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**Economic Commission for Europe**

**Committee on Sustainable Energy**

**Expert Group on Resource Classification**

**Basis for establishing specifications for the application of the  
United Nations Framework Classification for Fossil Energy  
and Mineral Reserves and Resources 2009 (UNFC-2009)**

**Draft report prepared by the Specifications Task Force<sup>1</sup>**

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<sup>1</sup> Please note that this draft report has been prepared by the Specifications Task Force Phase Two as supporting information to the draft document “Specifications for the application of the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009 (UNFC-2009)”, which is available for public comment together with this draft report. While comments on the content of this draft report will also be considered, the Specifications Task Force Phase Two will determine the final form and content of this report, since it represents a record of its work and conclusions. The report is being made available subject to the caveat that the draft text in its current form has not been, and shall not be construed to have been, endorsed by any member of the Expert Group on Resource Classification or by any organization that is represented by a member of the Expert Group on Resource Classification.

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## **I. Introduction**

1. This report summarizes the work of the United Nations Framework Classification for Fossil Energy and Mineral Resources (UNFC) Specifications Task Force Phase Two with respect to documenting a draft proposal for specifications to be provided for the UNFC of 2009 (UNFC-2009). The Specifications Task Force will communicate its final position on this report to the fourth session of the United Nations Economic Commission for Europe (ECE) Expert Group on Resource Classification, which was previously (until end-2009) known as the Ad Hoc Group of Experts on Harmonization of Fossil Energy and Mineral Resources Terminology (Ad Hoc Group of Experts). The proposed draft specifications are intended to respond fully to the feedback received from a representative range of stakeholders in each of the four key areas of application of UNFC-2009 on what specifications, if any, they considered to be necessary in order that UNFC-2009 would adequately serve their needs. The four areas of application are: International Energy and Minerals Studies; Government Resources Management; Industry Business Processes; and, Financial Reporting.
2. The final version of this report will address all comments received during the review process, including input received from the Expert Group at the third session and the subsequent public comment period. Ultimately, it is intended that this report provides a formal record of the transparent process followed and the basis for the final recommendations made for specifications.
3. The members of the Specifications Task Force are listed in Annex I.

## **II. Background**

4. In 2004, the United Nations Economic and Social Council (ECOSOC) in its Decision 2004/233 invited the Member States of the United Nations, international organizations and the regional commissions to consider taking appropriate measures for ensuring worldwide application of the UNFC.
5. In 2007, the Ad Hoc Group of Experts decided to map certain classification systems to the UNFC of 2004 (UNFC-2004) and established a Task Force (UNFC Mapping Task Force) for this purpose. The report of the Mapping Task Force (ECE ENERGY SERIES No. 33 and ECE/ENERGY/71), recommended that certain changes be made to the category definitions of the UNFC in order to achieve alignment between UNFC-2009, the Template of 2006 developed by the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) and the Petroleum Resources Management System (SPE-PRMS) approved by the Society of Petroleum Engineers (SPE) Board in March 2007 and endorsed by the World Petroleum Council (WPC), the American Association of Petroleum Geologists (AAPG), the Society of Petroleum Evaluation Engineers (SPEE) and the Society of Exploration Geophysicists (SEG). The Mapping Task Force “proposed a simplification of the current definitions, to the extent possible, to a point where they incorporate the necessary principles for all commodities, without material deviation from their current meaning, and excluded detailed and/or commodity-specific information that could be captured in commodity-specific guidelines”.
6. The Ad Hoc Group of Experts then requested: (a) the Bureau of the Expert Group to develop any proposed changes to UNFC-2009 through a due and transparent process, including by posting a draft text on the ECE website for public comment over a sufficient period of time; (b) that any proposals, comments and/or recommendations to be submitted

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to the Extended Bureau of the Committee on Sustainable Energy should be published on the ECE website; and (c) the Bureau of the Expert Group to define an appropriate timeline, taking into consideration the guidance of the Director of the ECE Sustainable Energy Division (ECE/ENERGY/GE.3/2008/2).

7. The Bureau of the Ad Hoc Group of Experts nominated a small group of experts as the UNFC Revision Task Force, which then developed and proposed a revised text of the UNFC (UNFC-2009). This was presented at the seventh session of the Ad Hoc Group of Experts and subsequently approved by the Committee on Sustainable Energy at its eighteenth session. The Revision Task Force also prepared a report that discussed the comments received on the initial published draft text and provided its reasoning for recommending certain changes, but not others (ECE/ENERGY/GE.3/2009/6).

8. Concurrent with the development of the revised text of the UNFC, the Revision Task Force was mandated to prepare a discussion paper on “The Need and/or Desirability to Develop Specifications and Guidelines” (ECE/ENERGY/GE.3/2009/7). The paper identified several options for ways of addressing this issue, including one of not providing any specifications or guidelines for UNFC-2009. The options were discussed at the seventh session of the Ad Hoc Group of Experts. One of the recommendations of the Revision Task Force was that before attempting to agree on the most appropriate option, it would be beneficial to seek the views of a broad range of stakeholders representing each of the four key areas of application of UNFC-2009 and requesting their views on what specifications, if any, they considered to be necessary in order that UNFC-2009 would adequately serve their needs. The four areas of application are: International Energy and Minerals Studies; Government Resources Management; Industry Business Processes; and, Financial Reporting.

9. The Revision Task Force report strongly supported the view that it would not be constructive (or practical) for the Expert Group on Resource Classification to consider developing comprehensive new specifications and guidelines for UNFC-2009 where detailed commodity-specific specifications and guidelines already exist within the classification systems of the CRIRSCO Template and SPE-PRMS.

10. The current terms of reference of the Expert Group confirms that the provision of specifications and guidelines for UNFC-2009 shall be undertaken through cooperation with SPE for petroleum and 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 exists between UNECE and SPE (signed in 2006) whereby it was agreed that SPE’s Oil and Gas Reserves Committee would, *inter alia*, develop Specifications and Guidelines for the application of the UNFC to petroleum resources.

11. The focus of the work of Specifications Task Force Phase Two was therefore: (a) to pass on to CRIRSCO and SPE for their attention any issues raised by the Expert Group’s stakeholders that were deemed to be commodity-specific, and (b) to develop, to the extent considered appropriate, recommended generic specifications for UNFC-2009.

12. This draft report summarizes the considerations of the Specifications Task Force Phase Two.

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### **III. The process**

13. The members of the Specifications Task Force Phase Two were largely the same as those individuals who were responsible for the development of the report: “Stakeholder Requirements for Specifications for the United Nations Framework Classification for Fossil Energy and Mineral Reserves and Resources 2009” (ECE/ENERGY/2010/8). This ensured good continuity with respect to the two-stage process of, first, identifying the needs of the stakeholders, and second, preparing a draft proposal in response to those needs.

14. The Terms of Reference for the Specifications Task Force Phase Two are reproduced in Annex II.

15. Prior to embarking on the development of specifications, all 51 issues identified in the report on stakeholder requirements (ECE/ENERGY/2010/8) were reviewed and subdivided into four categories:

(a) Those where no further action was considered appropriate at this stage, typically because the issue was essentially the same as, or part of, another issue that was being addressed, or it was not within the Terms of Reference of the Specifications Task Force Phase Two to address it (16 issues);

(b) Those that were deemed to be commodity-specific, and therefore for consideration by CRIRSCO and/or SPE, but not appropriate for a generic specification for UNFC-2009 (five issues);

(c) Those where a possible need for a UNFC-2009 generic specification was identified as well as further consideration by CRIRSCO and/or SPE (19 issues); and,

(d) Those where a likely need for a UNFC-2009 specification was identified (11 issues).

16. In working through these issues and obtaining feedback from CRIRSCO and SPE, some of the categorizations changed slightly. The current categorization of issues is documented in Annex III.

17. Once accepted by the Expert Group on Resource Classification as an appropriate draft, it was agreed by the Expert Group that the draft specifications document will be published on the ECE website for a period of time in order to solicit public feedback on the draft specifications. This feedback will then be considered carefully prior to finalizing and seeking endorsement of the final draft specifications document. The feedback from the public comment period will be presented and discussed in the final version of this report.

### **IV. Discussion of issues**

18. In the following discussions, issues are identified using the reference number as shown in Annex III.

### **V. Recommendations**

19. This section will be completed following the public comment period and finalization of the draft specifications document.

**Annex I**

**Specifications Task Force Phase Two members**

Ferdinando Camisani-Calzolari (withdrew in mid-2012)

Dan Diluzio

Roger Dixon (supported by Paul Banks from mid-2012)

David Elliott

Timothy Klett (withdrew in early 2012)

Kjell Reidar Knudsen

Ian Lambert replaced by Leesa Carson in mid-2012 (supported by Yanis Miezitis)

David MacDonald

Yuri Podturkin (supported by the Russian Working Group)

James Ross (Chair)

Daniel Trotman

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## **Annex II**

### **Terms of Reference for the Specifications Task Force Phase Two**

#### **Introduction**

1. This document is intended to provide guidance on the terms of reference for the Specifications Task Force in its deliberations on the provision of specifications for UNFC-2009. The overall mandate for the Task Force was provided by the Expert Group on Resource Classification at its first session and is reproduced below. However, since some members of the Bureau have joined only relatively recently, it is appropriate to highlight some conclusions from previous studies as useful background information, especially as many issues have already been considered in some detail by the Expert Group's predecessor, Ad Hoc Group of Experts, on the basis of reports prepared by the Mapping Task Force and the Revision Task Force.

#### **What are Specifications and Guidelines?**

2. There may be some confusion as to the meaning of these terms and the distinction between them, even though they are common to all classification systems. In the case of resource classification, the "top level" of the system is usually in the form of concise definitions. For example, the definition of a Proved Mineral Reserve in the CRIRSCO Template, the definition of Proved Reserves in SPE-PRMS, and the definitions of E1, F1, etc. in UNFC-2009, all provide the primary basis (i.e. rules) for classifying a resource quantity in that particular category or class.

3. These definitions are then supplemented by specifications (or "secondary rules") that provide more detail on how the system is to be applied. Unfortunately, these secondary rules are sometimes referred to as guidelines even though they constitute instructions on what should (or should not) be done when applying the classification system.

4. Examples of specifications in the CRIRSCO Template (classified therein as "guidelines") include:

- (a) "Under no circumstances can an Indicated Mineral Resource be converted directly to a Proved Mineral Reserve"; and,
- (b) "The reported Mineral Reserve figures must not be added to the reported Mineral Resource figures".

5. Examples of specifications in SPE-PRMS (classified therein as "guidelines") include:

- (a) "If probabilistic methods are used, there should be at least a 90 per cent probability that the quantities actually recovered will equal or exceed the estimate"; and,
- (b) "There must be a reasonable expectation that all required internal and external approvals will be forthcoming, and there is evidence of [a] firm intention to proceed with development within a reasonable time frame".

6. Guidelines, as used in UNFC terminology, are not rules/specifications, but merely *guidance* on how to apply those rules in particular situations. For example, guidelines could include examples of the forms of documentation that might be relied upon to support "evidence of a firm intention" for defining Reserves under SPE-PRMS.

7. The Revision Task Force report on Specifications and Guidelines (ECE/ENERGY/GE.3/2009/7) also clarified the basis for this distinction, as demonstrated by the following statements:

(a) “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”;

(b) “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”.

**Background on the development of UNFC-2009**

8. It is also very important that the rationale behind the development of UNFC-2009 is well understood before embarking on the development of specifications and/or guidelines. A comparison between the category definitions of the previous version, UNFC of 2004, and those proposed by the Mapping Task Force can be seen in Table 1 of the Mapping Task Force report (ECE ENERGY SERIES No. 33 and ECE/ENERGY/71). The proposal, subsequently adopted in the form of UNFC-2009, was to simplify the category definitions by providing concise, generic definitions only, and to exclude specifications, guidelines, and any commodity-specific references on the basis that these could be addressed separately. This simplification was a key change in the development of UNFC-2009 from UNFC of 2004. (For a good example, refer to the changes to the definition of category G4.)

9. In removing specifications, guidelines and commodity-specific references from the category definitions of UNFC-2009, it was clearly recognized by the Mapping Task Force that these would still be necessary to ensure the consistent application of UNFC-2009 (as they are for any resource classification system), but there were several potential options for their provision and these were agreed to be subject to further consideration. One option was that, at a commodity-specific level, it might be possible to adopt, or link to, in some way, the existing specifications and guidelines in the CRIRSCO Template and SPE-PRMS, thus avoiding a major duplication of effort as well as ensuring that the potential for inconsistencies between these systems and UNFC-2009 was minimized. At the same time, it was recognized that there were some aspects of resource classification that were probably not fully addressed in the CRIRSCO Template/SPE-PRMS systems, as well as a possible need for some “high level” specifications (generic, not commodity-specific) for UNFC-2009.

10. These conclusions then provided the impetus for establishing the Specifications Task Force (Phase One). The Specifications Task Force Phase One set out to contact a wide range of *users* of resource data and to document what specifications these stakeholders considered necessary in order to ensure that UNFC-2009 could provide a consistent and coherent basis for resource classification that would be appropriate to meet their needs. It was left to the second phase of the project (Specifications Task Force Phase Two) to: (i) consider each of the requests for specifications in turn; (ii) recommend which ones should be addressed; (iii) consider whether such specifications should be developed directly for UNFC-2009 and/or provided via some form of linkage to the commodity-specific systems of the CRIRSCO Template and SPE-PRMS where the necessary specifications



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already existed; and, (iv) where appropriate, to facilitate the development of the text of the specifications. Where these were commodity-specific specifications, primary responsibility for development of the texts would reside with CRIRSCO for solid minerals or SPE for petroleum, as set out in the Expert Group on Resource Classification's Terms of Reference.

11. It should be noted that the focus of the Specifications Task Force was, and is, *specifications*, as defined above, and not guidelines.

### **Mandate for the Specifications Task Force Phase Two**

12. The mandate for the Specifications Task Force Phase Two was documented in the report of the first session of the Expert Group as follows:

*Agreed* that the successor Specifications Task Force (established by and reporting to the Bureau) should consider all issues raised by stakeholders that are not currently addressed fully in the CRIRSCO Template and/or the SPE-PRMS and as contained in the final version of the Report of the original Specifications Task Force.

*Requested* that each issue is carefully considered in turn and either: (a) a generic UNFC specification is developed to address the issue, for the eventual approval of the Expert Group, but subject to a public comment period; (b) an explanation is provided to the Expert Group to demonstrate that the issue is, or will be, adequately addressed in both the Template and SPE-PRMS based on discussions with CRIRSCO and SPE OGRC; or, (c) an explanation is provided to the Expert Group to justify why a specification is not considered necessary and/or appropriate for that issue. *Further requested* that this work be completed prior to the second session of the Expert Group.

### **Guiding Principles for the Specifications Task Force Phase Two**

13. The Bureau of the Expert Group on Resource Classification established some "guiding principles" in order to facilitate efficient prioritization of the work Specifications Task Force Phase Two, though only to the extent that they do not conflict with prior agreements or decisions, including the Task Force's mandate as provided by the Expert Group, the Expert Group's Terms of Reference, and the overall goals of the UNFC as stated in UNFC-2009 and approved by the ECE Committee on Sustainable Energy:

(a) The Specifications Task Force Phase Two should not work on changes to the UNFC main structure of classes or subclasses listed in the UNFC-2009. They should report them to the Bureau of the Expert Group for its consideration.

(b) The Specifications Task Force Phase Two should not work on disclosure requirements as these are covered by various financial and regulatory groups and lie outside the mandate of the Expert Group on Resource Classification.

(c) The Specifications Task Force Phase Two should prioritize comments by area and significance of the impact also taking cognizance of the source of the comment. The Task Force should develop a basic discussion format for the specifications so all pertinent information is presented to the Bureau of the Expert Group for a robust discussion.

(d) When the Specifications Task Force Phase Two believes there is a need for a specification or guideline for UNFC-2009, prior to developing the detailed guidance, it should be sent to the appropriate professional society (SPE, CRIRSCO) to see if it can be accommodated in SPE-PRMS and/or the CRIRSCO Template.

14. In order to ensure a fuller appreciation of the context of these "guiding principles", it is important to note the following:



15. With respect to (a) it should be noted that the ECE Committee on Sustainable Energy “directed the Expert Group on Resource Classification to encourage testing and application of UNFC-2009 as widely as possible and that feedback on this be monitored and reviewed at least every two years”, so there exists an obligation on the Expert Group to *consider* potential changes on a regular basis. In any event, since the Expert Group is not a decision-making body, any proposed changes to UNFC-2009 would need to be decided upon by the Committee on Sustainable Energy.

16. With respect to (b), UNFC-2009 is intended to meet, to the extent possible, the needs of applications pertaining to financial reporting standards (as set out in the Expert Group’s Terms of Reference and approved by the ECE Committee on Sustainable Energy). It is clear that the Expert Group cannot (and has no intention of trying to) set reserve/resource financial disclosure requirements. The Specifications Task Force Phase One report has already noted those suggestions for specifications that it identified as being disclosure requirements and outwith the mandate of the Expert Group. However, care will be required to ensure that specifications that have been requested by stakeholders in the financial sector and which are not disclosure requirements are properly addressed so that quantities reported under UNFC-2009 *could* provide the necessary basis for financial reporting, if required for that purpose.

17. With respect to (c), the primary basis for the Specifications Task Force Phase Two to recommend (or not) adoption of a stakeholder-requested specification should be the extent to which it considers that such a specification will “add value” to the application of the classification system in meeting stakeholders’ needs. In this context, “value” reflects the requirements for quality of information, as identified by the Revision Task Force in its report on Specifications and Guidelines (ECE/ENERGY/GE.3/2009/7). These requirements include: relevance, reliability, coherence, materiality and ease of preparation and use.

18. With respect to (d), the Specifications Task Force Phase Two intentionally included representation from CRIRSCO and SPE so that the most appropriate approach to dealing with requests for specifications could be considered in consultation with these bodies. As noted above, CRIRSCO and SPE have the primary responsibility for the provision of UNFC-2009 specifications that are commodity-specific to solid minerals and petroleum respectively. To the extent that generic specifications are deemed appropriate for UNFC-2009, these should be developed by the Specifications Task Force Phase Two in cooperation with CRIRSCO and SPE, respecting the philosophy of keeping the UNFC-2009 as simple as possible and using plain language, in line with the recommendations of the Specifications Task Force Phase One report. The Specifications Task Force Phase Two has no mandate to develop “detailed guidance” at this time.

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### **Annex III**

#### **Categorization of specifications issues (to be updated in final version)**

<i>Issue</i>		
<i>No.</i>	<i>Description</i>	<i>Action</i>
1	Expand G4 to account for uncertainty	Draft generic specification prepared
2	Distinction between developed and undeveloped	No action recommended
3	Definition of “total in place” using E categories	No action recommended
4	More detailed definition of G categories	Draft generic specification prepared
5	Subjective nature of E axis categories	Draft generic specification prepared
6	Assessments made for different purposes	No action recommended, but refer to issues #11 and 49
7	Reference to Class 113	No action recommended
8	Distinction between F4 and potentially commercial	Discussed in Annex V
9	Definition of non-sales production	Discussed in Annex IV
10	Glossary of terms	Included as Annex I
11	Requirement for aggregation to national level	Draft generic specification prepared
12	Confusion between reserves and resources	No action recommended
13	Confusion between in-situ and recoverable quantities	Draft generic specification prepared
14	Comprehensive, consistent and coherent reporting	Key justification for inclusion of several draft generic specifications
15	Documentation of assumptions	Draft generic specification prepared
16	Illustration of all resource categories in an accumulation/basin/project	Possible additional annex
17	Probability levels for allocation to appropriate classes	No action recommended, but refer to issue #4

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<i>Issue</i>		
<i>No.</i>	<i>Description</i>	<i>Action</i>
18	Clarity in reporting (e.g. gross/net interest)	Draft generic specification prepared
19	Inadequacy of SPE-PRMS specifications, leading to lack of comparability	Forwarded to SPE for consideration, further guidelines provided
20	Need to reflect three key categories (reserves, discovered resources and undiscovered resources)	No action recommended
21	Add labels (“unit name”) for 111, etc.	Draft generic specification prepared
22	Linkage between period of no activity and economic category	No action recommended, but refer to Annex V
23	General guidelines required for UNFC, but practical mapping guidelines developed by each country between its system and UNFC	No action recommended
24	Set fundamental reporting guidelines (not user-specific)	No action recommended, but refer to issues #14 and 18
25	Canadian Oil and Gas Evaluation Handbook (COGEH) should be foundation (for petroleum guidelines)	Forwarded to SPE for consideration, still under review
26	Use of plain language to the extent possible, minimising technical terminology and detail	Adopted throughout draft generic specifications
27	Supported by technical report and involvement of a qualified person	Draft generic specification prepared
28	Resource valuation	No action recommended
29	Commodity-specific guidelines	Forwarded to SPE for consideration, further guidelines provided
30	Cross-referencing economic/social viability with G axis	No action recommended
31	More granulation to meet individual needs and resource types	No action recommended, but refer to issues #1 and #32
32	Classification of undiscovered resources	Draft generic specification prepared
33	Proved and probable reserves based on forecast costs	No action recommended, but refer to issue #5
34	Classification based on “risk” profiles	Draft generic specification prepared

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<i>Issue</i>		
<i>No.</i>	<i>Description</i>	<i>Action</i>
35	Good guidelines required for unbiased estimates	No action recommended
36	Management and board responsibility	No action recommended
37	Governance and administrative system for guidelines	Reference to Technical Advisory Group (still under consideration by Expert Group on Resource Classification) included in draft specifications
38	Transparency of estimation methods	No action recommended
39	Measurement and reporting issues	Draft generic specifications prepared
40	Specifications and guidelines for “unconventional” petroleum resources	Under consideration by CRIRSCO
41	Distinction between “conventional” and “unconventional” petroleum resources (product types)	No action recommended, but refer to issue #40
42	Effective date of estimation	Draft generic specification prepared
43	Reference point	Draft generic specification prepared
44	Using industry best practice	No action recommended, but refer to issue #14
45	Clarity on economic assumptions for proved reserves	Forwarded to SPE for consideration, but refer to issue #5
46	Benefit in globally-consistent terminology and definitions	No action recommended
47	Reconciliation of incremental and cumulative deterministic methods	Forwarded to SPE for consideration
48	Tracking of reasons for project delays	No action recommended
49	Need to clarify timing issues	Under consideration by CRIRSCO
50	Further granularity for “Additional Quantities in Place”	Draft generic specification prepared
51	Undiscovered and unconventional uranium and thorium resources	Draft generic specification prepared