GUIDELINE 3

Guidelines for Chartered Professional (Metallurgy)

1. Introduction

This document provides the criteria that will be used in assessing applicants for Chartered Professional accreditation in the general area of practice of Metallurgy.

A metallurgist is a professional who either investigates, plans, designs or directly controls the process of converting minerals produced by mining into primary commodities of economic value in sufficient quantity to be used in the manufacture of economic goods; or specifies or directly controls the process of using suitable metals or alloys thereof or other commodities in the manufacture of useful items.

2. Criteria for Eligibility for Registration as a Chartered Professional in the Metallurgy Discipline

- Metallurgy, mineral processing, minerals engineering or chemical engineering must be the applicant's main technical discipline and only in exceptional circumstances would the applicant not have qualifications in an area such as metallurgy, minerals processing, minerals engineering or chemical engineering that are, were or would be sufficient to allow admission to Corporate Membership of The AusIMM.
- The applicant will have accumulated five years of technical experience in any one (or five years in each, if in more than one) of such specialist areas of metallurgical practice as those listed in Section 3 below; or
- The applicant's technical experience will have been generalist in nature, extending over at least five years and covering a representative selection of the main facets of metallurgy and/or minerals processing.
- Applicants will be required to certify that on gaining CP accreditation, they will maintain a satisfactory level of relevant professional development (PD). Except in specific extraordinary circumstances, they will be required to certify also that they have maintained a satisfactory level of relevant PD during the three years prior to their application for CP.

3. Areas of Practice

The following areas of practice are offered as examples of the type and consistency of experience that is generally required for registration as a Chartered Professional (Metallurgy). The list is neither exhaustive nor comprehensive and applications will be considered for areas of practice outside those listed below.

Process investigation and test work

- A minimum of five years' experience of laboratory and pilot plant investigations using mineral processes
- extensive experience in undertaking process investigation and development for mineral projects
- experience in testing and developing new process technology.

Flow sheet development, plant design and commissioning

- A specialist who uses the results of process investigation and test work to design a flow sheet for a planned mineral development
- the specialist would have appropriate experience to select and size suitable equipment, and to prepare materials balances for the proposed operation
- usually a person who has had extensive practical process plant operating experience and/or extensive commissioning experience on which to base their design recommendations.

Project appraisal

- A specialist in the technical assessment and evaluation of current and proposed mineral treatment operations; and/or
- a person with sufficiently broad and relevant experience to qualify as the author of a Technical Report, as defined in the VALMIN Code (1998) (as
- modified from time to time), on an exploration property.

Note: This specialisation does not include the economic valuation of existing and proposed and metallurgical operations.

Project planning and management

- Extensive experience in the planning, design, implementation and commissioning of new processing plants or their upgrading.

Operational management

An engineer with extensive hands-on experience of plant operation and management

- the applicant is likely to have been employed as a mill or smelter superintendent
- experience may have been gained in trouble-shooting.

Mineral processing

- A specialist with more than five years' experience in the application of mineral processing, such as, but not limited to, flotation, magnetic separation, electrical separation, gravity, sorting, classification and cyanidation in the testing laboratory, pilot plant, or production
- experience may have been gained in the treatment of, but not limited to, base and precious metal ores, uranium ores, iron ores, mineral sands, alloying metal ores (manganese, chromium, tungsten, molybdenum, etc), rare earth ores and minerals.

Hydrometallurgy (including electrowinning)

- A specialist with more than five years' experience in the application of hydrometallurgy to mineral processing operations, in the testing laboratory, pilot plant, or

production

- the specialist is likely to have chemical engineering qualifications rather than metallurgy
- experience may have been gained in the treatment of uranium, copper, nickel and rare earth ores, but not gold cyanidation.

Roasting, smelting and refining

- A specialist who has concentrated on these pyrometallurgical or electrometallurgical aspects of mineral processing
- their experience may be in laboratory investigations plant/ process design or in operations, or all of these.

Comminution and sizing

- A specialist who advises on aspects of size reduction:
- crushing, grinding and sizing
- the specialist will have spent most of their time on this aspect of processing.

Materials handling

- A specialist with extensive experience of materials handling by conveyor, elevator, chutes, pumped slurry, etc
- their qualification may be in metallurgy, but is more likely to be in mechanical engineering.

Coal washing

- A mineral processing specialist whose major experience has been in the development, design, commissioning and/or operation of coal washeries.

Infrastructure management

- Design, construction and/or management of power and water supply facilities
- their qualification may be in metallurgy, but is more likely to be in mechanical or civil engineering.

Safety, health and risk

Implementation of workplace health and safety systems that provide for:

- hazard identification
- risk assessment
- implementation of controls
- effective monitoring
- comprehensive review.

This should be undertaken with reference to appropriate codes and guidelines. Samples of these are provided in Appendix 1.

4. The Application and Assessment Process

4.1 Required documents

To apply for accreditation as a Chartered Professional (Metallurgy), you must submit all of the following:

a. the prescribed application form
b. a detailed curriculum vitae (CV) providing clear evidence that you have worked competently in the general area of practice and in the Index Category or Categories applied for, and showing that you meet the requirements described in this Guideline
c. evidence that over the last three years you have fulfilled the PD requirements, as detailed in the PD Guideline
d. the names of three Chartered Professional sponsors, or professionals of comparable tanding in accordance with By-law 7.3, who are familiar with your qualifications and experience (at least one of whom should be a Chartered Professional [Metallurgy]) and can substantiate your CV, only one of which can be from your current employer and you must:
e. sign a declaration that all the information you submit is a true and fair representation of your recent responsibilities
f. furnish any other information the Board may request from you
g. sign a declaration that all the information you submit is a true and fair representation of your qualifications and experience
h. sign a declaration of adherence to The AusIMM Code of Ethics
i. sign a declaration that you will adhere to the PD program
j. pay the required application fee, if applicable.

4.2 Assessment

Your CV and PD records will be analysed for evidence that you meet the requirements for this accreditation. Each of your sponsors will be required to submit a confidential report to the Board of Chartered Professionals. You may be invited by the Board to attend an interview in support of your application.