IAGI

PERHAPI

PERHIMPUNAN AHLI PERTAMBANGAN INDONESIA
ASSOCIATION OF INDONESIAN MINING PROFESSIONALS

Komite Bersama (Kombers) KCMI

(Joint Committee for KCMI)

Kode KCMI 2017

Yoseph C. A. Swamidharma CPI – IAGI

CRIRSCO Annual Meeting
Yogyakarta, 30 October 2017

Outlines

- Brief Pre-KCMI
- Komite Bersama KCMI, Kode KCMI and CPI Management System
- KCMI 2011 vs KCMI 2017
- KCMI 2017 Implementation Plan, Challenges and Opportunities

Background

- Indonesia is a significant contributor in the global mining industry (coal, copper gold, tin, nickel, bauxite etc.), and also generate significant income to the national. Active companies include PT Bukit Asam, PT. Aneka Tambang, PT. Timah, PT. Freeport Indonesia, PT ValeInco, PT. Newmont etc.

- Busang scandal in 1997 has damaged trust of International investors ie. total US$6 billion in gold fraud (Business Insider, 1 July 2012)

- Professional organizations improve “rule of the game”

Indonesian Mining Professionals Initiative

- In late 90s – early 2000, PERHAPI decided to adopt the JORC code: MoUs with AusIMM (1998) and MICA (2004)
- in December 2000, IAGI and PERHAPI worked together with Surabaya stock exchange (BES/SSX) to develop regulation for listing of mining companies in Indonesia.
- Unfortunately the SSX was merged to JSX and becoming IDX (2007)
- Then, the process was phase out ……

BURSA EFEK SURABAYA
SURABAYA STOCK EXCHANGE

REGULATION
REGARDING THE LISTING OF MINING STOCK ISSUERS' SHARES

AND

GUIDANCE ON REPORTING MINING OPERATIONS AND CLASSIFICATION OF MINERAL RESOURCES AND RESERVES

DEPARTMENT OF FINANCE OF THE REPUBLIC OF INDONESIA
CAPITAL MARKET CONTROLLING AGENCY

Number : S-3747/PM/2000 22 December 2000
Attachment : -
Subject : Approval of the Draft PT BES Regulation on the Listing of Mining Stock Issuers and the Guidance on Reporting Mining Operations and Classification of Mineral Resources and Reserves.

To the Board of Directors of PT Bursa Efek Surabaya
Plaza Bapindo Menara II Fl.24
Jl. Jend. Sudirman Kav 54-55
Jakarta 12190

Dear Sirs,
Referring to your letter no. JKT-042/MKT-LIST/BES/XII/2000

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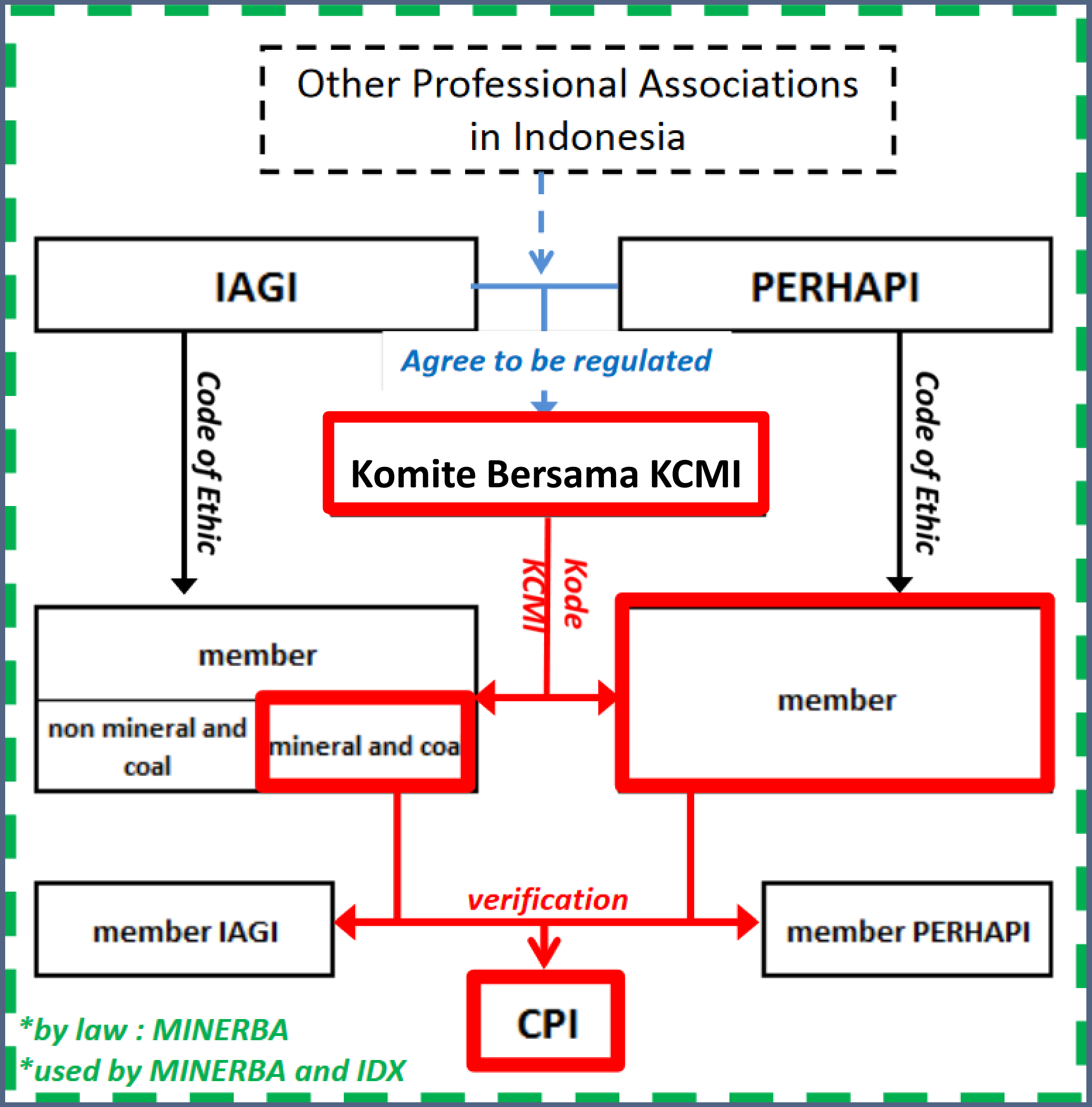
Plaza Bapindo Menara II Fl.24

KCMI – date of progress

- Nov. 2009, IAGI and PERHAPI established a joint committee to develop the first KCMI code
- Sep. 2011, KCMI 2011 and system management was launched
- 2011- 2013, development of implementation committee for CPI IAGI and CPI PERHAPI, end 2013 first batch of verification
- Dec. 2014, Cooperation with IDX and OJK/*Financial Services authority of Indonesia*
- May 2015, GoI - Dirjen of Mineral dan Batubara *(mineral and coal)* ESDM *(DENR- Depth. energy and natural resources)* support through Perdirjen no 569.K stated Kode KCMI and CPI must be used in company's technical report with preparation time period to implement of 2 years (May 2017)
- Apr. 2016, establish communication with CRIRSCO representatives i.e. Australia and Brazil
- Nov. 2016, observer of CRIRSCO in Jaipur, India followed by MoU for CRIRSCO's assistance to Indonesia's readiness
- May 2017, approval from IAGI and Perhapi members through decree
- Oct. 2017, all required documents are submitted for approval or refinement, (Launch of Kode KCMI 2017 with preparation time period for full implementation of 2 years)

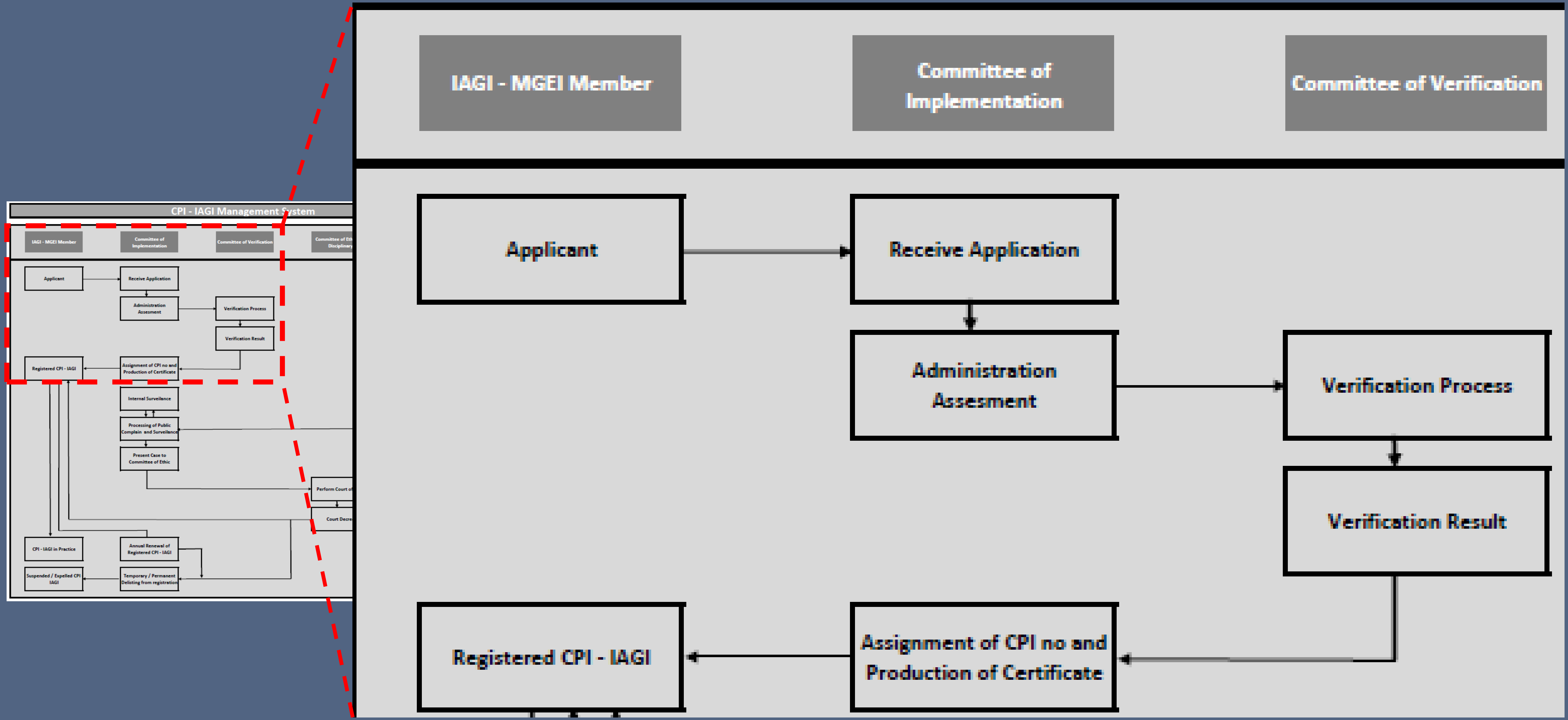
Komite Bersama KCMI



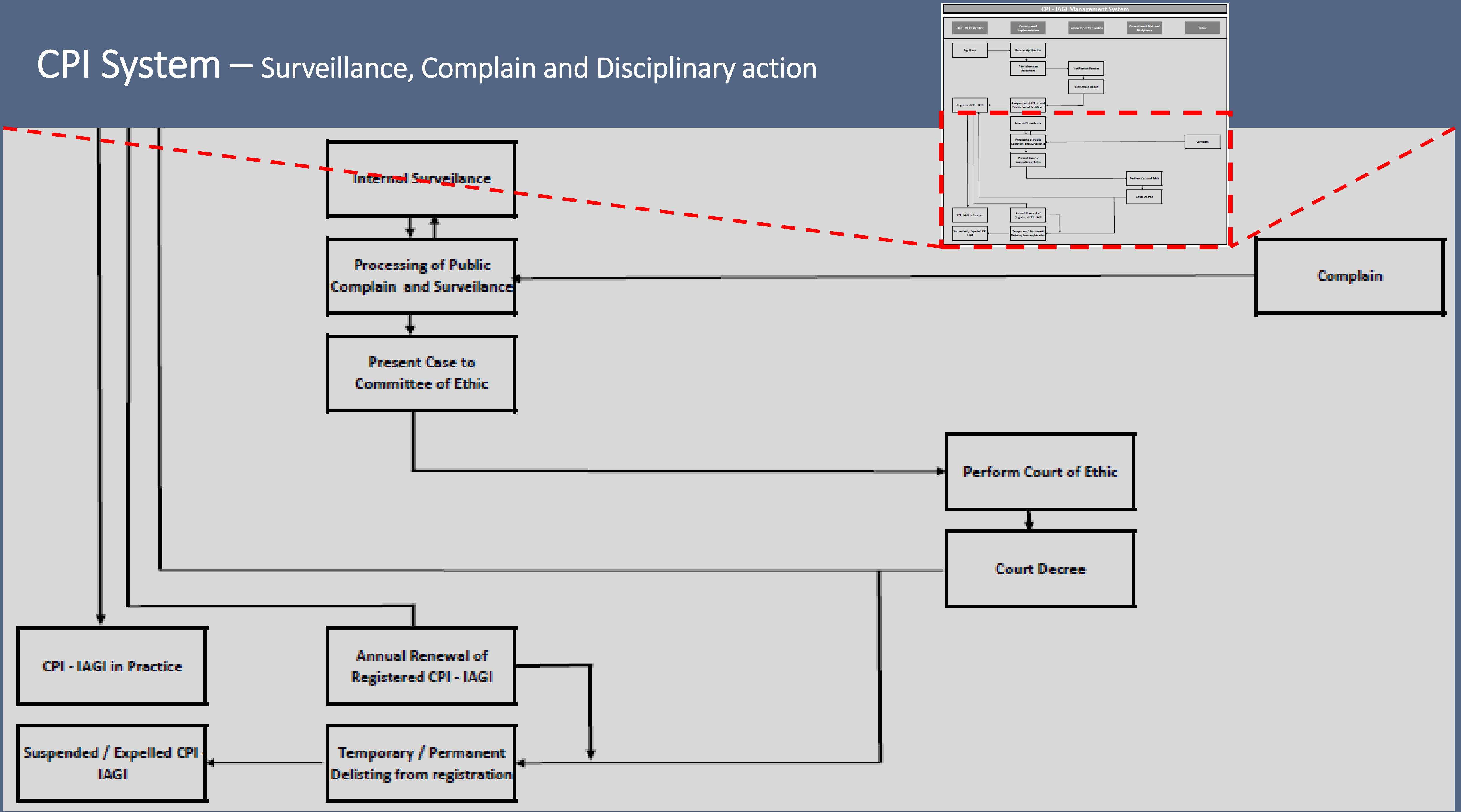
- IAGI and PERHAPI agree for their members to be regulated
- IAGI and PERHAPI has code of ethic to conduct disciplinary action to all members of organizations
- Kode KCMI is applied to PERHAPI (all mining professionals) and only part of IAGI (all mineral and coal geologists but not for other geologists)
- CPI System - requirement : 5 years experience in specific commodities, member of self regulated organization, willing to be regulated by code of ethic and Kode KCMI, passing verification in technical competency, code of ethic, communication and behavior
- By law by MINERBA, applied by May 2017; commitment to use by MINERBA and IDX
- Other Professional Associations are currently being approached

	Competent Person Indonesia		
	Exploration Results	Mineral/Coal Rosources	Mineral/Coal Reserves
coal			
precious & base metals			
ferrous (steel) metals			
Industrial minerals			
Special metals (REE, U, Th etc)			

CPI System - Admission



CPI System – Surveillance, Complain and Disciplinary action



KCMI 2011 vs KCMI 2017
Important Changes

PERHAPI

KODE PELAPORAN HASIL EKSPLORASI, SUMBERDAYA MINERAL DAN CADANGAN BIJIH INDONESIA
KOMITE CADANGAN MINERAL INDONESIA

Kode-KCMI 2011

Disusun oleh:
Komite Bersama
Ikatan Ahli Geologi Indonesia (IAGI) dan
Perhimpunan Ahli Pertambangan Indonesia (PERHAPI)

April 2011

Indonesian Code of Reporting Exploration Results, Mineral Resources and Mineral Reserves
Indonesian Committee for Mineral Reserves

Compiled by:
Joint Committee for KCMI
IAGI – Indonesian Association of Geologists
PERHAPI – Indonesian Association of Mining Professionals

Effective 1 November 2017 and mandatory from 1 November 2019

KODE – KCMI 2017

KCMI 2017 : Effective 1 November 2017 and mandatory from 1 November 2019

KCMI 2011	KCMI 2017
INDONESIAN CODE FOR REPORTING EXPLORATION RESULTS, MINERAL RESOURCES AND ORE RESERVES KOMITE CADANGAN MINERAL INDONESIA	INDONESIAN CODE FOR REPORTING EXPLORATION RESULTS, MINERAL RESOURCES AND MINERAL RESERVES KOMITE CADANGAN MINERAL INDONESIA
MINERAL RESOURCES AND ORE RESERVES (MROR)	MINERAL RESOURCES AND MINERAL RESERVES (MRMR)

Change “Ore” to “mineral”, includes “coal”

Introduction

KCMI 2011	KCMI 2017
3. Majority of this Code was adopted from "Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves – The JORC Code – 2004 Edition." This Code is implemented to each Competent Person Indonesia, which are the members of PERHAPI and IAGI. Also it is adopted and stated in the Indonesia Stock Exchange regulation.	3. Majority of this Code was adopted from "Australian Code for Reporting of Exploration Results, Mineral Resources and Mineral Reserves – The JORC Code – 2004 Edition." This Code is implemented to each Competent Person Indonesia, which are the members of PERHAPI and IAGI. Also it is adopted and stated in the Indonesia Stock Exchange regulation. The current version has been updated in order to be in compliance with the CRIRSCO International Template 2013, which includes the standard definitions adopted by all CRIRSCO members.

Acknowledge CRIRSCO template in KCMI 2017

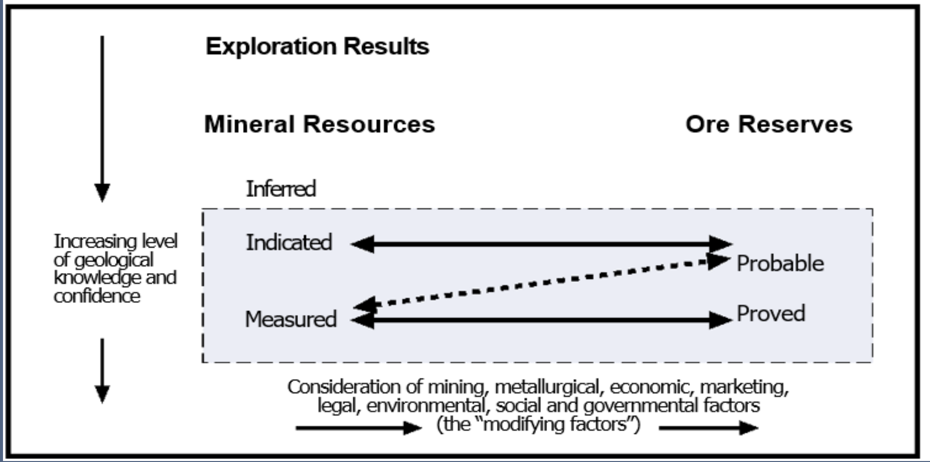
Competent Person Indonesia

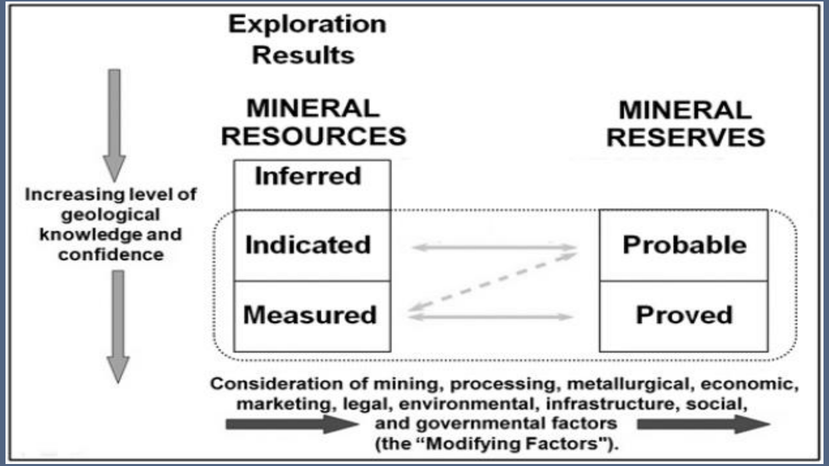
KCMI 2011	KCMI 2017
10. A 'Competent Person Indonesia' is a Member IAGI or PERHAPI who is registered as CPI IAGI or PERHAPI based on the rules of each of these professional organizations.	10. A 'Competent Person Indonesia' (CPI) is a minerals industry professional who is a member of and registered as CPI IAGI or CPI PERHAPI or 'Recognised Professional Organisations' (RPO) based on the rules of each of these professional organizations . These organisations have enforceable disciplinary processes including the powers to suspend or expel a member. The RPOs are recognised by Komite Bersama KCMI as included in a list promulgated from time to time.

Acknowledge other RPOs

Modifying Factors

KCMI 2011	KCMI 2017
The term 'Modifying Factors' is defined to include mining, metallurgical, processing, economic, marketing, legal, environmental, social and governmental considerations.	**'Modifying Factors' are considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, economic, marketing, legal, environmental, infrastructure, social and governmental factors.**
Mineral Resources and Ore Reserves	Mineral Resources and Mineral Reserves





Addition of "infrastructure" in modifying factors

Inferred Mineral Resource

KCMI 2011	KCMI 2017
20. An 'Inferred Mineral Resource' is that part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes which may be limited or of uncertain quality and reliability.	20. An 'Inferred Mineral Resource' is that part of a Mineral Resource for which quantity and grade quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Resources has a lower level of confidence than that applying to an Indicated Mineral Resources and must not be converted to a Mineral Reserve. It is reasonable expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration.

Consideration of "expectation to be upgraded" with additional work

Indicated Mineral Resource

KCMI 2011	KCMI 2017
21. An ‘Indicated Mineral Resource’ is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.	21. An ‘Indicated Mineral Resources’ is that part of a Mineral Resources for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation. An Indicated Mineral Resource has a lower level of confidence than that applying to a Measured Mineral Resource and may only be converted to a Probable Mineral Reserve.

“sufficient study” to support mine planning and economic evaluation

Measured Mineral Resource

KCMI 2011	KCMI 2017
22. A 'Measured Mineral Resource' is that part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a high level of confidence. It is based on detailed and reliable exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes. The locations are spaced closely enough to confirm geological and grade continuity.	22. A 'Measured Mineral Resources' is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with confidence sufficient to allow the application of Modifying Factors to support detailed mine planning and final evaluation of the economic viability of the deposit. Geological evidence is derived from detailed and reliable exploration, sampling and testing and is sufficient to confirm geological and grade or quality continuity between points of observation. A Measured Mineral Resource has a higher level of confidence than that applying to either an Indicated Mineral Resource or an Inferred Mineral Resource. It may be converted to a Proved Mineral Reserve or to a Probable Mineral Reserve.

sufficient study to support "detailed" mine planning and "final" economic evaluation

Reporting of Mineral Reserves

KCMI 2011	KCMI 2017
28. An 'Ore Reserve' is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined. Appropriate asessments and studies have been carried out, and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing, legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction could reasonably be justified. Ore Reserves are sub-divided in order of increasing confidence into Probable Ore Reserves and Proved Ore Reserves.	28. A Mineral Reserve is the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowance for losses, which may occur when the material is mined or extracted and is defined by studies at Pre-Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time or reporting, extraction could reasonably be justified. The reference point at which Reserves are defined, usually the point where the mineral is delivered to the processing plant, must be stated. It is important that, in all situations where the reference point is different, such as for a saleable product, a clarifying statement is included to ensure that the reader is fully informed as to what is being reported.

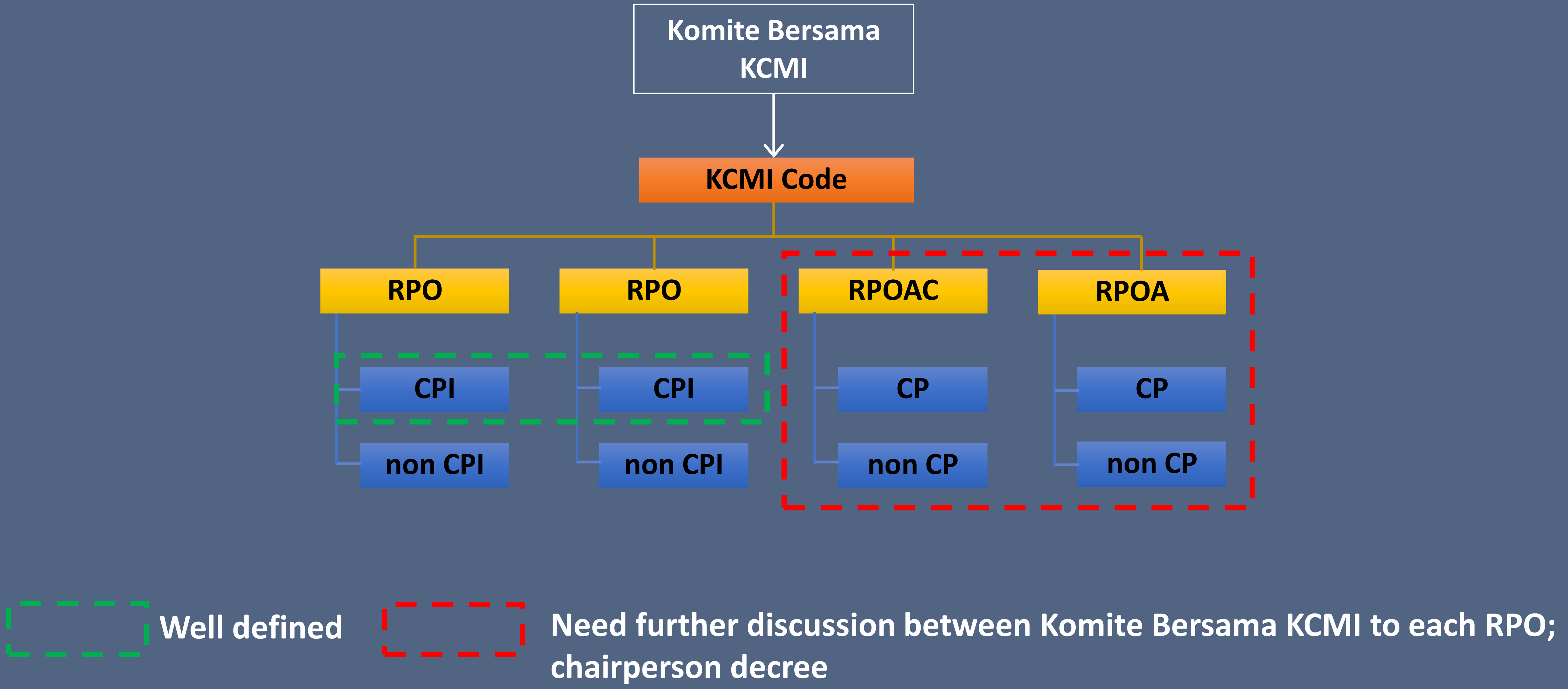
Defined by Pre FS and FS ; clearer reference point at which reserves defined

Technical Studies

KCMI 2011	KCMI 2017
Not well defined – ”appropriate studies”	36. A Scoping Study is an order of magnitude technical and economic study of the potential viability of Mineral Resources that includes appropriate assessments of realistically assumed Modifying Factors together with any other relevant operational factors that are necessary to demonstrate at the time of reporting that progress to a Pre-Feasibility Study can be reasonably justified.
	37. A Pre-Feasibility Study is a comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors which are sufficient for a Competent Person, acting reasonably, to determine if all or part of the Mineral Resource may be converted to a Mineral Reserve at the time of reporting. A Pre-Feasibility Study is at a lower confidence level than a Feasibility Study.
	38. A Feasibility Study is a comprehensive technical and economic study of the selected development option for a mineral project that includes appropriately detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The results of the study may reasonably serve as the basis for a final decision by a proponent or financial institution to proceed with, or finance, the development of the project. The confidence level of the study will be higher than that of a Pre-Feasibility Study.

Additional definition of technical study

Relationship of Komite Bersama KCMI to Kode KCMI and the RPO/RPOAC/RPOA



KCMI 2017: Transition and Implementation Plan

- 2 years period of transition and implementation program

		Period	Months																							
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	Refinement The KCMI 2017 Code Document	3 months																								
2	Internal approval (Kombers)	1 month																								
3	CRIRSCO Approval	1 month																								
4	"Internalization"	6 months																								
5	"Sosialization" (Public Introduction)	6 months																								
6	Trial period	6 months																								
7	Official Implementation																									

- During transition period, the KCMI 2011 is still applicable
- No more KCMI 2011 after 1 November 2019

Update as today, #1 and #2 are completed and awaiting #3

Challenges, Opportunities and Next Program

- The transition and Implementation plan in the next 2 years
- Improve and set up system with regulators (ESDM, OJK), IDX and other stakeholders
  - MAPPI/ISA (Indonesian Society of Appraisers)
  - IDX for exploration companies listing rules
- Defining best practice guidelines for access to mineral resource; eventual economic extraction and level of technical Studies (Scoping, Pre FS and FS) for transparency of risks
- Completion of CPI and RPO set up system
- No. of CPI vs IUPs/tenements (> 6000 mining concessions vs 244 CPI)
- Variations of mineral deposits/commodities vs CPI competency

THANK YOU