from their nature that the Ad Hoc Group of Experts has the responsibility, competence and capacity to deal with them.

18. Harmonizing classification systems means comparing them with each other and, if necessary, modifying one or both systems in order to attain a level of alignment that provides sufficient coherence between estimated quantities that they may be considered as equivalent to each other. Harmonizing terminology means using common terminology to describe equivalent quantities, while not using the same terminology for estimates that are not comparable with each other. As per its full title, the Ad Hoc Group of Experts deals with the harmonization of fossil energy and mineral resources terminology. The UNFC is a harmonizing numerical code, which allows easy translation and better understanding among existing classifications that use different terminology, including when different languages are used. Two levels of harmonization are considered here:

- (a) Harmonization of estimates;
- (b) Harmonization of terminology.

19. Harmonization of terminology can provide comparability of mapped systems, provided that the systems are reasonably well-aligned, and improve communication at the global level, including among systems using different languages. Harmonization of estimates provides quantitative estimates that are directly comparable, as if one system is used. The following example illustrates the potential differences between the two levels. If the SPE definition of proved reserves is mapped to the UNFC-2009, it is clear that it would be in class 111. Similarly, the current SEC definition of proved reserves would also map to 111. Estimates made under the SPE and SEC definitions would both honour the same fundamental principles on which the UNFC-2009 definitions of E1, F1 and G1 are based. However, quantitatively the estimates (by the same estimator) can be very different. For example, TNK-BP published its audited proved petroleum reserves in 2004 under both the SEC definition and the SPE definition. The actual wording of the two definitions of proved reserves is very similar, but the specifications are significantly different. The estimated proved reserves of the company were quoted as 4.3 billion barrels of oil equivalent (bn boe) under the SEC system and 9.0 bn boe under the SPE system.<sup>4</sup> It is clear that mapping of the SPE-PRMS and the SEC system to the UNFC-2009 will not make the SPE-PRMS estimate compliant with the SEC requirements and vice versa. Furthermore, the mapping will not provide guidance on which estimate is the appropriate UNFC estimate.

20. This example demonstrates the potentially very significant impact of specifications and guidelines on the actual quantitative estimates. More importantly, it demonstrates the danger of assuming comparability of estimates where the terminology has been harmonized – in this case, using identical terminology (i.e. “proved reserves”).

21. The example also shows that even in a country such as the United States of America and for one commodity, petroleum, there is as yet no harmonization of estimates. However, the new

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<sup>4</sup> <http://www.tnk-bp.com/press/releases/2004/6/2/>.

SEC rules are much closer to SPE-PRMS and are clear evidence of a trend towards greater harmonization of estimates. If new specifications were developed for the UNFC, this could simply lead to another, different estimate. However, if it used specifications that already existed in an aligned system, such as SPE-PRMS, this would result in the same estimate being able to be described using SPE terminology and/or UNFC codification.

22. Consequently, it is very important to be clear that estimates that are based on the same high-level principles, but different specifications, may only be comparable in a qualitative sense. In other words, unless systems are closely aligned in definitions and specifications, they will not lead to comparable estimates.

23. One of the objectives of the UNFC is to serve the needs with respect to classification for:

- (a) International energy and mineral studies;
- (b) Government resources management;
- (c) Industry business process management; and
- (d) Financial reporting.

24. At a meeting held in London on 1-2 September 2009, RTF members had a fruitful discussion on whether specifications and guidelines would be required to serve these needs. The following views were expressed.

#### **A. International energy and mineral studies**

25. The member from the International Energy Agency (IEA)<sup>5</sup> expressed inter alia:

“Discussion now should address specifications. Guidelines will refer to them and to the UNFC and should be developed after the specifications. We welcome the ambition to develop the UNFC into an instrument to be used for the four principal needs defined. While we have been encouraged to address the need in energy studies specifically, these interact strongly with government policies, industry business processes and capital allocation. One common system provides added value to all.

International energy studies typically use information on aggregated inventories for a large set of assets and of their development and production projects. Except for a few dominant assets that often are found, much of the information on uncertainty will have its importance reduced by the law of large numbers. However a correct determination of expected values is essential. The option recommended for specifications should facilitate straightforward specifications with respect to aggregation.

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<sup>5</sup> Opinions referred to members of the RTF do not necessarily reflect the opinion of the organizations they normally represent.

The text in chapter 2 on coherence is important. The recoverable quantities from a project must be the sum of future production, for which costs and emissions are defined. In other words, the data sets on recoverable quantities, production, cost and emissions must be coherent. Many studies have confirmed the importance of accounting for resources that are used in or affected by extractive activities and that are in limited supply. Timely availability of investments and the capacity of the environment to absorb emissions are two examples that will or may affect the future production and therefore also our energy studies. The UNFC is structured to achieve coherence and the option selected for developing specifications must allow or enhance this.”

### **B. Government resources management**

26. Views were prepared by members from Canada, Norway and the Russian Federation. All held the view that specifications would be required.

### **C. Business process management**

27. Views were prepared by members from MOL, Rio Tinto, StatoilHydro and Turkish Coal Industries. All agreed that specifications and guidelines would be needed. A constructive exchange of opinions took place over how they should be developed.

### **D. Financial reporting**

28. This was discussed from the point of view of standard setters for accounting principles and securities reporting. Views were prepared by members from the Alberta Securities Commission (ASC) and the International Accounting Standards Board (IASB). They agreed that financial reports must be comparable.

29. The member from ASC advocated that at present neither the UNFC nor the SPE-PRMS met the requirements of ASC (nor of SEC<sup>6</sup>) for financial reporting, while both were constructive steps in that direction. Canada maintains its own system which uses the same classification as SPE-PRMS, but with its own guidelines.

30. The member from IASB indicated that the intention is for an International Financial Reporting Standard (IFRS) for extractive activities to be based on widely accepted classification(s) that provide comparability between estimated recoverable quantities of minerals and oil and gas. He explained his views on the risks of embarking on the development of specifications and guidelines in such a way that the UNFC, SPE-PRMS and the CRIRSCO Template diverged.

31. The views with respect to the requirements of the four principal applications of the UNFC formed a basis for the recommendations provided in this report.

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<sup>6</sup> When SEC revised its rules for filing information on oil and gas activities in 2008, it made use of both SPE-PRMS and the Canadian system, but did not copy either of them.



### III. OPTIONS FOR COMPLEMENTARY TEXTS

32. Various options have been considered as a possible basis for complementary texts to the UNFC-2009 and are discussed below. In each case, advantages and disadvantages are considered (i) from the perspective of the Ad Hoc Group of Experts and the application of UNFC-2009, including the ability to provide harmonized terminology and estimates leading to improved communications at a global level, (ii) with respect to the potential impact on the preparers of resource estimates based on other classification systems (including earlier versions of the UNFC) who wish to adopt UNFC-2009 or to claim that estimates made under another classification system are consistent with UNFC-2009, and (iii) with respect to the users of published resource estimates (investors, corporate management, governmental bodies, etc.).

33. Initially, seven options were considered, of which four are discussed in detail below. The other three were:

(a) Development of UNFC specifications and guidelines independently. This fallback option was not pursued as the advantages of a stronger integration with other existing systems were too apparent;

(b) Generic UNFC specifications only. This option was not sufficiently distinct from the options considered in detail to merit its own consideration;

(c) A two-tier harmonization option combining Option One with one of the other options. This option will always be available and needs no elaboration.

#### A. Option one

34. One option is for there to be no specifications (or guidelines) written for UNFC-2009.

35. Instead, mapping reference documents would be developed and maintained by the relevant body responsible for each classification to which the UNFC is mapped (e.g. SPE-PRMS, CRIRSCO Template, Russian Classification, Canadian Oil and Gas Evaluation Handbook, International Atomic Energy Agency, etc.). Each such classification would be subject to the application of its own specifications and guidelines. Development of the mapping modules would be entirely voluntary and at the discretion of the owner of the classification system. There would be no coordinating or “approval”<sup>7</sup> role for the Ad Hoc Group of Experts.

36. It is self-evident that this option is freely available to any classification owner regardless of any decisions by the Ad Hoc Group of Experts with respect to specifications and/or guidelines for the UNFC. Consequently, this option must be seen as either the only option that is provided by the Ad Hoc Group of Experts (i.e. the other options are excluded) or as a complement to one of the other options:

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<sup>7</sup> Approval is here written in inverted commas reflecting that the work by the United Nations in this connection relies on recommendations rather than requirements.

(a) Advantages:

- (i) No effort required by Ad Hoc Group of Experts;
- (ii) Could provide harmonization of terminology, including between systems using different languages, thus improving communication at the global level, when these efforts are coordinated to yield unique meanings of the terms used;
- (iii) All countries and institutions could continue to apply whichever classification system suited their specific needs;
- (iv) Users would be able to relate estimates made under one classification system to those made under another system that has also been mapped to the UNFC, without duplication of reserves/resources estimation;
- (v) Avoid duplication of, and/or inconsistency with, specifications and guidelines of existing systems;
- (vi) Does not impose a foreign classification system on countries and institutions and is not viewed as competing with existing systems;
- (vii) Easy to accept by stakeholders and could be implemented immediately;

(b) Disadvantages:

- (i) Countries and institutions would need to develop their own mapping modules;
- (ii) Estimators who wished to use (or continue to use) UNFC as a stand-alone system would have to provide their own specifications and guidelines. This could lead to inconsistencies in the application of the UNFC itself;
- (iii) No harmonization of estimates, so “relating” estimates through the UNFC could be very misleading due to a lack of quantitative comparability;
- (iv) No possibility to ensure a consistent interpretation of UNFC-2009 in the development of the mapping modules, since development of the modules would be the exclusive responsibility of the relevant body;
- (v) Since estimates based on different systems will reflect the specifications of the relevant system, there would be no opportunity to ensure any consistency in terms of assumptions that may be made in the generation of resource estimates under different systems, but which might be quoted by others as UNFC-compliant estimates (refer to TNK-BP example discussed in Section II);
- (vi) Could provide a false sense of security that terminology is harmonized. Two incompatible classifications will remain as incompatible after mapping to the UNFC as they were before. The user would thus be best advised to compare the classifications directly should he wish to understand the similarities and

differences. The UNFC would have no useful function in this case. It could have a detrimental function as it might conceal important differences.

## **B. Option two**

37. In this option, there would be a formal linkage of both SPE-PRMS and the CRIRSCO Template with UNFC-2009 through a brief UNFC Specifications document that referenced these other systems. This would mean that the Ad Hoc Group of Experts adopts the existing specifications of SPE-PRMS and the Template at a commodity-specific level, but these would remain as separate stand-alone systems:

### (a) Advantages:

- (i) Limited work effort required by the Ad Hoc Group of Experts;
- (ii) Could provide a high-level basis for consistency between mineral and petroleum, without the development of new commodity-specific rules;
- (iii) Formal agreement between the Ad Hoc Group of Experts and SPE/CRIRSCO will ensure that there is good communication and agreement between systems;
- (iv) Detailed guidelines are ready now for petroleum and minerals if SPE-PRMS and the CRIRSCO Template are adopted as the basis for commodity-specific specifications and guidelines;

### (b) Disadvantages:

- (i) Future changes to SPE-PRMS and/or CRIRSCO Template could be made independently of UNFC-2009, which could lead to inconsistencies and a lack of comparability;
- (ii) Could lead to conflicts between commodities if generic specifications cannot be developed that are consistent with both SPE-PRMS and the CRIRSCO Template;
- (iii) No harmonization of terminology;
- (iv) Estimators might need to re-evaluate their resource estimates if they wished to apply the system (unless they were using SPE-PRMS or the CRIRSCO Template);
- (v) Will lead to conflicts with other systems, which have specifications and guidelines that are different to the selected systems;
- (vi) The CRIRSCO Template would need to be expanded to cover resource categories which are not currently addressed by it, and there would still be a need for some generic specifications in order to ensure a consistent mapping/application across commodities;

- (vii) UNFC-2009 could not be adopted by stakeholders who do not apply SPE-PRMS or the CRIRSCO Template at a commodity-specific level. This could impede worldwide application of UNFC-2009.

### C. Option three

38. The option discussed in section III.B (Option Two) could be taken a step further. In this Option Three, the UNFC specifications document mentioned in Option Two would be developed in a more integrated fashion with the SPE and CRIRSCO systems. SPE and CRIRSCO would retain responsibility for proposing the commodity-specific aspects. Terminology could be fully harmonized between the systems (note: this could be achieved by mapping of terminology and using UNFC terminology at the high level, but still allowing for the use of existing SPE-PRMS and CRIRSCO terminology at the commodity-specific level). Adoption of the specifications will be facilitated by requiring the stakeholders of the Ad Hoc Group of Experts to consider and recommend or not the resulting specifications, as provided for in the MoU between ECE and SPE:

(a) Advantages:

- (i) Could provide a comprehensive basis for consistency between SPE-PRMS and the CRIRSCO Template, without the development of new commodity-specific rules;
- (ii) Harmonization of terminology;
- (iii) Will require joint commitment of the Ad Hoc Group of Experts, SPE/WPC/AAPG/SPEE and CRIRSCO for on-going collaboration within the Ad Hoc Group of Experts to ensure that internal consistency of the integrated system is maintained; this is seen as a positive impact as it will provide a long-term obligation on the organizations to work closely together on future developments related to resource classification;
- (iv) Formal agreement between ECE and SPE/CRIRSCO will ensure that there is good communication and agreement between systems;
- (v) Detailed guidelines are ready now for petroleum and minerals if SPE-PRMS and the CRIRSCO Template are adopted as the basis for commodity-specific specifications;
- (vi) Enhanced capacity for coherent communications between preparers, users and the general public, if they accept to use UNFC commodity-specific specifications as provided by SPE and CRIRSCO;
- (vii) Assurance that the needs of stakeholders (preparers and users) are identified and met;
- (viii) Can still be mapped to other classification systems (SPE-PRMS and the CRIRSCO Template have been successfully mapped to each other, despite being based on different specifications and guidelines);

- (b) Disadvantages:
- (i) May require limited adjustments to SPE-PRMS and the CRIRSCO Template to ensure full consistency/comparability at a generic level;
  - (ii) Will require joint commitment of the Ad Hoc Group of Experts, SPE/WPC/AAPG/SPEE and CRIRSCO for on-going collaboration within the Ad Hoc Group of Experts to ensure that internal consistency of the integrated system is maintained; this is seen as a negative impact by some stakeholders as it will make further development of the UNFC dependent on professional organizations with primary responsibility only to their own members (although the formal agreements will ensure that their responsibility is to all UNFC stakeholders in this context);
  - (iii) Needs a formal and long-term agreement between ECE and SPE/CRIRSCO to ensure that there is good communication and agreement between systems and adequate control and conflict resolution provisions;
  - (iv) Estimators might need to re-evaluate their resource estimates if they wished to apply the system (unless they were using SPE-PRMS or the CRIRSCO Template);
  - (v) Potential for inconsistency with specifications and guidelines of systems other than SPE-PRMS and the CRIRSCO Template;
  - (vi) Could be viewed as competing with systems other than SPE-PRMS and the CRIRSCO Template;
  - (vii) No harmonization of estimates with systems other than with SPE-PRMS and the CRIRSCO Template;
  - (viii) Consistent worldwide application of UNFC-2009 would be contingent on stakeholders' adoption of the specifications developed for it (just like any other classification system).

#### **D. Option four**

39. This option was proposed in the following form by SPE and CRIRSCO. There would be a formal agreement between the Ad Hoc Group of Experts and a series of commodity professional societies/bodies, such as SPE and CRIRSCO, for the writing and maintenance of appropriate guidelines for the mapping of mineral and fossil energy resource classes to the UNFC. The professional societies/bodies would maintain their own classification system and terminology consisting of guidelines and specifications they believe are appropriate for their commodities. Each commodity system would maintain its own independence, but would be comprehensively mapped to the UNFC to allow comparability between commodities. This comprehensive mapping might require that the professional societies/bodies provide additional detail as to how its own categories should be subdivided into UNFC categories where the UNFC has a higher degree of granularity. With application of the UNFC, if users found that the additional granularity was of value, it is possible that the professional societies/bodies could choose to

expand their system to directly map to the UNFC. Any updates to the commodity classifications would require the professional societies/bodies to ensure that the mapping to the UNFC is updated and that revised mappings are agreed with the Ad Hoc Group of Experts.

40. The existing definitions and supporting explanations within the UNFC-2009 are sufficient for the professional societies/bodies working with the Ad Hoc Group of Experts to produce a mapping of its commodity classification to the UNFC as has been successfully shown by both the CRIRSCO Template and SPE-PRMS mappings.

41. Commodity classification systems other than those formally linked to the UNFC would map their classification system to that linked to the UNFC. It is common for systems for a given commodity to be mapped to one another, and this mapping would be the responsibility of the professional societies/bodies, not the Ad Hoc Group of Experts.

42. An agreement of this type already exists with the SPE through its MoU and there is an agreement formalized with an exchange of correspondence in late 2005 and a long standing relationship and body of work between the Ad Hoc Group of Experts and CRIRSCO in working towards this same aim for minerals. Detailed commodity specific specifications and guidelines and a preliminary mapping of the SPE-PRMS and CRIRSCO Template already exist, which means that UNFC-2009 could be ready for application in a consistent manner immediately upon the adoption of this option:

(a) Advantages:

- (i) Limited work effort required by the Ad Hoc Group of Experts, only requiring the approval of the mapping of linked systems;
- (ii) Could provide a high-level basis for consistency between mineral and petroleum, without the development of new commodity-specific rules;
- (iii) UNFC will be evergreen as update of classification will be the responsibility of the professional societies/bodies who will ensure mapping is revised;
- (iv) Formal agreement between the Ad Hoc Group of Experts and professional/societies/bodies will ensure that there is good communication and agreement between systems;
- (v) Detailed specifications may be ready now for petroleum and minerals if SPE and CRIRSCO are adopted as the linked professional societies/bodies;

(b) Disadvantages:

- (i) Professional societies/bodies would need to provide additional detail to their system mappings to account for UNFC detail;
- (ii) No harmonization of terminology would result, although the UNFC numeric codes would provide harmony between commodities;
- (iii) Estimators might need to re-evaluate or map their resource estimates if they wished to apply the UNFC;

- (iv) Potential for inconsistency with specifications and guidelines of systems other than SPE-PRMS and CRIRSCO Template;
- (v) Might be more difficult to implement for systems other than SPE-PRMS and the CRIRSCO Template;
- (vi) Weak or no stakeholder influence over the specifications of the UNFC-2009;
- (vii) Consistent worldwide application of the UNFC-2009 would be contingent on stakeholders' adoption of the specifications of SPE-PRMS and the CRIRSCO Template.

#### IV. RECOMMENDATIONS

43. The RTF was requested to consider whether it is needed and/or desirable to develop specifications and guidelines for the UNFC-2009. The RTF prepared a discussion paper, with the intention to outline alternative options and highlight perceived advantages and disadvantages of each. The paper has been prepared for the consideration of the Ad Hoc Group of Experts at its seventh session.

44. One of the members of the RTF, who has assisted the task force in understanding the process of IASB, is abstaining from taking a formal position on recommendations made by the task force in order to avoid any perception of a possible conflict of interest with respect to his responsibilities to IASB. Two other members of the RTF provided valuable and constructive input prior to leaving the Bureau at the sixth session of the Ad Hoc Group of Experts in March 2009. The remaining 13 RTF members, despite their best efforts, were not able to reach unanimous agreement on the recommendations. The majority of these 13 RTF members, however, support the following recommendations:

(a) The UNFC-2009 should be adopted and published immediately in its current short form (i.e. without specifications and guidelines, but not as a draft) so that Governments and institutions can test it against their current classification systems. It is recommended that the Ad Hoc Group of Experts establishes a Technical Advisory Group that could provide assistance and advice on how to interpret and apply the UNFC-2009, should that be requested. The need for ongoing assistance in this area suggests very strongly that a longer term mandate should be sought for the Ad Hoc Group of Experts, based on an appropriate governance structure. A minimum of five years would be considered appropriate initially;

(b) Stakeholders should be invited to map their systems to the UNFC-2009 and to report back on the outcome to the Technical Advisory Group, which will in turn ensure that the Ad Hoc Group of Experts and its Bureau are kept informed. As part of this process, user recommendations for additional specifications and guidelines should be requested and compiled. This is effectively Option One of this discussion paper on the need for specifications and guidelines, but with closer technical involvement of the Ad Hoc Group of Experts (through its Technical Advisory Group);

(c) Stakeholders should be encouraged to carry out cross-mapping with other systems (e.g. as CRIRSCO is currently doing with the Russian Federation); ideally this would include

government to government mapping as well as commercial systems. Results would again be compiled and analysed by the Technical Advisory Group. This system of integrated mapping of detailed systems against each other and to the higher level UNFC-2009 is effectively Option Four as proposed by CRIRSCO and SPE as their preferred option;

(d) While CRIRSCO and SPE are firm in their belief that the need for detailed specifications is effectively met by the CRIRSCO Template for minerals and SPE-PRMS for petroleum, it is clear that there are no equivalent detailed specifications available for other UNFC users such as governments. Therefore CRIRSCO and SPE propose that financial, government and energy study members of the Ad Hoc Group of Experts should be asked to consider their own needs for specifications in parallel with the mapping work, possibly in small committees set up for the purpose;

(e) The RTF recommends that a small task force, with members representing all four needs (i.e. including business processes), be established to document the specific requirements for specifications and guidelines that can be identified and to indicate whether or not those needs are well enough addressed in the CRIRSCO Template and/or SPE-PRMS. By considering all four needs together, there will be assurance that consideration will be given to the potential for applying consistent specifications and guidelines across all four needs, thus creating an added value for all. The task force would not be requested to attempt to write new specifications and guidelines, but to report back on its findings to the Ad Hoc Group of Experts at its eighth session. The Ad Hoc Group of Experts would then consider what action should be taken, based on the conclusions of the task force.

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