

Preparing Reviewers

Wisma IEM

Petaling Jaya

27 – 28 October 2017

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Council Member, Engineering Technology Accreditation Council (ETAC), Board of Engineers Malaysia

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Consultant, ISO9001 Board of Engineers Malaysia

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Deputy President & Fellow, Malaysian Society for Engineering & Technology

Deputy President, Federation of Engineering Institutions of Islamic Countries

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Consultant, Malaysia Rating for Polytechnics (Polyrate)

Consultant, Malaysia Quality Evaluation System for Community Colleges (MySPeK)

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Certified Lead Auditor ISO 14000

Certified Lead Auditor ISO 17025

October 2017

MJ Megat Mohd Noor has altogether 35 years of work experience at UPM, UTM and BEM. As the Founding Director of Engineering Accreditation Department, BEM, he was instrumental in bringing Malaysia into the fold of Washington Accord. He was also the Founding Dean of the MJIT, a collaborative T&R institute supported by the Malaysian and Japanese Governments

Programme

Time	27 October (Day 1)	28 October (Day 2)
08.00 – 09.00	Arrival & Registration	
09.00 – 10.00	Introduction & International Engineering Alliance	Aplomb & Decorum
10.00 – 10.30	Refreshment	Refreshment
10.30 – 12.30	Competence Agreement	Reporting
12.30 – 14.30	Lunch & Friday Prayer	Lunch
14.30 – 16.00	Competence Review	Discussion
16.00 – 17.00	Discussion & Refreshment	Closing & Refreshment

Outcomes

- Participants are able to explain the roles of Competence Agreements Reviewers
- Participants are able to describe the preparation for review
- Participants are able to identify best practices in report writing



Introduction



INTERNATIONAL ENGINEERING ALLIANCE (IEA)

formerly known as
INTERNATIONAL ENGINEERING MEETING (IEM)

Founded in 1989

EDUCATION ACCORDS

WASHINGTON
ACCORD

K-12
4 YEARS

SYDNEY
ACCORD

K-12
3 YEARS

DUBLIN
ACCORD

K-11
2 YEARS

PRACTICE AGREEMENTS

IPEA

International Professional Engineers Agreement
(ENGINEERS MOBILITY FORUM)

APEC ENGINEER

IETA

International Engineering Technologists Agreement
(ENGINEERING TECHNOLOGISTS MOBILITY FORUM)

AIET

Agreement for International Engineering
Technicians

Accords Signatories/Members/Jurisdictions

- **Independent** of the academic institutions delivering accredited programmes
- Has legal or **statutory** powers to accredit academic programmes.

Agreements Signatories/Members/Jurisdictions

- Professional **statutory** authority for admission to the practicing engineering community within the jurisdiction
- **Uncontested right** to either register, license or recognise professional engineers, or to monitor and represent multiple professional authorities undertaking those functions

Competence Agreements

PRACTICE

Competence Agreements for Independent Practice - 1

- Between jurisdictional **agencies** responsible for the oversight or operation of **national registration or licensure schemes**.
- Have a common understanding of what constitutes **competence in engineering** at:
 - professional engineer
 - engineering technologist
 - engineering technician

PRACTICE

Competence Agreements for Independent Practice - 2

- Develop and recognise **good practices** in **assessing competence** for independent engineering practice
- **Assists** through **shared understandings** of what “competent for independent practice in engineering” at different competence levels
- **Acknowledges** other approaches by **other** multi-jurisdictional groupings

Foundation documents

- **Governance** documents (The Agreements)
- **Rules and Procedures** (Requirements and protocols which expand the governance documents)
- **Guidelines** (Representing the "norm" of how things are done, within the context of the agreements, but which are not mandatory)

Accords and Agreements are **governed independently** of each other, but **adopted the Rules and Procedures (Section B) and Guidelines (Section C)** that are similar between the Agreements.

IEA Governing Group 2017

Decision making body which comprises representatives of the constituent multi-lateral agreements

Education

- Andrew Wo (IEET)
Chair, Washington Accord
- Elizabeth Taylor (Engineers Australia)
Deputy Chair, Washington Accord
- David Holger (ABET)
Chair, Sydney Accord
- Ohyang Kwon (ABEEK)
Deputy Chair, Sydney Accord
- Damien Owens (Engineers Ireland)
Chair, Dublin Accord
- Barry Clarke (ECUK)
Deputy Chair, Dublin Accord

Executive Committee

Practice

- Seng Chuan Tan (IES)
Chair, APEC Agreement
- Patty Mamola (NCEES)
Deputy Chair, APEC Agreement
- Gue See Sew, (IEM)
Chair, IPEA
- Jerry Carter (NCEES)
Deputy Chair, IPEA
- Mr Jones Moloisane (ECSA)
Chair, IETA
- Katy Turff (ECUK)
Deputy Chair, IETA
- Keith Jacobs (ECSA)
Chair, AIET
- Louis LeBel (CCTT)
Deputy Chair, AIET

PRACTICE

Competence Agreements for Independent Practice

- **International Professional Engineers Agreement (IPEA) 1997 – 15 + 3** *jurisdictions as at June 2017*
- **APEC Engineers Agreement (APEC) 2000 – 14 +1** *jurisdictions as at June 2017*
- **International Engineering Technologists Agreement (IETA) 2001 – 6 + 1** *jurisdictions as at June 2017*
- **Agreement for International Engineering Technicians (AIET) 2017 – 6** *jurisdictions as at June 2017*

International Professional Engineers Agreement (IPEA)

formerly known as Engineers Mobility Forum (EMF)

- Agreement between engineering organisations (**independent and uncontested** authorities, agencies, bodies or institutions to administer registers) in **15 jurisdictions**
- **Substantial equivalency** of Standards for establishing competency of Professional Engineers for independent practice in engineering
- Assurance of substantial equivalence through **periodic review** of each other's standards and systems.
- Leading to streamlining processes and procedures for the recognition of competent individuals for **mutual exemption** between jurisdictions
- Empowers each member organization to establish an International Professional Engineers **Register**
- The standard of competence applied is the same as for the **APEC Engineer** agreement

IPEA Jurisdiction's Benchmarked Competence Standards

(Schedule 1, attached to the Agreement)

- The level of **academic** achievement required for registration, or licensure must be substantially equivalent to **Washington Accord**
- The professional engineering competence for independent practice as exemplified by the IEA **competency profile**
- **Prescribed 7 years minimum** period of **practical experience** since graduation
- **Prescribed 2 years minimum** period in **responsible charge** of significant engineering work
- **CPD** to maintain the currency of knowledge and skills
- **Ethical responsibility** in practice
- **Accountability** for personal actions and decisions as a professional engineer.

IPEA Schedule 1 – Equivalence of Academic Achievement - 1

- Provisional Membership: if the organization accrediting engineering degrees does **not hold signatory status of the Washington Accord**, this requirement will be deemed to have been met if the practitioners have engineering qualifications, which are covered by the following:
 - a. An engineering degree programme at the appropriate level –
 - i. Delivered and accredited in accordance with the best practice guidelines developed by the **Federation of Engineering Institutions of Asia and the Pacific (FEIAP)**; or
 - ii. Listed in the Index compiled by the **Federation Européenne d'Associations Nationales d'Ingénieurs (FEANI)**; or

IPEA Schedule 1 – Equivalence of Academic Achievement - 2

- b. An appropriate engineering degree programme validated by—
- i. The **Engineer-in-Training examination** set by the Institution of Professional Engineers Japan (formerly: the Japan Consulting Engineers Association); or
 - ii. the combined Fundamentals of Engineering and Principles and Practices of Engineering examinations set by the **United States National Council of Examiners in Engineering and Surveying**; or
 - iii. structured programme of engineering education accredited by an agency independent of the education provider, and/or one or more written examinations set by an authorized body within an jurisdiction, provided that the accreditation procedures and criteria and/or the examination standards have been **endorsed by all Authorized Members.**

Person on International Register

- Meet the **competence standard** through assessment within own **jurisdiction**
- Bound by a **code of ethics** that is consistent with that adopted by the International Engineering Alliance
- Willing to be identified in this manner and meet any **costs** involved
- Met any **additional requirement** that the Authorized Jurisdiction **deems necessary** to ensure the substantial equivalence of standards, and to comply with any jurisdictional legislation or regulatory constraints

Competence Admission

- Approval by **2/3** Authorized Jurisdictions for **Provisional** Membership, (normally **2 to 4 years**)
- Provisional Membership through **nomination by 2** of the existing Authorized Jurisdictions
- With **2/3** Authorized Jurisdictions, an Authorized Jurisdiction may be temporarily transferred to **Conditional** Membership when unable to meet the obligations and terms of the Agreement
- **Authorized** Jurisdictions may be a **federation** of professional regulatory authorities, but can meet its obligations may be limited by the need to meet legislative obligations of one or more of the professional authorities of the federation

Further Minimal Assessment Required

- Establish that the applicant is **conversant** with and able to **practise** proficiently in the context of jurisdictional **legislation, regulation, codes of practices standards**
- Establish that the applicant is currently competent in professional engineering practice to the extent required to **meet local** jurisdictional **needs**
- Establish that the applicant can **communicate** effectively in working within the jurisdiction

Note

The practice agreements are **not recognized as a mutual recognition agreement** but to facilitate the mutual recognition of registration, licensure of professional engineers between specific jurisdictions

IPEA Jurisdictions as at June 2017

1. **Australia** – Engineers Australia (EA) (1997)
2. **Canada** – Engineers Canada (EC) (1997)
3. **Chinese Taipei** – Chinese Institute of Engineers (CIE) (2009)
4. **Ireland** – Engineers Ireland (EI) (1997)
5. **Hong Kong China** – Hong Kong Institution of Engineers (HKIE) (1997)
6. **India** – Institution of Engineers India (IEI) (2009)
7. **Japan** – Institution of Professional Engineers Japan (IPEJ) (1999)
8. **Korea** – Korean Professional Engineers Association (KPEA) (2000)
9. **Malaysia** – Institution of Engineers Malaysia (IEM) (1999)
10. **New Zealand** – Engineering New Zealand (EngNZ) (1997)
11. **Singapore** – Institution of Engineers Singapore (IES) (2007)
12. **South Africa** – Engineering Council South Africa (ECSA) (2007)
13. **Sri Lanka** – Institution of Engineers Sri Lanka (IESL) (2007)
14. **United Kingdom** – Engineering Council United Kingdom (ECUK) (1997)
15. **United States** – National Council of Examiners for Engineering and Surveying (NCEES) (1997)

IPEA Provisional Members as at 2017

1. **Bangladesh** – Bangladesh Professional Engineers Registration Board (BPERB)
2. **Pakistan** – Pakistan Engineering Council (PEC)
3. **Russia** – Association for Engineering Education Russia (AEER)
4. **Holland** – Koninklijk Instituut Van Ingenieurs (KIVI)gg



Competence Review

IEA Application

- **Documentation** on accreditation/recognition system plus fees
- Executive Committee may assign 2 or 3 signatories as **Mentors**
- Requires **nomination from 2** signatories for provisional status (as per Section C of IEA Rules and Procedure)
- Applicants have to demonstrate that their **accreditation/recognition system conceptually similar to signatories**
- For Full Signatory status a verification (review) team will evaluate

Reviews

Types of Reviews for Agreements:

- Evaluation (New applicants for full membership)
- Periodic review (Renewals)

Purpose of Reviews:

- Confirm that a jurisdiction's standards and processes meets the requirements of the Agreement
- Substantially equivalent to those of other members or signatories
- Robust and likely to remain so until the next review.

Differences

Accords

- Reviews to be carried out **on the ground**
- Allow for both **periodic and continuous** review
- Does **not differentiate** between Assessments used **for transfer** from provisional status to full signatories and periodic Reviews of full signatories

Agreements

- **Allow remote** review and observation
- Allow only **periodic review**
- **Differentiate** between Evaluations used **for transfer** from provisional status to authorised members and periodic Reviews of authorised members

Aims of Review - 1

To establish that the implementation of the Assessment Statement is followed and the following criteria are fulfilled:

- That the standards of any relevant **accreditation system** for academic programs and/or examinations are **substantially equivalent** to systems operated under the relevant Agreement
- The process by which **substantial equivalence** of qualifications is determined is **robust** and conforms to good practice in the Agreement
- That the policies and procedures used are **well documented**, subject to **regular review** and updating, and accurately presented in the Assessment Statement
- That the **processes by which engineers are registered** domestically are **robust** and

Aims of Review - 2

- That the **processes by which engineers are registered** domestically are **robust** and in accordance with the Assessment Statement and the description provided to the Review Team by the Authorized Member and that the competence standard required for registration is substantially equivalent to that of the Agreement (exemplified by the **competence profiles** approved by the Authorized Members)
- That the **processes by which individuals are registered** on the jurisdictional section of the relevant international register are **robust** and in accordance with the Assessment Statement
- That the **standard of professional judgment** demonstrated through acceptance or rejection of applications is satisfactory, including the judgment regarding demonstration of sufficient and satisfactory evidence of current competence

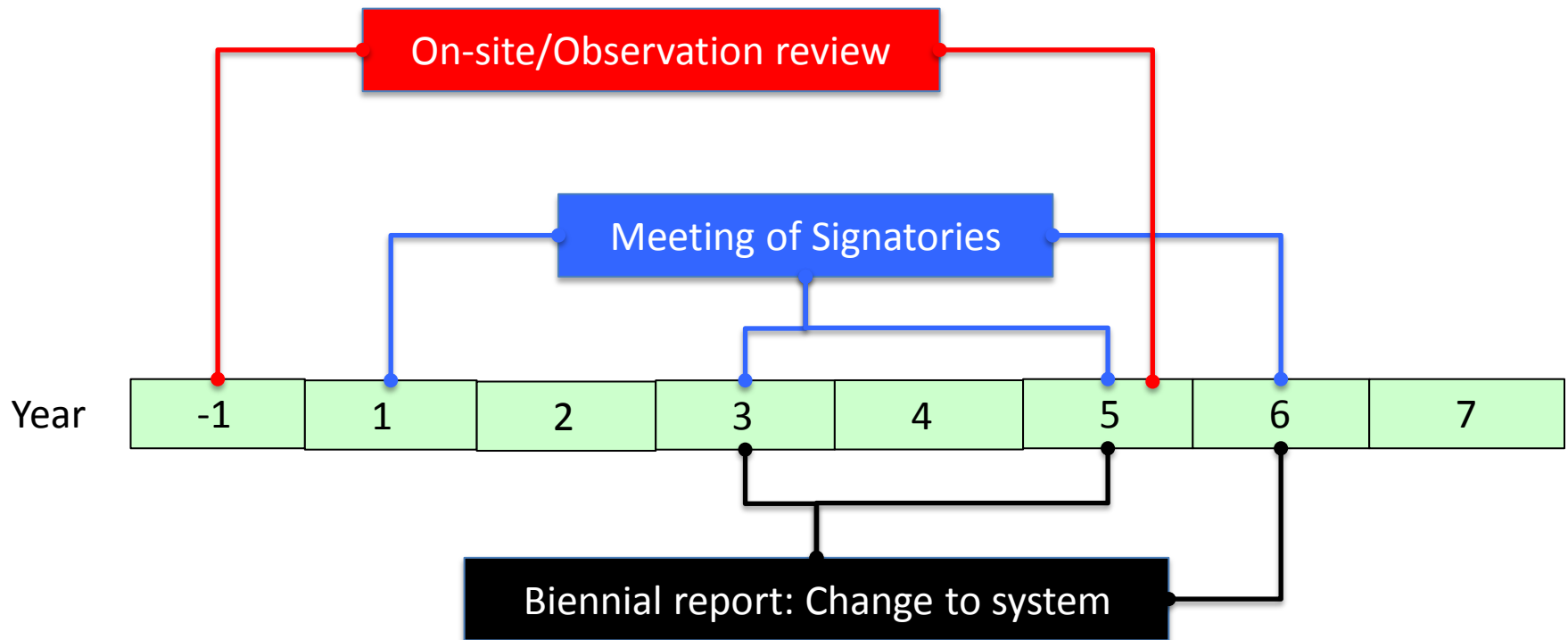
IPEA - Documents

- The IPEA constitution contains considerable guidance on how to do the reviews in Section B.4 and Section C.5 and Annexes 1- 3 as well as guidance on the timing requirements for the report in Section B.3
- Competency guidelines Annex 1 & 2

Review Process Outline

- Nominating Jurisdiction **select and train** potential panel members
- **Call** for nomination by IEA Secretariat
- Nominating Jurisdiction **select and nominate** panel members (with detailed information on nominees)
- **Executive Committee** of Agreement selects panel and leader
- Panelists and Reviewee jurisdiction **advised/briefed** by IEA Secretariat/Executive Committee
- Reviewee **post data** on Basecamp
- **Agreed to schedule** of review between Panelist and Reviewee (oversees by Executive Committee)
- **Review** take place
- Prepare a **Report**
- Share **draft report** with Executive Committee and Reviewee
- **Respond** to draft report
- Panel leader **amend** report if necessary and submit to IEA Secretariat
- **Review recommendation** considered at IEA Meeting

General Review Cycle



Typical Combined Reviews

- WA & IPEA
- WA & SA
- SA & IETA
- SA & DA

Review Process - 1

- **Onsite** visits or alternative **observation mechanisms** such as video conferencing or video recording
- At least two of the Review Team to **observe at least three competence assessments**, of which at least **one** should, if possible, be of a potentially **marginal candidate**.
- The Review team shall review the **documentation of previously assessed candidates** including at least **one** candidate assessed as **marginal**.
- At least one Review Team member shall **observe** a **meeting of the decision** authority.

Review Process - 2

- For efficient use of time during an on-site visit and to ensure timely production of the report:
 - The Review Team members should meet one day prior to the first observation of a competence assessment to review data, determine aspects to be examined in more detail, outline the report structure, allocate individual Team member responsibilities and meet with the host Authorized Member to obtain background information and clarify the systems and the visit programme.
 - The visiting reviewers should meet with the assessors before and after they observe the interaction with the candidates, and sit in on the discussions between the assessors in reaching their recommendation as to whether competence was demonstrated.

Review Process - 3

- Refrain from making comments on the procedures or outcomes during the visits and only comment when requested to do so, after visits have been concluded and the intended recommendations made.
- Try to discuss with those who have recently been through the competence assessment process
- In jurisdictions where competence is assessed primarily by examination and/or desk top evaluation of work history and continuing professional development the Reviewer shall examine a wide range of candidate data to ascertain if the evaluation process provides an adequate assessment across all the elements of the relevant competence profile exemplar.
- Where assessment is carried out by a number of entities under the oversight of the Authorized Member the Reviewer shall evaluate the processes for ensuring consistency of standards.

Review Process - 4

- The Review Team should visit the office of the Authorized Member and/or other bodies administering the jurisdictional section of the relevant international register and review all administrative and decision making processes
- A post-visit Team meeting should be held to structure the report and if possible prepare it in outline.
- The Review Team, or at least one member of it, may return to observe the decision making meeting of the relevant decision body if the Team determines that such a visit is required to observe the decision making in respect of the competence assessments it observed.
- A draft Team report must be submitted to the Authorized Member under review to ensure correctness as to matters of fact.

Reviewer Experience & Requirements - 1

- For Practice Agreement based on C5.2.1 (Guidelines)
- Need to provide CV
- Available over about 3 years
- Obligation to respond promptly to communications
- Reviewers: Academic or Practising
- Trained
- Inform your jurisdiction of your travel plan and timing (and obtaining insurance)
- Leader of Panel: Experienced in leading national reviews and experience of international reviews

Reviewer Experience & Requirements -2

- Observe timeline
- Familiar with the review process
- Not influencing the conduct of activities but only observing (do not speak during the activity)
- Draft reports must be reviewed by EC before releasing to signatories (minus recommendations)
- Reasonable standard of spoken and written English
- At least one member must be totally proficient in English to produce high quality report
- Sign off the final report

Organising a Review

Agreement

- Reviewee suggests a **timetable** for the posting of information and for **remote observation** of assessment processes
- Panel Leader then brought into the loop
- **Visit/Observation dates** are set
- Detailed arrangements finalised between the Panel Leader and Reviewee

Accord

- During appointing of review team, the Reviewee is to propose dates for the **visits** available for **observation**
- Panel Leader then brought into the loop
- **Visit** dates are set
- Detailed arrangements finalised between the Panel Leader and Reviewee

IPEA - Observation

- At the IEA meetings in Seoul in 2013 it was decided that it was preferable, if possible, to do the **observation remotely** on grounds of cost
- Registration interviews are **videoed** and the decision meeting is observed by **skype or teleconference**.
- When considering such mechanisms the review team shall have regard to:
 - The **quality of the documentation** provided to the review team by the jurisdiction being reviewed
 - The **availability and ease of translation** of the proceedings into English
 - The availability and **quality of the electronic or other links**
 - All other matters affecting or **likely to affect the quality** of the review.

Expenses

- Paid by **Reviewee**
- Flights, accommodation, local travel, meal etc
- Process cost on documentation

Review Team

Accords

- 2 academic engineers
- 1 practicing engineer

Agreements

- 2 practising engineers
- 1 academic engineer

Preferably 2 of the 3 reviewers having international experience

A minimum of 2 members per team

Competence Review

- Recognise the **standards and processes** for assessing the competence of individuals.
- This process **may be in addition to the national competence** assessment process, whose standards may or may not be different from these competence exemplars.
- Thus individuals opt into becoming an **IntPE or APEC Engineer** or **IntET**.
- Some jurisdictions may have national standards and competence assessment systems which meet the requirements of the Competence Agreements.
- Thus one of the future objectives is to be able recognise these and all the individuals classed as competent by that system.
- Until further notice the review teams are therefore being asked to **comment on the national systems as well as evaluating those systems currently used to assess individuals for these agreements.**

Exemplar Competence Profile

- The competence exemplars set the threshold standards to be achieved by competent engineers and engineering technologists.
- These are contained at <http://www.ieagreements.org/GradProfiles.cfm>



Exercise

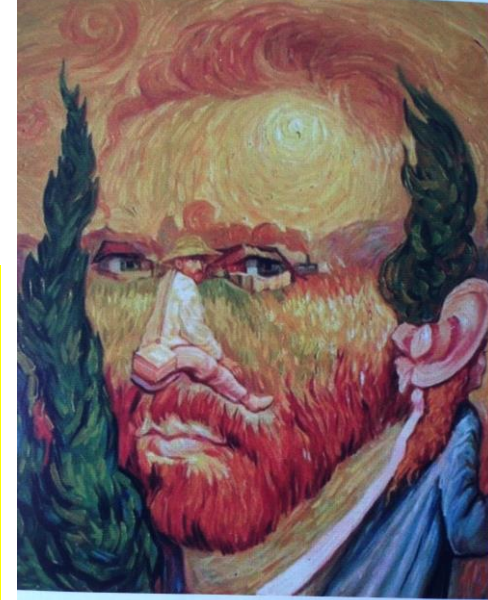
- List down the “Do’s and Don'ts” in Accreditation, as a Panel Evaluator.



IPEA Panel Evaluators

Aplomb & Decorum

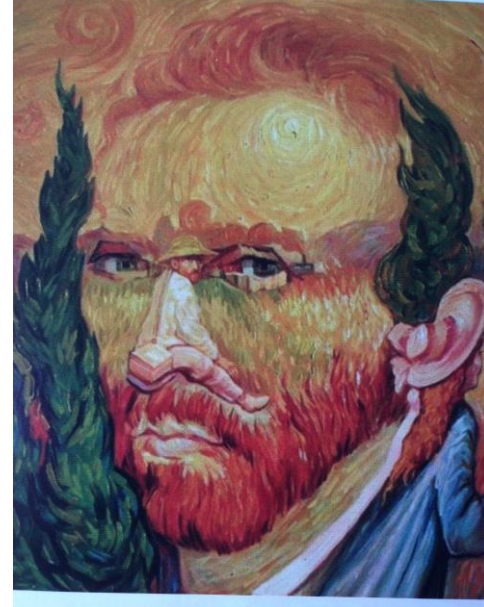
- Peer Assessment
- Common Sense
- Commitment
- Assurance
- Self-confidence
- Composure
- Cool
- Confident noise
- Before
- During
- After



ETAC Panel Evaluators

- Role model
- See the Forest
- Make informed judgement
- Write clear report (objective Evidence)
- Review own writing
- Use simple clear English

Aplomb & Decorum



CONCLUSION

- Punctual
- Knowledgeable
- Industrious
- Inquisitive
- Analytical

Reporting



Reporting

- Adopt the **format** for reports (as prescribed in the Rules and Guidelines)
- Identify specific **issues** or **weaknesses** or **deficiencies**
- Give sufficient **background** to ease decision making
- For **deficiencies**, identify the specific **shortcoming** against the requirements (reasons must be given)
- **Recommendations** are suggestions for **improvement** and thus not mandatory (reasons must be given)
- **Careful to distinguish** between deficiencies and recommendations
- State in the **conclusion** whether the requirements have been met (**with justification** and especially for negative cases)

Follow up from Previous Report

- Need to report on **actions taken** on the specific issues or deficiencies stipulated in previous reviews and whether these have produced **satisfactory outcomes**.
- **Recommendations** from previous reports should be checked as to whether they have been **implemented** but need only be commented on briefly.

Comparison with home jurisdictions

- Reviewers will compare with their **jurisdictions' systems** (achieve the same results and not necessarily achieve the same standard)
- Outcomes and standard of competence must be substantially **equivalent to the IEA** Competencies.

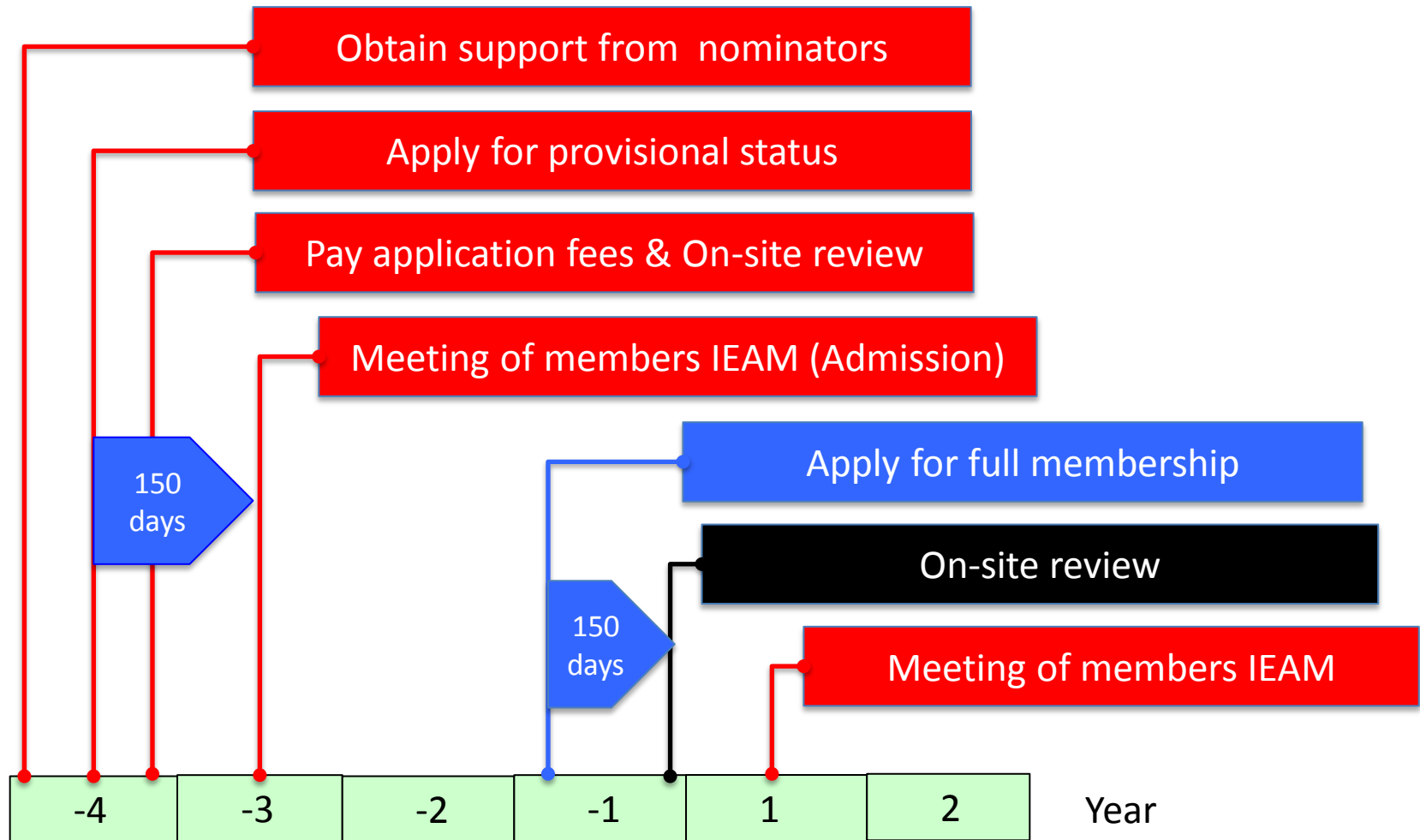
IPEA - Reporting

- The format laid out in Guidelines Annex is not mandatory but the report must cover the items set out in the Annex.

Presentation of reports

- **Not essential** for review **panel leader** to present the report at the IEAM
- Need to brief the IEAM respective **jurisdictions' delegates** if any of the review team members is not part of the delegation
- Report must be **self-contained** and **understandable** by members who may not have first-hand knowledge of the jurisdiction being reviewed

Timeline for Provisional/Full Status



Periodic Review & Timing - 1

- Reviews scheduled by EC in 6 **year blocks**
- **Notice** of review given by EC to member **not less than six months** prior to the **review year**
- Review **team** and leader **appointed by EC** (see note 1)
- Review team members **briefed** by their **organisations**
- Review team and leader **briefed** by **EC** (see note 1)
- Authorised member **proposes** review process, timetable and administrative support mechanism, for the review team to consider
- Authorised member provides **specified information** to Secretariat at least 60 days prior to the review commencing

Periodic Review & Timing - 2

- Review team decides on **method and extent of observation** and **assessment** programme
- **Notice** of and opportunity to **observe processes** given by jurisdiction being reviewed
- **Draft Report** provided to EC and applicant (See note 2)
- **Final report** to Authorised members (See note 3)
- Authorised members consider **report at IEAM**

Notes:

- 1. Time not specified but should be completed at least 12 months before the IEAM
- 2. Time not specified but should be at least 120 days prior to IEAM
- 3. Time not specified but should desirably be at least 90 days prior to IEAM

Nature of Competency Assessment - 1

Competency assessment of individuals varies between jurisdictions and may include any or all of the following methods:

- Written Examination
- Submission of a portfolio of evidence
- Oral examination
- Assessment by a panel
- Assessment by a competency assessment board
- On the job assessment

Nature of Competency Assessment - 2

- The nature of the assessment therefore means that it may **take place over a longer period** of time which makes it less suitable for on the ground review in a single visit by a review team.
- The Agreements have therefore decided to allow reviews to be done by a **flexible system** which may be adjusted to suit individual jurisdictions being reviewed.

Essential elements of review

1. Review of an assessment statement and other information provided by the reviewee which provides general information about assessment and registration in their jurisdiction
2. A checklist of documentation required is given in Appendix 3.
3. Examination of at least 12 portfolios of evidence including marginal cases plus other information on the standards
4. Observation by video conferencing or video or other means of at least three competence assessments
5. Observation of a meeting of the decision authority
6. The preparation and submission of a report

Recommendations open to Review Team

- That the Authorized Member in question be accepted by the other Authorized Members, for a period of six years, recognising its standards and systems as leading to outcomes substantially equivalent to the those recognised by the Agreement; or
- That the Authorized Member in question be accepted by the other Authorized Members, for a period of not more than two years subject to the responsible Authorized Member providing, within six months, a report which satisfies the other Authorized Members that adequate steps are being taken to address the specific issues identified by the Review Team; or
- That the Authorized Member in question has serious deficiencies, that the Authorized Member be downgraded immediately to Conditional Membership, and that urgent and specific assistance be provided by the other Authorized Members to help address the deficiencies.

General protocols for review

The General protocols cover such aspects as:

1. **Range of expertise** of reviewers
2. **Conflicts** of interest
3. **Factors to be considered** by the review team
4. Protocols in **non-English speaking** countries
5. The **content** of the review report
6. **Confidentiality**

Jurisdiction's responsibilities

Information to be provided

- Detailed assessment statement; details of the local competence standard and assessment systems being used; at least 12 portfolios of evidence.

Timetable and set up for observation

- The jurisdiction being reviewed best knows its own processes and timetable for competence assessment. It is their responsibility to set up the remote observation or visit programme and supporting infrastructure

Translation

- The jurisdiction being reviewed is responsible for providing translation into English when required.

Registration, Licensure or Other Recognition Schemes in the Jurisdiction - 1

- The standards applied for registration, licensure or recognition at the relevant level within the jurisdictional system and if requirements have or will change with time, the dates for which particular requirements were or will be in place.
- The methods by which it is verified that sufficient engineering knowledge is held by candidates (usually through the candidate holding recognised qualifications)
- The methods of competence assessment used to determine that candidates have demonstrated the capability to undertake independent practice.
- The methods used to make decisions and moderate or quality assure those decisions.

Registration, Licensure or Other Recognition Schemes in the Jurisdiction - 2

- The methods of training of assessors, moderators and others involved in the processes.
- The methods used to deal with ethical conduct, complaints and poor performance
- The methods used to assure that registrations or licence holders are sufficiently maintaining current competence
- The policies and procedures in place to implement the above.
- The length of time the present processes have been in place.
- If the applicant is not a direct manager of the schemes but takes an oversight role, how the applicant assures itself that appropriate and consistent standards are being applied.

Jurisdiction Assessment Statement for International Register - 1

- Show how it is determined that registrants on the international register either hold a qualification accredited under a relevant Accord, or that substantial equivalence as required by the Agreement has been demonstrated. Guidance Annex 2 sets out possible means for demonstrating substantial equivalency
- Show how it will be determined that registrants have demonstrated the professional engineering competence for independent practice as a requirement of registration, licensure or other equivalent recognition in the jurisdiction;
- Show how it will be verified that registrants have gained a minimum of seven years practical experience since graduation;

Jurisdiction Assessment Statement for International Register - 2

- Show how it will be verified that registrants have spent at least two years in responsible charge of significant engineering work;
- Show how it will be verified that registrants have maintained their continuing professional development at a satisfactory level,
- Show how it will be verified that candidates accept an obligation to adhere to a suitable code of ethical conduct including clauses requiring that, when undertaking engineering activities, the individuals shall:
 - Not misrepresent their educational qualifications or professional titles,
 - Accept appropriate responsibility for their work and that carried out under their supervision,
 - Ensure that they only undertake tasks for which they are competent
 - Respect the personal rights of people with whom they work and the legal and cultural values of the societies in which they carry out assignments,

Jurisdiction Assessment Statement for International Register - 3

- Respect the personal rights of people with whom they work and the legal and cultural values of the societies in which they carry out assignments,
- Avoid conflicts of interest, observe proper duties of confidentiality, not accept or give inducements, and consider the public interest and be prepared to contribute to public debate on matters of technical understanding in fields in which they are competent to comment,
- and must take reasonable steps to:
 - Maintain their relevant competences at the necessary level,
 - Provide impartial analysis and judgement to employers,
 - Prevent avoidable danger to health and safety, and
 - Minimise foreseeable and avoidable impacts on the environment.
- Show how it will be verified that registrants are within the responsibility of the jurisdiction, and
- How the jurisdictional section of the register will be maintained up to date, including relevant ways to contact the registrant concerned (if the registrant gives permission)

Jurisdiction Submission

- 12 portfolios should be submitted, where possible this should include 2 borderline admitted cases. (This number can be adjusted by the Committee in conjunction with the Review Team if the register under review is very small);
- Each portfolio shall include all materials submitted or written by the candidate (including any self-review, work samples, CPD records, work history etc.), any written referee statements, notes of any oral interview or discussion with referees, notes taken by the assessors, the reports submitted to the decision authority by the assessors, the relevant record of the decision by that body, any subsequent appeal and how this was auctioned.
- All applications shall have suitable annotation to prevent personal identification
- Documentation that cross-references the competence standard being applied by the Authorized member under review to the exemplar competence profile of the relevant Agreement.
- The previous review report

IPEA - Deliberation

- Part of your deliberations advise the extent to which the **national standards** for registering professional engineers meet the requirements of IPEA.
- Explanation: The ultimate intention is to be able to determine if a jurisdiction's national standards are the **same as the IPEA**.
- At present each jurisdiction **maintains a separate register** of those who meet the IPEA standards. This allows **recognition of individuals** in countries where the national standards do not meet the IPEA requirements but where some individuals do.

IPEA – the future

- IPEA is aiming to move in due course toward recognition of national standards where this is practical as this has obvious benefits of increasing the IPEA member numbers and reduces the administration costs if all those on the national register can be recognised as IntPE.
- The requirements for 7 years' experience including 2 years' responsible experience in the IPEA rules are in general longer than most national standards require
- To recognise national standards may require some IPEA rule changes in due course

Template for Codes of Ethical Conduct - 1

- a. The code of ethical conduct to include clauses requiring that, when undertaking engineering activities, engineers, engineering technologists and engineering technicians:
- Not misrepresent their educational qualifications or professional titles
 - Accept appropriate responsibility for their work and that carried out under their supervision
 - Ensure that they only undertake tasks for which they are competent
 - Respect the personal rights of people with whom they work and the legal and cultural values of the societies in which they carry out assignments
 - Avoid conflicts of interest, observe proper duties of confidentiality, not accept or give inducements, and consider the public interest and be prepared to contribute to public debate on matters of technical understanding in fields in which they are competent to comment

Template for Codes of Ethical Conduct - 2

- b. And must take reasonable steps to:
 - Maintain their relevant competences at the necessary level,
 - Provide impartial analysis and judgement to employers,
 - Prevent avoidable danger to health and safety, and
 - Minimise foreseeable and avoidable impacts on the environment.

Report Content - 1

The Final Report as set in Annex 2 shall include:

- An executive summary outlining major system characteristics and citing recommended action with the appropriate action statement.
- An overall introduction to the system under review and its standards
- Information on policies / procedures and criteria for the system under review, including a comprehensive analysis of how the system addresses marginal, difficult conditional actions
- A brief description of the types of assessment observed.
- Information on the conformity of the system with its own published policies and procedures

Report Content - 2

- Indications of any stated or observed substantial change to the criteria, policies or procedures of the system under review and the rationale for the change
- A statement as to whether the standard applied is substantially equivalent to that of other Authorized Members, which would normally be determined by:
- Consideration by the reviewers as to whether they consider that the standard is substantially equivalent to those in their home jurisdictions, and
- A collective judgement by the Team as a whole as to whether the standard is substantially equivalent to that of the Agreement as illustrated by the exemplar competence profile of the relevant Agreement.
- Any statement of weakness or deficiency. A weakness indicates that the system is satisfactory but lacks the robustness that assures that the quality of the system not be compromised prior to the next general review. A deficiency indicates that the processes, policies and standards have been examined and found not to be equivalent to comparable practices of other Authorized Members.

Exemplars & Templates (B2)

- Exemplar competence profiles of persons recognised as able to undertake independent practice in professional engineering, engineering technology or as an engineering technician are contained in the document **‘Graduate Attributes and Professional Competencies’** available on the IEA Website, <http://www.ieagreements.org/GradProfiles.cfm>

Definitions



Rules & Procedures (Sec B)

Definitions (B1)

- **Assessment Statement** - A formal statement that details the criteria and procedures by which the eligibility of practitioners to appear on a jurisdictional section of an international register is to be determined
- **Competence Assessment** - The process by which the competence of an applicant for undertaking independent practice is determined. Competence assessment may include some or all of written examination, assessment of work samples and/or work history, consideration of referee reports, oral interview, written assignments, and assessment of continuing professional development records.

IEA definition - 1

- **Evaluator** - A person appointed by the committee to the Evaluation Team that observes and reports to the Authorized Members on the substantial equivalency of the standards and quality assurance systems in the jurisdiction. Evaluators are drawn from persons put forward by Authorized Members
- **Exemplar Standards** (Education and Competence) - Exemplars developed by the members of the International Engineering Alliance which define agreed educational outcomes and competencies to be achieved by those engaged in engineering as professional engineers, engineering technologists or technicians

IEA definition - 2

- **Mentor** - An Authorized Member assigned by the Committee to act on behalf of an Agreement and work with an applicant through a program of visits and advice in order to assist the applicant with its progress to Provisional Membership and/or to being an Authorized Member The term 'mentor' may also refer to mentoring team appointed by the Committee of the relevant Agreement. The mentoring team will consist of two or three representatives from Authorized Members of the Agreement to which the mentee is committed to applying for Provisional Membership or to become an Authorized Member. Note: a Mentor can act as a Nominator but cannot provide Evaluators.

IEA definition - 3

- **Nominator** - A Nominator is an Authorized Member which holds sufficient detailed current knowledge of an applicant's systems to propose that applicant for Provisional Member. By choosing to act as a nominator the Authorized Member concerned is stating that in its opinion the applicant's standards and systems meets the criteria for admission to Provisional Member. In support of its nomination it shall supply other Authorized Members with information on how its appraisal that led to the decision to nominate was performed.

IEA definition - 4

- **Recognise/Recognition** - Except where it is clear that the context requires otherwise in the context of individuals, 'recognise/recognition' means that it is recognised that those individuals on the international registers have met the standards required for that register. This recognition does not confer any right of practice.

IEA definition - 5

- **Requirements** - The Requirements for admission as an Authorized Member of an Agreement; defined as demonstration that:
 - The standards applied in assessing the competence for independent practice in the jurisdiction are substantially equivalent to those of other Authorized Members of the Agreement, established by demonstration of substantial equivalence to the Agreement professional competence exemplar for a professional engineer and
 - The quality assurance mechanisms applied to ensure all the criteria for entry of individuals onto the jurisdictional section of the International Professional Engineers register are substantially equivalent to those of other Authorized Members.

IEA definition - 6

- **Responsible Charge of Significant Engineering Work** - In general, an applicant may be taken to have been in responsible charge of significant engineering work when they have:
 - The standards applied in
 - Planned, designed, coordinated and executed a small project; or
 - Undertaken part of a larger project based on an understanding of the whole project; or
 - Undertaken novel, complex and/or multi-disciplinary work.

IEA definition - 7

- **Substantial Equivalence** - The overall outcomes achieved whilst not identical, are repeatable and effectively to the same standard, even if the means by which the outcomes are achieved or assessed are not similar.

Thank You

