

Workshop on UNFC-2009 Generic Specifications

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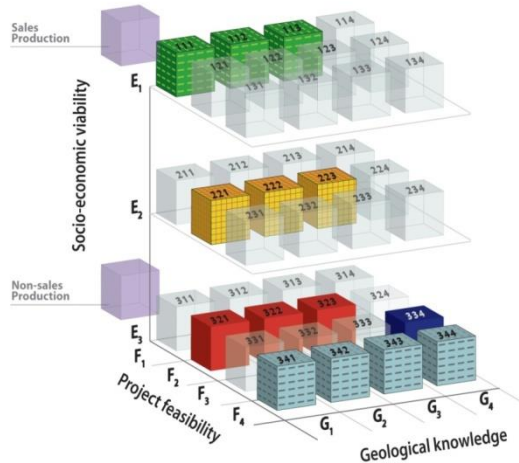
UNFC Workshop
Geneva, 26 April 2016



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Workshop Format



1. Introduction

2. Framework and Definitions

3. Generic Specifications

4. Bridging Documents

5. Case Study – Petroleum

6. Case Study – Solid Minerals

7. Future Developments and Summary



UNFC

Classification Framework and Category Definitions

Generic Specifications

Bridging Document

Bridging Document

Bridging Document

**Petroleum Specifications
PRMS**

**Solid Mineral Specifications
CRIRSCO**

Other Aligned Systems



Structure of system

Definitions

Classification
Framework

Specifications

Application
Rules

Guidelines

Non-
Mandatory
Guidance



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What are specifications?

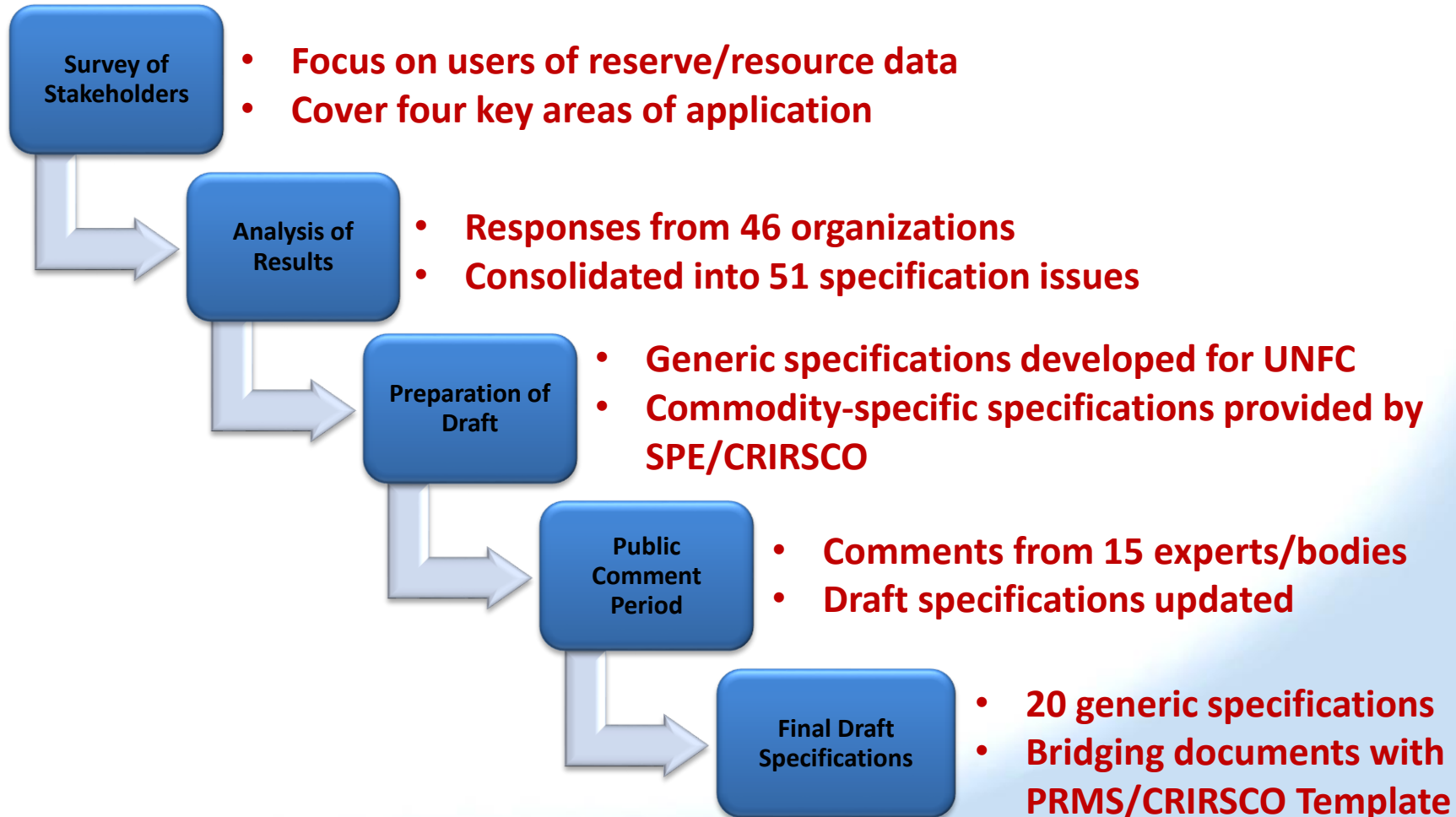
- **Specifications set out the basic rules that are considered necessary to ensure an appropriate level of consistency in application**
- **They provide additional instructions on how the definitions must be applied in specific circumstances**

What are specifications?

Rules for the application of UNFC-2009:

- **Generic specifications**
 - **Applicable in all cases**
- **Commodity-specific specifications**
 - **Solid minerals: CRIRSCO Template**
 - **Petroleum: PRMS**
 - **Other systems, if aligned**

Development process



Specifications document

Table of Contents (main body)

- **Introduction**
- **Environmental and social considerations**
- **Commodity-specific specifications and the relationship with other resource classification systems**
- **National resource reporting**
- **Disclosure**
- **Generic specifications (20 issues)**

Specifications document

Environmental and social considerations

- **Highlights the fact that the E-axis category definitions explicitly include consideration of such issues**
- **Emphasises the need for a “social licence to operate” both before and during extractive activities**

Specifications document

Commodity-specific specifications and the relationship with other resource classification systems

- **Alignment of UNFC-2009 with the CRIRSCO Template and PRMS**
- **Agreements with CRIRSCO/SPE to provide commodity-specific specifications**
- **Other systems can be used, provided they are “aligned”**

Specifications document

Commodity-specific specifications and the relationship with other resource classification systems (cont.)

- **Bridging Documents subject to evaluation by the TAG and endorsement by EGRC to ensure alignment**
- **Quantities can be estimated in “aligned system” or directly, provided all specifications are honoured**
- **Need for generic specifications in order to provide a common basis for reporting at UNFC level**



Specifications document

National resource reporting

- **Government level reporting usually at aggregated level**
- **Not necessarily the same as corporate estimates**
- **Aggregation methodology to be disclosed**

Specifications document

Disclosure

- **UNFC-2009 is a voluntary system**
- **Unless mandated or restricted by government or other regulatory body, disclosure of resource quantities is at the discretion of the reporter**
- **However, certain generic specifications requiring disclosure of information relevant to the reported estimates are mandatory**



Generic specifications

20 generic specifications, covering:

- **Mandatory disclosure issues**
- **Project maturity**
- **Distinction between categories**
- **Aggregation**
- **General obligations**
- **Optional additional sub-categories and labels**
- **Extracted quantities that may be saleable in the future**

Generic specifications

- In these generic specifications, the following words have specific meanings:
 - “Shall” is used where a provision is mandatory;
 - “Should” is used where a provision is preferred; and,
 - “May” is used where alternatives are equally acceptable.
- **Mandatory generic specifications set a minimum standard for reporting**
 - **Commodity-specific specifications for the same issue may be adopted provided they fully meet the requirements of the generic specifications**

Generic specifications

Mandatory disclosure issues

- **UNFC numerical codes**
- **Bridging document**
- **Effective date**
- **Commodity or product type**
- **Basis for estimate**
- **Reference point**

Generic specifications

Example of a mandatory disclosure issue:

Effective date

“Reported quantities are estimates of remaining quantities as at the Effective Date of the evaluation. The Effective Date shall be clearly stated in conjunction with the reported quantities. The evaluation should take into account all data and information available to the evaluator prior to the Effective Date. If information becomes available subsequent to the Effective Date, but prior to reporting, that could have significantly changed the estimated quantities as at the Effective Date, the likely effect of this information shall be disclosed.”

Generic specifications

Optional additional sub-categories

- **Expansion of G4 to account for uncertainty**
- **Expansion of F3 to account for maturity**
- **Expansion of F4 to account for technology**

Generic specifications

Distinction between E1, E2 and E3

- **Based on “reasonable prospects for economic extraction in the foreseeable future”**
- **Reference to commodity-specific systems for more detailed discussion of “foreseeable future”**
- **Any change in a non-technical issue (e.g. social licence to operate) which leads to a suspension or termination of extractive activities requires a reclassification from E1 to E2 or to E3**

Generic specifications

Confidence levels for G1, G2 and G3

- **Based on “high”, “medium” and “low” confidence**
- **Not specified more precisely at generic level due to fundamental differences between approaches used for commodities extracted as solids or fluids**
- **Reference to commodity-specific systems for more detailed discussion of levels of confidence**

Generic specifications

Distinction between recoverable quantities and in situ (in-place) quantities

- **Other than quantities classified as F4:**
 - All quantities must be “potentially recoverable”
 - Associated with actual or possible future projects
 - Based on existing technology or technology under development
 - *In situ* estimates must have “reasonable prospects for economic extraction and sale”
 - If extraction methodology is expected to lead to significant losses/dilution, this must be disclosed
 - For commodities extracted as fluids, recovery factor should be taken into account

Generic specifications

Aggregation of quantities

- **Requires justification and disclosure of methodology**
- **Requires disclosure of UNFC codes for aggregated classes (e.g. 111+112+221+222)**
- **For projects not classified as E1F1, requires footnote to highlight risk that project(s) may not achieve commercial operation**

Generic specifications

Economic assumptions

- **Assumption of “future market conditions” should reflect either:**
 - **The view of the organization responsible for evaluation**
 - **The view of a competent person or independent evaluator**
 - **An externally published view that is reasonable**
- **The basis (not the forecast) must be disclosed**

Generic specifications

Evaluator qualifications

- **Must possess an appropriate level of expertise and relevant experience associated with the type of deposit under evaluation**
- **More detailed specifications in Aligned System**
- **Possible regulatory requirements for corporate reporting (i.e. for a “competent person”)**



Generic specifications

Units and conversion factors

- **SI Units recommended**
- **Other traditional units permitted**
 - **Conversion factors to SI units must be provided**
- **Where quantities are converted to energy equivalents (for example), conversion factors must be disclosed**

Generic specifications

Documentation

- **“Estimates of resource quantities shall be documented in sufficient detail that would allow an independent evaluator or auditor to clearly understand the basis for estimation of the reported quantities and their classification”**
- **Not a requirement for external disclosure**

Generic specifications

Optional labels for estimates

- In addition to numerical codes, the following terms may be used in conjunction with classification on the G-axis:
 - Low estimate (G1) e.g. 111
 - Best estimate (G1+G2) e.g. 111+112
 - High estimate (G1+G2+G3) e.g. 111+112+113

Generic specifications

Extracted quantities that may be saleable in the future

- **Extracted quantities not available for sale (E3.1)**
 - Used, lost, destroyed, disposed of during extraction process and not available for future sales
 - e.g. flared gas
- **Extracted quantities that are “stored” and available for possible future sales (E3.3)**
 - e.g. produced gas injected back into a rock formation
 - e.g. thorium

Specifications document

Annexes

- I. Glossary of terms**
- II. Guidelines on the application of key instructions in UNFC-2009**
- III. Bridging document between the CRIRSCO Template and UNFC-2009**
- IV. Bridging document between PRMS and UNFC-2009**
- v. Guidelines on the use of project maturity to sub-classify projects using UNFC-2009**



UNFC

Classification Framework and Category Definitions

Generic Specifications

Annex IV

Annex III

Bridging Document

Bridging Document

Bridging Document

**Petroleum Specifications
PRMS**

**Solid Mineral Specifications
CRIRSCO**

Other Aligned Systems



Annex V

UNFC Classes defined by categories and sub-categories						
Extracted	Sales Production					
	Non-sales Production					
Class	Sub-class	Categories				
		E	F	G		
Total commodity initially in place	Commercial Projects	On Production	1	1.1	1, 2, 3	
		Approved for Development	1	1.2	1, 2, 3	
		Justified for Development	1	1.3	1, 2, 3	
	Potentially Commercial Projects	Development Pending	2	2.1	1, 2, 3	
		Development On Hold	2	2.2	1, 2, 3	
	Non-Commercial Projects	Development Unclassified	3.2	2.2	1, 2, 3	
		Development Not Viable	3.3	2.3	1, 2, 3	
	Additional quantities in place		3.3	4	1, 2, 3	
	Potential Deposit	Exploration Projects	[No sub-classes defined]	3.2	3	4
		Additional quantities in place		3.3	4	4

Additional guidance on the distinction between UNFC-2009 sub-classes

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On Production is used where the project is actually producing/extracting and selling one or more commodities to market as at the Effective Date of the evaluation. Although implementation of the project may not be 100% complete at that date, the full project must have all necessary approvals and contracts in place, and capital funds committed. If a part of the project development plan is still subject to separate approval and/or commitment of capital funds such that it is not currently certain to proceed, that part should be classified as a separate project in the appropriate Sub-class.

Approved for Development requires that all approvals/contracts are in place, and capital funds have been committed. Construction and installation of project facilities should be underway or due to start imminently. Only a completely unforeseeable change in circumstances that is beyond the control of the developers would be an acceptable reason for failure of the project to be developed within a reasonable time frame.

Justified for Development requires that the project has been demonstrated to be technically feasible and commercially viable, and there must be a reasonable expectation that all necessary approvals/contracts for the project to proceed to development will be forthcoming.

Annex V

UNFC Classes defined by categories and sub-categories						
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		E	F	G		
Total commodity initially in place	Commercial Projects	On Production	1	1.1	1, 2, 3	
		Approved for Development	1	1.2	1, 2, 3	
		Justified for Development	1	1.3	1, 2, 3	
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Development Pending is limited to those projects that are actively subject to project-specific technical activities, such as acquisition of additional data (e.g. appraisal drilling) or the completion of project feasibility studies and associated economic analyses designed to confirm project commerciality and/or to determine the optimum development scenario or mine plan. In addition, it may include projects that have non-technical contingencies, provided these contingencies are currently being actively pursued by the developers and are expected to be resolved positively within a reasonable time frame. Such projects would be expected to have a high probability of achieving commerciality.

Development On Hold is used where a project is considered to have at least a reasonable chance of achieving commerciality (i.e. there are reasonable prospects for eventual economic extraction), but where there are currently major non-technical contingencies (e.g. environmental or social issues) that need to be resolved before the project can move towards development.

Annex V

UNFC Classes defined by categories and sub-categories						
Extracted	Sales Production					
	Non-sales Production					
Class	Sub-class	Categories				
		E	F	G		
Total commodity initially in place	Known Deposit	Commercial Projects	On Production	1	1.1	1, 2, 3
			Approved for Development	1	1.2	1, 2, 3
			Justified for Development	1	1.3	1, 2, 3
	Potentially Commercial Projects	Development Pending	2	2.1	1, 2, 3	
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Development Unclassified is appropriate for projects that are still in the early stages of technical and commercial evaluation (e.g. a recent new discovery), and/or where significant further data acquisition will be required, in order to make a meaningful assessment of the potential for a commercial development, i.e. there is currently insufficient basis for concluding that there are reasonable prospects for eventual economic extraction.

Development not Viable is used where a technically feasible project can be identified, but it has been assessed as being of insufficient potential to warrant any further data acquisition activities or any direct efforts to remove commercial contingencies. In such cases, it can be helpful to identify and record these quantities so that the potential for a commercial development opportunity will be recognised in the event of a major change in technology or commercial conditions.

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Quantities should only be classified as **Additional Quantities in Place** where no technically feasible projects have been identified that could lead to the extraction of any of these quantities. Some of these quantities may subsequently become recoverable in the future due to the development of new technology.





UNFC

Classification Framework and Category Definitions

Generic Specifications

Bridging Document

Bridging Document

Bridging Document

**Petroleum Specifications
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CRIRSCO**

Other Aligned Systems



Competent Person and UNFC

David MacDonald
Chair, EGRC

EGRC Seventh Session
Geneva, 26 –29 April 2016



Competent Person Requirements

- **UNFC**
 - Evaluators must possess an appropriate level of expertise and relevant experience in the estimation of quantities associated with the type of deposit under evaluation. More detailed specifications can be found in relevant commodity-specific systems that have been aligned with UNFC-2009.
 - Regulatory bodies may explicitly mandate the use of a “competent person”, as defined by regulation, with respect to corporate reporting.
- **SPE**
 - The person or group of persons responsible for performing an evaluation of a project. These may be employees of the entities that have an economic interest in the project or independent consultants contracted for reviews and audits. In all cases, the entity accepting the evaluation takes responsibility for the results, including Reserves and Resources and attributed value estimates.
- **CRIRSCO**
 - A Public Report concerning a company’s Exploration Results, Mineral Resources and/or Mineral Reserves is the responsibility of the company acting through its Board of Directors. Any such report must be based on, and fairly reflect the information and supporting documentation prepared by a Competent Person or Persons.
- **SEC**
 - disclose the qualifications of the technical person primarily responsible for overseeing the preparation of the reserves estimates

Competent Person and UNFC

- Competency is key
- UNFC meets the needs of multiple stakeholders
 - Businesses
 - Governments
 - Financial applications
- It is the responsibility of each user/requestor to determine what competency means
- UNFC recognises that regulators may (and should) demand some disclosure of this competency
 - SEC and CRIRSCO are disclosure documents, so address this explicitly
 - UNFC and PRMS are classification systems, so leave this to the regulatory body



Any questions?



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