

UN ECONOMIC COMMISSION FOR EUROPE.

Ad Hoc Group of Experts on Harmonisation of Energy Reserves and Resources Terminology

Geneva, 9-11 November 2005

ON THE DRAFT GUIDELINES TO THE UNFC FOR SOLID MINERALS TAILORED TO EXPLORATION AND MINING PRACTICES IN THE CIS COUNTRIES

Comments and recommendations
of the Russian national working team.

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STRENGTHS OF THE UNFC ATTRACTIVE TO CIS COUNTRIES

- 1) Applicability for taking account of all components of the mineral resources base irrespective of degree of exploration knowledge and economic viability at the time of assessment.**
- 2) The basic principles of mineral reserves/resources inventory: the level of geological confidence and economic viability being widely recognized in the world exploration and mining practice.**
- 3) Use of three-digital codes for reserves/resources categories as a clear cut indicators of their position along each dimension of the classification.**



TENTATIVE CONTENTS

- **UNFC: BASIC PRINCIPLES AND FEATURES**
- **CONVERSION OF NATIONAL RESOURCE/RESERVE DATA INTO UNFC FORMAT**
- **UNFC: MAIN OBJECTIVES AND USE**

Annexes. Comparison of objectives and contents of geological exploration stages, requirements for reserve/resource categories by geological assurance, degree of detail of geological and feasibility studies and economic viability in the UNFC and present-day Russian classification.



CONSECUTIVE STAGES OF CONVERSION

- **Stage of geological assessment completed at the deposit.**
- **Determination of resource quantities to be assigned to UNFC categories by geological assurance.**
- **Establishment of the feasibility assessment stage completed.**
- **Allocating resource quantities to economic viability categories.**
- **Identification of resource classes by the UNFC numerical codes.**
- **Justification of “proved” and “probable” reserves.**

UNFC IN A MATRIX FORM AS APPLIED TO SOLID MINERALS (1997)

Рамочная Классификация ООН UN Framework Classification	→ ↓	Detailed Exploration Детальная разведка	General Exploration Предварительная разведка	Prospecting Поисковые работы	Reconnaissance Региональные геолого-съёмочные работы
		Степень геологической достоверности Degree of geological assurance			
		Высокая High Категории A+B Categories A+B	Удовлетворительная Reasonable Категория C ₁ Category C ₁	Низкая Low Категория C ₂ Category C ₂	Прогнозные оценки Speculative estimates
Feasibility Study Детальные технические экономические исследования	ТЭО постоянных кондиций Technical/economic justification of cut-off limits	1 Достоверные запасы 111 Proved Mineral Reserves	Как правило, не классифицируются Usually not relevant		
		2 Детально разведанные и оцененные ресурсы 211 Feasibility Mineral Resources			
Prefeasibility Study Предварительны е техниче экономические исследования	ТЭО временных кондиций (ТЭД) Technical/economic report and justification of preliminary cut-off limits	1 Вероятные запасы 121 + 122 Probable Mineral Reserves			
		2 Предварительно разведанные и оцененные ресурсы 221 + 222 Prefeasibility Mineral Resources			
Geological Study Начальная геолого- экономическая оценка	Geological/economic evaluation (GEO, TES) Геолого- экономическая оценка (ГЭО, ТЭС)	1-2 Измеренные ресурсы (кат. A+B) 331 Measured Mineral Resources	1-2 Исчисленные ресурсы (кат. C ₁) 332 Indicated Mineral Resources	1-2 Предполагаемые ресурсы (кат. C ₂) 333 Inferred Mineral Resources	? Прогнозные ресурсы (кат. P ₁ , P ₂ , P ₃) 334 Reconnaissance Resources



FOUR COMPONENTS OF ADAPTING NATIONAL CLASSIFICATION SYSTEMS TO THE UNFC

- (1) Transition to 3D classification scheme**
- (2) Keeping intact the alpha-numerical designation system for geological categories combined with the use of a parallel system of international terminology standards (CRIRSCO terms & UNFC codes)**
- (3) Ensuring consistency of undiscovered resources assessment with the improved stage character of reconnaissance and prospecting studies, mapping scales and “best practice” requirements**
- (4) Conferring to the classification (in its economic part) of distinctly market orientation.**



MARKET ORIENTATION OF NEW CIS CLASSIFICATIONS RELATED TO INTERNATIONAL REPORTING STANDARDS

Supposed to be of primary importance are:

- **the status of reserves/resources as a constituent element of tangible financial assets**
- **world market prices to be used in justification of cut-off limits of reserves/resources**
- **current profitability as an economic criterion for classification of explored resources with an account taken of risk levels and other quantitative measures of economic viability of investment projects.**




RUSSIAN CLASSIFICATION FOR MINERAL RESERVES

Presently in place

← Increasing degree of geologic assurance

Economic Viability Groups	Reserves/resources of explored and preliminarily assessed deposits			
	A	B	C ₁	C ₂
Economic				
Subeconomic				

Recommended as a template for CIS countries (model classification)

Feasibility Assessment Stages	Economic Viability Groups	Reserves/resources of explored and preliminarily assessed deposits				
		A	B	C ₁ Indicated Resources	C ₂ Inferred Resources	
		Measured Resources				
Feasibility Study or Mining Report	Economic	PD				 Marginal Resources  Proved Reserves
	Subeconomic					
Prefeasibility Study	Intrinsically Economic	PB		PB		 Probable Reserves
Initial Geological/Economic Study	Undetermined Economic Viability (operative booking)					