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Committee on Sustainable Energy

Expert Group on Resource Classification

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Item 7 of the Provisional Agenda

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 Force¹

Contents

	<i>Paragraphs</i>	<i>Page</i>
I. Introduction	1-3	2
II. Background	4-12	2-3
III. The process	13-15	4
IV. Discussion of issues	16	4
V. Recommendations	17	4

Annex

I Specifications Task Force Phase Two Members	5
II Terms of Reference for the Specifications Task Force Phase Two	6-9
III Categorization of specifications issues	10-13

¹ This draft document has been prepared as the “basis for discussion” at the second session of the Expert Group on Resource Classification and does not, as yet, represent a consensus view of the Specifications Task Force Phase Two. There are a number of issues that are subject to significant divergence of opinions at this time, and the intention of releasing this draft document is to open up the discussion to the Expert Group in order to obtain additional feedback on the appropriate way forwards, before attempting to achieve a consensus within the Specifications Task Force. In addition, both the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) and the Society of Petroleum Engineers (SPE) have identified specification issues raised by UNFC stakeholders that they wish to consider further from a commodity-specific perspective. No final recommendations will be made by the Specifications Task Force until that process has been completed.

PRELIMINARY DRAFT FOR DISCUSSION (refer to footnote 1)

INF. 2

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 preliminary position on this report to the second session of the 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 second 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 the UNFC, the Template developed by the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) and the Petroleum Resources Management System (SPE-PRMS) developed by the Society of Petroleum Engineers (SPE), World Petroleum Council (WPC), American Association of Petroleum Geologists (AAPG) and Society of Petroleum Evaluation Engineers (SPEE). 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 the Bureau to prepare any proposed changes to the UNFC through a due and transparent process, including by posting a draft text on the Economic Commission for Europe (ECE) website for public comment over a sufficient period of time; further requested that any proposals, comments and/or recommendations to be submitted to the Extended Bureau of the Committee on Sustainable

Energy should be published on the ECE website; and requested the Bureau 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 the 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 ECE 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, and the SPE/WPC/AAPG definitions.

11. The focus of the work of Specifications Task Force Phase Two was therefore: (a) to pass on to CRIRSCO and SPE 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 preliminary considerations of the Specifications Task Force Phase Two.

PRELIMINARY DRAFT FOR DISCUSSION (refer to footnote 1)

INF. 2

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 STF-2 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 (5 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).

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.

Once accepted by the Expert Group on Resource Classification as an appropriate draft, it has been agreed by the Expert Group that the draft specifications document will be published on the ECE website for a period in order to solicit public feedback on the draft specifications. This feedback will then be considered carefully prior to finalizing and seeking approval of the specifications document.

IV. Discussion of issues

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

V. Recommendations

17. To be completed

Annex I

Specifications Task Force Phase Two Members

Ferdinando Camisani-Calzolari

Dan Diluzio

Roger Dixon

David Elliott

Timothy Klett

Kjell-Reidar Knudsen

Ian Lambert (supported by Yanis Miezitis)

David MacDonald

Yuri Podturkin (supported by the Russian Working Group)

James Ross (Chair)

Tim Smith

Daniel Trotman

PRELIMINARY DRAFT FOR DISCUSSION (refer to footnote 1)

INF. 2

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 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 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-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-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 minimised. At the same time, it was recognized that were some aspects of resource classification that were probably not fully addressed in the CRIRSCO/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

PRELIMINARY DRAFT FOR DISCUSSION (refer to footnote 1)

INF. 2

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 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 2

12. The mandate for 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 EGRC mandate.

(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 the 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 the SPE-PRMS or 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 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 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 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.

PRELIMINARY DRAFT FOR DISCUSSION (refer to footnote 1)

INF. 2

Annex III

Categorization of specifications issues

<i>Issue</i>		
<i>No.</i>	<i>Description</i>	<i>Action</i>
1	Expand G4 to account for uncertainty	Proposed to make recommendation to the Expert Group on Resource Classification
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 specification prepared to link to commodity-specific systems, and SPE plans to consider further
5	Subjective nature of E axis categories	Draft specification prepared to link to commodity-specific systems, and CRIRSCO and SPE plan to consider further
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	SPE plans to consider further
9	Definition of non-sales production	SPE plans to consider further
10	Glossary of terms	Proposed to be included in draft specifications
11	Requirement for aggregation to national level	Draft specification prepared, plus proposal for additional terminology (e.g. Economic Demonstrated Resources (EDR)) in Annex, and CRIRSCO and SPE plan to consider further
12	Confusion between reserves and resources	No action recommended
13	Confusion between in-situ and recoverable quantities	Draft specification prepared
14	Comprehensive, consistent and coherent	General requirement for generic

PRELIMINARY DRAFT FOR DISCUSSION (refer to footnote 1)

INF. 2

<i>Issue</i>		
<i>No.</i>	<i>Description</i>	<i>Action</i>
	reporting	specifications, and CRIRSCO plans to consider further
15	Documentation of assumptions	Draft specification prepared
16	Illustration of all resource categories in an accumulation/basin/project	Draft specification prepared, plus proposal to include examples in an Annex
17	Probability levels for allocation to appropriate classes	No action recommended, but refer to issue #4
18	Clarity in reporting (e.g. gross/net interest)	Draft specification prepared, and CRIRSCO and SPE plan to consider further
19	Inadequacy of SPE-PRMS specifications, leading to lack of comparability	General requirement for generic specifications, and SPE plans to consider further
20	Need to reflect three key categories (reserves, discovered resources and undiscovered resources)	No action recommended
21	Add labels (“unit name”) for 111, etc.	Proposal to include in Annex
22	Linkage between period of no activity and economic category	No action recommended
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 #4 and 18
25	Canadian Oil and Gas Evaluation Handbook (COGEH) should be foundation (for petroleum guidelines)	SPE plans to consider further
26	Use of plain language to the extent possible, minimising technical terminology and detail	No action recommended, but refer to issue #21
27	Supported by technical report and involvement of a qualified person	Draft specification prepared, and SPE plans to consider further
28	Resource valuation	No action recommended
29	Commodity-specific guidelines	SPE plans to consider further
30	Cross-referencing economic/social viability with G axis	No action recommended
31	More granulation to meet individual needs and	No action recommended, but

PRELIMINARY DRAFT FOR DISCUSSION (refer to footnote 1)

INF. 2

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<i>Issue</i>		
<i>No.</i>	<i>Description</i>	<i>Action</i>
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	resource types	refer to issue #32
32	Classification of undiscovered resources	Proposed to make recommendation to Expert Group on Resource Classification
33	Proved and probable reserves based on forecast costs	No action recommended, but refer to issue #5
34	Classification based on “risk” profiles	Draft specification prepared, and SPE plans to consider further
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, and SPE plans to consider further
38	Transparency of estimation methods	No action recommended
39	Measurement and reporting issues	Draft specification prepared, and SPE plans to consider further
40	Specifications and guidelines for “unconventional” petroleum resources	CRIRSCO and SPE plan to consider further
41	Distinction between “conventional” and “unconventional” petroleum resources (product types)	Draft specification prepared, and CRIRSCO and SPE plan to consider further
42	Effective date of estimation	Draft specification prepared
43	Reference point	Draft specification prepared
44	Using industry best practice	No action recommended, but refer to issue #4
45	Clarity on economic assumptions for proved reserves	SPE plans to consider further
46	Benefit in globally-consistent terminology and definitions	No action recommended
47	Reconciliation of incremental and cumulative deterministic methods	SPE plans to consider further
48	Tracking of reasons for project delays	No action recommended
49	Need to clarify timing issues	CRIRSCO and SPE plan to

PRELIMINARY DRAFT FOR DISCUSSION (refer to footnote 1)

INF. 2

<i>Issue</i>		
<i>No.</i>	<i>Description</i>	<i>Action</i>
		consider further
50	Further granularity for “Additional Quantities in Place”	Proposed to make recommendation to Expert Group on Resource Classification, and SPE plans to consider further
51	Undiscovered and unconventional uranium and thorium resources	Requires further input from appropriate experts, and SPE plans to consider further
